

VOLUME SEVEN



INTERNATIONAL  
ENCYCLOPEDIA OF  
**HUMAN  
GEOGRAPHY**

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## EDITORS-IN-CHIEF

ROB KITCHIN

National Institute of Regional and Spatial Analysis (NIRSA)  
John Hume Building, National University of Ireland  
Maynooth, County Kildare  
Ireland

NIGEL THRIFT

University House, University of Warwick  
Coventry  
UK



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## **SENIOR EDITORS**

---

**Noel Castree**

Geography Discipline  
Arthur Lewis Building  
School of Environment and Development  
The University of Manchester  
Manchester  
UK

**Mike Crang**

Department of Geography  
Durham University  
Science Laboratories  
Durham  
UK

**Mona Domosh**

Department of Geography  
Dartmouth College  
Hanover, NH  
USA



## SECTION EDITORS

---

**Kay Anderson**

Centre for Cultural Research  
University of Western Sydney  
Penrith South DC, NSW, Sydney  
Australia

**Paul Cloke**

Department of Geography  
University of Exeter  
Exeter  
UK

**Jeremy Crampton**

Department of Geosciences  
Georgia State University  
Atlanta, GA  
USA

**Brian Graham**

University of Ulster  
Coleraine, N. Ireland  
UK

**Costis Hadjimichalis**

Department of Geography  
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Athens  
Greece

**Phil Hubbard**

Department of Geography  
University of Loughborough  
Loughborough  
UK

**Robin Kearns**

School of Geography, Geology and Environmental Sciences  
The University of Auckland  
Auckland  
New Zealand

**Mei-Po Kwan**

Department of Geography  
The Ohio State University  
Columbus, OH  
USA

**Loretta Lees**

Cities Research Group  
Department of Geography  
King's College London  
London  
UK

**Sara McLafferty**

Department of Geography  
University of Illinois at Urbana – Champaign  
Urbana, IL  
USA

**Anssi Paasi**

Department of Geography  
University of Oulu  
Linnanmaa  
Oulu  
Finland

**Chris Philo**

Department of Geographical and Earth Sciences  
University of Glasgow  
Glasgow  
UK

**James Sidaway**

School of Geography  
University of Plymouth  
Plymouth  
UK

**Katie Willis**

Department of Geography  
Royal Holloway, University of London  
Egham  
UK

**Henry Yeung**

Department of Geography  
National University of Singapore  
Singapore





# GUIDE TO USE OF THE ENCYCLOPEDIA

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## Structure of the Encyclopedia

The material in the Encyclopedia is arranged as a series of articles in alphabetical order.

There are four features to help you easily find the topic you're interested in: an alphabetical contents list, a subject classification index, cross references and a full subject index.

### 1. Alphabetical Contents List

The alphabetical contents list, which appears at the front of the first volume, lists the entries in the order that they appear in the Encyclopedia. It includes both the volume number and the page number of each entry.

### 2. Subject Classification Index

This index appears at the start of Volume 1 and groups entries under subject headings that reflect the broad themes of Human Geography. This index is useful for making quick connections between entries and locating the relevant entry for a topic that is covered in more than one article.

### 3. Cross-references

All of the entries in the Encyclopedia have been extensively cross referenced. The cross references which appear at the end of an entry, serve three different functions:

- i. To indicate if a topic is discussed in greater detail elsewhere

- ii. To draw the readers attention to parallel discussions in other entries
- iii. To indicate material that broadens the discussion

#### *Example*

The following list of cross references appears at the end of the entry IMPERIALISM, CULTURAL

*See also:* Colonialism I; Colonialism II; Dependency; First World; Globalization, Cultural; Hegemony; Imperialistic Geographies; Neocolonialism; Orientalism; Postcolonialism/Postcolonial Geographies; Poststructuralism/Poststructuralist Geographies; Third World.

Here you will find examples of all three functions of the cross reference list: a topic discussed in greater detail elsewhere (e.g., Orientalism), parallel discussion in other entries (Imperialistic Geographies) and reference to entries that broaden the discussion (e.g. Postcolonialism/Postcolonial Geographies).

### 4. Index

The index includes page numbers for quick reference to the information you're looking for. The index entries differentiate between references to a whole entry, a part of an entry, and a table or figure.

### 5. Contributors

At the start of each volume there is list of the authors who contributed to that volume.



# CONTRIBUTORS

---

## VOLUME 1

**M B Aalbers**

Columbia University, New York, NY, USA

**G J Andrews**

McMaster University, Hamilton, Canada

**H Asche**

University of Potsdam, Potsdam, Germany

**J O Bærenholdt**

Roskilde University, Roskilde, Denmark

**J Battersby-Lennard**

University of Cape Town, Cape Town, South Africa

**J Beall**

London School of Economics and Political Science,  
London, UK

**K B Beesley**

Brandon University, Brandon, MB, Canada

**K Besio**

University of Hawaii at Hilo, Hilo, HI, USA

**M Brayshay**

University of Plymouth, Devon, UK

**M M Breitbart**

Hampshire College, Amherst, MA, USA

**S Brentjes**

Universidad de Sevilla, Sevilla, Spain

**John R Bryson**

The University of Birmingham, Birmingham, UK

**H Buller**

University of Exeter, Exeter, UK

**K A Butler**

University of Akron, Akron, OH, USA

**K W Butzer**

University of Texas, Austin, TX, USA

**S Chaturvedi**

Panjab University, Chandigarh, India

**J Crush**

University of Cape Town, Rondebosch, South Africa

**C D'Ignazio**

The Institute for Infinitely Small Things, Waltham, MA,  
USA

**R J Das**

York University, Toronto, ON, Canada

**J Davidson**

Queen's University, Kingston, ON, Canada

**C Delano-Smith**

University of London, London, UK

**V Desai**

Royal Holloway, University of London, Egham, UK

**J D Dewsbury**

Bristol University, Bristol, UK

**J Dittmer**

University college London, London, UK

**H Fassmann**

Universität Wien, Vienna, Austria

**C Gibson**

University of Wollongong, Wollongong, NSW, Australia

**J R Gold**

Oxford Brookes University, Oxford, UK

**O Groza**

Universitatea Al.I Cuza, Iasi, Romania

**S W Hardwick**

University of Oregon, Eugene, OR, USA

**M Harrower**

University of Wisconsin – Madison, Madison, WI, USA

**H Hazen**

Macalester College, St Paul, MN, USA

**C Hughes**

Carleton University, Ottawa, ON, Canada

**G T Jóhannesson**

University of Iceland, Reykjavik, Iceland

**L Johnston**

University of Waikato, Hamilton, New Zealand

**R J P Kain**

University of Exeter, Exeter, UK

**R B Kent**

California State University, Northridge, Northridge, CA, USA

**M Kurtz**

Open University, Ottawa, ON, Canada

**M Kurtz**

Open University, Milton Keynes, UK

**R W Lake**

Rutgers University, New Brunswick, NJ, USA

**R Le Heron**

The University of Auckland, Auckland, New Zealand

**A A Lehtinen**

University of Joensuu, Joensuu, Finland

**Y Leung**

The Chinese University of Hong Kong, Hong Kong, People's Republic of China

**S Lloyd-Evans**

University of Reading, Reading, UK

**J Lossau**

Humboldt-Universität zu Berlin, Berlin, Germany

**A Malmberg**

Uppsala University, Uppsala, Sweden

**T Marsden**

Cardiff University, Cardiff, UK

**F Martinelli**

Università 'Mediterranea' di Reggio Calabria, Reggio di Calabria, Italy

**L Maxey**

Swansea University, Wales, UK

**D P McCormack**

Oxford University Centre for the Environment, Oxford, UK

**P Merlin****G A Myers**

University of Kansas, Lawrence, KS, USA

**R P Neumann**

Florida International University, Miami, FL, USA

**T Oakes**

University of Colorado at Boulder, Boulder, CO, USA

**U Oslender**

University of Glasgow, Glasgow, UK

**M Pacione**

University of Strathclyde, Glasgow, UK

**C Potter**

Imperial College London, London, UK

**R B Potter**

University of Reading, Reading, UK

**G Prevelakis**

University of Pantheon-Sorbonne (Paris 1), Paris, France

**M Purcell**

University of Washington, Seattle, WA, USA

**D Ramsey**

Brandon University, Brandon, MB, Canada

**S Reimer**

University of Southampton, Southampton, UK

**J Renes**

Utrecht University, Utrecht, The Netherlands, and Vrije Universiteit, Amsterdam, The Netherlands

**V Rey**

Ecole Normale Supérieure Lettres et Sciences Humaines, Lyon, France

**M-C Robic**

CNRS, Paris, France

**U Rossi**

University of Cagliari, Cagliari, Italy

**P Routledge**

University of Glasgow, Glasgow, UK

**J Siemer**

University of Regina, Regina, SK, Canada

**M W Skinner**

Trent University, Peterborough, ON, Canada

**T Slater**

University of Edinburgh, Bristol, UK

**L M Takahashi**

University of California, Los Angeles, CA, USA

**A Taylor**

University of Canberra, Canberra, ACT, Australia

**M E Thomas**

The Ohio State University, Columbus, OH, USA

**T M Vowles**

University of Northern Colorado, Greeley, CO, USA

**A M Warnes**

University of Sheffield, Sheffield, UK

**D Wastl-Walter**

University of Bern, Bern, Switzerland

**A Watson**

University of Minnesota, Minneapolis, MN, USA

**C Wilbert**

Anglia Ruskin University, Chelmsford, UK

**M Williams**

Oxford University, Oxford, UK

**S D Withers**

University of Washington, Seattle, WA, USA

**N M Yantzi**

Laurentian University, Sudbury, ON, Canada

**VOLUME 2****H Aay**

Calvin College, Grand Rapids, MI, USA

**S C Aitken**San Diego State University, San Diego, CA, USA and  
National Technical Norwegian University, Trondheim,  
Norway**L Albrechts**

Catholic University of Leuven, Leuven, Belgium

**G J Andrews**

McMaster University, Hamilton, ON, Canada

**N Ansell**

Brunel University, Uxbridge, UK

**D Atkinson**

University of Hull, Hull, UK

**M Batty**

University College London, London, UK

**J Baxter**

University of Western Ontario, London, ON, Canada

**M Bédard**

Université du Québec à Montréal, Montréal, QC, Canada

**D Bell**

University of Leeds, Leeds, UK

**D Bennett**

Carleton University, Ottawa, ON, Canada

**U Best**

Technische Universität Chemnitz, Chemnitz, Germany

**J Binnie**

Manchester Metropolitan University, Manchester, UK

**C R Bryant**

Université de Montréal, Montréal, QC, Canada

**R Capello**

Milan Polytechnic, Milan, Italy

**R Carvalho**

Queen Mary, University of London, London, UK

**G Chapman**

Lancaster University, Lancaster, UK

**L Cheshire**

The University of Queensland, Brisbane, QLD, Australia

**S Chilvers**

York University, Toronto, ON, Canada

**V Chouinard**

McMaster University, Hamilton, ON, Canada

**H Couclelis**

University of California, Santa Barbara, CA, USA

**A Currah**

Oxford University Centre for the Environment, Oxford, UK

**R J Das**

York University, Toronto, ON, Canada

**S Davoudi**

Newcastle University, Newcastle upon Tyne, UK

**E Delaney**US Department of the Interior, National Park Service,  
Washington, DC, USA**J Dempsey**

University of British Columbia, Vancouver, BC, Canada

**S J Elliott**

McMaster University, Hamilton, ON, Canada

**V Filippakopoulou**

National Technical University of Athens, Athens, Greece

**W Friesen**

The University of Auckland, Auckland, New Zealand

**C Gibson**

University of Wollongong, Wollongong, NSW, Australia

**A L Griffin**University of New South Wales – ADFA, Canberra, ACT,  
Australia**J W Harrington, Jr.**

University of Washington, Seattle, WA, USA

**M Hassler**

Philipps-University Marburg, Marburg, Germany

**G Helms**

University of Glasgow, Glasgow, UK

**J J Holloway**

Manchester Metropolitan University, Manchester, UK

**A Hughes**

Newcastle University, Newcastle upon Tyne, UK

**M Jay**

University of Waikato, Hamilton, New Zealand

**N Kliot**

University of Haifa, Haifa, Israel

**H Koskela**

University of Helsinki, Helsinki, Finland

**J Krygier**

Ohio Wesleyan University, Delaware, OH, USA

**M S Kumar**

Queen's University Belfast, Belfast, UK

**B Lambregts**

University of Amsterdam, Amsterdam, The Netherlands

**D Leslie**

University of Toronto, Toronto, ON, Canada

**A Lester**

University of Sussex, Brighton, UK

**N Lewis**

The University of Auckland, Auckland, New Zealand

**K D Lilley**

Queen's University Belfast, Belfast, UK

**T W Luke**

Virginia Polytechnic Institute and State University, USA

**L J C Ma**

University of Akron, Akron, OH, USA

**J Malczewski**

University of Western Ontario, London, ON, Canada

**D Martin**

University of Southampton, Southampton, UK

**E J McCann**

Simon Fraser University, Burnaby, BC, Canada

**C McIlwaine**

Queen Mary, University of London, London, UK

**K J Mee**

University of Newcastle, Callaghan, NSW, Australia

**S Millington**

Manchester Metropolitan University, Manchester, UK

**C J A Mitchell**

University of Waterloo, Waterloo, ON, Canada

**D R Montello**

University of California, Santa Barbara, CA, USA

**M Morad**

London South Bank University, London, UK

**B Nakos**

National Technical University of Athens, Athens, Greece

**D O'Sullivan**

The University of Auckland, Auckland, New Zealand

**J R Oppong**

University of North Texas, Denton, TX, USA

**M Phillips**

University of Leicester, Leicester, UK

**C Philo**

University of Glasgow, Glasgow, UK

**A C Pratt**

London School of Economics, London, UK

**S Punch**

University of Stirling, Stirling, UK

**B Ramírez**

Universidad Autónoma Metropolitana, Mexico City, Mexico

**G A Rice**

University of Helsinki, Helsinki, Finland

**K Robinson**

McMaster University, Hamilton, ON, Canada

**R Rundstrom**

University of Oklahoma, Norman, OK, USA

**S Rycroft**

University of Sussex, Brighton, UK

**N Schuurman**

Simon Fraser University, Burnaby, BC, Canada

**J P Sharp**

University of Glasgow, Glasgow, UK

**D Sibley**

University of Leeds, Leeds, UK

**T Skelton**

National University of Singapore, Singapore

**F Smith**

Brunel University, Uxbridge, UK

**J Sundberg**

University of British Columbia, Vancouver, BC, Canada

**J C Sweeney**

National University of Ireland, Maynooth, Republic of Ireland

**W S Tang**

Hong Kong Baptist University, Kowloon Tong, Kowloon, Hong Kong, People's Republic of China

**T Tasan-Kok**

Delft University of Technology, Jaffalaan, The Netherlands

**J-C Thill**

University of North Carolina at Charlotte, Charlotte, NC, USA

**J Timár**

Center for Regional Studies, Hungarian Academy of Sciences, Békéscsaba, Hungary

**P M Torrens**

Arizona State University, Tempe, AZ, USA

**G Waitt**

University of Wollongong, Wollongong, NSW, Australia

**J L Waters**

University of Liverpool, Liverpool, UK

**D Wood**

Raleigh, NC, USA

**M Woods**

Aberystwyth University, Aberystwyth, UK

**F Wray**

Newcastle University, Newcastle upon Tyne, UK

**H van der Wusten**Universiteit van Amsterdam, Amsterdam,  
The Netherlands**C Young**

Manchester Metropolitan University, Manchester, UK

**VOLUME 3****T J Barnes**

University of British Columbia, Vancouver, BC, Canada

**C Barnett**

The Open University, Milton Keynes, UK

**J Barnett**

University of Melbourne, Melbourne, VIC, Australia

**C J Barrow**

Swansea University, Swansea, UK

**G de Bastion**Deutsche Gesellschaft für Technische Zusammenarbeit  
(GTZ) GmbH, Eschborn, Germany**J V Beaverstock**

University of Nottingham, Nottingham, UK

**S Bell**

University of Saskatchewan, Saskatoon, SK, Canada

**L D Berg**

University of British Columbia, Kelowna, BC, Canada

**L Bondi**

University of Edinburgh, Edinburgh, UK

**A Bonnett**

Newcastle University, Newcastle upon Tyne, UK

**L A Brown**

Ohio State University, Columbus, OH, USA

**R A Butlin**

University of Leeds, Leeds, UK

**A Cameron**

University of Leicester, Leicester, UK

**C Cocklin**

James Cook University, Townsville, QLD, Australia

**M P Conzen**

University of Chicago, Chicago, IL, USA

**K E Corey**

Michigan State University, East Lansing, MI, USA

**T Cresswell**

Royal Holloway, University of London, Egham, UK

**C D'Alessandro-Scarpari**

Université Lumière Lyon 2, Lyon, France

**S Dall'erba**

University of Arizona, Tucson, AZ, USA

**J Davidson**

Queen's University, Kingston, ON, Canada

**A Davies**

Trinity College, Dublin, Republic of Ireland

**C Dixon**

London Metropolitan University, London, UK

**R Dowling**

Macquarie University, Sydney, NSW, Australia

**S Eden**

University of Hull, Hull, UK

**S J Elliott**

McMaster University, Hamilton, ON, Canada

**G A Elmes**

West Virginia University, Morgantown, WV, USA

**H Ernste**

Radboud University, Nijmegen, The Netherlands

**J Evans**

McMaster University, Hamilton, ON, Canada

**J R Faulconbridge**

Lancaster University, Lancaster, UK

**D A Fennell**

Brock University, St Catharines, ON, Canada

**S Gopal**

Boston University, Boston, MA, USA

**S Hall**

University of Nottingham, Nottingham, UK

**E Hartwick**

Framingham State College, Framingham, MA, USA

**S Healy**

Worcester State College, Worcester, MA, USA

**M Hess**

University of Manchester, Manchester, UK

**J Holloway**

Manchester Metropolitan University, Manchester, UK



**T Jazeel**

University of Sheffield, Sheffield, UK

**R Johnston**

University of Bristol, Bristol, UK

**O Jones**

CCRI, Cheltenham, UK

**A Kalogeressis**

University of Macedonia, Greece

**A Kavanagh**

National University of Ireland, Maynooth, Republic of Ireland

**M C Keane**

St Mary's University College, Belfast, UK

**M Keating**

European University Institute, Florence, Italy

**J Kneale**

University College London, London, UK

**A Kobayashi**

Queen's University, Kingston, ON, Canada

**T Koch**

University of British Columbia, Vancouver, BC, Canada

**B Korf**

University of Zürich – Irchel, Zürich, Switzerland

**M S Kumar**

Queen's University Belfast, Belfast, UK

**M Kuus**

University of British Columbia, Vancouver, BC, Canada

**L Labrianidis**

University of Macedonia, Greece

**A Latham**

University College London, London, UK

**E Laurier**

University of Edinburgh, Edinburgh, UK

**A A Lehtinen**

University of Joensuu, Joensuu, Finland

**J I Leib**

Old Dominion University, Norfolk, VA, USA

**N Lewis**

University of Auckland, Auckland, New Zealand

**W Li**

Arizona State University, Tempe, AZ, USA

**D Linehan**

University College Cork, Cork, Republic of Ireland

**L Lo**

York University, Toronto, ON Canada

**R Longhurst**

University of Waikato, Hamilton, New Zealand

**M Low**

London School of Economics and Political Science, London, UK

**K McCracken**

Macquarie University, Sydney, NSW, Australia

**K McKittrick**

Queen's University, Kingston, ON, Canada

**P McManus**

The University of Sydney, Sydney, NSW, Australia

**P Meth**

University of Sheffield, Sheffield, UK

**J J Metz**

Northern Kentucky University, Highland Heights, KY, USA

**B E Montz**

Binghamton University, Binghamton, NY, USA

**D P Nally**

University of Cambridge, Cambridge, UK

**P M O'Neill**

University of Western Sydney, Parramatta, NSW, Australia

**C Pattie**

University of Sheffield, Sheffield, UK

**N A Phelps**

University College London, London, UK

**D R Phillips**

Lingnan University, Tuen Mun, Hong Kong

**C Philo**

University of Glasgow, Glasgow, UK

**A Pike**

Newcastle University, Newcastle upon Tyne, UK

**G H Pirie**

University of the Western Cape, Cape Town, South Africa

**P Plummer**

University of Calgary, Calgary, AB, Canada

**M Power**

University of Durham, Durham, UK

**P Rees**

University of Leeds, Leeds, UK

**S A Royle**

Queen's University Belfast, Belfast, UK

**A Schærström**

Kometvägen, Täby, Sweden

**R Scheyvens**

Massey University, Palmerston North, New Zealand

**J W Scott**

University of Joensuu, Joensuu, Finland

**D Seamon**

Kansas State University, Manhattan, KS, USA

**E Sheppard**

University of Minnesota, Minneapolis, MN, USA

**David Simon**

University of London, Egham, UK

**V F S Sit**

University of Hong Kong, Hong Kong, People's Republic of China

**E Skop**

The University of Colorado at Colorado Springs, Colorado Springs, CO, USA

**L Smith**

Radboud University, Nijmegen, The Netherlands

**M Smith**

Queen's University, Kingston, ON, Canada

**C Sneddon**

Dartmouth College, Hanover NH, USA

**H Southall**

University of Portsmouth, Portsmouth, UK

**J Sowers**

Missouri State University, Springfield, MO, USA

**E Stam**

Utrecht University, Utrecht, The Netherlands

**D Storey**

University of Worcester, Worcester, UK

**D Sui**

Texas A & M University, College Station, TX, USA

**J Sundberg**

University of British Columbia, Vancouver, BC, Canada

**E Swyngedouw**

Manchester University, Manchester, UK

**K E Till**

Virginia Tech University, Alexandria, VA, USA

**G A Tobin**

University of South Florida, Tampa, FL, USA

**S W Trimble**

University of California, Los Angeles, CA, USA

**S Turner**

McGill University, Montréal, QC, Canada

**M Tykkyläinen**

University of Joensuu, Joensuu, Finland

**T Unwin**

University of London, Egham, UK

**E Warwick**

King's College London, London, UK

**H D Watts**

University of Sheffield, Sheffield, UK

**M Watts**

UC Berkeley, Berkeley, CA, USA

**M Webber**

University of Melbourne, Melbourne, VIC, Australia

**G R Webster**

University of Wyoming, Laramie, WY, USA

**D Weiner**

West Virginia University, Morgantown, WV, USA

**J Wiles**

University of Auckland, Auckland, New Zealand

**K D Willis**

Royal Holloway, University of London, Egham, UK

**M I Wilson**

Michigan State University, East Lansing, MI, USA

**R Wilton**

McMaster University, Hamilton, ON, Canada

**H Winlow**

Bath Spa University, Bath, UK

**C W J Withers**

University of Edinburgh, Edinburgh, UK

**F Wu**

Cardiff University, Cardiff, UK

**N Xiao**

The Ohio State University, Columbus, OH, USA

**I Yamada**

University of Utah, Salt Lake City, UT, USA

**B S A Yeoh**

National University of Singapore, Singapore

**O Yiftachel**

Ben Gurion University, Beer-sheva, Israel

**E K Z Zygmunt**

University of Silesia, Sosnowiec, Poland

**VOLUME 4****D Abbott**

University of Derby, Derby, UK

**P Adey**

Keele University, Keele, UK

**P J Atkins**

Durham University, Durham, UK

**R Atkinson**

University of Tasmania, Hobart, TAS, Australia

**G Benko**

Université Panthéon-Sorbonne, Paris, France

**P Bennett**

University of Edinburgh, Edinburgh, UK

**L D Berg**

University of British Columbia, Kelowna, BC, Canada

**M Birkin**

University of Leeds, Leeds, UK

**S Blandy**

University of Leeds, Leeds, UK

**F J Bosco**

San Diego State University, San Diego, CA, USA

**S Bowlby**

University of Reading, Reading, UK

**H Bradley**

Mary Immaculate College, University of Limerick, Limerick, Republic of Ireland

**P Breathnach**

National University of Ireland, Maynooth, Republic of Ireland

**J Briggs**

University of Glasgow, Glasgow, UK

**J E Castro**

Newcastle University, Newcastle upon Tyne, UK

**J Chapman**

University of Portsmouth, Portsmouth, UK

**O Z Chaudhry**

University of Edinburgh, Edinburgh, UK

**G L Clark**

Oxford University Centre for the Environment, Oxford, UK

**G P Clarke**

University of Leeds, Leeds, UK

**K C Clarke**

University of California, Santa Barbara, CA, USA

**P Claval**

Université de Paris-Sorbonne, Paris, France

**N M Coe**

University of Manchester, Manchester, UK

**M Cope**

University of Vermont, Burlington, VT, USA

**David Crouch**

University of Derby, Derby, UK

**Ú Crowley**

National University of Ireland, Maynooth, Co Kildare, Republic of Ireland

**C Desbiens**

Université Laval, Québec City, QC, Canada

**P Dicken**

University of Manchester, Manchester, UK

**G Dijkink**

University of Amsterdam, Amsterdam, The Netherlands

**I Docherty**

University of Glasgow, Glasgow, UK

**M Duckham**

University of Melbourne, Melbourne, VIC, Australia

**M Duffy**

University of Melbourne, Melbourne, VIC, Australia

**S Elwood**

University of Washington, Seattle, WA, USA

**M F Goodchild**

University of California, Santa Barbara, CA, USA

**D Goodman**

University of California – Santa Cruz, Santa Cruz, CA, USA

**M K Goodman**

King's College London, London, UK

**M Goodwin**

University of Exeter, Exeter, UK

**L van Grunsven**

Utrecht University, Utrecht, The Netherlands

**J Häkli**

University of Tampere, Finland

**E Hall**

University of Dundee, Dundee, UK

**D J Hammel**

University of Toledo, Toledo, OH, USA

**B Hendriks**

Radboud University, Nijmegen, The Netherlands

**M Hess**

University of Manchester, Manchester, UK

**J Hessler**

Library of Congress, Washington, DC, USA

**R Hudson**

Durham University, Durham, UK

**M Huxley**

University of Sheffield, Sheffield, UK

**L C Johnson**

Deakin University, Geelong, VIC, Australia

**R Kaiser**

University of Wisconsin – Madison, Madison, WI, USA

**A Kealy**

University of Melbourne, Melbourne, VIC, Australia

**M J Kraak**

International Institute of Geo-Information Science and Earth Observation, Enschede, The Netherlands

**A Legendijk**

Radboud University, Nijmegen, The Netherlands

**N S Lam**

Louisiana State University, Baton Rouge, LA, USA

**A Latham**

UCL, London, UK

**J Lee**

The University of Seoul, Seoul, South Korea

**Y Leung**

The Chinese University of Hong Kong, Hong Kong

**A Leyshon**

University of Nottingham, Nottingham, UK

**J Little**

University of Exeter, Exeter, UK

**J Lovering**

Cardiff University, Cardiff, UK

**C Lukinbeal**

Arizona State University, Tempe, AZ, USA

**W A Mackaness**

University of Edinburgh, Edinburgh, UK

**A Maddrell**

University of the West of England, Bristol, UK

**J C Marshall<sup>†</sup>**

University of Oxford, Oxford, UK

**D R Meyer**

Brown University, Providence, RI, USA

**V Miller**

University of Kent, Canterbury, UK

**C M Moreno**

San Diego State University, San Diego, CA, USA

**K M Morin**

Bucknell University, Lewisburg, PA, USA

**R Morrill**

University of Washington, Seattle, WA, USA

**L Muscarà**

Università del Molise, Isernia, Campobasso, Italy

**T Nyerges**

University of Washington, Seattle, WA, USA

**S M Otterstrom**

Brigham Young University, Provo, UT, USA

**A Páez**

McMaster University, Hamilton, ON, Canada

**M Pavlovskaya**

Hunter College – CUNY, New York, NY, USA

**Linda Peake**

York University, Toronto, ON, Canada

**M Phillips**

University of Leicester, Leicester, UK

**J Pollard**

Newcastle University, Newcastle upon Tyne, UK

**L Price**

Queen's University Belfast, Belfast, UK

**B Pritchard**

University of Sydney, Sydney, NSW, Australia

**M Purvis**

University of Leeds, Leeds, UK

**M Raco**

King's College London, London, UK

**K N Rankin**

University of Toronto, Toronto, ON, Canada

**J Raper**

City University, London, UK

**L T Reynolds**

Colorado State University, Fort Collins, CO, USA

**P Reuber**

University of Münster, Münster, Germany

**P Richardson**

University of Oxford, Oxford, UK

**S M Roberts**

University of Kentucky, Lexington, KY, USA

**U Rossi**

University of Cagliari, Cagliari, Italy

**G Rushton**

The University of Iowa, Iowa City, IA, USA

**R B Sarma**

Cotton College, Guwahati, India

**A J Secor**

University of Kentucky, Lexington, KY, USA

**J Shaw**

University of Plymouth, Plymouth, UK

**T Slater**

University of Edinburgh, Edinburgh, UK

**K Strauss**

Oxford University Centre for the Environment, Oxford, UK

<sup>†</sup>Deceased, 22 August 2007.

**M Taylor**

Mary Immaculate College, University of Limerick,  
Limerick, Republic of Ireland

**M Taylor**

University of Birmingham, Birmingham, UK

**D Thien**

California State University, Long Beach, CA, USA

**J Tivers**

Nottingham Trent University, Nottingham, UK

**Y Underhill-Sem**

University of Auckland, Auckland, New Zealand

**J Wallace**

University of Melbourne, Melbourne, VIC, Australia

**F Wang**

Louisiana State University, Baton Rouge, LA, USA

**B Warf**

University of Kansas, Lawrence, KS, USA

**S J Whatmore**

University of Oxford, Oxford, UK

**D C Wheeler**

Emory University, Atlanta, GA, USA

**J Wiles**

University of Auckland, Auckland, New Zealand

**G Williams**

University of Sheffield, Sheffield, UK

**K D Willis**

Royal Holloway, University of London, Egham, UK

**D Wójcik**

Oxford University Centre for the Environment,  
Oxford, UK

**X Yao**

University of Georgia, Atlanta, GA, USA

**H W-c Yeung**

National University of Singapore, Singapore

## VOLUME 5

**A G Aguilar**

Universidad Nacional Autónoma de México, Mexico City,  
Mexico

**J Agyeman**

Tufts University, Medford, MA, USA

**K Falconer Al-Hindi**

University of Nebraska at Omaha, Omaha, NE, USA

**N AlSayyad**

University of California, Berkeley, CA, USA

**G J Ashworth**

University of Groningen, Groningen, The Netherlands

**S Asthana**

University of Plymouth, Plymouth, UK

**P Barnett**

University of Otago, Christchurch, New Zealand

**R Barnett**

University of Canterbury, Christchurch, New Zealand

**D Bell**

University of Leeds, Leeds, UK

**J D Bohland**

Hollins University, Roanoke, VA, USA

**T Brown**

Queen Mary, University of London, London, UK

**I H Burnley**

University of New South Wales, Sydney, NSW, Australia

**E Cameron**

Queen's University, Kingston, ON, Canada

**E P Campuzano**

Instituto Politécnico Nacional, Mexico City, Mexico

**F Celata**

University of Rome "La Sapienza", Rome, Italy

**M Chapin**

Center for the Support of Native Lands, Arlington, VA,  
USA

**K Chapman**

University of Aberdeen, Aberdeen, UK

**S Chaturvedi**

Panjab University, Chandigarh, India

**E Clark**

Lund University, Lund, Sweden

**N Collins-Kreiner**

University of Haifa, Haifa, Israel

**J Corbett**

University of British Columbia, Vancouver, BC, Canada

**G DeVerteuil**

University of Southampton, Southampton, UK

**M Dodge**

University of Manchester, Manchester, UK

**D Dorling**

University of Sheffield, Sheffield, UK

**P J Duffy**

National University of Ireland, Maynooth, Maynooth,  
Republic of Ireland

**J Dunn**

St Michael's Hospital, Toronto, ON, Canada

**R Fish**

University of Exeter, Exeter, UK

**R Flowerdew**

University of St Andrews, St Andrews, UK

**R Foley**

NUI Maynooth, Maynooth, Republic of Ireland

**N Gallent**

University College London, London, UK

**C Gibson**

University of Wollongong, Wollongong, NSW, Australia

**L Gibson**

Land and People Information Sharing Society (LAPIS), Parksville, BC, Canada

**J Glassman**

University of British Columbia, Vancouver, BC, Canada

**A R Goetz**

University of Denver, Denver, CO, USA

**A Golan**

University of Haifa, Haifa, Israel

**W T S Gould**

University of Liverpool, Liverpool, UK

**M Greenwood**

University of Northern British Columbia, Prince George, BC, Canada

**A L Griffin**

University of New South Wales – ADFA, Canberra, ACT, Australia

**L Guelke**

University of Waterloo, Waterloo, ON, Canada

**E Hague**

DePaul University, Chicago, IL, USA

**R Haines-Young**

University of Nottingham, Nottingham, UK

**R Harris**

McMaster University, Hamilton, ON, Canada

**F Harvey**

University of Minnesota, Minneapolis, MN, USA

**G J D Hewings**

University of Illinois, Urbana, IL, USA

**R Honey**

The University of Iowa, Iowa City, IA, USA

**R Howitt**

Macquarie University, Sydney, NSW, Australia

**M Hoyler**

Loughborough University, Loughborough, UK

**R Hudson**

University of Durham, Durham, UK

**J S Humphreys**

Monash University, Bendigo, VIC, Australia

**R D Jacobson**

University of Calgary, Calgary, AB, Canada

**J P Jones III**

University of Arizona, Tucson, AZ, USA

**R Jones**

Curtin University of Technology, Perth, WA, Australia

**C Kelly**

University of Greenwich, London, UK

**A D King**

State University of New York at Binghamton, Binghamton, NY, USA

**S Kirsch**

University of North Carolina, Chapel Hill, NC, USA

**A Kobayashi**

Queen's University, Kingston, ON, Canada

**N Koch**

Dartmouth College, Hanover, NH, USA

**Z Kovács**

University of Szeged, Szeged, Hungary

**M-J Kraak**

ITC – International Institute of Geo-Information Science and Earth Observation, Enschede, The Netherlands

**S de Leeuw**

University of Northern British Columbia, Prince George, BC, Canada

**R Lewis**

University of Toronto, Toronto, ON, Canada

**R Longhurst**

University of Waikato, Hamilton, New Zealand

**D Mackinnon**

University of Aberdeen, Aberdeen, UK

**S P Mains**

University of the West Indies-Mona, Kingston, Jamaica

**J May**

Queen Mary, University of London, London, UK

**P Milbourne**

Cardiff University, Cardiff, UK

**C Minca**

Royal Holloway, University of London, Egham, UK

**J Mistry**

University of London, Egham, UK

**R Mitchell**

University of Glasgow, Glasgow, UK

**G Moon**

University of Southampton, Highfield, UK

**S Muller**

Macquarie University, Sydney, NSW, Australia

**S Neal**

Open University, Milton Keynes, UK

**M E O'Kelly**

Ohio State University, Columbus, OH, USA

**K R Olwig**

Swedish University of Agricultural Sciences, Alnarp, Sweden

**S Orford**

Cardiff University, Cardiff, UK

**M Pacione**

University of Strathclyde, Glasgow, UK

**M Parnwell**

University of Leeds, Leeds, UK

**B Parthasarathy**

International Institute of Information Technology, Bangalore, India

**J Patchell**

Hong Kong University of Science and Technology, Kowloon, Hong Kong, China

**R Peet**

Clark University, Worcester, MA, USA

**T Peil**

Tallinn University, Tallinn, Estonia

**N A Phelps**

University College London, London, UK

**J M Powell**

Monash University, Melbourne, VIC, Australia

**P Raento**

University of Helsinki, Helsinki, Finland

**G Rambaldi**

Technical Centre for Agricultural and Rural Cooperation ACP-EU, Wageningen, The Netherlands

**C Richmond**

The University of Western Ontario, London, ON, Canada

**E J Roe**

Southampton University, Southampton, UK

**U Rossi**

University of Cagliari, Cagliari, Italy

**J Rutherford**

LATTS (Laboratoire Techniques, Territoires et Sociétés), Marne-la-Vallée, France

**G Setten**

Department of Geography, Norwegian University of Science and Technology, Trondheim, Norway

**M Shaw**

Bristol University, Bristol, UK

**D Simandan**

Brock University, St Catharines, ON, Canada

**J M Smith**

Texas A & M University, College Station, TX, USA

**K B Smith**

Monash University, Bendigo, VIC, Australia

**M Sonis**

University of Illinois, Urbana, IL, USA, and Bar Ilan University, Ramat Gan, Israel

**M Sothern**

University of St Andrews, St Andrews, UK

**R Sternberg**

University of Hannover, Hannover, Germany

**S Suchet-Pearson**

Macquarie University, Sydney, NSW, Australia

**I Türelí**

Brown University, Providence, RI, USA

**J Timár**

Center for Regional Studies, Békéscsaba, Hungary

**D P Tolia-Kelly**

Durham University, Durham, UK

**H Tunstall**

University of York, York, UK

**D Vaiou**

National Technical University of Athens, Athens, Greece

**S M Walcott**

University of North Carolina, Greensboro, NC, USA

**J L Waters**

University of Liverpool, Liverpool, UK

**G W White**

Frostburg State University, Frostburg, MD, USA

**K Wilson**

University of Toronto, Mississauga, ON, Canada

**G M Winder**

The University of Auckland, Auckland, New Zealand

**G M Winder**

Ludwig-Maximilians-Universität, Munich, Germany

**K Woodward**

University of Exeter, Exeter, UK

**R Wright**

Dartmouth College, Hanover, NH, USA

**Y Zhou**

Vassar College, New York, NY, USA

**M Zook**

University of Kentucky, Lexington, KY, USA

## VOLUME 6

**B T Asheim**

Lund University, Lund, Sweden

**A Aylett**

University of British Columbia, Vancouver, BC, Canada

**A Bain**

York University, Toronto, ON, Canada

**T J Barnes**

University of British Columbia, Vancouver, BC, Canada

**C Benner**

University of California, Davis, Davis, CA, USA

**M Brosseau**

University of Ottawa, Ottawa, ON, Canada

**K Browne**

University of Brighton, Brighton, UK

**R A Butlin**

University of Leeds, Leeds, UK

**C A Calder**

The Ohio State University, Columbus, OH, USA

**P Carmody**

Trinity College, Dublin, Republic of Ireland

**W Cartwright**

RMIT University, Melbourne, VIC, Australia

**P Collier**

University of Portsmouth, Portsmouth, UK

**S Conti**

Università e Politecnico di Torino, Turin, Italy

**P Cooke**

Cardiff University, Cardiff, UK

**K R Cox**

The Ohio State University, Columbus, OH, USA

**N Cressie**

The Ohio State University, Columbus, OH, USA

**A Cumbers**

University of Glasgow, Glasgow, UK

**D Delaney**

Amherst College, Amherst, MA, USA

**M Dodge**

University of Manchester, Manchester, UK

**J Dubow**

University of Sheffield, Sheffield, UK

**C Dwyer**

University College London, London, UK

**R Edsall**

University of Minnesota, Minneapolis, MN, USA

**F Eva**

Università Ca' Foscari, Venezia, Treviso Campus, Italy

**M Farish**

University of Toronto, Toronto, ON, Canada

**R Fincher**

University of Melbourne, Melbourne, VIC, Australia

**S M Freundsuh**

National Science Foundation, Arlington, VA, USA

**G Garofoli**

Insubria University, Varese, Italy

**J Gaspar**

CEG, University of Lisbon, Lisbon, Portugal

**P Giaccaria**

Università e Politecnico di Torino, Turin, Italy

**E Gilbert**

University of Toronto, Toronto, ON, Canada

**J R Gold**

Oxford Brookes University, Oxford, UK

**A E Green**

University of Warwick, Coventry, UK

**M Haldrup**

Roskilde University, Roskilde, Denmark

**F Harvey**

University of Minnesota, Minneapolis, MN, USA

**A Herod**

University of Georgia, Athens, GA, USA

**M Hesse**

University of Luxembourg, Luxembourg

**S Hoelscher**

The University of Texas at Austin, Austin, TX, USA

**E Holland**

University of Colorado, Boulder, CO, USA

**B Hooper**

Radboud University, Nijmegen, The Netherlands

**P Hopkins**

Newcastle University, Newcastle, UK

**M W Horner**

The Florida State University, Tallahassee, FL, USA



**B van Hoven**

University of Groningen, Groningen, The Netherlands

**R Howitt**

Macquarie University, Sydney, NSW, Australia

**B Hunt**

Santa Barbara, CA, USA

**J Jäger**

University of Applied Sciences BFI, Vienna, Austria

**P Jackson**

University of Sheffield, Sheffield, UK

**A E G Jonas**

University of Hull, Hull, UK

**A Jones**

University of London, London, UK

**R Jones**

Aberystwyth University, Aberystwyth, UK

**Cristóbal Kay**

Institute of Social Studies, The Hague,  
The Netherlands

**G Kearns**

Virginia Polytechnic and State University, Blacksburg, VA,  
USA

**G Kearns**

Virginia Tech, Blacksburg, VA, USA

**A Kerr**

National University of Ireland, Maynooth, Republic of  
Ireland

**J Krygier**

Ohio Wesleyan University, Delaware, OH, USA

**W Li**

University of Connecticut, Storrs, CT, USA

**E Mac Gillavry**

Webmapper, Utrecht, The Netherlands

**J Mansvelt**

Massey University, Palmerston North, New Zealand

**F Mizuoka**

Hitotsubashi University, Tokyo, Japan

**K M Morin**

Bucknell University, Lewisburg, PA, USA

**A T Murray**

Arizona State University, Tempe, AZ, USA

**C J Nash**

University of Brighton, Brighton, UK

**J O'Loughlin**

University of Colorado, Boulder, CO, USA

**F Owusu**

Iowa State University, Ames, IA, USA

**R B Parry**

The University of Reading, Reading, UK

**M W Pearce**

Ohio University, Athens, OH, USA

**C Perkins**

University of Manchester, Manchester, UK

**S Pinch**

University of Southampton, Southampton, UK

**S Ó Riain**

National University of Ireland, Maynooth, Republic of  
Ireland

**G A Rice**

University of Helsinki, Finland

**J-P Rodrigue**

Hofstra University, Hempstead, NY, USA

**T D Rutherford**

Syracuse University, Syracuse, NY, USA

**A Saito**

National University of Singapore, Singapore

**James D Sidaway**

School of Geography, University of Plymouth, UK

**T Skelton**

National University of Singapore, Singapore

**A Tay**

University of Bristol, Bristol, UK

**D P Tolia-Kelly**

Durham University, Durham, UK

**B L Turner II**

Arizona State University, Tempe, AZ, USA

**H Winlow**

Bath Spa University, Bath, UK

**S D Withers**

University of Washington, Seattle, WA, USA

**D Wood**

Raleigh, NC, USA

**P Wood**

University College London, London, UK

**C Zhang**

University of Connecticut, Storrs, CT, USA

**M Zook**

University of Kentucky, Lexington, KY, USA

## VOLUME 7

**S C Aitken**

San Diego State University, San Diego, CA, USA, and  
National Technical University of Norway, Trondheim,  
Norway

**D H Alderman**

East Carolina University, Greenville, NC, USA

**N Argent**

University of New England, Armidale, NSW, Australia

**S Bell**

University of Saskatchewan, Saskatoon, SK, Canada

**M E Bonine**

University of Arizona, Tucson, AZ, USA

**W M Bowen**

Cleveland State University, Cleveland, OH, USA

**P Boyle**

University of St Andrews, St Andrews, UK

**G Bridge**

University of Manchester, Manchester, UK

**K M Brown**

Macaulay Land Use Research Institute, Craigiebuckler,  
Aberdeen, UK

**G Burgel**

University of Paris 10, Nanterre, France

**M A Busteed**

University of Manchester, Manchester, UK

**L Cadman**

University of Glasgow, Glasgow, UK

**I Casas**

University at Buffalo – SUNY, Buffalo, NY, USA

**D B Clarke**

Swansea University, Swansea, UK

**N Clarke**

University of Southampton, Southampton, UK

**P Claval**

Université de Paris-Sorbonne, Paris, France

**J Clayton**

University of Sunderland, Sunderland, UK

**P Cooke**

Cardiff University, Cardiff, UK

**N Curry**

Countryside and Community Research Institute CCRI,  
Cheltenham, UK

**K M Dunn**

School of Social Sciences, Penrith, NSW, Australia

**O J Dwyer**

Indiana University, Indianapolis, IN, USA

**R Earickson**

University of Maryland, Baltimore, MD, USA

**T Edensor**

Manchester Metropolitan University, Manchester, UK

**C Cindy Fan**

University of California, Los Angeles, CA, USA

**M Farish**

University of Toronto, Toronto, ON, Canada

**J Flint**

Sheffield Hallam University, Sheffield, UK

**S Fullagar**

Griffith University, Nathan, QLD, Australia

**J R Gold**

Oxford Brookes University, Oxford, UK

**G Grabher**

University of Bonn, Bonn, Germany

**R N Gwynne**

University of Birmingham, Birmingham, UK

**D Hill**

University of Otago, Dunedin, New Zealand

**H Hoernig**

Université de Québec à Montréal, Montréal, QC,  
Canada

**P Holland**

University of Otago, Dunedin, New Zealand

**P Hubbard**

Leicestershire University, Leicestershire, UK

**R D Jacobson**

University of Calgary, Calgary, AB, Canada

**W Jenkins**

York University, Toronto, ON, Canada

**O Jones**

Countryside and Community Research Institute CCRI,  
Cheltenham, UK

**R Jones**

Aberystwyth University, Aberystwyth, UK

**K Kafkoulas**

Aristotle University of Thessaloniki, Thessaloniki, Greece

**D H Kaplan**

Kent State University, Kent, OH, USA

**J Kenny**

University of Wisconsin – Milwaukee, Milwaukee, WI, USA

**M J Kuby**

Arizona State University, Tempe, AZ, USA

**W Lerner**

University of Bristol, Bristol, UK

**R Le Heron**

The University of Auckland, Auckland, New Zealand

**Sang-II Lee**

Seoul National University, Seoul, South Korea

**K D Lilley**

Queen's University Belfast, Belfast, UK

**D Linehan**

University College Cork, Cork, Republic of Ireland

**J Lorimer**

King's College London, London, UK

**G MacLeod**

University of Durham, Durham, UK

**E J McCann**

Simon Fraser University, Burnaby, BC, Canada

**L McDowell**

University of Oxford, Oxford, UK

**S McDowell**

University of Ulster, Coleraine, UK

**A McGregor**

University of Otago, Dunedin, New Zealand

**J H McKendrick**

Glasgow Caledonian University, Glasgow, UK

**P Merriman**

Aberystwyth University, Aberystwyth, UK

**W E Murray**

Victoria University of Wellington, Wellington, New Zealand

**G Olsson**

Uppsala University, Uppsala, Sweden

**K R Olwig**

Swedish University of Agricultural Sciences, Alnarp, Sweden

**J Penrose**

University of Edinburgh, Edinburgh, UK

**C G Pooley**

Lancaster University, Lancaster, UK

**C Radel**

Utah State University, Logan, UT, USA

**Saraswati Raju**

Jawaharlal Nehru University, New Delhi, India

**S Ratick**

Clark University, Worcester, MA, USA

**T D Roberts**

University of Colorado at Boulder, Boulder, CO, USA

**G Schwarz**

Universidad Nacional de Colombia, Bogota, DC, Colombia

**G Setten**

Norwegian University of Science and Technology, Trondheim, Norway

**K Simonsen**

Roskilde University, Roskilde, Denmark

**M Sioh**

DePaul University, Chicago, IL, USA

**C J Smith**

University at Albany, SUNY, Albany, NY, USA

**M Tanskanen**

University of Joensuu, Joensuu, Finland

**S Tierney**

University of Denver, Denver, CO, USA

**C D Upchurch**

University of South Carolina, Columbia, USA

**M Walton-Roberts**

Wilfrid Laurier University, Waterloo, ON, Canada

**M Watts**

UC Berkeley, Berkeley, CA, USA

**A Wearing**

University of Otago, Dunedin, New Zealand

**D W Wong**

George Mason University, Fairfax, VA, USA

**R Woodward**

Newcastle University, Newcastle upon Tyne, UK

**Y-M Yeung**

The Chinese University of Hong Kong, Hong Kong, People's Republic of China

## VOLUME 8

**O Ahlqvist**

The Ohio State University, Columbus, OH, USA

**S C Aitken**

San Diego State University, San Diego, CA, USA, and  
Norwegian University of Science and Technology,  
Trondheim, Norway

**G Backhaus**

Loyola College in Maryland, Baltimore, MD, USA

**A J Bailey**

University of Leeds, Leeds, UK

**D Bennett**

Carleton University, Ottawa, ON, Canada

**V Berdoulay**

CNRS and Université de Pau, Pau, France

**L Bondi**

University of Edinburgh, Edinburgh, UK

**M Boyle**

National University of Ireland Maynooth, Co Kildare,  
Republic of Ireland

**E Chacko**

The George Washington University, Washington, DC,  
USA

**X Chen**

Trinity College, Hartford, CT, USA

**A O Chimhowu**

University of Manchester, Manchester, UK

**P Collier**

University of Portsmouth, Portsmouth, UK

**D Collins**

University of Alberta, Alberta, Canada

**D Collins**

University of Auckland, Auckland, New Zealand

**K R Cox**

The Ohio State University, Columbus, OH, USA

**T Cresswell**

Royal Holloway, University of London, Egham, UK

**E Delmelle**

University of North Carolina at Charlotte, NC, USA

**J Dittmer**

University College London, London, UK

**D P Dixon**

The University of Wales, Aberystwyth, UK

**M Dunford**

University of Sussex, Brighton, UK

**S Elden**

Durham University, Durham, UK

**R Flowerdew**

University of St Andrews, Fife, UK

**R Flowerdew**

University of St Andrews, St Andrews, UK

**B Forest**

McGill University, Montréal, QC, Canada

**A Franklin**

University of Tasmania, Hobart, TAS, Australia

**N R Fyfe**

University of Dundee, Dundee, UK

**M Gren**

Hólar University College, Sauðárkrúkur, Iceland

**M Haldrup**

Roskilde University, Roskilde, Denmark

**P Hall**

University College London, London, UK

**S Harrison**

University of Exeter, Penryn, UK

**S Hickey**

University of Manchester, Manchester, UK

**M Huxley**

University of Sheffield, Sheffield, UK

**J P Jones III**

University of Arizona, Tucson, AZ, USA

**R Jones**

Aberystwyth University, Aberystwyth, UK

**M Kesby**

University of St Andrews, St Andrews, UK

**F C Kessler**

Frostburg State University, Frostburg, MD, USA

**S Kindon**

Victoria University of Wellington, Wellington, New  
Zealand

**A D King**

State University of New York Binghamton, Binghamton,  
NY, USA

**P T Kingsbury**

Simon Fraser University, Burnaby, BC, Canada

**A Kobayashi**

Queen's University, Kingston, ON, Canada

**L Koefoed**

Roskilde University, Roskilde, Denmark

**U Kothari**

University of Manchester, Manchester, UK

**D M Lawrence**

Virginia State University and Virginia Union University,  
Richmond, VA, USA

**R Le Heron**

University of Auckland, Auckland, New Zealand

**J Lea**

Lancaster University, Lancaster, UK

**J Lorimer**

King's College London, London, UK

**D P McCormack**

Oxford University Centre for the Environment,  
Oxford, UK

**C McEwan**

Durham University, Durham, UK

**C Minca**

Royal Holloway, University of London, Egham, UK

**D Mitchell**

Syracuse University, Syracuse, NY, USA

**F Morton**

Royal Scottish Academy of Music and Drama,  
Glasgow, UK

**W E Murray**

Victoria University of Wellington, Wellington,  
New Zealand

**C J Nash**

Brock University, St Catharines, ON, Canada

**R P Neumann**

Florida International University, Miami, FL, USA

**A Nightingale**

University of Edinburgh, Edinburgh, UK

**J O'Loughlin**

University of Colorado, Boulder, CO, USA

**P M O'Neill**

University of Western Sydney, NSW, Australia

**A Paasi**

University of Oulu, Linnanmaa, Finland

**R Pain**

University of Durham, Durham, UK

**E Pawson**

University of Canterbury, Christchurch, New Zealand

**C Perkins**

University of Manchester, Manchester, UK

**M Perry**

Massey University (Wellington), Wellington, New Zealand

**J Nederveen Pieterse**

University of Illinois, Urbana-Champaign, IL, USA

**J D van der Ploeg**

Wageningen University, Wageningen, The Netherlands

**Saraswati Raju**

Jawaharlal Nehru University, New Delhi, India

**R Sanders**

Temple University, Philadelphia, PA, USA

**V R Savage**

National University of Singapore, Singapore

**B-M Shantz**

University of Auckland, Auckland, New Zealand

**S J Smith**

University of Durham, Durham, UK

**L A Staeheli**

University of Edinburgh, Edinburgh, UK

**J-F Staszak**

Université de Genève Geneva, Switzerland

**P E Steinberg**

Florida State University, Tallahassee, FL, USA

**D Storey**

University of Worcester, Worcester, UK

**L Sýkora**

Charles University, Prague, Czech Republic

**A R Tickamyer**

Ohio University, Athens, OH, USA

**K Walsh**

University of Sussex, Brighton, UK

**B Warf**

University of Kansas, Lawrence, KS, USA

**S Warren**

Eastern Washington University, Cheney, WA, USA

**G A Wilson**

University of Plymouth, Plymouth, UK

**M Woods**

Aberystwyth University, Aberystwyth, UK

**K Woodward**

University of Exeter, Exeter, UK

**G Yeung**

National University of Singapore, Singapore

## VOLUME 9

**M B Aalbers**

Columbia University, New York, NY, USA

**M Abreu**

University of Cambridge, Cambridge, UK

**O Ahlqvist**

The Ohio State University, Columbus, OH, USA

**J O Bærenholdt**

Roskilde University, Roskilde, Denmark

**T J Barnes**

University of British Columbia, Vancouver, BC, Canada

**R Billen**

University of Liege, Liege, Belgium

**R Black**

University of Sussex, Brighton, UK

**J S Boggs**

Brock University, St Catharines, ON, Canada

**G Bridge**

University of Bristol, Bristol, UK

**K Browne**

University of Brighton, Brighton, UK

**T Butler**

King's College London, London, UK

**D Carr**

University of California, Santa Barbara, CA, USA

**M Charlton**

National University of Ireland Maynooth, Maynooth, Republic of Ireland

**J P Clark**

Loyola University, New Orleans, LA, USA

**M Cope**

University of Vermont, Burlington, VT, USA

**A Cumbers**

University of Glasgow, Glasgow, UK

**J Cupples**

University of Canterbury, Christchurch, New Zealand

**J Revilla Diez**

Leibniz University of Hannover, Hannover, Germany

**I Docherty**

University of Glasgow, Glasgow, UK

**M Doevenspeck**

University of Bayreuth, Bayreuth, Germany

**M Dunford**

University of Sussex, Brighton, UK

**D W Edgington**

University of British Columbia, Vancouver, BC, Canada

**C Fox**

Dartmouth College, Hanover, NH, USA

**M F Goodchild**

University of California, Santa Barbara, CA, USA

**K H Halfacree**

Swansea University, Swansea, UK

**L M B Harrington**

Kansas State University, Manhattan, KS, USA

**R Hayter**

Simon Fraser University, Byrnaby, BC, Canada

**A Holden**

University of Durham, Durham, UK

**J R L Howells**

University of Manchester, Manchester, UK

**R Johnston**

University of Bristol, Bristol, UK

**J-K Jung**

University of North Dakota, Grand Forks, ND

**M Kiese**

Leibniz University of Hannover, Hannover, Germany

**A Kobayashi**

Queen's University, Kingston, ON, Canada

**V Kolossov**

Russian Academy of Sciences, Moscow, Russia

**L Kong**

National University of Singapore, Singapore

**A Lord**

University of Liverpool, Liverpool, UK

**D MacKinnon**

University of Aberdeen, Aberdeen, UK

**G MacLeod**

University of Durham, Durham, UK

**K A MacTavish**

Oregon State University, Corvallis, OR, USA

**J Mennis**

Temple University, Philadelphia, PA, USA

**F Mizuoka**

Hitotsubashi University, Tokyo, Japan

**A Nayak**

University of Newcastle, Newcastle, UK

**H Neo**

National University of Singapore, Singapore

**P Nijkamp**

Free University, Amsterdam, The Netherlands

**E S Norman**

University of British Columbia, Vancouver, BC, Canada

**H G Overman**

London School of Economics, London, UK

**A Paasi**

University of Oulu, Oulu, Finland

**B Page**

University College London, London, UK

**J Pearce**

University of Canterbury, Christchurch, New Zealand

**R Peet**

Clark University, Worcester, MA, USA

**I M M Pires**

Universidade Nova de Lisboa, Lisbon, Portugal

**V Preston**

York University, Toronto, ON, Canada

**N M Rantisi**

Concordia University, Montréal, QC, Canada

**J M Read**

Maxwell School of Syracuse University, Syracuse, NY, USA

**P Robbins**

University of Arizona, Tucson, AZ, USA

**S Salamon**

University of Texas at Dallas, Dallas, TX, USA

**H V Scott**

Aberystwyth University, Aberystwyth, UK

**J Shaw**

University of Plymouth, Plymouth, UK

**N K Shortt**

University of Edinburgh, Edinburgh, UK

**I G Simmons**

University of Durham, Durham, UK

**T R Slater**

University of Birmingham, Birmingham, UK

**E W Soja**

University of California, Los Angeles, CA, USA, and London School of Economics and Political Science, London, UK

**M Sokol**

Queen Mary, University of London, London, UK

**M Tewdwr-Jones**

University College London, London, UK

**F Tödttling**

Vienna University of Economics and Business Administration, Vienna, Austria

**J Tomaney**

Newcastle University, Newcastle upon Tyne, UK, and Monash University, Melbourne, VIC, Australia

**M Torrado**

Maxwell School of Syracuse University, Syracuse, NY, USA

**A Treivish**

Russian Academy of Sciences, Moscow, Russia

**N Van de Weghe**

Ghent University, Gent, Belgium

**B Werlen**

Friedrich-Schiller University, Jena, Germany

**J Winders**

Syracuse University, Syracuse, NY, USA

**M Woods**

Aberystwyth University, Aberystwyth, UK

**N Wrigley**

University of Southampton, Southampton, UK

## VOLUME 10

**A Albet**

Autonomous University of Barcelona, Bellaterra, Spain

**T A Arentze**

Eindhoven University of Technology, Eindhoven, The Netherlands

**R Atkinson**

University of Tasmania, Hobart, TAS, Australia

**M Azaryahu**

University of Colorado at Boulder, Boulder, CO, USA

**M Azaryahu**

University of Haifa, Haifa, Israel

**A Bebbington**

University of Manchester, Manchester, UK

**L Bian**

University at Buffalo – SUNY, Buffalo, NY, USA

**E Casetti**

Ohio State University, Columbus, OH, USA

**G P Chapman**

Centre for Advanced Study, Oslo, Norway

**M Coleman**

The Ohio State University, Columbus, OH, USA

**T J Cooke**

University of Connecticut, Storrs, CT, USA

**T W Crawford**

East Carolina University, Greenville, NC, USA

**M A de Souza**

Universidade de São Paulo, Campinas, Brazil

**A V Di Vittorio**

University of California – Berkeley, Berkeley, CA, USA

**M Duffy**

University of Melbourne, Carlton, VIC, Australia

**N Duncan**

University of Cambridge, Cambridge, UK

**S Elden**

Durham University, Durham, UK

**S Engel-Di Mauro**

SUNY New Paltz, NY, USA

**R Flowerdew**

University of St Andrews, St Andrews, UK

**K E Foote**

University of Colorado at Boulder, Boulder, CO, USA

**J D Gatrell**

Indiana State University, Terre Haute, IN, USA

**C Gibson**

University of Wollongong, Wollongong, NSW, Australia

**B Greenhough**

Queen Mary, University of London, London, UK

**D A Griffith**

University of Texas – Dallas, Richardson, TX, USA

**M Haldrup**

Roskilde University, Roskilde, Denmark

**A L Hansen**

Lund University, Lund, Sweden

**R Harris**

Hamilton, ON, Canada

**K E Haynes**

George Mason University, Fairfax, VA, USA

**P Howell**

University of Cambridge, Cambridge, UK

**R W Jackson**

West Virginia University, Morgantown, WV, USA

**A James**

Queen Mary, University of London, London, UK

**B Jessop**

Lancaster University, Lancaster, UK

**Ron Johnston**

University of Bristol, Bristol, UK

**M Jones**

Aberystwyth University, Aberystwyth, UK

**C Kim**

University of Cincinnati, Cincinnati, OH, USA

**R Kitchin**

NUI Maynooth, Maynooth, Republic of Ireland

**A Kobayashi**

Queen's University, Kingston, ON, Canada

**E W LaFary**

The University of Auckland, Auckland, New Zealand

**N S Lam**

Louisiana State University, Baton Rouge, LA, USA

**A Latham**

University College London, London, UK

**J Lee**

Kent State University, Kent, OH, USA

**L Lo**

York University, Toronto, ON, Canada

**Y Lu**

Texas State University – San Marcos, San Marcos, TX, USA

**S M Manson**

University of Minnesota, Minneapolis, MN, USA

**D McCormack**

Oxford University Centre for the Environment, Oxford, UK

**J McGarrigle**

Universidade de Lisboa, Lisbon, Portugal

**J Mohan**

University of Southampton, Southampton, UK

**K Newman**

Rutgers University, New Brunswick, NJ, USA

**M E O'Kelly**

The Ohio State University, Columbus, OH, USA

**J Oldfield**

University of Glasgow, Glasgow, UK

**R Panelli**

University College London, London, UK

**D Pinder**

Queen Mary, University of London, London, UK

**M F Poulsen**

Macquarie University, Sydney, NSW, Australia

**M Ramutsindela**

University of Cape Town, Rondebosch, South Africa

**G M Robinson**

Kingston University, Kingston upon Thames, UK

**S M Ruddick**

University of Toronto, Toronto, ON, Canada



**G Rushton**

The University of Iowa, Iowa City, IA, USA

**A Saldanha**

University of Minnesota, Minneapolis, MN, USA

**N F Sayre**

University of California – Berkeley, Berkeley, CA, USA

**N Schuurman**

Simon Fraser University, Burnaby, BC, Canada

**T Schwanen**

Utrecht University, Utrecht, The Netherlands

**D M Scott**

McMaster University, Hamilton, ON, Canada

**D Sibley**

University of Leeds, Leeds, UK

**A Smith**

Queen Mary, University of London, London, UK

**Q Stevens**

University College London, London, UK

**P Sunley**

University of Southampton, Southampton, UK

**Eric C Thompson**

National University of Singapore, Singapore

**C Tiwari**

The University of Iowa, Iowa City, IA, USA

**D Turnbull**

ACSIS, Melbourne University, Melbourne, VIC, Australia

**L Twigg**

University of Portsmouth, Portsmouth, UK

**D J Unwin**

Birkbeck, University of London, London, UK

**A C Vias**

University of Connecticut, Storrs, CT, USA

**M Williams**

Oxford University, Oxford, UK

**K D Willis**

Royal Holloway, University of London, Egham, UK

**A C Winstanley**

National University of Ireland, Maynooth, Republic of Ireland

**D W Wong**

George Mason University, Fairfax, VA, USA

**M Yuan**

The University of Oklahoma, Norman, OK, USA

**P Zusman**

University of Buenos Aires, Buenos Aires, Argentina

## VOLUME 11

**C G Alvstam**

Göteborg University, Gothenburg, Sweden

**D Banister**

University of Oxford, Oxford, UK

**C Berndt**

Johann Wolfgang Goethe-Universität Frankfurt, Frankfurt am Main, Germany

**K Button**

George Mason University, Fairfax, VA, USA

**M Cawley**

National University of Ireland, Galway, Republic of Ireland

**G P Chapman**

Lancaster University, Lancaster, UK

**J Connell**

University of Sydney, Sydney, NSW, Australia

**M Cope**

University of Vermont, Burlington, VT, USA

**T Cresswell**

Royal Holloway, University of London, Egham, UK

**V J Del Casino, Jr.**

California State University, Long Beach, CA, USA

**D Delaney**

Amherst College, Amherst, MA, USA

**M Denil**

Washington, DC, USA

**M Dijst**

Utrecht University, Utrecht, The Netherlands

**B Domański**

Jagiellonian University, Krakow, Poland

**T Edensor**

Manchester Metropolitan University, Manchester, UK

**J A Elliott**

University of Brighton, Brighton, UK

**W M Gesler**

University of North Carolina, Chapel Hill, NC, USA

**V Gidwani**

University of Minnesota, Minneapolis, MN, USA

**J Glassman**

University of British Columbia, Vancouver, BC, Canada

**R Grant**

University of Miami, Coral Gables, FL, USA

**M Gren**

Hólar University College, Sauðárkrúkur, Iceland

**J Gutiérrez**

Universidad Complutense de Madrid, Madrid, Spain

**T Hall**

University of Gloucestershire, Cheltenham, UK

**M Henry**

Massey University, Palmerston North, New Zealand

**J Hine**

University of Ulster, Newtownabbey, UK

**J-Y Hsu**

National Taiwan University, Taipei, Taiwan

**S Huang**

National University of Singapore, Singapore

**P J Hugill**

Texas A & M University, College Station, TX, USA

**P F Kelly**

York University, Toronto, ON, Canada

**A Kent**

University of Manchester, Manchester, UK

**R D Knowles**

University of Salford, Greater Manchester, UK

**M Kurtz**

Open University, Ottawa, ON, Canada

**D Ley**

University of British Columbia, Vancouver, BC, Canada

**R Lippuner**

Friedrich-Schiller-University Jena, Jena, Germany

**S Lloyd-Evans**

University of Reading, Reading, UK

**B P Y Loo**

University of Hong Kong, Hong Kong, People's Republic of China

**A Mace**

University of Westminster, London, UK

**T Marsden**

Cardiff University, Cardiff, UK

**C McEwan**

Durham University, Durham, UK

**Nick Megoran**

University of Newcastle upon Tyne, Newcastle upon Tyne, UK

**G Mohan**

The Open University – Milton Keynes, UK

**P L Mokhtarian**

University of California – Davis, Davis, CA, USA

**L Mu**

University of Georgia, Athens, GA, USA

**D Mustafa**

King's College London, London, UK

**A Nightingale**

University of Edinburgh, Edinburgh, UK

**G Norcliffe**

York University, Toronto, ON, Canada

**K O'Connor**

University of Melbourne, Parkville, Australia

**J O'Loughlin**

University of Colorado, Boulder, CO, USA

**K Olds**

University of Wisconsin – Madison, Madison, WI, USA

**D T Ory**

Federal Transit Administration, Washington, DC, USA

**U F Paleo**

University of Extremadura, Caceres, Spain

**R Phillips**

University of Liverpool, Liverpool, UK

**D Pinder**

Queen Mary, University of London, London, UK

**J P H Poon**

University at Buffalo – SUNY, Buffalo, NY, USA

**R B Potter**

University of Reading, Reading, UK

**J M Powell**

Monash University, Melbourne, VIC, Australia

**M Power**

University of Durham, Durham, UK

**J Preston**

University of Southampton, Southampton, UK

**G M Robinson**

Kingston University, Kingston upon Thames, UK

**J Round**

University of Birmingham, Birmingham, UK

**T Schwanen**

Utrecht University, Utrecht, The Netherlands

**J P Sharp**

University of Glasgow, Glasgow, UK

**S-L Shaw**

The University of Tennessee, Knoxville, TN, USA

**M Sheller**

Swarthmore College, Swarthmore, PA, USA

**F M Smith**

University of Dundee, Dundee, UK

**J M Smith**

Texas A &amp; M University, College Station, TX, USA

**R G Smith**

Swansea University, Swansea, UK

**D Straussfogel**

Pennsylvania State University, DuBois, PA, USA

**U Strohmayr**

National University of Ireland, Galway, Republic of Ireland

**A Sturt**

University of Westminster, London, UK

**D Thien**

California State University, Long Beach, CA, USA

**D J Unwin**

University College London, London, UK

**C von Schilling**

University of Northern British Columbia, Prince George, BC, Canada

**B Warf**

Florida State University, Tallahassee, FL, USA

**B Werlen**

Friedrich-Schiller-University Jena, Jena, Germany

**P White**

University of Westminster, London, UK

**M Whitehead**

Aberystwyth University, Aberystwyth, UK

**D Wilson**

University of Illinois, Urbana, IL, USA

**J Zhang**

University of Minnesota, Tacoma, WA, USA

**VOLUME 12****Fiona Allon**

Centre for Cultural Research, University of Western Sydney, Australia

**S Batterbury**

University of Melbourne, Melbourne, VIC, Australia

**M Batty**

University College London, London, UK

**D Bell**

University of Leeds, Leeds, UK

**G Bridge**

University of Bristol, Bristol, UK

**G Brown**

University of Leicester, Leicester, UK

**A Buttimer**

University College Dublin, Dublin, Republic of Ireland

**J Byrne**

Griffith University, Gold Coast, QLD, Australia

**B Christophers**

The University of Auckland, Auckland, New Zealand

**G P Clarke**

University of Leeds, Leeds, UK

**A Cochrane**

The Open University, Milton Keynes, UK

**D Conradson**

University of Southampton, Southampton, UK

**G Crow**

University of Southampton, Southampton, UK

**M Davidson**

University of Western Sydney, Sydney, NSW, Australia

**B Derudder**

Ghent University, Gent, Belgium

**J Dodson**

Griffith University, Brisbane, QLD, Australia

**B Gleeson**

Griffith University, Brisbane, QLD, Australia

**M F Goodchild**

University of California, Santa Barbara, CA, USA

**K H Halfacree**

Swansea University, Swansea, UK

**M G Hatvany**

Université Laval, Quebec City, QC, Canada

**C Haylett**

University of Manchester, Manchester, UK

**L Holt**

University of Reading, Reading, UK

**J Horton**

University of Northampton, Northampton, UK

**R Hudson**

Durham University, UK

**M Jayne**

University of Manchester, Manchester, UK

**N C Johnson**

Queen's University, Belfast, Northern Ireland

**D Kay**

Aberystwyth University, Aberystwyth, UK

**I M Keighren**

University of Edinburgh, Edinburgh, UK

**P Knox**

Virginia Polytechnic Institute and State University,  
Blacksburg, VA, USA

**P Kraftl**

University of Leicester, Leicester, UK

**D Kunze**

Pennsylvania State University, University Park, PA,  
USA

**M Lauria**

Clemson University, Clemson, SC, USA

**R Lee**

Queen Mary, University of London, London, UK

**K D Lilley**

Queen's University Belfast, Belfast, UK

**F MacDonald**

University of Melbourne, Melbourne, VIC, Australia

**S C MacKian**

Open University, Milton Keynes, UK

**V Mamadouh**

University of Amsterdam, Amsterdam,  
The Netherlands

**C Mason**

University of Strathclyde, Glasgow, UK

**G Mercier**

Laval University, Quebec City, QC, Canada

**C Milligan**

Lancaster University, Lancaster, UK

**M Pavlovskaya**

Hunter College – CUNY, New York, NY, USA

**L Peake**

York University, Toronto, ON, Canada

**C Philo**

University of Glasgow, Glasgow, UK

**G M Robinson**

Kingston University, Kingston upon Thames, UK

**S Rodgers**

The Open University, Milton Keynes, UK

**T R Slater**

University of Birmingham, Birmingham, UK

**E Street**

King's College London, London, UK

**K Terlouw**

Utrecht University, Utrecht, The Netherlands

**C R Warren**

University of St Andrews, St Andrews, UK

**M Watson**

University of Sheffield, Sheffield, UK

**R K Whelan**

University of Texas, Arlington, TX, USA

**B Wisner**

Benfield UCL Hazard Research Centre, London, UK

**J Wolch**

University of Southern California, Los Angeles, CA, USA



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<sup>†</sup>Deceased, 22 August 2007.

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Cartography, History of  
Cartography in Islamic Societies  
Census Geography  
Census Mapping  
Children and Mapping  
Color, Mapping  
Computational Human Geography  
Counter Mapping  
Critical Cartography  
Critical GIS  
Digital Data, Historical Geography and  
Digital Earth  
Disease Mapping  
Electoral Cartography  
Feminism, Maps and GIS  
Generalization  
Geodemographics  
Geodesy  
Geographical Masking  
Geomatics  
Georeferencing, Geocoding  
Geospatial Intelligence  
Geovisualization  
GIS and Cartography  
GIS and Society  
GIS, Mobile and Locational Based Services  
GIS, Public Participation  
GIScience and Systems  
Global Positioning/GPS  
Indigenous Mapping  
Information Graphics  
Integrated Spatial Data Infrastructure  
Internet/Web Mapping  
Map Hacking  
Map Interactivity  
Map Libraries and Archives  
Map Perception and Cognition

Map Types  
Mapping Agencies  
Mapping, Commercial  
Mapping, Cyberspace  
Mapping, Distributed  
Mapping, Non Western  
Mapping, Philosophy  
Mapping, Race and Ethnicity  
Mapping, Topographic  
Maps  
Maps and Governance  
Maps and Protest  
Maps and the State  
Oceanographic Mapping  
Performative and Embodied Mapping  
Photogrammetry/Aerial Photography  
Projections  
Qualitative Geographic Information Systems  
Qualitative Spatial Reasoning  
Quantitative Revolution  
Representation Mapping  
Science and Scientism, Cartography  
Space Time Modeling  
Spatial Databases  
Spatial Data Mining, Geovisualization  
Spatial Ontologies  
Surveying  
Symbolism, Iconography

## DEVELOPMENT GEOGRAPHY

Aid  
Brain Drain  
Brandt Commission  
Brown Agenda  
Child Labor  
Civil Society  
Colonialism I  
Colonialism II  
Colonialism, Internal  
Commodity Chains  
Debt  
Deforestation



Dependency  
 Desertification  
 Developmentalism  
 Development I  
 Development II  
 Digital Divide  
 East Asian Miracle  
 Empire  
 Empowerment  
 Eurocentrism  
 Export Processing Zones  
 Extended Metropolitan Region  
 Fair Trade  
 Famine  
 First World  
 Global Commodity Chains  
 Governance, Good  
 Green Revolution  
 Health and Development  
 HIV/AIDS in Developing Countries  
 Imperialism, Cultural  
 Indigenous Geographies  
 Indigenous Knowledges  
 Informal Sector  
 Intermediate Technology  
 Latin American Structuralist School  
 Livelihoods  
 Locality Debates  
 Migrant Workers  
 Modernization Theory  
 Neocolonialism  
 Neoliberalism and Development  
 Nongovernmental Organizations  
 Orientalism  
 Participation  
 Postcolonial Cities  
 Postcolonialism/Postcolonial Geographies  
 Postdevelopment  
 Poverty  
 Remittances  
 Resistance  
 Rio Summit\*  
 Second World  
 Social Capital  
 Squatter Settlements  
 Structural Adjustment  
 Sustainable Development  
 Theocracy  
 Third World  
 Third World Cities  
 Trade, International  
 Transnational Corporations in Developing Countries  
 Tropical Geography  
 Vulnerability

## DISCIPLINARY MATTERS

Anglo American/Anglophone Hegemony  
 Anthropology and Human Geography  
 Chinese Language Geography  
 Citation Geography  
 Communist and Post Communist Geographies  
 Critical Geography  
 Cultural Studies and Human Geography  
 Dutch Human Geography  
 Economics and Human Geography  
 Enlightenment Geography  
 Environmental Studies and Human Geography  
 Feminist Groups within Geography  
 Francophone Geography  
 Geographical Journals  
 German Language Geography  
 Historical Geography  
 Human Geography  
 Interdisciplinarity  
 Italian Language Geography  
 Ivy League and Geography in the US  
 Japanese Geography  
 Lusophone Geography  
 Medieval Geography  
 Military and Geography  
 National Schools of Geography  
 Nordic Geography  
 Oxbridge Geographies  
 Philosophy and Human Geography  
 Physical Geography and Human Geography  
 Redbrick University Geography in Britain  
 Research Funding Bodies  
 Russian Language Geography  
 Spanish Language Geography  
 Urban Planning and Human Geography

## ECONOMIC GEOGRAPHY

Agglomeration  
 Business Services  
 Capital and Space  
 Capitalism  
 Capitalism and Division of Labor  
 Commodity Chains  
 Competitiveness  
 Consumption  
 Core Periphery Models  
 Corporate Responsibilities  
 Corridor and Axis Development  
 Creativity  
 Cultural Economy  
 Debt  
 De Industrialization  
 e Business and e Commerce  
 Economic Crises

- Economic Development, Rural  
 Economic Geography  
 Economic Geography, Quantitative  
 Economics and Human Geography  
 Economies, Alternative  
 Economies, Borderland  
 Economies, Branch Plant  
 Economies, Imagined  
 Economy, Informal  
 Embeddedness  
 Enterprise Discourse  
 Entrepreneurship  
 Environmental Regulation  
 Ethnic Economies  
 Export Processing Zones  
 Fair Trade  
 Feminism and Work  
 Feminist Political Economy  
 Finance, Historical Geographies of  
 Finance, Offshore  
 Financial Centers, International  
 Financial Exclusion  
 Financial Knowledge  
 Financial Risks and Management  
 Firms  
 Food Networks  
 Food Regimes  
 Fordism  
 Fordism, Post Fordism and Flexible Specialization  
 Foreign Direct Investment  
 Global Commodity Chains  
 Global Production Networks  
 Globalization and Transnational Corporations  
 Globalization, Economic  
 Governance, Corporate  
 Growth Poles, Growth Centers  
 Heritage and Economy  
 High Tech Industry  
 Industrial Districts  
 Industrialization  
 Industrial Location  
 Industrial Organization  
 Industrial Parks  
 Industrial Restructuring  
 Industry, Historical Geographies of  
 Informal Sector  
 Information Technology  
 Innovation  
 Internationalization of Education  
 International Organizations  
 Internet, Economic Geography  
 Investment Promotion  
 Knowledge and Education, Historical Geographies of  
 Knowledge Communities  
 Knowledge Economy  
 Knowledge Intensive Business Services  
 Labor Control Regime  
 Labor Flexibility  
 Labor Geography  
 Labor Market  
 Labor Unionism  
 Learning Regions  
 Local Development  
 Local Economic Development  
 Local Economic Development, Politics of  
 Locality Debates  
 Location Theory  
 Migrant Workers  
 Modernization Theory  
 Natural Resources  
 Neoliberal Economic Strategies  
 Networks  
 Political Economy, Geographical  
 Privatization  
 Public Policy  
 Radical Political Economy  
 Regional Integration  
 Regional Production Networks  
 Relational Economic Geography  
 Remittances  
 Resource and Environmental Economics  
 Resource Industries  
 Retail Geographies  
 Services, Professional  
 Services, Rural  
 Spatial Division of Labor  
 State Theory  
 Technological Change  
 Technology and Regional Development  
 Technology Industries  
 Telecommunications  
 Trade Blocs  
 Trade, International  
 Trade, Transport and Communications, Historical Geographies of  
 Transitional Economies  
 Transnational Corporations in Developing Countries  
 Transnational Elites  
 Transnational Ethnic Networks  
 Transnationalism and Labor Geography  
 Transnationalism and Technology Transfer  
 Uneven Development  
 Urban Growth Machine  
 Venture Capital
- HEALTH AND MEDICAL GEOGRAPHY**
- Ageing and Health  
 Care/Caregiving  
 Chronic Disease  
 Communicable Diseases, Globalization of

Complementary and Alternative Medicine  
Disability and Chronic Illness  
Disease Diffusion  
Environmental Health  
Epidemiological Transition  
Gender and Health  
Health and Development  
Healthcare Accessibility  
Health Geography  
Health Inequalities  
Health Services Restructuring  
Health Systems and Health Services  
HIV/AIDS in Developed Countries  
Housing, Neighbourhoods and Health  
Indigenous Health and Medicine  
Medical Geography  
Mental Health  
Pregnancy and Childbirth  
Social Capital, Place and Health  
Therapeutic Landscapes  
Voluntary Sector  
Welfare Reform  
Wellbeing

#### **HISTORICAL GEOGRAPHY**

Agrarian Transformations  
Capitalism and Division of Labor  
Digital Data, Historical Geography and  
Environment, Historical Geography of  
Ethnicity and Resistance, Historical Geographies of  
Exploration  
Feminist Geography, Prehistory of  
Feudalism and Feudal Society  
Field Systems and Enclosure  
Finance, Historical Geographies of  
Gender, Historical Geographies of  
Genealogy and Family History  
Geohistory  
Heritage and Culture  
Heritage and Economy  
Heritage and Identity  
Historical Geographies, Rural  
Historical Geographies, Urban  
Historical Geography  
Historical Geography, Evolution of  
Imperial Cities  
Imperialistic Geographies  
Industry, Historical Geographies of  
Knowledge and Education, Historical Geographies of  
Medieval Historical Geographies  
Memory  
Migration, Historical Geographies of  
Nationalism, Historical Geography of  
Nature, Historical Geographies of  
Nature, History of

Oral History  
Oral History, Ecological  
Street Names and Iconography  
Time and Historical Geography  
Trade, Transport and Communications, Historical  
Geographies of  
Urban Morphologies, Historical  
War, Historical Geography and

#### **METACONCEPTS**

Africa  
Americas  
Antarctica  
Arctic  
Asia  
Australasia  
Balkans  
Community  
Diffusion  
Distance  
East/West  
Environment  
Europe  
Indian Ocean  
Landscape  
Local–Global  
Memory  
Middle East and North Africa  
Mobility  
Nature  
Nature Culture  
North–South  
Oceania  
Oceans  
Pacific Rim  
Place  
Scale  
Self Other  
Society–Space  
South Asia  
Southeast Asia  
Space I  
Space II  
Space Time  
Territory and Territoriality  
Transatlantic

#### **METHODS**

Archives  
Artificial Intelligence and Expert Systems  
Autobiography  
Autoethnography  
Auto Photography  
Case Study Approach  
Categorical Data Analysis

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Cellular Automata	Multidimensional Scaling
Census Mapping	Naturalistic Testing
Chaos and Complexity	Neighborhood Effects
Choice Modeling	Network Analysis
Complexity Theory, Nonlinear Dynamic Spatial Systems	Neural Networks
Content Analysis	Oral History
Cross Cultural Research	Oral History, Ecological
Diaries (Video, Audio or Written)	Overlay (in GIS)
Discourse Analysis	Participant Observation
Ecological Fallacy	Participatory Action Research
Edge Effects	Participatory Video
Embodied Knowing	Performance, Research as
Emotional Knowing	Photographs
Entropy Maximising Models	Point Pattern Analysis
Error (Propagation and Modeling)	Polyvocality
Ethical Issues in Research	Psychoanalysis
Ethnography	Q Method/Analysis
Evolutionary Algorithms	Qualitative Geographic Information Systems
Experimental Design	Quantitative Data
Exploratory Spatial Data Analysis	Quantitative Methodologies
Factor Analysis and Principal Components Analysis	Questionnaire Survey
Feminist Methodologies	Regionalization/Zoning Systems
Fieldwork	Regression, Linear and Nonlinear
First Law of Geography	Reliability and Validity
Focus Groups	Remote Sensing
Fractal Analysis	Representation and Re presentation
Fuzzy Set and Fuzzy Logic	Sampling
Genealogy Method	Scale Analytical
Geocomputation	Scientific Method
Geographical Masking	Segregation Indices
Geographically Weighted Regression	Selection Bias
Georeferencing, Geocoding	Semiotics
Grounded Theory	Shift Share Analysis
Haptic or Touch Based Knowledge	Simulation
Hub Network Location	Situated Knowledge, Reflexivity
Hypothesis Testing	Sound and Music
Input–Output Analysis	Space Time Modeling
Intensive/Extensive Research	Spatial Analysis, Critical
Internet Based Measurement	Spatial Autocorrelation
Interviews: In Depth, Semi Structured	Spatial Clustering, Detection and Analysis of
Kriging and Variogram Models	Spatial Data Mining, Cluster and Pattern Recognition
Landscape Iconography	Spatial Data Mining, Geovisualization
Landscape Perception	Spatial Data Models
Language and Research	Spatial Expansion Method
Life Course Approaches	Spatial Filtering/Kernel Density Estimation
Location Analysis	Spatial Interaction Models
Longitudinal Methods (Cohort Analysis, Life Tables)	Spatial Interpolation
Markov Chain Analysis	Spatially Autoregressive Models
Masculinism	Statistics, Descriptive
Mental Maps	Statistics, Inferential
Mixed and Multiple Methods	Statistics, Overview
Modifiable Areal Unit Problem	Statistics, Spatial
Monte Carlo Simulation	Structural Equations Models
Movies and Films, Analysis of	Subalternity
	Subjectivity

Text, Textual Analysis  
Thiessen Polygon  
Time Geographic Analysis  
Time Series Analysis  
Time Space Diaries  
Transcripts (Coding and Analysis)  
Translation  
Trend Surface Models  
Triangulation  
Uncertainty  
Visualization, Feminist

### **NATURE/ENVIRONMENT**

Agrarian Transformations  
Agri Environmentalism and Rural Change  
Animal Geographies  
Biodiversity  
Biodiversity Mapping  
Climate Change  
Conservation and Ecology  
Culture/Natures  
Deforestation  
Desertification  
Ecotourism  
Environment  
Environmental Hazards  
Environmental Health  
Environmentalism  
Environmental Justice  
Environmental Policy  
Environmental Regulation  
Environmental Security  
Environmental Studies and Human Geography  
Environment, Historical Geography of  
Gardens and Gardening  
Green Revolution  
Land Change Science  
National Parks  
Natural Resources  
Nature  
Nature, Historical Geographies of  
Nature, History of  
Nature, Performing  
Nature, Social  
Natures, Charismatic  
Natures, Gendered  
Natures, Postcolonial  
Plant Geographies  
Political Ecology  
Radical Environmentalism  
Resource and Environmental Economics  
Resource Management, Rural  
Sustainability  
Sustainable Development  
Urban Habitats/Nature

Waste Management  
Water Management  
Wetlands and Reclamation  
Wilderness

### **PEOPLE**

Barnes, T.  
Beaujeu Garnier, J.  
Berry, B.  
Bobek, H.  
Bowman, I.  
Christaller, W.  
Claval, P.  
Clope, P.  
Cohen, S.  
Corbridge, S.  
Cosgrove, D.  
Cox, K.  
Darby, H. C.  
Dear, M. J.  
Dicken, P.  
Dudley Stamp, L.  
Evans, E. E.  
Garrison, W.  
Golledge, R.  
Gottmann, J.  
Gregory, D.  
Hagerstrand, T.  
Haggett, P.  
Harley, J. B.  
Hartshorne, R.  
Harvey, D.  
Hettner, A.  
Jackson, P.  
Johnston, R. J.  
Kolossof, V.  
Kropótkin, P.  
Lacoste, Y.  
Ley, D.  
Lowenthal, D.  
Mackinder, H. J.  
Massey, D.  
McDowell, L.  
Meinig, D.  
Olsson, G.  
Paasi, A.  
Peet, R.  
Pred, A.  
Reclus, E.  
Ritter, C.  
Santos, M.  
Sauer, C.  
Scott, A.  
Smith, N.  
Soja, E.

Storper, M.  
 Taylor, G.  
 Taylor, P.  
 Thrift, N.  
 Tuan, Y. F.  
 Vidal de la Blache, P.  
 von Humboldt, A.  
 Watts, M. J.  
 Wilson, A.  
 Wreford Watson, J.  
 Wright, J. K.

## PHILOSOPHY AND GEOGRAPHY

Activist Geographies  
 Actor Network Theory/Network Geographies  
 Anarchism/Anarchist Geography  
 Anthropogeography (After Ratzel)  
 Applied Geography  
 Avant Garde/Avant Garde Geographies  
 Behavioral Geography  
 Berkeley School  
 Chicago School  
 Christian Geography  
 Cognitive Geography  
 Computational Human Geography  
 Critical Geography  
 Critical Rationalism (After Popper)  
 Critical Realism/Critical Realist Geographies  
 Critical Theory (After Habermas)  
 Cultural Materialism  
 Cultural Turn  
 Darwinism (and Social Darwinism)  
 Deconstruction  
 Determinism/Environmental Determinism  
 Developmentalism  
 Dialectical Reasoning and Dialectical Materialism  
 Dialogism (After Bakhtin)  
 Ecology  
 Ethnomethodology/Ethnomethodological Geography  
 Existentialism/Existential Geography  
 Feminism/Feminist Geography  
 Feminist Geography, Prehistory of  
 Feminist Political Economy  
 Field Geographies  
 Fluidity–Fixity  
 Foucauldianism  
 Functionalism (Including Structural Functionalism)  
 Geography, History of  
 GIS and Society  
 Historical Geographical Materialism  
 Humanism/Humanistic Geography  
 Human Nonhuman  
 Idealism/Idealist Human Geography  
 Indigenous Geographies  
 Institutionalism/Institutional Geographies  
 Lamarck(ian)ism  
 Local–Global  
 Los Angeles School of Post Modern Urbanism  
 Marxism/Marxist Geography I  
 Marxism/Marxist Geography II  
 Military Geographies  
 Nature Culture  
 Non Representational Theory/Non Representational Geographies  
 People’s Geography  
 Phenomenology/Phenomenological Geography  
 Philosophy and Human Geography  
 Physical Geography and Human Geography  
 Political Ecology  
 Political Economy, Geographical  
 Positivism/Positivist Geography  
 Possibilism  
 Posthumanism/Posthumanistic Geographies  
 Postmodernism/Postmodern Geography  
 Post Phenomenology/Post Phenomenological Geographies  
 Poststructuralism/Poststructuralist Geographies  
 Pragmatism/Pragmatist Geographies  
 Probabilism  
 Probability Models  
 Psychoanalytic Theory/Psychoanalytic Geographies  
 Psychotherapy/Psychotherapeutic Geographies  
 Quantitative Revolution  
 Radical Environmentalism  
 Radical Geography  
 Radical Political Economy  
 Rational Choice Theory (and Rational Choice Marxism)  
 Regional Geography I  
 Regional Geography II  
 Regionalisations, Everyday  
 Regional Science  
 Science and Scientism, Cartography  
 Self Other  
 Semiotics  
 Situationism/Situationist Geography  
 Social Studies of Scientific Knowledge  
 Society–Space  
 Space Time  
 Spatial Science  
 Structural Marxism  
 Structuralism/Structuralist Geography  
 Structurationist Geography  
 Structuration Theory  
 Surrealism/Surrealist Geographies  
 Symbolic Interactionism  
 Systems  
 Systems Theory  
 Time Geography  
 Vichianism (After Vico)  
 Welfare Geography

**POLITICAL GEOGRAPHY**

Activism  
 Activist Geographies  
 Ageing and Health  
 Anti Geopolitics  
 Apartheid/Post Apartheid  
 Biopolitics  
 Borderlands  
 Buffer Zone  
 Citizenship  
 Citizenship and Governmentality, Rural  
 Cold War  
 Colonialism I  
 Colonialism II  
 Communist and Post Communist Geographies  
 Critical Geopolitics  
 Cultural Politics  
 Democracy  
 Devolution  
 Electoral Cartography  
 Electoral Districts  
 Electoral Geography  
 Empire  
 Environmental Justice  
 Environmental Security  
 Ethnic Conflict  
 Eurocentrism  
 Fatherland/Homeland  
 Feudalism and Feudal Society  
 Geopolitics  
 Geopolitics and Religion  
 Gerrymandering  
 Globalization, Economic  
 Governance  
 Governance, Corporate  
 Governance, Good  
 Governance, Transport  
 Governance, Urban  
 Governmentality  
 Hegemony  
 Human Rights  
 Ideology  
 Imperialistic Geographies  
 Irredentism  
 Liberalism  
 Maps and Governance  
 Military and Geography  
 Nation  
 National Spatialities  
 Nationalism  
 Nationalism, Historical Geography of  
 Neoliberalism  
 Neoliberalism, Urban  
 Nongovernmental Organizations

Place, Politics of  
 Political Boundaries  
 Political Geography  
 Political Representation  
 Postcolonialism/Postcolonial Geographies  
 Postconflict Geographies  
 Protest, Rural  
 Public Good  
 Public Policy  
 Regionalism  
 Regulation  
 Representation, Politics of  
 Socialism  
 Social Movements  
 Sovereignty  
 State  
 State Theory  
 Superpower  
 Territory and Territoriality  
 Terrorism  
 War  
 War, Historical Geography and  
 World System

**POPULATION GEOGRAPHY**

Ageing and Mobility  
 Census Geography  
 Demography  
 Diaspora  
 Emigration  
 Fertility  
 Genetics  
 Immigration II  
 Migration  
 Migration, Historical Geographies of  
 Population Geography  
 Refugees and Displacement  
 Rural Populations  
 Segregation  
 Transnationalism

**REGIONAL DEVELOPMENT**

Aménagement du Territoire: Territorial Development  
 Cassa per il Mezzogiorno  
 City Region  
 Concentrated Deconcentration  
 Core Periphery Models  
 Corridor and Axis Development  
 Cumulative Causation  
 De Industrialization  
 De Localization  
 Edge Cities  
 Europe of Regions  
 Greenfield Development  
 Growth Poles, Growth Centers

Hinterland Development  
 Industrial Districts  
 Industrial Parks  
 Informalization  
 Island Development  
 Labor Markets, Regional  
 Learning Regions  
 Local Development  
 Métropole d'équilibre  
 Network Regions  
 New Regionalism  
 New Towns  
 Nordplan and Nordregio  
 Polycentricity  
 Port Industrial Complexes  
 Region  
 Regional Actors  
 Regional Competition, Regional Dumping  
 Regional Connectivity  
 Regional Development and Noneconomic Factors  
 Regional Development and Technology  
 Regional Development, Endogenous  
 Regional Development Models  
 Regional Development Theory  
 Regional Geography I  
 Regional Geography II  
 Regional Inequalities  
 Regional Innovation Systems  
 Regional Integration  
 Regionalisations, Everyday  
 Regionalism  
 Regional Planning and Development Theories  
 Regional Production Networks  
 River Basin Development  
 Territorial Production Complexes  
 Uneven Regional Development

## RURAL GEOGRAPHY

Agricultural Land Preservation  
 Agriculture, Sustainable  
 Agri Environmentalism and Rural Change  
 Animal Welfare, Agricultural  
 Citizenship and Governmentality, Rural  
 Counterurbanization  
 Economic Development, Rural  
 Food Networks  
 Food Networks, Alternative  
 Food Regimes  
 Gender and Rurality  
 Gentrification, Rural  
 Historical Geographies, Rural  
 Homelessness, Rural  
 Housing, Rural  
 Identity and Otherness, Rural  
 Peasant Agriculture

Post Productivist and Multifunctional Agriculture  
 Poverty, Rural  
 Protest, Rural  
 Resource Management, Rural  
 Rural Communities  
 Rural Geography  
 Rurality and Post Rurality  
 Second Homes  
 Services, Rural  
 Tourism, Rural  
 Transport, Rural

## SOCIAL & CULTURAL GEOGRAPHY

Activism  
 Affect  
 Ageing and Mobility  
 Ageism and Age  
 Agoraphobia  
 Anthropology and Human Geography  
 Apartheid/Post Apartheid  
 Becoming  
 Belonging  
 Berkeley School  
 Body, The  
 Care/Caregiving  
 Child Labor  
 Children/Childhood  
 Citizenship  
 Civil Society  
 Community  
 Consumption  
 Cosmopolitanism  
 Crime/Fear of Crime  
 Cultural Capital  
 Cultural Economy  
 Cultural Geography  
 Cultural Materialism  
 Cultural Politics  
 Cultural Studies and Human Geography  
 Cultural Turn  
 Culture  
 Culture/Natures  
 Cyberspace/Cyberculture  
 Diaspora  
 Difference/Politics of Difference  
 Digital Divide  
 Discourse  
 Dwelling  
 Education  
 Embodied Knowing  
 Emotional Geographies  
 Emotional Knowing  
 Empowerment  
 Equity  
 Ethnic Conflict



Ethnic Economies  
 Ethnicity  
 Ethnicity and Resistance, Historical  
     Geographies of  
 Festival and Spectacle  
 Film  
 Gay Geographies  
 Gender and Rurality  
 Gender, Historical Geographies of  
 Globalization, Cultural  
 Habitus  
 Heritage  
 Heteronormativity  
 Home  
 Homelessness  
 Homelessness, Rural  
 Hybridity  
 Identity and Otherness, Rural  
 Identity Politics  
 Immigration I  
 Imperialism, Cultural  
 Indigeneity  
 Indigenous Knowledges  
 Indigenous Mapping  
 Inequality  
 Land Rights  
 Landscape  
 Landscape Iconography  
 Language  
 Law and Law Enforcement  
 Leisure  
 Lesbian Geographies  
 Literature  
 Masculinism  
 Masculinities  
 Material Culture  
 Material, The  
 Media  
 Memorials and Monuments  
 Modernity  
 Moral Economies  
 Moral Landscapes  
 Multiculturalism  
 Nature, Social  
 Orientalism  
 Other/Otherness  
 Parenting/Motherhood/Fatherhood  
 Patriarchy  
 Performativity  
 Place Names  
 Policing  
 Popular Culture  
 Poverty  
 Poverty, Rural  
 Private/Public Divide

Public Space  
 Public Spaces, Urban  
 Queer Theory/Queer Geographies  
 Race  
 Racism and Antiracism  
 Religion/Spirituality/Faith  
 Representation, Politics of  
 Segregation, Urban  
 Sense of Place  
 Sensorium  
 Sexuality  
 Social Capital  
 Social Capital, Place and Health  
 Social Class  
 Social Geography  
 Social Justice, Urban  
 Soundscapes  
 Street Names and Iconography  
 Subaltern  
 Surveillance  
 Symbolism, Iconography  
 Text and Textuality  
 Tourism  
 Transnationality  
 Travel and Travel Writing  
 Underclass  
 Visuality  
 Voluntary Sector  
 Water  
 Welfare Geography  
 Welfare Reform  
 Wellbeing  
 Whiteness  
 Youth/Youth Cultures

**TRANSPORT GEOGRAPHY**

Aviation  
 Ecotourism  
 Governance, Transport  
 Intermodality  
 Logistics  
 Mobility, History of Everyday  
 Railways  
 Regional Connectivity  
 Tourism  
 Tourism, Rural  
 Tourism, Urban  
 Transport and Accessibility  
 Transport and Deregulation  
 Transport and Globalization  
 Transport and Social Exclusion  
 Transport and Sustainability  
 Transportation and Land Use  
 Transport Geography  
 Transport, Public

Transport, Rural  
 Transport, Urban

## URBAN GEOGRAPHY

Anti Urbanism  
 Cellular Automata  
 Central Business District  
 Central Place Theory  
 Chinese Urbanism  
 City Marketing  
 City Region  
 Counterurbanization  
 Defensible Space  
 Edge Cities  
 Financial Centers, International  
 Flâneur, The  
 Gated Communities/Privatopias  
 Gender in the City  
 Gentrification  
 Ghettos  
 Governance, Urban  
 Historical Geographies, Urban  
 Housing  
 Imperial Cities  
 Industrial City  
 Informational City  
 Islamic Urbanism  
 Land Rent Theory  
 Malls/Retail Parks  
 Mega Cities  
 Modern City  
 Multicultural City  
 Neighborhood Change  
 Neighborhoods and Community  
 Neoliberalism, Urban  
 Networks, Urban  
 New Towns  
 New Urbanism  
 NIMBY

Planning, Urban  
 Polycentricity  
 Postcolonial Cities  
 Postmodern City  
 Post Socialist Cities  
 Public Spaces, Urban  
 Redlining  
 Regeneration to Renaissance  
 Segregation Indices  
 Segregation, Urban  
 Situationism/Situationist Geography  
 Situationist City  
 Slums  
 Social Justice, Urban  
 Street Names and Iconography  
 Suburbanization  
 Sustainability, Urban  
 Third World Cities  
 Tourism, Urban  
 Transport, Urban  
 Underclass  
 Urban Architecture  
 Urban Design  
 Urban Growth Machine  
 Urban Habitats/Nature  
 Urbanism  
 Urbanization  
 Urban Modeling  
 Urban Morphologies, Historical  
 Urban Morphology  
 Urban Order  
 Urban Policy  
 Urban Regimes  
 Urban Representation/Imagination  
 Urban Village  
 Urban–Rural Continuum  
 Utopian Cities  
 Waterfront Development  
 World/Global Cities



## FOREWORD

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We should reflect more on the increasingly inter connected and interdependent world we live in. Places that a century ago would have taken months to reach by boat can be reached in hours on a plane and at a price affordable to many more people. Changes in financial markets on one side of the globe instantly ricochet around the planet. Decisions taken in one country or at a supra national scale affect jobs and well being in another. This is the world we have inherited sixty years after the adoption of the Universal Declaration of Human Rights, which reminds us of the work still needed to implement those shared values.

For while the Earth seems to be getting smaller in space and time, the relative differences between places are often growing apace. The situation in many developing countries is currently regressing with falling life expectancy, rising national debts, and weakening economies. In the developed North there continue to be large differences in the standards of living between rich and poor, core and periphery, rural and urban areas. Consequently, the mobility of people is increasing around the globe with millions of labour migrants and refugees on the move, seeking better lives elsewhere. In addition, humanity is beginning to recognise and address the significant global challenge of climate change which is in part created by the processes of development and globalisation, but will require to be addressed with principles of climate justice.

The *International Encyclopedia of Human Geography* documents and explains all of these issues, and many more besides. Focused through the spatial lens of a modern geography sensitive to how social, economic, political, cultural or environmental processes work within and between places, the entries cover the full spectrum of issues facing humanity today across the

planet. Together the essays provide a fascinating overview of the diverse, complex and sometimes paradoxical relationships between people, places and environments, written in a style accessible to students and interested parties. As well, the vast array of methodologies and theories employed by geographers and others is documented, to make sense of the developments now occurring. Indeed, in the very fact that it contains 914 essays, written by 844 contributors from over 40 countries, it is itself a product of the way in which the geography of communication and cooperation has rapidly evolved in recent years!

The challenges facing all of us, whether they concern the present global economic downturn, survival in a country at war, managing environmental change, and a host of other pressing issues, require a broad and deep knowledge of the fundamental processes shaping our future. The *International Encyclopedia of Human Geography* provides a comprehensive overview of that knowledge and points to the tools needed to build planetary citizenship and to think through a more ethical version of globalisation. I hope that it will be used extensively by present and future generations so that, as the planet seemingly shrinks in size, so the problems we face and the differences between us shrink too.



Mary Robinson  
President of Realizing Rights: The Ethical  
Globalisation Initiative  
Honorary President of Oxfam International  
United Nations High Commissioner for Human  
Rights, 1997–2002  
President of Ireland, 1990–1997



## FOREWORD

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Over the past 100 hundred years or so, human geography has grown into one of the most vibrant university disciplines around the world. Expanding from its origins in the colonial pursuit of geographic knowledge, modern human geography has developed into a diverse collection of sophisticated, spatially inflected knowledges underpinned by a refined set of theoretical concepts and methodological tools. As a result, defining contemporary human geography is not an easy task, not least because what passes for geographic theory and praxis varies across time and space. For us, what marks the discipline from other social and natural sciences is its focus on the relationship between people and the world they inhabit, its core metaconcepts (such as space, place, landscape, nature, mobility, environment, and scale), and its use of geographically sensitive methods of data generation and analysis. Human geography, as the contents list of this encyclopedia amply demonstrates, focuses on key issues of the day, and opens up new and vital perspectives on questions that affect our everyday lives. It engages with and problematizes apparently unequivocal statements such as:

- the planet is large;
- the planet teems with life; and
- the planet is under threat.

Through the lens of human geography, these statements are revealed as equivocal and often paradoxical. What do we mean by ‘large’ in a period in which a scientific shift based on the discovery of fractals has expanded our perception of the length and complexity of lines at exactly the same time that transport and communications technologies shrink the world to such an extent that we can interact in real time with people on the far side of the planet and maps of the planet can be called up online by ordinary citizens and analyzed in diverse ways? What do we mean by ‘life’ in a

period in which we keep discovering more of it in more and more unlikely places, while scientific and cultural changes are continually expanding our definition of what ‘life’ consists of? What do we mean by ‘threat’ when we are unable to agree on the nature of a threat, let alone a solution, when technologies that offer the promise of salvation all too often create new problems and when increasing populations offer new resources as well as consume them?

Human geography seeks to answer such questions not only in order to understand the world but also to make practical interventions. Unlike many disciplines, it is built on unsure foundations without much in the way of a canon. Some might say that that is its attraction; that it has perennially been driven by the changing world around it. The discipline is willing to go where other disciplines fear to tread because its history is loosely connected, more like a conglomerate than a series of well defined strata – it has not been wed to a single or limited theoretical approach but rather it has explored and drawn together all manner of approaches in order to address issues geographically. Equally though, it is born out of a longing for a planetary citizenship, with that longing sitting alongside a radical appreciation of how all the differences that make up the discipline both compromise and strengthen that goal. Whatever might be the case, at the heart of this endeavor has been the notion that geography matters – the spatial configuration of events is not a mere add on to other somehow deeper, more abstract aspatial processes, but rather is central to how the processes unfold.

These tensions between a discipline organized around understanding the world and a discipline consisting of and defined by its own approaches, are manifest in how geography tells its own history (and how one might organize an encyclopedia). One way would be to trace the changing approaches, epistemologies, and concerns of the discipline.

Thus one could track the multiple interpretations of the writing of Alexander von Humboldt, often cited as one of the key disciplinary ancestors. Alternately, one could chart the intellectual genealogies of 'key' texts, concepts, and places to provide counterpoints to more traditional chronological histories of various theoretical schools. Or, one could create accounts that organize the discipline via key processes and events in the world. To take other examples, there are presently attempts to write about differences in more satisfying and nuanced ways, ways that can bring about new means of living and experiencing the world through reinventing familiar categories like gender, race, and sexuality, categories that have their own complex geographies which are a very part of the process of reinvention. There are efforts to reconceive cities taking account of the affective, the mundane, the ongoing incompleteness, fuzziness, and unpredictability that make up urban life, and there are attempts to reimagine the economic as thoroughly infused with the cultural. Sometimes clumsy and awkward, sometimes plain inspired, these kinds of developments are surely worth following in a world too often characterized by division and despair. And follow them, this encyclopedia does.

## **The Encyclopedia**

The *International Encyclopedia of Human Geography* is a multinational attempt to capture and trace the state of human geography as a discipline and as a description of the world as it exists today and as it changes its shape in the future. Its ambition, in other words, is to provide a major and continually updated resource that provides an always temporary but hopefully authoritative means of answering questions of the sort posed above, and many others like them. This it does by taking on the venerable format of an encyclopedia which we can understand both in its original meaning as a course of education – in this case with the description 'human geography' – or in its more modern meaning as treating a particular branch of knowledge comprehensively through the medium of articles arranged alphabetically, by subject.

Of course, producing an encyclopedia provides real opportunities, most especially the ability to stretch out explanations in a way not available in the more common dictionary form. Thus, our aim has not been to produce a portable, condensed summary or bite sized definitions of concepts, but rather clear, authoritative statements that set out the evolution and implications of geographic thought. Such an endeavor also produces some inevitable challenges. We want to use these challenges to explore how this encyclopedia has been put together, understanding that such challenges do not have to be understood just as undesirable or unpleasant choices between alternatives. They can equally well be understood as producing the means to fuel productive encounters.

The first challenge is an obvious one. There is an inevitable degree of arbitrariness about what is included and what is not. We have made an honest attempt to cover the whole range of what can possibly be treated as human geography in terms of issues on the ground and traditions within the discipline. This has been achieved through an intensive, iterative process involving all the editors, worked through at face to face meetings, conference phone calls, and e mail. Inevitably, there will be topics, methods, and thinkers considered important by some that we felt did not justify a stand alone entry. Moreover, we fully expect that as some issues grow or decline in importance – to the world and/or the discipline – we shall have occasion in the future to expand or contract the coverage in different fields. This dilemma of selecting what to cover brings with it other issues too. Foremost among these has been how to shape the coverage of each entry and title each entry in an informative yet pithy way. There are many bodies of conceptual and substantive knowledge that cannot easily be encompassed by a single term or phrase. The result is that some of the entries have somewhat contrived titles. Better that, though, than titles that are vague or oblique, especially in these days of voluminous information accessible across the Internet.

The second challenge is an authorial one. It was a guiding principle of this encyclopedia that we would attempt to extend authorship beyond the 'charmed circle' of Anglophone/Western geographers, both as a response to postcolonial critiques and as a response to the critiques of scholars from outside the Euro American zone who felt disenfranchised by what is possible to perceive as an Anglophone/Western ascendancy. We have then been attentive to the geographies of the discipline of geography, not least since scholars in diverse locales see the world differently in terms of what processes seem most important and what traditions of interpretation they use. We have not always been successful in achieving our goal of wide international authorship, partly because the geographical establishment is simply larger in some countries than others and partly because human geography still bears some of the marks of its own history, not least as a colonial enterprise. Inevitably perhaps, the historical geography of geography kept coming home to roost. Moreover, scholars from different locales had varying abilities to contribute due to issues of time, access to resources, and language. As a result, we have not been able to include some topics and perspectives. That said, entries have been solicited from 844 scholars located in over 40 countries around the world working within different traditions and we have managed to describe the different ideas and practices of geography in many countries/language groups. Again, this is a project that will be added to, over the coming years.

The third challenge was to draw on the expertise of the human geographical community in ways that ensured

some degree of diversity. In particular, we are proud that we have been able to balance the voices of established scholars with those of younger writers. This has had salutary effects. For example, we have been able to trace the history of philosophical ideas in geography both from the point of view of those that have been deeply involved in the explosion of different conceptual possibilities that took place in the discipline from the late 1960s onward, as well as the point of view of younger scholars who have set out quite different agendas.

The fourth challenge was to ensure a relatively consistent standard of scholarship for each entry and to provide a balanced content with respect to ideas and geographical coverage. To that end, each entry was initially refereed by a section editor who had overall responsibility for a selection of related entries (e.g., political, urban, regional development, quantitative methods, people) and a senior editor. Each senior editor oversaw three sections in order to ensure sections were approximately commensurate in style, content, and length. To provide breadth as well as depth, authors were asked to draw on examples and traditions from around the world and not simply rely on charting an issue with respect to their own local circumstance.

The fifth challenge was to use the Internet in productive ways. One of the motivations for this encyclopedia was the production of a platform upon which we might then build a future memory for human geography. It is an attempt to begin to produce a living, breathing archive which will gradually evolve, by using the powers of the Internet. Though in this first edition, both print and Internet editions exist side by side, in later editions the Internet edition will exist singly, opening the way to a vision of geography which is in keeping with the age in which we now live. Since the articles are on the web, it will be possible to update them on a regular, rolling basis without having to wait for the revision of every other article. Equally, they will have all kinds of extra resources associated with them – illustrations of all types, including more and more videos as well as maps and diagrams, ‘active’ reference links that will take the reader straight to the listed journal article, and so on. Then, more articles will be added at regular intervals, both filling in gaps and supplementing existing articles. All articles will be left *in situ* – old articles will not be deleted – so that, in time, we will be able to produce a ‘timeline’ for many subjects, making it possible to see how thinking has evolved, thereby producing a real sense of historical accretion. Over time, we hope that the encyclopedia will become an institutionalized memory of human geography.

The sixth challenge was to produce an encyclopedia of human geography that was relevant to issues that must concern us all. We sought an encyclopedia that espoused responsibility to the planet and its people certainly. But we also became, however awkwardly and unsuccessfully,

involved in thinking what that responsibility might mean. A difficult but ultimately productive instance of what this might entail – and how difficult it can be to think through – was provided by the proposed boycott of the encyclopedia by some authors concerned at Reed International’s (a sister company to Elsevier) involvement in the arms trade, an affair settled when Reed withdrew from these activities. Here, we saw the same concerns being aired by many participants but radically different solutions being put on offer. We hope that the encyclopedia mirrors this diversity of response.

Bringing these six, and especially the last three, points together we hope and trust that this encyclopedia will be counted as a contribution to the global commons of knowledge. The production of a discipline depends on the goodwill of many who labor over ideas, who disseminate, review, and rework them. We are painfully aware that in the current global climate of academia, when what counts as valued academic practices is narrowing, writing authoritative and scholarly articles for publications such as this venture provides few rewards and attracts little institutional support. However, it is a vital component in the reproduction and development of a discipline. Rather than simply being understood as the creation of canonical knowledge by authorial communities we would like to thank all those who have written and reviewed material here for an activity that may be deemed a professional service but is one that, sadly, is seen as subverting the institutional priorities of a number of universities.

## By Way of Conclusion

This encyclopedia is an attempt to summarize knowledge of the discipline using the encyclopedia format. In time, we hope that this encyclopedia will build into a comprehensive resource which constitutes both an archive of the discipline and, of course, of what it knows about the world. That knowledge, what facts are arraigned to support it, and what theories and methodologies are used as a means of making it credible, is, of course, a movable feast. Think of the notion of the ‘world’, which it is easy to demonstrate has changed its form many times over the course of history, as the development of the map shows all too well as Denis Cosgrove noted:

There is no single map of the world, but a vast range of images that present different facets of the globe and its contents. ... A map of the world is a global cultural artefact, an extraordinary human accomplishment, produced by contributions from many cultures. It is a highly sophisticated scientific achievement, and each advance in the various technologies that coalesce within it renders it more detailed, flexible, and widely available. Google Earth is certainly not the last stage in its evolution.



Yet even [a] cursory survey of world mapping ... reveals that science and technology are only a part of the story. Of equal importance are such affective aspects as imagination, faith, fear, and desire. We spot them immediately in the world maps of nonmodern cultures, and even in early examples of the modern world map. For us humans, the earth is always more than its physical form and nature; it is, indeed, a world. ... Today that world seems wholly visible, even transparent. ... Yet today's world maps are as hued by the contingencies of our own times as any previous ones, and we are 'mapped' into them as surely as Xiuhtechitli was mapped into the fifteenth century Mesoamerican world. Because every 'world' is social and imaginative as much as it is material, our own world maps will in due course come to seem as quaint as Jain mandalas or medieval mappae mundi seem to us today. (Denis Cosgrove, 2007: 112–113)

Or, indeed, consider the idea of the encyclopedia itself. Encyclopedias are often thought to be an invention of the West. Specifically, the general purpose, widely distributed, printed encyclopedia is usually considered to have been conceived in eighteenth century Europe with Chambers' Cyclopaedia, or Universal Dictionary of Arts and Sciences (1728), and the Encyclopédie of Diderot and D'Alembert (1751 onward). These volumes are often considered to be the first to take on a recognizably

modern form, with a comprehensive list of topics, discussed in depth and organized in what we would consider a systematic way. But, once we take a broader view in which places and times are not necessarily weighted by particular prejudices, a very different account hoves into view in which all manner of authors in different parts of the world revealed an encyclopedic instinct, and from much earlier on. For example, a tradition of encyclopedia like volumes can be found in China from the eleventh century onward, and these were often massive undertakings involving as many as a thousand volumes.

The point that these two examples make is that all we can be certain of is that the contours of knowledge will constantly change. There can be no absolute certainty about what will be included in and what will be excluded from human geography in times to come. But with this encyclopedia, we believe we now have a tool that will be able to trace this evolution as it happens.

Rob Kitchin and Nigel Thrift

### **Further Reading**

Cosgrove, D. (2007). Mapping the world. In Akerman, J. & Karrow, R. (eds.) *Maps. Finding Our Place in the World*, pp 65–158. Chicago, IL: University of Chicago Press.

# Media

D. B. Clarke, Swansea University, Swansea, UK

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## Glossary

**Media** Means of communication, particularly mass communication (the press, radio, television, etc.).

**Mediascape** The 'media landscape', in any one of three senses: (1) the makeup of the media as a whole; (2) the world portrayed by or in the media, either implying disjuncture between it and the world it purportedly represents or in a more phenomenological sense; and (3) a mediatized landscape within which individuals may trigger digital media (for purposes of surveillance, consumer targeting, or audio-visual tours).

**Mediasphere** The totality of media forms, their relational configuration, and dynamic evolution; an 'ecosystem' for media.

**Mediatized** Affected or altered by the presence of the media, particularly in the sense of the reconfiguration of social relations, institutions, and, especially, events.

**Multimedia** Associated with information-technology applications, the combined use of more than one media form, such as text, graphics, audio, video, animation, and interactivity.

**New Media** New technological means of communication, especially those associated with electronic, digital, and information technologies (e.g., the Internet).

## Introduction

The term 'media' (the plural of 'medium', a Latinate term meaning 'middle', now commonly used in the singular as a mass noun) refers to the heterogeneous array of means of communication characterizing human societies, especially various means of mass communication (print, radio, television, etc.) characterizing modern societies. The term 'media' is, in fact, a truncated form of 'media of communication', which effectively highlights the 'channels' through which communication takes place. While 'communication' once signaled physical transit as readily as the transmission of information ('communications' may still refer to road and rail networks, air transport links, etc.), the term 'media' signifies those technologies that somehow substitute for physical movement in the conveyance of information of one kind or another; technologies that accomplish the disassociation of transportation and transmission (e.g., telegraph lines, television broadcasts, the Internet, etc.). Definitions such as this

are, however, somewhat misleading, for as Marshall McLuhan famously proclaimed, "the medium *is* the message." Only the most naïve of understandings would conceive of a medium as a strictly neutral channel for conveying information. Consider the differences between the news reported in print, on the radio, and on television: the properties of various media (e.g., their capacity to show images, still or moving) fundamentally affect the reporting of news stories. Form affects content in the most profound of ways; while content cannot exist independently of form. Thus, language itself may be mediated in two broadly independent ways, corresponding to its spoken and written forms. The former typically makes use of sound waves; the latter relies upon marks on the page. Jacques Derrida famously argued that spoken language is in no sense an authentic, originary form, verbalizing pure conscious intent, with written language a mere supplement and subsequent development. All language is capable of being written (it possesses a 'graphematic' quality) even before writing *sensu stricto* appears on the scene. Writing may, however, be regarded as something like a prosthesis, extending the human voice – and human memory – beyond its normal capacities (the reason one writes letters, makes a will, takes lecture notes, and makes shopping lists). Harold Innis categorized writing as a 'time biased' medium, dedicated to transcending the present. Nonetheless, speech relies precisely on the same mediation through signifiers as writing does; albeit signifiers of a different kind, utilizing different media.

Most media may be thought of as having their basis in technologies that serve in some way as prostheses, extending particular human capacities beyond their previous bounds (this, at least, is the basis of McLuhan's understanding). For example, the invention of the telephone bypassed the need for face to face interaction, allowing speech to be transmitted (initially down phone lines; later by wireless means) beyond the previous constraints of space (i.e., those set by the distance a voice would carry). In Innis' terms, the telephone exemplifies 'space biased' media, dedicated to 'shrinking' space; while recording technologies, starting with the gramophone, extend the temporal bounds of speech – in much the same manner as writing (as exemplified by the grooves etched into wax cylinders on the earliest gramophones). Modern telephone systems (those with 'voicemail') incorporate both these extensions. The interdependence of space and time does, however, render Innis' conceptualization somewhat shaky. Insofar as writing transcends the present,

it permits communication without co presence in space – thereby extending the spatial range of communication (as exemplified by the mail system). Just as the mail system and the telephone created possibilities for the coordination of far more complex and distanced sets of social relations than was hitherto possible, the media in general serve to ‘stretch’ social systems across space and time (as Anthony Giddens would put it) or to ‘compress’ time–space (as David Harvey might prefer).

It is not difficult to see why McLuhan should have enthusiastically coined the term ‘global village’ to encapsulate the possibilities he envisaged in the wake of the exponential development of media technologies, particularly with the advent of electronic means of communication. Here, however, the dangers of technological determinism, famously signaled by Raymond Williams, should not go unremarked. The capacities that particular media technologies have the potential to actualize may or may not be realized. Yet while different societies, at different times and in different places, may take up and respond to the media in different ways, justifiable concerns over technological determinism should not detract from the ways in which particular media technologies do indeed serve to ‘reconfigure’ space and time, as contributors to the volume edited by Brunn and Leinbach sought to demonstrate. As Paul Virilio notes, the theoretical limit of the transmission technologies that succeeded transport technologies is the speed of light – canceling out distance; permitting near instantaneous contact; creating a kind of ‘telepresence’. With the appropriate technology, a heart surgeon in Berlin might operate on a patient in Johannesburg without leaving home. Yet while revealing that physical distances have always been a function of the speed (and cost) at which they could be overcome, Virilio remains more a technological indeterminist than a technological determinist, attuned to the fact that the media never simply mediate; they form part of an increasingly complex, ‘mediatized’ world. “Why is there somewhere rather than nowhere?” is the question that Virilio forces us to ask.

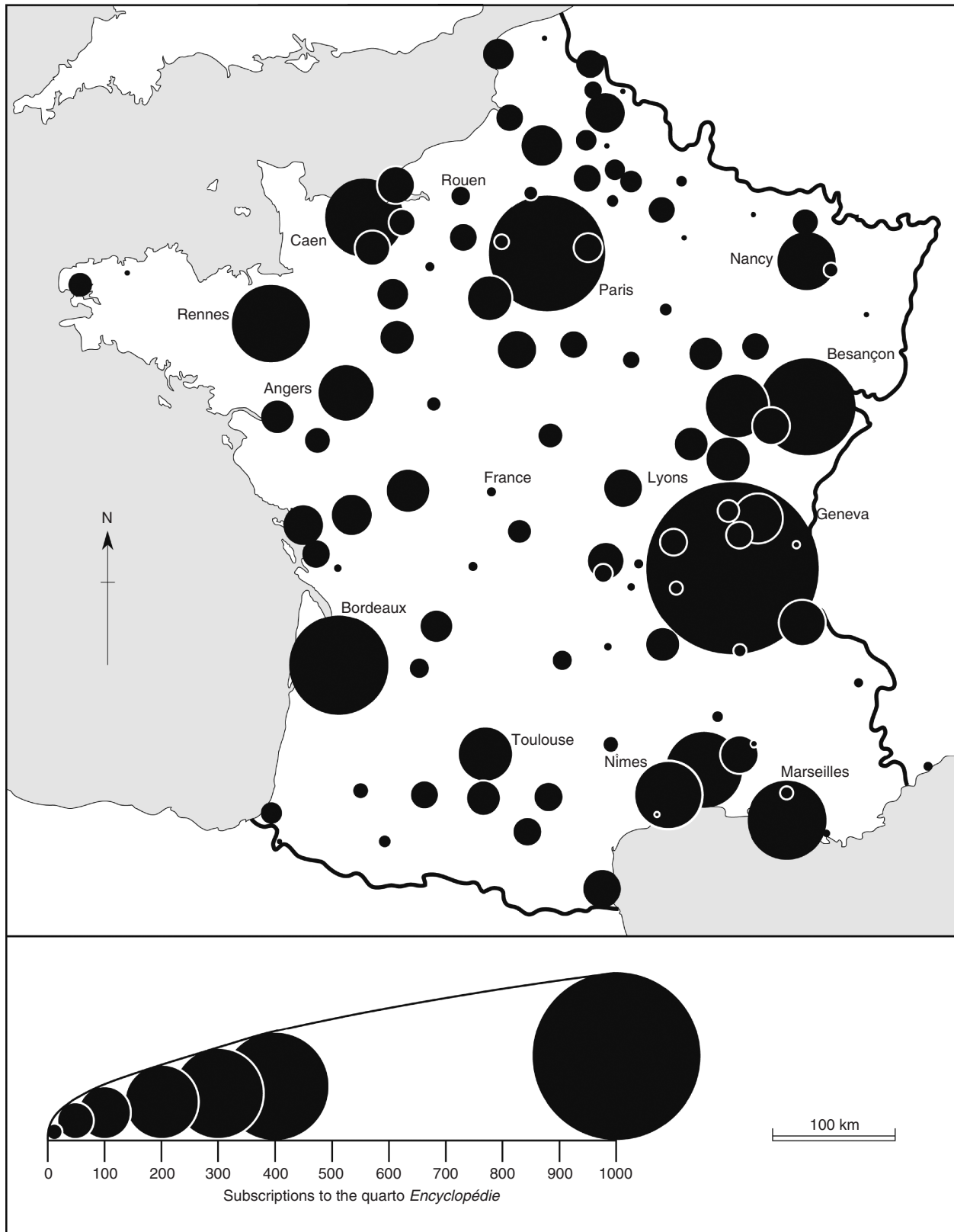
### Mediaspheres: Power and Influence

One significant quality of most modern media technologies has been their tendency toward ‘massification’. While writing using a quill or biro permits the transmission of information without the need for co presence in time or space, the invention of the printing press (*c.* 1450) ramified this capacity to the *n*th degree – with truly revolutionary implications. Little wonder that McLuhan should have referred to the ‘Gutenberg galaxy’ to convey the astronomical impact of a medium that permitted the transmission of information and ideas to far greater numbers of people than ever before. Yet

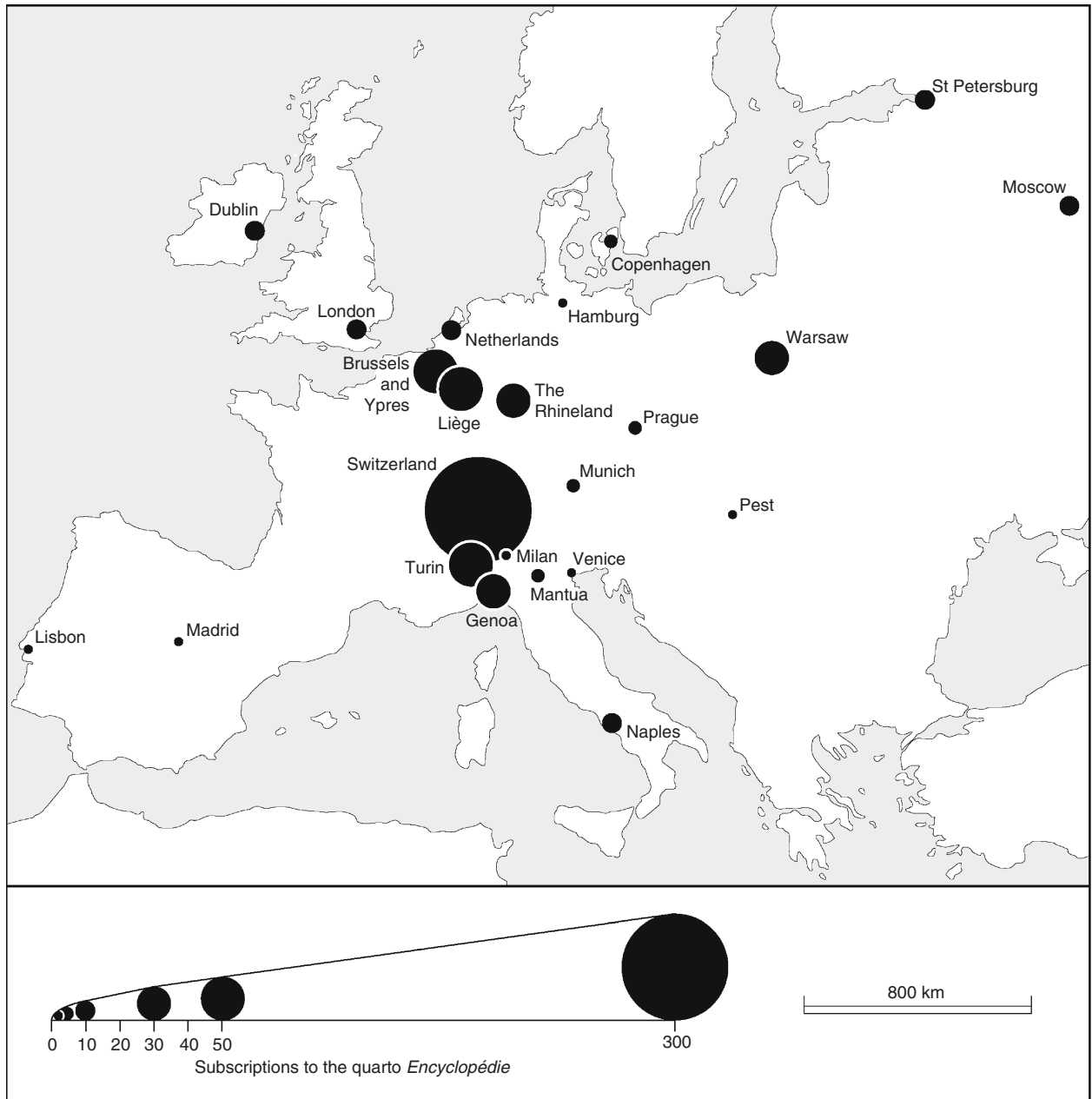
despite McLuhan’s maxim, the relationship between print media and knowledge is not straightforward. It is telling that the most famous book produced by the inventor of the printing press was the Gutenberg Bible. As a technology originating in deeply religious times, the printing press did not immediately or automatically overthrow prevailing ideas and beliefs. Nonetheless, McLuhan’s point still carries weight. **Figures 1 and 2** plot subscriptions to Diderot’s and d’Alembert’s *Encyclopédie*, a product of Enlightenment Europe, published in France and intended to overthrow traditional knowledge and to undermine its religious basis. The distance decay effect and concentration of uptake around urban areas notwithstanding, these maps illustrate the extensive reach made possible by relatively cheap reprographic technology (the maps record subscriptions to the mass produced quarto and octavo editions of 1777–82), as well as the permeability of national boundaries.

Later audiovisual media, like cinema and television, significantly amplify these same properties, reaching mass audiences with increasing rapidity. For McLuhan, the electronic age was marked by a speed that imploded space. The point is well illustrated by the news media. The instantaneous 24 hour global television news coverage now offered by many of the world’s largest media corporations may not be evenly accessible over the surface of the Earth (**Figures 3 and 4**), and there are significant concerns about who controls the news, but this is profoundly different from a situation where the dissemination of news relied upon word of mouth, which meant that news tended to be concentrated within major settlements, diffusing elsewhere slowly, irregularly, and unevenly. Ironically, the pace of the media today has accelerated to the point where news coverage increasingly ‘anticipates’ events: reporting on what is set to take place, filling in time while waiting for something to happen (dubbed ‘newzak’, after Muzak).

Between wall to wall television news coverage and the public proclamations of town criers, newspapers, radio, and cinema newsreels demonstrate the contingent nature of technological change: the venerable institution of the press survives, even if that relative upstart, the newsreel, proved to be a vanishing mediator *en route* to television news. The forerunners of today’s newspapers have existed since the early sixteenth century, though low literacy levels meant that town criers were not immediately redundant. The survival of the daily newspaper, an institution dating back to the early eighteenth century, relates to consumer habit, convenience, marketing, commercial interests, and myriad other factors that have created a highly complex media environment. This complexity is likely to persist, even in the wake of ‘technological convergence’ (the ability of digital devices to approximate to other forms of media). Online newspapers have not stopped people from



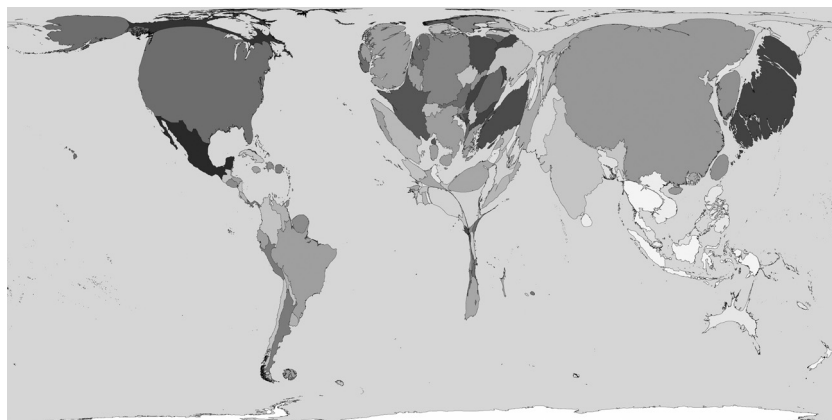
**Figure 1** The distribution of the quarto edition of the *Encyclopédie* in prerevolutionary France. Adapted from Darnton, R. (1973). *The Encyclopédie wars of prerevolutionary France*. *The American Historical Review* 78(5), 1331-1352.



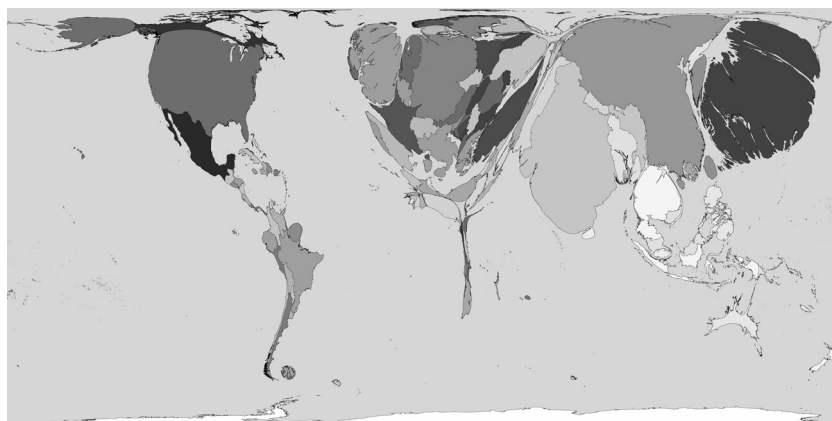
**Figure 2** The diffusion of the quarto edition of *Encyclopédie* beyond France. From Darnton, R. (1979). *The Business of Enlightenment: Publishing History of the Encyclopédie, 1775–1800*, p 301. Cambridge, MA: Belknap Press.

reading the paper form, for example. Likewise, despite many dire predictions to the contrary, television did not kill off the cinema (the fate of the newsreel notwithstanding). Hollywood's enormous economic and cultural influence, as documented by Allan Scott, is in fact increasingly tied to other media, as a result of the dramatic concentration of capital in some of the world's largest media conglomerates (a process known as 'media convergence'), though many national film industries – 'Bollywood', Korean cinema, etc. – are also enjoying significant growth and increasingly transnational distribution.

The media environment in its totality has been dubbed the 'mediasphere' by Régis Debray. Debray's coinage is intended to operate in much the same way that the term 'biosphere' works with respect to life, implying an ecosystem for media – subject to dynamic evolution and generally organized around the latest media technology to rise to dominance. There have been numerous attempts to trace out media chronologies. Debray's conception entertains three key possibilities to date: the 'logosphere' (dominated by orality, with writing permitting the diffusion of information);



**Figure 3** The world mapped according to the number of television sets in use (2005). Note: territory size proportionate to share the sum total of television sets in use. Copyright 2006 SASI Group (University of Sheffield) and Mark Newman (University of Michigan) (<http://www.worldmapper.org>).



**Figure 4** The world mapped according to the circulation of daily newspapers (2005). Note: territory size proportionate to the sum total of daily newspapers in circulation. Copyright 2006 SASI Group (University of Sheffield) and Mark Newman (University of Michigan) (<http://www.worldmapper.org>).

the 'graphosphere' (dominated by print technology); and the 'videosphere' (associated with the rise to dominance of various audiovisual media). One might reasonably extend this schema by adding a fourth, the 'cybersphere', to designate a mediasphere dominated by digital information processing and new media technologies. However, to the extent that Debray's work remains more or less faithful to the media chronologies established by McLuhan and Innis, a more radical understanding might be gleaned from Friedrich Kittler's dismissal of McLuhan's starting point on the media as bodily prostheses. Rather than seeing media technologies as arising from human needs, Kittler insists on the 'medial *a priori*': the network of media technologies that underpins the capacities of a given culture, shaping subjectivities and corporeal capacities in the first place. Kittler's conception highlights our increasing dependence on the mediation of social life through media technologies. It also delivers a different media

chronology, identifying a discontinuity brought about by the advent of analog media technologies (e.g., the cinema, the gramophone), which culminate in digital information technologies. Whereas the preceding culture, underpinned by writing and the printing press, relied on filtering reality through a sign system (such that recording anything in the world involved its transcription into preexisting linguistic terms), a culture possessed of analog or digital technologies has no need of such reductive transcription. It is capable of 'sampling' the world and 'remixing' it. The upshot is an increasingly complex situation, marked by the proliferation, mutation, and acceleration of media technologies, while direct access to the underlying programming languages becomes increasingly unattainable. To the extent that it seriously reworks the terrain charted by the likes of McLuhan, Kittler's work has significant implications for considering the media's reconfiguration of space and time.

## Media Representations: Texts and Audiences

Medium theory, following the spirit of McLuhan's dictum that "the medium is the message," and epitomized in the work of Joshua Meyrowitz, sees the media as largely destructive of a sense of place. In distancing themselves from the idea that media messages are over determined by the medium, most media studies attentive to geography adopt a more empirically directed stance. On the one hand, such work emphasizes the spatial variability of media 'provision' and 'usage' (including phenomena such as the overleaping of intermediate technological forms, exemplified by the uptake of the mobile phone in Africa). On the other hand, such work has highlighted place based differences in audience 'responses' to particular media texts, especially the local 'reception' of global media products (US soap operas in Trinidad; James Bond films in China; etc.). A further tradition of work concerns itself with a more esthetic evaluation of media texts, focusing on the geography 'in' rather than the geography 'of' the media (why Marlboro cigarette adverts feature cowboys in wide open spaces; why sci fi films adopt particular conventions to make the diegetic future cities they portray recognizable as futuristic and as cities). Empirically oriented work on media provision, usage, effects, and texts derives from a variety of traditions of study, ensuring a shifting terrain that is difficult to negotiate. Changes in media technologies, moreover, constantly alter the meaningfulness of particular terms and debates. For example, what does it mean that television, once a mass medium dedicated to broadcasting entertainment and 'infotainment' – more recently giving way to 'narrowcasting' to 'target audiences' – is now most prolific as a means of surveillance, in the form of closed circuit television (CCTV)? Likewise, what are the implications of the fact that, despite the predominant focus on the audience in media studies, new media technologies have 'users' rather than 'audiences', forged in the image of Alvin Toffler's 'prosumers' (who *produce* and *consume* at one and the same time)? Or again, how far does the experience of cyberspace, as an experience of inhabiting a series of virtual worlds, question the validity of thinking in terms of representations of space? A better sense of these issues will emerge from following the contours of existing work and drawing attention to some of its limitations.

Regrettably, much existing work on the media relating to space and place does merely adopt predefined areas as convenient settings for the study of media provision and reception, empirically documenting media usage within particular national spaces, for instance. Recognition of the permeability of national boundaries to increasingly global media flows, however, often underlies such studies – a theme that is brought into sharp focus by the work of

authors as varied as David Morley, Kevin Robins, Nick Couldry, and Mackenzie Wark. While the local reception of media products produced elsewhere is sometimes framed in terms of cultural imperialism, given the global dominance of the US media corporations (Table 1), a considerable body of work has aimed to demonstrate that matters are far more complex 'on the ground', showing how local understandings may differ significantly from those intended by those responsible for producing media texts. This focus on audience 'readings' takes its cue from the British cultural studies tradition, specifically from the insistence on the 'relative autonomy' of culture instilled by Stuart Hall and the Birmingham Centre for Contemporary Cultural Studies. This amounted to an attempt to reconcile the 'dominant ideology' encoded into media messages (and 'decoded' by media theorists) with the possibility of other decodings (e.g., oppositional readings), largely by focusing on 'actual' media subjects rather than relying on media theorists. This tradition was given a geographical airing in the volume edited by Jacqueline Burgess and John Gold. More recent work in this vein has jettisoned the dominant ideology thesis in favor of a 'postmodern' emphasis on the pleasurable, empowering potential of popular culture. There are, however, dangers to this approach, not least because, in attempting to resist characterizing media subjects as dupes, there is a tendency to assume that virtually any meaning can be read into any text. Undoubtedly, people respond differently to media texts, and the determinants of their decoding practices are affected by a variety of 'situational', 'geographical' factors. Yet work emphasizing this has an unfortunate tendency to impose a thoroughly Western, humanist model of the subject as freely constitutive onto other cultures – neglecting the fact that meanings produce subjects as much as subjects produce meanings. Despite seeming to ignore the readings of 'actual' subjects in favor of 'abstract' readings proffered by theorists, a focus on how media texts 'position' subjects may offer a more convincing account of the consequences of media globalization than accounts purporting to give voice to 'local' appropriations of meaning.

In the face of widespread media globalization, a significant amount of work concerned with space and place

**Table 1** The world's largest media corporations

	Annual revenue (US\$ billion)	
	2001	2006
Time Warner	27.3	43.7
The Walt Disney Corporation	23.4	31.4
News Corporation	13.6	23.9
Bertelsmann AG	13.3	22.9
CBS (Viacom)	20.2	14.4

Source: Company reports.

in the media, such as that collected in the volume edited by Leo Zonn, has been given over to considering the accuracy or otherwise of the media's portrayal of place, whether these representations appear in the news; in documentaries; or even in avowedly fictional works, which make no claim to represent reality. A small but growing body of work, such as that of David Crouch and others, has developed this idea in an alternative direction, suggesting that reality is being transformed by its attempts to live up to its media image, particularly in the cases of tourist places (e.g., 'setjetters' make movie locations their holiday destinations, demanding not to be disappointed with the reality they find there). There is an underlying problem with all such work, however, insofar as it assumes that reality and its representation are somehow separate; that representations, as the term itself would have us believe, passively reflect a preexisting reality – either accurately or with added distortion.

It is closer to the mark, however, to recognize that so called 'representations' partake of reality, actively shaping the world. Given that we have no direct access to reality; that the world is never immediately present but always mediated by human cognition; the very idea of representation, as a derivative image or copy of reality, is a misnomer. There is a kind of ontological 'flatness' between trees and photographs (of trees), cities and films (of cities), terrorist attacks and news reports (of terrorist attacks). Indeed, this is where the power of the media becomes most evident as a force in the contemporary world. Consider, for example, the 2001 al Qaeda attacks on the Pentagon in Washington and New York's World Trade Center. There can be little doubt that these attacks were deliberately planned as a 'media event'; that the perpetrators were fully aware of the global news coverage their actions would attract: the planes struck the screen before they struck the Twin Towers. This kind of situation writ large might be associated with the work of Jean Baudrillard. Often mistaken as an advocate of the idea that reality is increasingly entrained to its media image, hence becoming increasingly insubstantial, Baudrillard in fact argues that the distinction between image and reality has imploded in the opposite direction: that there is too much reality – or hyperreality. An example of this excess of reality is provided by that media staple, the opinion poll. Opinions are definitively not facts: they are meant to be argued with; to provoke a response. Yet opinion polls treat opinions as facts, to be counted up and analyzed, creating a 'truth' against which one can no longer legitimately argue. The weight of opinion becomes a dead weight. Far from enhancing communication, 'means of communication' inhibit the possibility of any response. The media no longer communicate, they excommunicate – as attempts to forge a communion of the excommunicated epitomized by canned laughter, TV and radio phone ins, and 'interactive voting' neatly illustrate.

Baudrillard's arguments notwithstanding, increasing appeal to 'representation' in the sense of democratic representation has been made in work dealing with the relations between the media, space, and place. For many, the issue centers on the way in which the media has colonized the public sphere. This relates in no small part to the fact that most media institutions are commercial organizations, ultimately dependent on advertising money, as Armand Mattelart and Michael Chanan make clear. With media capital being progressively concentrated into a handful of media giants, the media is increasingly characterized by power without responsibility – a formulation classically alluding to media barons, like Rupert Murdoch of the Australian based News Corporation. More generally, the globalization of the media has seen a purely commercial model rapaciously crowding out erstwhile alternatives, notably the public service broadcasting that once dominated the national spaces of many 'mixed economies'. The state ownership and control of the media that characterized the former Eastern bloc countries has not quite been consigned to history, but the increasing permeability of national boundaries accompanying changes in media technologies render such state control more difficult than was previously the case (the rise in state surveillance of Internet use notwithstanding). Where the commercial media, ostensibly free from overt political interference, has become dominant, however, serious concerns arise over the kind of freedom this affords. The debate owes much to Jürgen Habermas's notion of the public sphere, while a good deal of it focuses specifically on the possibilities of community media, typically, though not necessarily, operative at a local level. Such issues have been debated most compellingly in particular political contexts, such as post apartheid South Africa, as exemplified in the work of Clive Barnett. Yet the extent to which the media as a whole might be opened up to more democratic control remains contentious. New media technologies create possibilities that hold out the hope of more democratic forms, such as the 'blog' (or weblog). Yet while there are examples of the power of 'blogs' to bypass mainstream media and cross international boundaries (such as the case of Salam Pax, the 'Baghdad Blogger'), this potential is often short lived. On the one hand, the state rapidly catches up with technological change, as witnessed in the acquiescence of Google to state Internet surveillance in China. On the other hand, such developments are quickly appropriated and assimilated by the mainstream media: 'bloggers' are co-opted as journalists, while grainy videophone images are adopted as signs of authenticity, eyewitness accounts adding to the authority of global media corporations (the irony being that telepresence apparently demands evidence of embodied presence).



## Being and Being Connected

A media saturated world entails that, alongside our immediate environment, we increasingly inhabit a mediated environment, created by television, the telephone, the Internet, etc. The interface or interaction between these environments is, however, complex. Work on 'media rituals' suggests that the media operates in the secular sphere in much the same way as rituals that function to mark the boundary between the sacred and the profane: media events like state funerals, royal weddings, world cups, or terrorist attacks work, at the level of collective consciousness, to forge some degree of social integration. If such work is dogged by functionalism, it is nonetheless true that media usage is far from an isolated individual act. The sense in which the media increasingly mediate any form of sociality is, perhaps, the most significant aspect of any geography of the media, for all media transform social relations based on proximity in space. One daring prediction, made shortly after the invention of the telephone (and greeted with incredulity at the time), speculated that "one day, every small town in America will have one." The telephone was initially seen as a broadcast medium, like radio (or 'wireless telegraphy'). Today, as Manuel Castells and colleagues have noted, access to the media at fixed points in space is increasingly being surpassed by mobile communications that use multimedia devices to connect people wirelessly into a network that is largely indifferent to proximity in space. Yet the increasing importance of connection to people who are not co present in space, to information stored elsewhere, and to entertainment that does not rely on the proximity of others is always only ever enabled, rather than determined, by media technologies. To that extent, the form of the media and the spatiality it promotes is symptomatic of the shape of the social world as a whole.

See also: Cyberspace/Cyberculture; Discourse; Discourse Analysis; Movies and Films, Analysis of; Telecommunications.

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# Medical Geography

R. Earickson, University of Maryland, Baltimore, MD, USA

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## Glossary

**Carrying Capacity** The maximum number of people that can be supported on Earth, or in any of its regions.

**Endemic Disease** A disease that is constantly present to a greater or lesser degree in people of a certain class or in people and/or animals living in a particular location.

**Environmental Physiology** The study of the adaptation of individuals to environmental change and stress.

**Ethnomedicine** The study of the beliefs and practices concerning illness stemming from indigenous cultural development; it observes and describes hygienic, preventive, and healing practices, also taking into account temporal, and spatial references.

**Holistic Medicine** A system of healthcare based on a concept of the 'whole' person as one whose body, mind, spirit, and emotions are in balance with the environment. As such, treatment may include conventional medicine and various nontraditional methods of diagnosis and therapy. Personal responsibility for health is stressed, and surgery and prescription drugs are avoided whenever possible.

**Iatrogenesis** Refers to the causation of a state of ill health or adverse effect or complication caused by or resulting from medical treatment, unintended effects of health and medical behaviors or policies, or conditions in medical facilities that themselves make people sick.

**Political Ecology** The study of political struggles for control over natural resources, or of political encounters whose outcome is determined by differential access to natural resources.

**Prevalence** In epidemiology, it is the total number of cases of a given disease or disorder in a specified population at a specified time regardless of when the illness began. Thus, the prevalence of tuberculosis in New York City since 2000 includes the cumulative number of New Yorkers suffering from the disease since that year. This is often confused with incidence, which refers to only new cases diagnosed during a particular year.

**Social Capital** It involves feelings of trust and safety, the quality of connections among people living in neighborhoods, networks of family and friends, and the extent to which people are engaged in community groups, clubs, and other organizations.

**Synoptic Climatology** A holistic approach to the study of applied climatological issues that affect humans and other organisms around the world. Synoptic

climatologists attempt to characterize an entire weather situation that exists in a given area at a given time, to gain a better understanding of both the atmospheric environment and its effects on the organisms that experience it.

## Introduction

Medical geography uses the concepts and paradigms of the discipline of geography to investigate human–environmental relationships of disease, nutrition, and medical care systems, of which maps and geographic information science (GIScience) are arguably most prominent today. Therefore, site, situation, place, location, region, and all spatial concepts may be compared to the distribution and dispersion of most diseases, nutrition as a factor in sickness and health, and the supply and demand for healthcare resources. One of the predominant concepts of geography as a science is that it examines relationships between peoples and their environments in holistic terms. In the particular subfield of medical geography, the focus is upon those interactions that bear mainly, but not exclusively, upon human health within a variety of cultural systems and a diverse biosphere.

In the geographic tradition, medical geography is highly interdisciplinary and integrative. Its practitioners emanate from, or integrate with a range of disciplines, including anthropology, cartography, economics, epidemiology, history, human ecology, medicine, political science, psychology, public health, and sociology. Medical geographers are also, foremost, problem solvers who deal with both environmentally based problems and those of anthropogenic origin. Their workplaces include academia, private, and public organizations.

## Origins of the Discipline

Most writings about medical geography attribute the origin of the academic discipline to the 24 chapters of *Airs, Waters, Places* from the collection titled the *Hippocratic Corpus*, or *Hippocratic Collection*. Many mistakenly attribute these writings to Hippocrates himself, when in fact he wrote none of them. While the vast majority of scholars believe that Hippocrates himself wrote *Airs, Waters, Places*, a lack of evidence to support this means that the works in this collection must be presumed anonymous.

Geographic historian Frank Barrett has written extensively and eloquently about the origins and development of medical geography, covering the period from the mid fifth century BC to the mid twentieth century AD. It is clear from this record that there was some interest in the geography of disease earlier. The diffusion of information about diseases, nutrition, diet, and geographical variations in medical systems began to take off only in the eighteenth century, because of explorations, scientific experimentation, and advances in printing. Thanks to a few physicians who wrote volumes on the subject, a tremendous amount of information about variations in disease and nutrition in the known world, and possibly the first disease map of the world, was added to the literature during this century.

The emergence of germ theory and the works of Pasteur, Darwin, Koch, and others produced writings in the nineteenth century that brought to the forefront the idea that infectious diseases are caused by microorganisms, and added significant knowledge about variations in disease distribution and causation throughout the world. Up to this time, physicians had believed that the geographical variation of disease was due in large part to separation of the races, but Darwin's work made such a view untenable. Geographers were beginning to observe associations between geographical distribution and variations in diseases, medical treatments, and diet. In the latter half of this century, empirical research into disease, using numerical data, reinforced the new scientific paradigms that spun off Darwin's theories.

The late nineteenth and early twentieth centuries saw the ascendance of the well known concept of environmental determinism. Writers like Ellsworth Huntington claimed that hot, humid climates encouraged lassitude and elevated the risk of tropical infectious diseases. Climate 'explained' why indigenous peoples in the tropics were 'dull in thought and slow in action'. On the other hand, new discoveries in bacteriology and public health challenged these views with alternative, optimistic explanations. This period also ushered in improvements in public health. Increased life expectancy in the Western world during this time was due more to preventive than to curative medicine.

The mid twentieth century brought the French surgeon Jacques May to America with a mandate from a geographical society to explore geographical influences on diseases. He acknowledged that epidemiology and parasitology predated medical geography, but explained that he was hoping to establish correlations between geographical aspects of physical, social, and biological factors and causative agents, vectors, intermediate hosts, reservoirs, and humans. Today, such associations are often referred to as 'ecological correlation'. May encouraged such a statistical approach, but acknowledged that reliable statistical data at a suitable scale was difficult to acquire – a lesson that would be revisited on health and

social sciences, and public health to the present day. He also recognized the complexity of these associations and that it was easier to establish statistical probability than to show biological links between diseases and suspected causative factors. May considered mapping the distribution of diseases worldwide to be an important task for geographers at that time. His *Atlas of Diseases* certainly was a significant contribution to the field. He also published *The Ecology of Human Disease* and edited a second volume titled *Studies in Disease Ecology*. May became a geographer through his mandate, but his true allegiance was to ecology, and a number of medical geographers who followed him would adopt and refine the mantle of disease ecology. Within a few decades, geographers like Andrew Learmonth would effectively define medical geography as the ecology of infectious disease. The work of those whose career defining years occurred since 1970 is described later.

## **Human Ecology and Disease**

Geographers who have worked in the paradigm of human ecology consider their research as a study of cultural, environmental, and biological variables as a synergistic ecosystem affecting health. Ecosystems occur in space and exist in time; they are dynamic, interrelated, and multidimensional. The fact that life is a series of spatial and temporal changes makes human ecology, like some viruses, a moving target and thus a continual challenge. In her textbook, *Medical Geography*, Melinda Meade sets out a framework for the study of human health. Basically, there are three broadly conceived components in the human health ecosystem – habitat, population, and behavior.

Humans live and play out their roles in places; that place is 'habitat'. Microhabitats, such as houses and workplaces, schools, recreation spaces, transportation vehicles, and macrohabitats such as deserts and rainforests are instrumental to illness and health. Some examples of illness in habitat are *Escherichia coli* outbreaks in restaurants or through inadequate food processing, SARS or influenza transmission among passengers in transport vehicles, and cholera epidemics following natural disasters.

'Population' includes the characteristics, status, and conditions of people as organisms. One aspect of Malthusian dictum states that populations tend to increase geometrically. For example, in sub-Saharan Africa, about 41 new births per 1000 population occur annually, while only 17 per 1000 die during that time. This is a natural increase rate of 2.4%. At this rate, the estimated population of this region in 2005, 752 million, will increase to over 1.1 billion in 2025 and over 1.7 billion by 2050. Sub-Saharan Africa's fertility rate is over 5.5 (the average number of children born to all women in the region over their reproductive lifetime). Twenty years earlier, the

fertility rate there was over 6.5, and in some nations in the region, this rate exceeded 8! Thus, the reproductive potential for humans is considerable.

Opposing this biotic potential is the totality of environmental forces, abiotic and biotic, that prevent that potential from being realized. Abiotic factors are essentially what nature provides, including the physical geography of a place – climate, soils, and water quantity and quality determine the availability of nutrients, and the potential for food production. Biotic factors include humans, animals, insects, parasites, etc. – their competition for resources and their abilities to carve out niches in the ecosystem. Medical geographers take into account the variation in physical and cultural factors that affect human health worldwide. Included among these factors are the earth's 'carrying capacity', prospects for food production, soil destruction and desertification, genetically based differences, human 'environmental physiology' variations in the aging process, and cultural behavior.

It is difficult to exaggerate the effect of culture in human populations. For instance, culture appears to have a much greater effect on population growth than biological factors. Consider the impacts of abortion, infanticide, contraception, notions about coital frequency or extramarital sex, age of first marriage, and commonality of divorce on natality and related health services. Japan is an interesting case study in demonstrating the interplay of cultural factors in regulating natality. A complex web of legal and political history has led to a ban in Japan on chemical contraceptives commonly accepted in the Western world. The result is almost a total dependence on condoms, the rhythm method, and abortion to control birth. Japan, along with many nations in Europe, has one of the lowest fertility rates on earth. At the same time, there is a dramatic increase in the life expectancies in these (and other) countries. There is concern in these nations about the dearth of children and the future of labor availability, not to mention the exploding demand for elderly health services.

Humans face numerous stressors in their health ecosystem simultaneously. According to Meade, cultural behavior interacts with habitat and population in several ways – habitat conditions, wealth and technological attainment, the risk for health hazards, and the myriad differences in customs, nutritional, and immunologic status. All of these vary geographically and temporally. Add to these the propensity for inequalities in society, and one can appreciate the complexity of processes that affect disease and health in populations.

### **Malnutrition and Communicable Disease**

From the point of view of a medical geographer, a 'landscape' is a place with a complex expression of abiotic

and biotic processes. When one knows how to analyze its components, geographic and otherwise, one can usually determine the potential for any health (or other) problem there. This section explores medical geography's approaches to the problems of malnutrition and communicable disease.

Malnutrition may be defined as any type of poor nutrition, including having too much or too little food, or having an improper balance of nutrients. Whereas there are arguably enough food resources on earth to feed all people a diet with necessary nutrients, malnutrition is all too common. One way of viewing it is to characterize malnutrition as a problem of distribution, not production. Variability in ability to produce food at the local level is an important factor in creating pockets of malnutrition. In a sense, malnutrition is a measure of ecological failure; it is system feedback indicating that a population has not successfully adapted to its environment on either a temporary or permanent basis. Persons suffering from malnutrition (deficiencies or excesses) are more likely to get sick. Jacques May devoted some 20 years to the study of the ecology of malnutrition and left a voluminous literature on the subject.

Medical geographers have associated nutritional hazards with cultivation pattern, seasonal, or cultural conflicts. Topography, weather, soil, water supply and quality impose limits on what can be cultivated in any given place. The agricultural patterns of the world are determined by these factors. Culture has created distinct geographic dietary regions. Food production evolved from specific cultural hearths and then spread over paths of cultural contact. Over time, it became apparent that diversity and variety in diet were necessary to provide a full range of nutrients. A diet limited to staple foods is often associated with poverty, and so regional diets are often associated with specific nutritional deficiencies. Nutritional deficiencies have resulted in, to name but a few, 'kwashiorkor' (insufficient protein), 'marasmus' (insufficient calories), 'rickets' (vitamin D deficiency), and 'goitre' (iodine deficiency).

The power of prescription, prohibition, and cultural preference influences food consumption patterns in most parts of the world. Consider religious injunctions against eating pork in the Middle East, and cattle in India. The recent history of the native Inuit of Canada is instructive. Over the past century, the Inuit have gone through successive stages of culture contact with white Canadians. Once nomadic hunters, Canada's native peoples live today in modern towns and hamlets, working as wage earners. There is a running debate whether these people were propelled by provincial politics to settle in towns or whether they moved voluntarily to seek more secure access to food, supplies, and medical care. The Inuit perceive some of these settlements to be crowded and violent compared with their previous lifestyle, with

overall lower quality of life, including housing shortages, pollution, noise, high prices, dangerous roads, and general pressure to drop certain traditions of the past and adopt trends in the White culture, such as eating 'commercial food'. Modern television advertising drives a thriving market for 'fast food', that is high in fat, salt, and calories, which arguably leads to excess body weight and obesity.

It has become apparent that many people would rather find a dietary supplement for this than to simply alter their diet, a condition that has profited drug manufacturers. Geographers research things like super market accessibility, since supermarkets that offer a wide range of fresh produce, whole grain products, and unprocessed foods at less expensive prices than convenience stores, are an important source of affordable and nutritious foods – one key to improved health.

The broad term, communicable disease, is used by the US Centers for Disease Control and Prevention to include all diseases attributable to a specific infectious agent (e.g., viral, bacterial, or parasitic) that is transmitted from an infected host to a susceptible host, whether directly or indirectly through an intermediary vector. Some diseases are spread by direct contact, where coughs, sneezes, or simple close contact with infected individuals can serve to pass the disease causing agents.

Though certainly not exclusively, medical geographers have paid substantial attention to vector borne disease, since such diseases have been recorded world wide and are persistent. Vectors are the vehicles by which parasites are transferred from an infected to a susceptible host. The most common vectors are arthropods – insects, spiders, and crustaceans among others. The geographic interest is understandable, since arthropods have rather specific niches in earth's ecosystem – mosquitoes and flies are at home in warm regions, while ticks, fleas, and lice are important vectors at high altitudes and latitudes. A good example is Malaria, which is caused by plasmodial parasites. Malaria may be transmitted to humans only if the vector, the *Anopheles* mosquito, is present to introduce the parasite into the human bloodstream. Malaria, with over one million deaths annually worldwide, kills more people than any other vectored disease. Other common vectored tropical diseases (Chagas disease, dengue fever, lymphatic filariasis, leishmaniasis, onchocerciasis, schistosomiasis, and trypanosomiasis) together are responsible for over 100 000 deaths annually. Several human activities may promote the emergence and spread of communicable diseases:

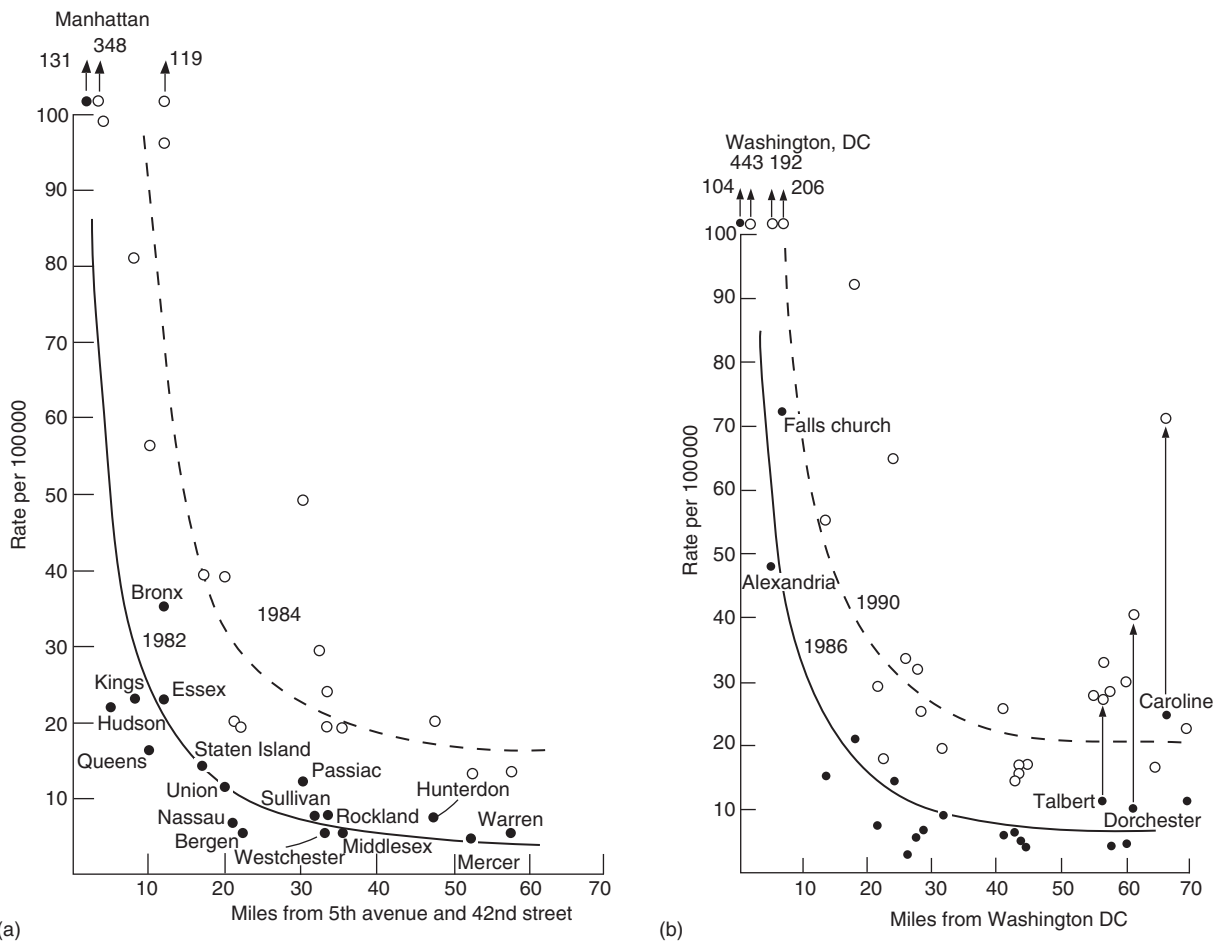
- encroachment on vector habitats, such as construction of settlements in brush and/or forested areas;
- changes in agriculture, such as introducing a large scale single product operation in an area formerly not in agricultural use, and/or sparsely occupied by individual households;

- destruction of forests through deforestation, and in fusions of settlement and transportation;
- uncontrolled urbanization, particularly in regions of developing countries where communicable diseases are 'endemic'. Typically, rapid growth concentrates large numbers of people in crowded areas with poor sanitation, which accelerates the transmission of communicable disease; and
- modern transportation, such as ships and other cargo carriers often harbor unintended 'passengers', such as arthropods and rats that carry infected microbes to destinations that formerly had no cases of certain communicable diseases. With international jet aircraft, the potential exists for a person or persons infected with a disease like SARS or influenza to carry the disease halfway round the globe before their first symptoms appear, by which time they may have infected others through exposure through coughing or casual contact.

Since spatial 'diffusion' is a topic of geographic importance, it follows that studies of the diffusion of disease are common in the medical geography literature. Understanding the mechanisms that influence the spread of disease and its spatial pattern is at the core of the geographic study of diffusion. Most studies of this form of diffusion have emphasized an explanation of events in a space–time context. Variables such as distance, the location of habitats, and the distribution of jobs and facilities all influence the level and direction of interaction. Diffusion patterns are determined by the configuration of the networks that encourage movement and barriers that discourage it. Whether a malady spreads only locally, such as *E. coli*, or diffuses as great world pandemics, such as HIV/AIDS, disease threats challenge the development of predictive models that can benefit human populations. Such models have been developed both by medical geographers and epidemiologists. Some of the work of Rodrick Wallace and Peter Gould is instructive in this regard. **Figure 1** is a classic simple ecological correlation between disease diffusion and distance.

## Human Health and Economic Development

Some resources essential to human health are basically nonrenewable (e.g., energy fuels, certain plant and animal species) and others are only slowly renewed (e.g., soil, water, clean air, and certain vaccines). Humans have created ecological problems by overuse and misuse of resources in the long term. Due to the continued growth of population in some regions and the desirability of some environments over others for economic development, people have largely tended to maximize their short term gains in capital of all kinds rather than



**Figure 1** (a) The rate of AIDS cases per 100 000 population as a function of county distance from Fifth Avenue and 42nd Street in New York for 1982 and 1984. (b) Same as (a) for the Washington, DC area, 1986 and 1990. Reprinted from Wallace, R., Fullilove, M. T., Fullilove, R., Gould, P., and Wallace, D. (1994). Will AIDS be contained within U.S. minority urban populations? *Social Science and Medicine* 39, 1051-1062.

optimize long term conservation of resources. The result is inequities in morbidity, mortality, and the distribution of resources. High income countries, with less than 20% of the world's population, have a per capita gross national product well over 60 times that of low income less developed nations, which have over half the world's population but a life expectancy some 15 years less, and the gap continues to widen. Inequities can and do lead to unequal suffering from lack of necessities, morbidity, and mortality. Medical geography has long had an interest in the spatial distribution of health inequities and more recently to explanations that give some prominence to place. Some of these are the direct or indirect results of uncontrolled or unregulated economic development both at global and local levels.

Economic development has frequently been associated with the 'epidemiologic transition'. Disease patterns are related to many things, but especially socioeconomic status. It is well known that, with the advent of the Industrial Revolution, a gradual shift in mortality occurred,

from communicable diseases to lifestyle diseases. Over the centuries, poor, rural populations have been drawn to industrial centers to take advantage of job opportunities in mining and manufacturing. As a result, they have left places where communicable diseases were responsible for most deaths and migrated to places where chronic and degenerative diseases became the major causes of mortality. As disease patterns change, the average age of death shifts from childhood and young adulthood to older ages, with corresponding increases in life expectancy. Chronic diseases have been linked to lifestyle changes (dietary changes, additional stress, sedentary employment, etc.) that are associated with economic development. A most recent consequence of epidemiologic transition is the reemergence of infectious diseases previously thought to be under control, many of which are antibiotic resistant, in addition to the rapid emergence of a number of 'new' diseases.

In underdeveloped tropical and subtropical regions, the effects of development frequently involve human

conflict with the natural environment. Without sufficient resources to stave off illness from infectious disease, or lacking political will and/or economic means to prevent contamination, people succumb to any number of maladies. Countries that have promoted large population resettlement schemes as a way of developing their national resources have subjected large numbers of people to lifestyle changes that were detrimental to their health. Settlement of the agricultural frontiers of the Amazon basin in South America is instructive. Agribusiness practices there were responsible for the spread of onchocerciasis and shistosomiasis into areas where they had previously been insignificant. Hughes and Hunter, and Stock's writings on development and health in Africa were an early introduction to the 'political ecology' of disease. They described some of the political, environmental, and biological interactions that are necessary to understand patterns and changes in disease distribution in the tropics. Mayer has written further about the general application of the concept to medical geography.

Lest we think that developmental health hazards are predominantly rural, consider that urbanization involves considerable demolition and construction, which means open drainage and septic ditches, garbage dumps, and water storage. Everywhere, we are creating new habitats for insects and they are becoming highly insecticide resistant. Dengue fever, for example, is spreading in the Caribbean and Central America. Chagas disease has followed people to cities where vectors thrive in poor urban housing and domiciliated animals.

Globalization, with its economic, social, environmental, and policy dimensions, is also of interest to medical geography. In various places, we find that globalization has exacerbated inequality in income distribution and worsening of health status for low income populations. Health policies, both national and local, have been affected by development. The economic 'miracles' of China and India, for example, are obscured by some of the world's most severe environmental problems, which are taking a large toll on these nations' human and ecological health. Furthermore, modern technology has provided a transportation system that globalizes the disease infection process. There are no places on the habitable earth that are more than 30 h apart by air transportation. This phenomenon has been described as a virtual viral superhighway. On the positive side, globalization has promoted greater diffusion of communications on, among other things, women and children's rights and the HIV/AIDS pandemic.

Vital research into the fundamental changes in earth's ecosystems and how they impact health are ongoing in medical geography. A fertile area of research involves the health consequences of global warming. Combined land and sea temperatures have been going up worldwide since the mid nineteenth century. Drastic alterations in

the distribution of vegetation are expected to occur more quickly than in the past. Experts anticipate changes in climate that are likely to lead to health problems related to heat stress, natural weather disasters and flooding, food shortages, changes in vector distribution, and, consequently, infectious disease patterns. Tick borne diseases and maladies caused by tropical and subtropical waterborne parasites are likely to expand their range into currently temperate zones.

Many health problems are likely to be indirect. Episodes of food shortage or prolonged heat stress may result from violent behavior associated with social cataclysm. Heat related mortality has been widely documented, especially among the poor and elderly. Global warming may disrupt ocean currents or alter trade wind or jet stream patterns, leading to an increase in the frequency and severity of violent weather. Much medical geographic research may be found in the field of *Synoptic Climatology*. At the University of Delaware, USA, Center for Climatic Research Synoptic Climatology Lab, lab research projects include, among other things, the impacts of weather and pollution, development of a heat stress index for public use, and a synoptic approach to monitoring surface ozone.

Before the nineteenth century, there was no sustainability science, and there were few regulatory bodies with any authority. In the Western world, the direction and pace of improvement of environmental health was a matter for visionaries, pioneers, and philanthropic business leaders. Today, public health has developed to the point where there is no excuse for rampant development without regard to its effects on health. Unsustainable economic development is well documented and unmistakably visible in real pain and suffering among the poor, working class, and beyond. The social and economic costs of the damage being wrought are also much more measurable, as indeed are the likely additional costs if nothing is done. Medical geography continues to monitor global surveillance, and to promote sound health and development planning.

### **Chronic/Lifestyle Disease and Environmental Health**

Economically developed countries have reached the end of the classic mortality transition, when death is caused mainly by degenerative and lifestyle diseases such as heart disease, cancer, stroke, diabetes, accident, homicide, etc. Risk of infant and child mortality is low and life expectancy is typically well into the 70s. Much of the research literature in medical geography, and some of its most highly developed methodology, are focused on patterns of health conditions and disease etiology in North America, Europe, and Japan. These patterns are

increasingly shared with recently industrialized countries, especially in Asia. Modern, affluent nations also have the trained personnel and the financial capacity to engage the distribution, causation, treatment, and prevention of the pathogenic complexes of the twenty first century.

There is a substantial literature on health inequities. Much of this focuses on inequities that are expressed in terms of social class, gender, and ethnicity. Medical geographers have paid particular attention to the spatial patterns of health inequities and to explanations that give some prominence to place. Many maladies appear to occur consistently more often among the poor than among the affluent. There seems to be a socio-pathological complex made up mainly in stress, lifestyle, diet, housing, pollution, and aging infrastructure. Some diseases, such as tuberculosis and alcoholism, are traditionally associated with low income populations. There are numerous correlations between health problems, measures of poverty, and place in the literature. A wide range of diseases and disorders appear to be associated with unemployment, low income, limited education, and inadequate diet. Also found in the mix are variables such as sanitation, overcrowding, trash accumulation, traffic, accidents, industrial hazards, and pollution. Common symptoms and behaviors include stress, alienation, insecurity, depression, drug and alcohol abuse, smoking, and spousal and child abuse.

There is a growing body of research that appears to confirm that a lack of 'social capital', broadly conceived, contributes to poor health and even early death. Recent quantitative and qualitative studies in several Western nations demonstrate that observed and self reported ill health is associated not only with the traditional stressors of poor diet, smoking, and low income, but also with broken ties to family, friends, and familiar social organizations. In New York City and elsewhere, when low income, powerless citizens are displaced from familiar communities, their social networks are shattered, and rudimentary public services are undependable or non-existent. Crime, substance abuse, violent death, and the incidence of diseases like HIV and tuberculosis tend to rise precipitously.

Many researchers argue that people experience poor health because they are more likely to participate in risky lifestyles or behaviors. Since these behaviors are socio-geographically patterned – lower socioeconomic status groups are more likely to engage in unhealthy behaviors – such habits are likely to be key determinants of spatial health inequities. A major health risk associated with modernized environments is a tendency for increased adiposity (amount of body fat). Excess consumption of fats, salt, and sugar are markers for heart disease, and low income populations in the United States and other Western nations are prone to consume less healthy diets.

Smoking is well established as a risk factor for much chronic diseases, especially lung cancer and heart disease. Poor dental hygiene is a marker for oral diseases and related disorders. Obesity, ill health behaviors, and diabetes are associated with people with common cultural backgrounds and spatial distributions.

Disability research has emerged in medical geography as a socially or culturally constructed form of exclusion – for instance, activist movements demanding signs in Braille for the blind or access ramps for people confined to wheelchairs. However, disabilities and impairments are more nuanced, as explained by Wilton and Evans. They may be examined from the viewpoints of several different conceptual models: medical, social, human rights, and cultural feminist. Geographers describe the active role of the sociospatial environment in determining what conditions or impairments are experienced as 'disabling'. Disability may be defined in terms of physical impairments, chronic illness, sensory impairment, and intellectual/learning conditions.

Geographers became interested in mental health late in the 1970s, mainly as a result of the worldwide movement to close asylums and create community mental health centers and 'halfway houses' for former hospital patients. A few early influential studies came out of the United Kingdom (an analysis of the distribution of schizophrenia) and the United States (two classic ecological studies of distribution and correlates of mental ill health and facility location). Christopher Smith found a spatial dimension and landscape expression to community mental health. Landmarks and the layout or spatial design of a community provided orientation and facilitated a sense of identity. Facilities such as community centers, places for parties, churches, and libraries promoted rootedness (social capital) and provided means to transcend the daily conditions of life. More recently, studies have turned to investigations of community attitudes toward mental health facilities and patients, and the conflict between centers and neighborhood residents – the now well known NIMBY (not in my back yard) syndrome. Also appearing in the literature are studies about social support and contacts for the homeless, immigrants, and individuals of different classes, ethnicity, and gender. All have expression in space and place.

Closely associated with mental health studies are investigations of the spatial distribution of substance abuse (drug and alcohol addiction). In early 2006, and again in 2009, the Association of American Geographers collaborated with the US National Institute on Drug Abuse to sponsor a multidisciplinary symposium. Themes addressed included:

- spatial patterns of drug use and addiction,
- linking spatial models with neuroscience and genetics in drug abuse research,



- locational analyses of drug addiction treatment and service delivery facilities, and
- use of geographic information systems (GIS) to better understand and respond to drug addiction.

A publication of these symposium papers appears in the 'Further reading' section.

HIV/AIDS, despite its communicable quality, is included in this section because its spread is a function of human behavior and lifestyle – not transmitted by vectors, and not confined to any particular ecological biome. No other pandemic in recent times has had the profound impact on people and institutions as has human immunodeficiency virus (HIV) and the acquired immunodeficiency syndrome (AIDS). The attitude among many people in the developed world that infectious diseases were to a great extent a problem of the past was forcibly changed in the 1980s as AIDS began to diffuse world wide. The earliest cases of AIDS in the Western world were found among gay men, particularly in major urban centers in the United States and Europe. The disease eventually began to be transmitted to women and their children. The disease is spread by contact with contaminated blood products and unsterilized needles used by drug abusers. Geographers have published a number of maps illustrating the correlates to HIV/AIDS (see **Figure 2**). Much work remains for all disciplines and organizations to provide sufficient context and resulting insight into this most recent plague.

A substantial geographic literature exists on the subject of environment and health. The 1962 publication *Silent Spring* rippled throughout the public and scientific communities and initiated a growing wave of research into the linkages between environment and human health. Despite this mass of research, there is still limited hard scientific proof that some illnesses are caused by the contamination that human activities add to the environment. Most scientists are still concerned about emerging lifestyle diseases and are committed to genetic research as the next magic bullet, while the professed associations between human health and environmental exposures remain highly contentious.

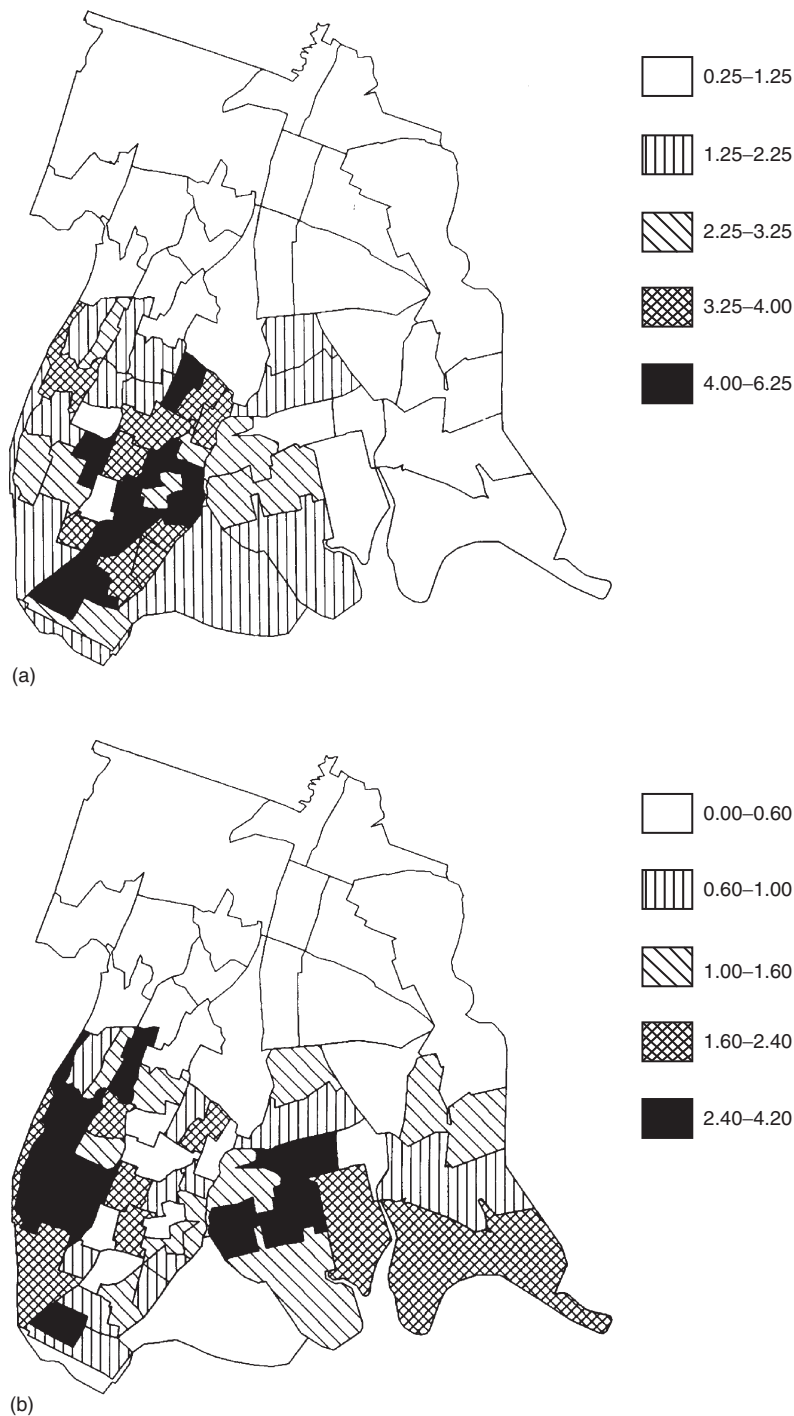
Despite the scientific uncertainties in the linkages between environmental exposures and health outcomes, some public health studies suggest that such exposures are important mediating factors explaining the relationship between low socioeconomic status and ill health and premature mortality. Millions die each year from environment related conditions. The most prominent threats lurk in places that should be safe – home, school, and neighborhood. The evidence is persuasive that modernization leads to increases in serious chronic disease rates, with these increases related to the increased pollution, general stress, and adiposity that comes with modernized life.

## Healthcare Systems, Distribution, and Access to Health Resources

When we speak of healthcare 'systems', it is important to differentiate between the way healthcare is defined and the way in which that care is organized and financed. Basically, healthcare may be differentiated on the basis of where it fits on a model scale ranging from 'biomedical' to 'holistic'. At the biomedical end, we find practitioners applying the principles of the natural sciences, especially biology and physiology, to clinical medicine. For the most part, this involves diagnosis and curative treatment of the patient's illness or disorder. In the holistic range, we find practitioners and patients in a cooperative relationship, leading to some optimal attainment of physical as well as mental health and well being. It may or may not involve drug and/or surgical treatment, but in large part, it places prevention on an equal footing with curative treatment. It also focuses on education and responsibility among patients to achieve health balance and well being. Care and caregiving occur in a variety of settings, including hospitals, physician offices, clinics, workplaces, schools, homes, and village settings. Some researchers observe the disciplinary and health policy changes that underlie care and caregiving. Geography tends to focus on the places and spaces of care and how these are used and understood. An examination of the experiences of patients and practitioners alike are part of the study of medical care.

Professional health systems originated in the ancient Middle Eastern world. Ayurvedic medicine, for instance, can be traced back to the migration of Aryans into the Indus Valley around 2000 BC. Today, we refer to Ayurvedic and comparable medical practices as 'traditional', and biomedicine as 'modern'. Biomedicine itself arose out of ancient Greek medical practices and advanced rapidly with the development of the scientific method. Nineteenth century advances in bacteriology, along with the advent of germ theory, elevated the status of biomedicine. Several so called traditional systems still exist in various forms and under a range of names in both the developing and the developed world. We refer to the study of these systems as 'ethnomedicine', but the more inclusive term 'alternative medicine' is widely used today, and usually refers to therapeutic practices that are not part of the conventional biomedical school curriculum. Alternative therapies include, but are not limited to, disciplines such as folk medicine, herbal medicine, homeopathy, faith healing, new age healing, chiropractic, acupuncture, and naturopathy.

Healthcare delivery involves or intersects with a large part of human culture and the environment. Healthcare geography is concerned with: (1) how places differ in terms of the needs and demands for healthcare, (2) cultural, political, and economic circumstances that affect how much care is actually needed and used, (3) inequities



**Figure 2** The Bronx, New York: (a) annual number of drug-related deaths, by quintiles; (b) HIV deaths per 100 000 population, cumulative to 1988. Adapted from Wallace, R. and Fullilove, M. T. (1991). AIDS deaths in the Bronx 1983-88: Spatiotemporal analysis from a sociogeographic perspective. *Environment and Planning A* 23, 1701-1723.

in the provision of care, and (4) methods and models that address spatial inequities and offer spatial solutions. A more recent interest in place involves the features of place that make them beneficial to health. These features can refer to environmental quality, such as clean air, mineral water, or magnificent topography. Or, they may

rest on the qualities of structures, such as cathedrals and temples. Such places gain wide reputations for providing a perceived improvement in one's well being – a socially constructed characteristic.

Medical geography has paid attention to the socio-political aspects of healthcare. The historical accounts of

national medical systems are punctuated with their legal and policy characteristics. Gatrell, for example, contrasts the collectivist ideology of Britain's National Health Service to the anti collectivist ideology of the US medical system, and Christopher Smith writes comprehensively about the privatization of the Chinese medical system that replaced a collectivist medical organization when that nation modernized its political and economic systems. We are reminded almost daily that medical care practitioners and facilities are not always successful in healing patients – antibiotics, which are prescribed to cure, can be dangerous in certain circumstances; multi national pharmaceutical conglomerates appear to foster public dependence on their products, which are some times made available without adequate testing; and hospitals have been known to produce virulent infections in otherwise healthy patients. These are examples of 'iatrogenesis'.

Medical geography's interest in health services restructuring illustrates the multidisciplinary approach of health/medical care delivery. The various branches of public health, especially health administration and education, are involved in the study of medical care, and the contributions from the social and behavioral sciences (anthropology, sociology, economics, history, political science, and psychology) are obvious and well known. Restructuring is usually a response to some perceived flaw in the present delivery of care. Market forces that affect the delivery of health/medical care are significantly changing the financial base and functional role of public health departments, hospitals, and other medical service organizations.

The concept of inequality reverberates through the health services literature. Meade and Earickson, Curtis, and others discuss at great length the equality of distribution within predefined geographic spaces and inequity. Healthcare resource distribution has been studied at scales ranging from the nation to the neighborhood. Tools such as the location quotient, Gini index, and physician population ratio enable us to measure crude inequities at most scales. A recent statistical approach called multilevel modeling now enables simultaneous statistical comparison of variables between different geographic scales. The question of what is equitable in the availability of healthcare cannot be answered in simplistic terms because, among other things, there is considerable variation in demand for service and need for service, and variation in access to service ranges from mass exclusion to universal provision, depending on what kind of care is at issue, and the quality of care being provided.

Medical geographic research includes an impressive array of studies that address patient access to health/medical care. Accessibility refers to the extent to which people can easily obtain health services when needed. It

may be examined from the economic or political view point, which usually highlights healthcare equity, or from the geographic viewpoint, which deals with the location of service facilities. Facilities are conventionally separated into different levels of healthcare provision, usually into three categories: (1) primary care, provided in the home, a physician office, clinic, or health center; (2) secondary care, provided in a hospital setting, where patients are admitted for treatment that goes beyond what is available in a primary care setting; and (3) tertiary care, in which specialized care is dispensed that may not be available in either categories 1, or 2. Examples include facilities that specialize in diseases like cancer or Alzheimer's. Medical/healthcare accessibility varies enormously between developed and developing countries.

Underlying the problems of inequitable or inadequate health service provision in modern society means going beyond the economics and politics of medical resources, need, and demand. Health and society are interconnected, and the basic determinants of health have far more to do with social class, family and peer values, education, risk taking, and environmental hazards than with access to practitioners and their technology. Health is governed by ubiquitous forces we may not be prepared to change: food production and eating patterns; social uses of alcohol, tobacco, and other substances; dependence on automobiles; sedentary lifestyle; and so on. Thus, modern biomedical care may be virtually irrelevant to how we should deliver adequate and equitable care at a cost that society can reasonably bear.

### **Future Directions and Issues in Medical/Health Geography**

Medical geography is a dynamic field of study. From the early narrow positivist human ecological construction of illness and treatment to the latest alternative theoretical and methodological approaches, it is clear that geographers in this specialty must remain involved in such up to date issues as how medical systems and practice change over time and space and how the integration of traditional and modern medicine might be achieved to improve health for all. Medical geography will increasingly continue to overlap with epidemiology and other social and behavioral science disciplines' interests in health. GIS, for instance, has already become a valuable tool in health and healthcare research, regardless of its disciplinary home. In another example, a book of readings on globalization and health, edited by ecological anthropologist Greg Guest, offers important insights to medical and health geographers – insights that were virtually unheard of a half century ago.

In its infancy, medical geography tended to focus heavily on infectious disease. With developments in

medicine and biology, that focus diffused into lifestyle diseases and disorders. More recently, studies of degenerative diseases and unhealthy behavior have surfaced. In the future, we will see increased attention being paid to the health effects of globalization. As Guest, and others point out, natural resources are being exploited at an alarming and unsustainable rate. At the same time, chemical waste products from energy production and manufacturing are altering biological ecosystems worldwide. Societies worldwide are feeling the effects of globalization, where events and actions in one world region can no longer be considered in isolation. People in North America share air and water through global circulation patterns with people in Europe and Asia. Changes in atmospheric chemistry and planetary physics are affecting biological and social systems, with the combined changes having direct and indirect impacts on human health and well being. Since the latter half of the twentieth century, there is an inexorable aging of the world's population, particularly in developed nations. Echoing the writings of postmodern health geographers, which reflects the interests of cultural geography and draws on social theory, we note an emerging literature that articulates the dynamics between older people and the places in which they live and are cared for. The health geography of the future will increasingly investigate these systems, and the reactive behaviors of people and societies worldwide.

Until the 1980s, quantitative studies of disease patterns tended to focus almost exclusively on aggregate spatial patterns. Studies of infectious disease, exemplified by the work of May and Hunter, come readily to mind. More recently, attention has switched to quantitative analyses that are based on individual events, and the spatial arrangement of point patterns that represent collections of individuals with disease. This methodological approach, however, pays little attention to what the points on the map really represent. Map symbols are not inanimate objects; they represent real people. Spatial arrangements of people and their ecosystems have shed considerable light on disease causation, but positivist approaches that made up so much of medical geography in the past give scant attention to the feelings, experiences, beliefs, and attitudes that individual humans have. The medical/health geography of the future will feature human expressions of their health status and needs (through qualitative methodologies) rather than mere collections of map symbols and statistical analyses that accompany them. The same may be said about research involving healthcare and health facilities.

Finally, health geographers should become more involved with political activism on behalf of planet Earth and the health of its citizenry. For example, the dominance of the petroleum industry worldwide has created a crisis within the US economy and adversely affected the

financial sector and industrial and agricultural sectors in most nations. Recreating a political economic system that promotes development that sustains human health will require creating new rules, alternative sources of wealth, and transformed institutions. The current international economic system arguably does not support the sustainable use of global common resources, and health for all. The current political framework favors transnational corporations and current trade agreements, at the expense of environmental stability and global public health. Taking a stand for the latter may entail career risks, but the weight of health geographers' considerable collective education can benefit citizens worldwide by helping to achieve a goal of better health for all in a sustainable world.

*See also:* Ageing and Health; Care/Caregiving; Chronic Disease; Communicable Diseases, Globalization of; Complementary and Alternative Medicine; Disability and Chronic Illness; Disease Diffusion; Environmental Health; Epidemiological Transition; Gender and Health; Health and Development; Health Geography; Health Inequalities; Health Services Restructuring; Health Systems and Health Services; Healthcare Accessibility; HIV/AIDS in Developed Countries; Housing, Neighborhoods and Health; Indigenous Health and Medicine; Mental Health; Social Capital, Place and Health; Therapeutic Landscapes; Voluntary Sector; Wellbeing.

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The encyclopedia of earth: Environmental health.

# Medieval Geography

K. D. Lilley, Queen's University Belfast, Belfast, UK

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Geographers have increasingly neglected their subject's medieval history, and so much of the material used in this article derives from beyond geography, from literary historians, historians of science and art, and philologists. Indeed, in these areas, 'medieval geography' has seen something of a renaissance, as evidenced both by recent editions of medieval geographical texts as well as critical studies of medieval geography and mapping. What follows draws upon what both geographers and non-geographers have written on geography's medieval history. The first half of the discussion is a historiographical exercise which is long overdue and serves to reveal how important medieval geography was to those geographers shaping the discipline's identity during the formative stages of its development as an academic subject in the early twentieth century. Following this, the second area of discussion is on geographical thought 'in' the Middle Ages, particularly: (1) the place of geography in medieval learning, (2) the sources and influences of geographical ideas in the Latin West, and (3) geographical works of the Middle Ages and their visual and textual representation of terrestrial space. While the temporal and geographical focus is on Europe from the fifth through to the fifteenth centuries CE, clearly within this context geography and geographical knowledge of the Latin West also touches upon the Islamic, Byzantine, and Judaic worlds of this period.

## A Modern Historiography of Medieval Geography

In the UK, historical geographers who have worked on the medieval period have by and large taken an approach which looks at geographies of settlements, landscapes, and peoples with the aim of using historical evidence to reconstruct these past geographies. On the whole then, the main characteristic of more recent work by human geographers has been on geographies 'of' the Middle Ages rather than geographies 'in' the Middle Ages, whereas before World War II, Anglophone geographers whose interest was in the medieval past were concerned more with geography 'in' the Middle Ages. This section focuses on the latter.

The early twentieth century saw the publication of three lengthy studies on geography in the Middle Ages. The first of the three studies appeared at the turn of the twentieth century in three separate volumes by Raymond Beazley, then lecturer in the history of geography and

historical geography at the University of Oxford. Beazley's volumes went under the title *The Dawn of Modern Geography*, itself telling, for clearly he saw geography's medieval past as an integral part of 'modern geography', marking its 'dawn', its beginnings ('modern history' at Oxford also takes in the Middle Ages). The three volumes that Beazley wrote cover a wide period, from the early to the late Middle Ages, and his approach is to combine what would now be described as geographical knowledges of the period, as well as geography *per se*, encapsulated in the subtitle he chose, a 'History of medieval exploration and geographical science'. He saw them as "an attempt to open up comparatively fresh fields of historical and geographical inquiry" (1906: iii). At the time they were relatively well received. In the *American Historical Review*, Stevenson considered Beazley's third volume, which dealt with the period 1260–1420, to be a "truly excellent work." Beazley himself saw "the geographical progress of the Middle Ages" as "essentially connected with the extension of Europe and Christendom into its present dominion over the best and largest part of the earth," (1897: 1) and hence a justification of European and Christian dominance in his own imperial age. There were Victorian resonances in Beazley's account of "the medieval expansion of Europe," in "the wonderful diffusion of Christianity through missionary travel," and the "part taken by pilgrimage in exploration," for example, though he seems unaware of this as he remarks "we shall have especially to notice many ideas and circumstances somewhat strange to us of the present day."

The three volumes of the *Dawn of Modern Geography* are not easily summarized in a few lines, but in essence they deal with 'practical exploration' and 'geographical study' within the period of the Middle Ages, each volume dedicated to a particular era (CE 300–900, 900–1260, and 1260–1420). On the whole, his concern is with the former, with descriptions of travel and pilgrimage, exploration and Crusading, and commerce and missionaries, while on latter he notes that "there is in general during this time a lack of geographical enterprise or study for the sake of knowledge," (1897: 2), and tends to summarize it under what he calls 'geographical theory' for each of the three main periods he deals with, with some additional chapters on 'non Christian geography', principally that of Islamic scholars. In this 'geographical theory', Beazley describes the geographical content of works by the likes of neoplatonists such as Macrobius and Martianus

Capella, whom he calls ‘geographers’, noting their debts to ‘classical knowledge’ as well as Christian thinking, two hallmarks of early medieval science in general. This geographical theory covers geographical knowledge of the time, as understood by Beazley, gleaned by him from the early medieval accounts of what he terms ‘patristic geography’ and those later ‘scholastic’ and ‘schoolmen’ geographers, which included descriptions of the Earth, such as its shape and size, its content and character, both in textual accounts of ‘Earth knowledge’, in cosmography and natural philosophy, and in their associated imagery, in the form of maps. Under the heading of ‘Geographical theory’ Beazley thus combined both medieval geography *per se*, as it was represented in contemporary texts, as well as geographical knowledge more broadly defined. Beazley’s efforts were judged ‘most timely’ in Stevenson’s review of the work, and “without doubt the best that has yet appeared on the subject.” Beazley himself recognized the novelty of what he was doing when he admitted “that no attempt has yet been made to deal with this subject as a whole” (Beazley, 1897: ix). Certainly his efforts provided a basis for the two subsequent studies of medieval geography that appeared a few years later.

In his introduction to a later edition of J. K. Wright’s *Geographical Lore at the Time of the Crusades*, Clarence Glacken notes that “the emphasis of Beazley’s *Dawn of Medieval Geography* was ‘not on theory or concepts but on the history of medieval travel and exploration’” (Glacken, 1965: viii). He makes a case that Wright’s book “has a secure place in the history of geography and in the history of ideas” because “it is distinct from a history of exploration and a history of science, even though it possesses some characteristics of both” (Glacken, 1965: ix). By 1965, Wright was a well established figure of American geography, having been elected president of the Association of American Geographers in 1946 and whose ideas on “the study of the world as people conceive of and imagine it” – what he called ‘geosophy’ – were influential in what would become ‘humanistic geography’. Wright saw Beazley’s three volume study as “the most extensive and satisfactory work on medieval geography as a whole,” (Wright, 1925: 507) and yet in his preface notes “to the more theoretical aspects of geographical knowledge in this age he gives but meagre space.” When Wright wrote *Geographical Lore* he was doing so under the close influence of his dissertation supervisor, Charles Homer Haskins, the notable historian of medieval science, and it is, therefore, perhaps of no surprise that Wright’s focus is on the ‘time of the Crusades’, the twelfth and thirteenth centuries in particular, which also formed Haskins’ chief interest, as exemplified in his *Renaissance of the Twelfth Century* and *Studies in the History of Mediaeval Science*. Wright’s focus was different to Beazley’s not only in terms of his more restricted temporal coverage but also in the subject matter he aimed to

cover, “to illustrate and trace the origins of the most characteristic geographical ideas current in Western Europe at the height of the Middle Ages” (Wright, 1965: xvii). His approach in so doing is again broad, for “the history of geography” he notes “leads its students into many fields.”

The title Wright chose for his book was *Geographical Lore*, not knowledge, or theory, or science, which he recognized required some explanation. He saw it offering wider scope ‘than most definitions of geography’, covering “what was known, believed and felt about the origins, present condition, and distribution of the geographical elements of the earth,” such as “theories of the creation of the earth, of its size, shape and movements,” as well as “the various physiographic features,” and “theories of the regions of the earth’s surface” (Wright, 1925: 1–2). For this reason, he explains, “the geographical lore of the Middle Ages involves a wider range of subjects in space, as well as in time, than is now included in geography,” a mixture of “cosmology, astronomy, astrology [and] theology” (Wright, 1925: 2). Again the names and works he cites are familiar ones, those discussed earlier by Beazley, those from the ‘ancient world’, from Western Christendom, and ‘the Moslems’ in the early Middle Ages, who are seen to have contributed ‘geographical ideas’ circulating later in the twelfth and thirteenth centuries. In the later parts of the book, Wright then takes a novel approach. Rather than “to try to arrange the material chronologically,” he adopts “a topical and regional arrangement,” and covers cosmogony and cosmology, the atmosphere, the waters, the lands, ‘astronomical geography’, cartography, and regional geography, as if trying to replicate how such subjects were treated at the time in works such as those he cites: borrowing therefore a “medieval scheme of learning” (Wright, 1925: 4). His emphasis though is on knitting together various sources to ‘illustrate’ geographical lore, and so create his own medieval geography.

Wright’s medieval geography, then, is a description of the Earth as seen through the eyes of medieval authors, rather than an analysis of the ‘idea’ of geography that was present in works of the time. Hence, *Geographical Lore* is more concerned with what the state of geographical knowledge was in the Latin West at the time of the Crusades, and the sources of that knowledge and what it encompassed, and less about how those who wrote their accounts perceived geography to be. His justification for this, he says, is that “geography in the Middle Ages did not form a distinct and separate science,” and that “the student who learned anything of geography learned it incidentally to the study of other subjects,” tangentially as it were, for “even the word ‘geography’ was scarcely ever used” (Wright, 1925: 127). This incidental geography, gained by medieval students in their learning of various aspects of philosophy and theology, is how Wright presents his own medieval geography to modern

students. This ‘classification of knowledge’ approach would have been familiar to medieval students, and his use of it is a sign perhaps of his own sensitivity to the subject matter and a reflection of his particular geosophy of the Middle Ages.

The last of the three principal books of the early twentieth century on medieval geography is Kimble’s *Geography of the Middle Ages*, a work that tries to compress into one single volume the wide temporal range of Beazley’s three volumes, and Wright’s detailed subject coverage – an ambitious project. At the time reviewers saw it in this light, as a “little volume” that “does not break much new ground” but which “should be of particular value to those who wish to obtain a comprehensive yet concise and well balanced concept of medieval geography as a whole.” What this ‘medieval geography’ comprised for Kimble is not explicitly discussed, except in his preface where he states that his book: “essays to follow the development of earth knowledge as it was affected, on the one hand, by the prevailing ideologies, and on the other by the results of human enterprise,” by which he means the influences of classical, Christian, and Islamic sources of ‘geography’, and the ‘expanding horizons’ of the medieval West through travel to and within Africa and Asia.

Kimble’s aim was to contribute to “the history of geographical thought,” (Kimble, 1938: v) as “the contribution of the Middle Ages to the advancement of geographical studies has still to be adequately appreciated.” What his treatment amounts to is a description of ‘world knowledge’ in the Middle Ages, as told through contemporary sources, including again the familiar neoplatonic canons of the early Middle Ages cited by both Wright and Beazley before him, together with extracts from later works, what he calls ‘geographical studies’, meaning works such as John of Sacrobosco’s *Treatise on the Sphere* and the *Speculum Naturale* of Vincent of Beauvais, in which accounts of the Earth and its size and origins are given. Kimble’s ‘topical’ rather than chronological structure troubled Lynn Thorndike (an eminent historian of science and magic) in his review of the work, but not as much as Kimble’s use of sources and “general background of intellectual history against which he sets his account of geographical thought and knowledge.” Thorndike seems to be saying Kimble is out of his depth, for his book “has nothing to offer the reader which may not be found elsewhere” and had “not done full justice to the intellectual life of the Middle Ages.” In his view, Kimble’s *Geography of the Middle Ages* was found wanting. Perhaps this explains his subsequent move away from medieval geography, toward a newer emergent ‘regional geography’, perhaps fostered also by his physical move from geography at the University of Reading, where he had prepared his book, to a new academic position at McGill University in Canada where he was appointed

their first professor of geography, in 1944, having received favorable support from Carl Sauer.

Kimble’s move away from the medieval period was matched also by both Wright and Beazley, neither of whom pursued the subject of medieval geographies further into their careers. Beazley became professor of history at the University of Birmingham in 1909 and subsequently worked on the nineteenth century European history, while Wright’s interests moved more toward his pursuit of ‘geosophy’. Curiously, this shift by medieval historical geographers, from an interest early in their careers in the Middle Ages to more recent periods, and to more conceptual matters, is a recurring feature of the post war period too. The pre war studies of medieval geography by Beazley, Wright, and Kimble have not carried through, however, into their successors’ work on the Middle Ages. Instead, medieval geography in the pre war sense faded from the discipline as those who had championed its cause moved on to other things in the pursuit of their academic careers. Looking across their work, there are characteristics in this pre war medieval geography that are broadly similar, and this perhaps in part accounts for its passing; a repetition of a story already told, perhaps told better by those doing more detailed work elsewhere in the history of science and religion (including Haskins and Thorndike), and seemingly made superfluous by the ostensibly all encompassing treatments of Wright and Beazley. Durand’s review of Kimble’s *Geography in the Middle Ages* concludes that “it is apparent that the specialist is occasionally in danger of finding himself [*sic*] in the position of a mere amateur,” and “pending a reliable synthesis it is perhaps wise to give up the attempt to establish generalisations in these matters”: enough of a disincentive to put off any young budding historian of geography who might be tempted to venture in the footsteps of Beazley, Wright, and Kimble into the Middle Ages.

Geography’s medieval history was being written about in the early twentieth century, because it was seen to be very much an important part of the ‘geographical tradition’. It was helping to form the discipline’s own identity as geography was becoming a defined academic field, and in this sense it deserves to be more thoroughly studied in its own right by those with an interest in geography’s recent history. The ‘medieval geography’ that was being presented is a mixture of what today might be called ‘geographical knowledge’ of the Middle Ages, whether from travel accounts or cosmographical works, as well as more narrowly defined ‘geography *per se*’, at least in discussions by Beazley on geographical theory and Wright on geographical lore, but always the two strands are muddled. Kimble’s work was described by Durand as “an essay on the *Kulturgeschichte* of medieval geography,” but the question of what geography meant to writers in the Middle Ages is not fully addressed. Wright’s observation



that the word ‘geography’ was scarcely ever used in the Middle Ages and is mentioned only in passing without consideration why this might be the case, or what its significance might be in trying to write of geography’s medieval history and medieval geography.

It seems then that rather than presenting geography’s medieval history, the three key studies on medieval geography of the pre war era are essentially histories of what geographical knowledge existed in the Middle Ages. While this interest has continued among historical geographers in the field of cartographic history, for example, through the work of David Woodward on medieval maps and mapping, it has fallen increasingly to nongeographers to write geography’s medieval history, as geographers prefer to turn their attention to later periods. Indeed, this eliding of the Middle Ages is occurring in historical geography more generally. Philologists and historians, rather than geographers, are now picking up where Kimble, Wright, and Beazley left off in the pre World War II era. Perhaps one of the reasons why they have not been taken up and built upon since then is because they are seen to have already covered the ground sufficiently, though the fact that these works are rarely cited today, and their contents generally not mentioned in recent historiographies of geography, would suggest instead that they are simply forgotten contributions.

### Geographical Thought in the Middle Ages

The modern historiography of medieval geography reveals the problems facing those writing about geographical thought in the Middle Ages. It is always going to be easier to begin geography’s intellectual history in the modern era when the word ‘geography’ gained wider currency in written texts and circulation within and beyond Europe. What follows is an attempt to summarize the nature of geography in medieval learning, rather than range widely across what ‘geographical knowledge’ existed in the Middle Ages. The latter would result in the kind of exercise that Wright engaged in, with consideration given to what people in medieval Europe thought of mountain formation or how earthquakes occurred, for example, regardless whether such phenomena were then understood or recognized as belonging to ‘geography’. Similarly with the medieval traveler and pilgrim accounts that Beazley wrote of. The alternative is to adopt a narrower perspective, to take a bookish approach that focuses more on the sources used in the Middle Ages to learn about the physical world, particularly its form and content. This is the aim here, to review briefly, through recent critical studies, those contemporary works that provided the Latin West with geographical thought. The connection that existed between scholarly accounts of the world and the geographical imaginations of the

inhabitants of medieval Europe is an exercise that would reveal much about both, but it is beyond the scope of this article. Instead, what follows gives a flavor of geographical thought in the Middle Ages, highlighting first the issues of placing geography as an intellectual activity, second, identifying those sources that were especially influential during the Middle Ages as geographical accounts, and third, the stylistic characteristics of geographical works written and consumed by medieval Europe’s intellectuals.

### The Place of Geography in Medieval Learning

The word ‘geography’ is of Greek derivation, not Latin. Yet the language of learning in medieval Europe was predominantly Latin, so as a word it rarely appeared on the written page. To take a strictly etymological and textual approach to locate the subject of ‘geography’ in the Middle Ages could prove a long and disheartening search therefore, though not entirely fruitless. Lozovsky has identified cases in some Carolingian manuscripts and glosses where a Latinized term for ‘geography’ does appear. More commonly instead, the Latin phrase, *orbis descriptio*, the description of the Earth, is how contemporaries in the Latin West translated ‘geography’. With this in mind and established, Lozovsky trawled the canonical works of encyclopedists and cosmographers of the early Middle Ages to tease out their conceptions of what *orbis descriptio* encompassed. She thus notes that sometimes, “in encyclopaedias and tracts titled *On the Nature of Things*, it constituted part of the knowledge about the created world, belonging to *physica*,” while in other cases it was placed “in the quadrivium as part of geometry,” and so “tracts specially devoted to geography, often without mentioning this directly, were perceived as treating part of the knowledge about the created world” (Lozovsky, 2000: 33).

This ambivalent placing of geography within medieval learning did not mean that there was a lack of coherence and continuity in *orbis descriptio* accounts. Far from it, for as Lozovsky notes, “though geographical knowledge lacked a definition or a disciplinary status and functioned in various contexts, it still possessed a certain self sufficiency as a subject; special ‘geographical’ texts testify to this” (Lozovsky, 2000: 3); and hence, she argues, “without trying to give a definition of geography in the early Middle Ages, we should follow the ideas implicit in geographical descriptions of the time, particularly in self sufficient ones, such as geographical tracts or chapters in encyclopaedias,” in those texts that “include the description of the earth as a whole and of its various regions.” The subject matter of this ‘geography’ was clear enough to those who wrote about it at the time, whether it featured in accounts of creation, in exegesis, in geometry, or in history. There was such a thing then as

‘geography *per se*’ in medieval thought, “sufficient enough to become a subject of special treatises” (Lozovsky, 2000: 28–34). If there was a common theme to this *orbis descriptio* of the early Middle Ages it was ‘on the shape and size of the Earth’, and ‘place descriptions’ (topography and chorography), recurring issues that required exposition and illustration often with the use of diagrams and maps.

### Influences and Sources of Geographical Thought in the Latin West

Broadly, there were three main sources of influence on geographical thought in the Latin West, from the classical and late Antique world, from Biblical and Judaic traditions, and from Islamic scholarship. Throughout the Middle Ages these molded what was known and understood of the wider world and its geographical content and makeup, and also had a bearing on how geography was written about and represented visually in medieval sources. Of the classical sources, Ptolemy’s *Geography* is usually singled out by geography’s historians as one ‘lost’ to medieval scholarship, only to be ‘rediscovered’ later in the fifteenth century, gaining further in popularity by being printed in the sixteenth century. But thanks to copies made by Arabic scholars, aspects of Ptolemy’s work were known in the medieval West, such as his system of the universe and his tables of coordinates, while in Constantinople, from 1300, his *Geography* was being studied in its own right. The Ptolemaic legacies evident in the Middle Ages exemplify the ongoing contact between cultures and traditions that placed the Latin West within wider circuits of geographical knowledge, fostered through certain centers of exchange and learning such as Toledo, Cordoba, Sicily, and Ravenna where Islamic, Christian, and Jewish texts were translated and reworked, providing a link between ‘East’ and ‘West’. They provided a route for classical Greek texts on cosmography, geometry, and astronomy to enter the realm of medieval learning, including Platonic and Aristotelian works. Of course, Latin texts inherited from Roman sources were more readily available and thus more widely consumed around Christian Europe. Key influences, for example, were the Latin encyclopedic texts, such as Seneca’s *Natural Questions* and Pliny’s *Natural History*, the latter in particular including books on ‘regional geography’ and which (via a later derivative work by Solinus) were especially influential in the Latin West.

The Latin encyclopedic tradition formed the foundation of geographical thought through the early Middle Ages. Here neoplatonist accounts of the world were based upon Plato’s *Timaeus* which was translated into Latin by Calcidius in the fourth century, and whose commentary and translation provided later scholars with an important source of Greek cosmology. As well as Calcidius, a

Platonic conception of the world was also conveyed in other key Latin texts of the late Antique period, notably Macrobius’ *Commentary on Cicero’s Dream of Scipio* and Martianus Capella’s *Marriage of Philology and Mercury*, both of whom were writing in the fifth century and describing the Earth and the heavens in ways that did not refute Christian doctrine. This same Latin encyclopedic tradition continued on into the early Middle Ages through the work of Boethius, Cassiodorus, and Isidore of Seville, each becoming key sources of geographical information and ideas, and providing a basis for later descriptions of the Earth (see below). In their treatment of geography there were continuities between the Latin encyclopedists because of their use of common earlier classical sources. For example, the influential section in Macrobius’ *Commentary*, ‘on the inhabited portions on Earth’, derived from earlier neoplatonic works (particularly Posidonius and Porphyry), while Martianus Capella’s discussion of ‘geometry’ was largely a treatment of geographical material borrowed from Solinus and Pliny, describing the Earth and the features of its habitable parts. Their work was in turn used as a basis for later, medieval geographical accounts. Thus, with its books on the seven liberal arts, the *Marriage of Philology and Mercury* “became the foundation of medieval education,” (Stahl, 1962: 172) while an allegorical style made it appealing to later medieval neoplatonists. Additionally, “as an authority on geography,” Stahl notes, “Macrobius was extremely influential in the Middle Ages” (1952, 20). For example, “the maps that accompanied manuscripts of his *Commentary* became models for one of the commonest types of medieval *mappae mundi*, the so called ‘zone maps’, ” (Stahl, 1952: 200–216) while the views on the extent of the Earth’s habitations that Boethius later set out in his *Consolation of Philosophy* repeated those of Macrobius (though he attributes them to Ptolemy). As their view of the world was repeated and embedded in geographical accounts, both in textual and visual forms, such geographical information derived from Martianus and Macrobius was continually reinforced. Thus, the form and content of the world as shown in later medieval ‘world maps’, such as the Hereford *mappamundi* with its depiction of the ‘monstrous traits of more distant folk’, was attributed to the influence of these encyclopedists and their borrowings from classical sources.

Latin Christian works of the late Antique period were also important and influential sources of geographical material in the Middle Ages, and given particular weight because of their patristic authority. Augustine, Orosius, and Isidore of Seville, who all were highly influential in early Christian theology, included in their work descriptions of the Earth, and, importantly, related these to their faith, so providing a doctrinal basis for studying the Earth and its content. Geography had particular theological resonance in Christian belief, not just because of

the lands, places, and peoples mentioned in scripture and their relation to the life of Jesus, but because knowing about the world was also to know God. The Earth was His creation after all. This created physical world was understood to be like a book, and it was through the work of the natural philosophers who studied it that then allowed medieval Christians to see and understand these divine realities. Lozovsky, too, stresses the important exegetical function of geography for Christians in the early Middle Ages, that images of the Earth were an aid to contemplation, particularly on Biblical events associated with particular regions or localities, and also on the “the question whether Paradise should be understood in the literal sense (as a place on earth) or in the allegorical sense.” Such matters concerned Augustine, for example, who wrote of it in his study of Genesis, and occupied Isidore in his *Etymologies*. Their discussions sought to establish the location of Paradise geographically, and thus geography had significance in dealing with fundamental facets of Christian doctrine. It also featured in historical accounts of the late Antique and early medieval period.

These same Christian authorities wrote accounts of the perceived turbulent times they were living in during the fifth, sixth, and seventh centuries, particularly the ‘Sack of Rome’ to the Goths in 410 and the threat that this was seen to pose to Christianity and Christians. It was the stimulus for Augustine’s *City of God* and his arguments ‘against the Pagans’, as well as other works on the Goths by Cassiodorus, Jordanes, Isidore of Seville, and Orosius.

The ‘histories’ written by these Christian authorities were prefaced by geographical descriptions that drew upon classical sources of geography, such as Pliny, Ptolemy, Strabo, and Solinus. Of them, Orosius’ *Seven Books of History against the Pagans* came first, written as a response to Augustine’s *City of God*, and as Lozovsky remarks, provided “a long and fairly detailed geographical survey of the known world” which itself subsequently “became a school text and an authority for later geographical writings” by being copied separately (Lozovsky, 2000: 71, 78). Jordanes’ *Gothic History* was written in the 550s with an account of Scandza, an island that was ‘central to his story as the place of the Goth’s origin’, about which he drew upon Ptolemy and provided a geographical description that also used Orosius, and similarly Jordanes’ *History* provided an important source of classical material for later authors. One of the more influential of these was Isidore of Seville’s *Etymologies* (see below). Following in the encyclopedic tradition as already noted but at the same time deriving “his geographical information from Orosius, Pliny, and Solinus,” Isidore’s *Etymologies* was a “synthesis of Christian and classical knowledge” that “proved to be very influential in the Middle Ages” as Lozovsky notes, by being “widely copied and studied at schools” throughout Europe (Lozovsky, 2000: 107). These Christian historiographies of late Antiquity and the early

Middle Ages were thus important not only for the way they positioned geography as key part of historical writing, but also for what knowledge they passed on ‘as conduits’ to later Christian authorities of the Middle Ages, such as Bede, from earlier and often lost geographies.

In the so called Dark Ages of European history, in the post Roman world, geography formed an important aspect of Christian thinking as authorities looked to earlier classical sources for information about the world around them. Lozovsky points out that this “formal geographical knowledge in the early Middle Ages followed its own principles, very different from those that people used in their everyday life” (Lozovsky, 2000: 153). It seems the reason why later Christian authors of the Middle Ages continued to draw upon classical sources, rather than looking to contemporary accounts of the world, was because of their perceived authority. The names of Ptolemy, Pliny, Solinus, Macrobius, and Martianus were as much a foundation of Christian learning and knowledge as Augustine, Orosius, and Jordanes (though concerning the formal hierarchy of learned authority in the Middle Ages, Augustine and Orosius would be regarded much higher than the first four, who were pagan writers). Through them a consensus of geographical information existed about the created world which led medieval Christians toward a better understanding of the Creator. This is the conclusion also reached by Merrills on the survival of earlier geographies through the historical writing of patristic authorities, though he also recognizes that “each of these geographical compositions was shaped indelibly by the historical works in which they appeared” (Merrills, 2005: 311), so that rather than simply ossifying earlier geographical thought these later sources reworked it to suit the circumstances of their authors.

The geographical sources that had particular influence throughout the Middle Ages were attractive to later scholars because of their Roman and Christian authority, but this does not mean that other ideas and sources were ignored. While Islamic texts on geography such as those by Al Mas’ūdī and Abū Zayd al Balkhī had no circulation in Latin Christian Europe, it was through Arabic contacts with Christian scholars that texts based on Ptolemy’s *Geography* were made available later in the Middle Ages, especially from the twelfth century onward, as well as related studies of astronomy and geometry, again through Arabic versions of Greek texts. Though geography’s historians have long recognized ‘the contribution of the Moslems’, particularly in making available Aristotle’s works, the wider influence that Arabic sources had on geographical thought in Europe during the later Middle Ages is only now getting the serious attention it deserves, notably in the context of cartography. Sources of medieval geographical thought are due a careful reappraisal which has begun already for the period of the

early Middle Ages, thanks to the efforts of Lozovsky and Merrills. While reverence was certainly given to the earlier authorities of Antiquity and the high Middle Ages, the period from the ninth to the fourteenth centuries was also one of great intellectual and scholarly enterprise which produced its own works on geography, but which only now are becoming the focus for critical analysis. With further such studies, it may soon be possible to examine more thoroughly the sources and influences of geographical thought in the Latin West, but until then the tendency will be to place emphasis on those canonical geographies that were considered so authoritative in the Middle Ages.

### Geographical Works and Their Medieval Circulation

In writing of geography's medieval history, there is a strong tendency among geographers and historians to separate text and maps. Yet, as Edson has pointed out, a more holistic approach is preferable, where medieval mapping and writing are seen as one, as indeed they were for those originally engaged in *orbis descriptio*. Geographical works in the Middle Ages were written with accompanying visual depictions so it seems artificial therefore to divorce geographical images from their texts. Sometimes these depictions appeared as marginalia, to illustrate a particular point, as Lozovsky shows in the case of one ninth century commentary on Martianus Capella's *Marriage of Philology and Mercury* where the manuscript has two figures drawn in the margins to indicate the shape of the Earth. In other cases a depiction forms part of the textual description, as in another Martianus commentary of tenth or eleventh century date, again identified by Lozovsky, which has a 'map' of the world with the three continents of Asia, Europe, and Africa drawn to a T O configuration placed at the point where these are discussed in the text. Of course, some medieval world maps existed independently from (known) accompanying texts – the Hereford *mappamundi* being an example – though even they were understood as 'texts', albeit in visual graphic form. Whereas maps have been pulled out from texts (sometimes literally) and studied in their own right for the 'geography' they contain, the meaningful place of these visual geographies is alongside the texts they were produced for, in context, as both were a means of describing terrestrial space in geographical works. The connections between visual and textual geographies then begin to reveal some interesting traits, as Lavezzo has recently demonstrated in her study of English imaginings of Britain's place at the edge of the wider world.

What follows here then is a brief consideration of the visual and textual content of geographical works, first looking at academic descriptions of the Earth that

primarily belonged to scholarly study, and second accounts of topography and chorography that drew upon such academic texts. Both reveal the integral nature of visual and textual geographies in the Middle Ages, a defining feature perhaps, while at the same time illustrating the symbiosis between geographical works which arose through the circulation of their normalized accounts of the world.

### Visualizing and Textualizing Terrestrial Space 1: Academic Descriptions of the Earth

Of the foundational works that provided scholars and intellectuals of the Middle Ages with descriptions of the Earth (*orbis descriptio*), it is those of the encyclopedic tradition that arguably saw the most use, influence, and circulation in the Latin West. Of them, on the basis of surviving manuscripts and copies, Macrobius and Martianus were undoubtedly widely consulted in centers of learning, in the cathedral schools and universities around Europe. In the same genre and also important was Isidore of Seville's *Etymologies*.

Isidore wrote the *Etymologies* between c. CE 615 and 630s, toward the end of his life while he was Bishop of Seville, and as its title suggests it is a compilation of many different subjects, an etymological explanation of them and particular terms brought together in 20 books covering in encyclopedic form "the accumulated learning of the classical world," including geographical material. With nearly a thousand manuscript copies of it surviving, the *Etymologies* was very widely circulated across medieval Europe and was soon known beyond Isidore's own Visigothic Spain, in Gaul, and Ireland, for example. Lozovsky notes the influence of the *Etymologies* had not just as knowledge of the created Earth and its 'combination of Christian and classical pictures of the world', but in its treatment of this material. It therefore provides a useful indication of the nature and content of geography subject matter that was obtainable and being consumed during the Middle Ages.

Although the term 'geography' does not appear anywhere in the *Etymologies*, three of its books cover geographical topics, Books XIII on 'The cosmos and its parts', Book XIV on 'The earth and its parts', and Book XV on 'Buildings and fields'. These derive mainly from Isidore's use of Pliny, Martianus, Solinus, and Orosius, and form part of a larger group within the work that, based on their content, might be called *On the Nature of Things*. This is a common theme in the Middle Ages, in those encyclopedic works that likewise dealt with the physical world such as Bartholomaeus Anglicus' *The Properties of Things* (see below).

What did Isidore's geographical material include? 'On the cosmos and its parts' begins with a description of the world as a creation by God and proceeds to describe the sky, including meteorological phenomenon such as

lightening, thunder, rainbows, and clouds, and the ‘different kinds of water’, such as the sea, rivers, lakes, and pools. Within his treatment and categorizing of these subjects there is a certain spatial logic. He starts with the character of the world as a whole, and its composition from atoms and elements, and then proceeds with what is above the Earth, in the sky and air, and then what is on the Earth, its waters. The terrestrial is further continued in the following book on ‘The earth and its parts’. This begins by describing the Earth (*‘de terrā’*), “placed in the central region of the world, standing fast in the centre equidistant from all other parts of the sky,” Isidore explaining that it is a ‘globe’ (*orbis*) because of the roundness of its shape, and that it ‘is divided into three parts’ made up of the three continents of Asia, Europe, and Africa, which he proceeds to examine consecutively. For each continent he gives an account of their lands, their rivers, and their cities, as well as the derivation of their names. Thus for Gaul, he notes it “is so called from the whiteness of its people,” and that “the mountains and the chilliness of the sky keep the heat of the sun from this region, so that the whiteness of bodies does not darken in colour,” hence giving readers not only a description of land and people but also an explanation. Having dealt with the three continents, Isidore turns to ‘islands’, where he begins with a description of Britain, “an island in the Ocean, cut off from the whole globe by the intervening sea,” before considering other islands elsewhere, such as Cadiz and those of the Mediterranean, which he was surely more familiar with. After the islands come descriptions of features of the Earth, ‘promontories’, ‘mountains and other terms for landforms’, including volcanoes and mountain ranges, as well as ‘lower regions’, such as caves and ‘fumeroles’.

Through his account of the Earth and its parts, Isidore works from the large scale down to the small. He starts with a description of the Earth as a whole, then its constituent parts, the three continents, followed by lesser geographical units, the islands. In Book XIII, having described the three continents, Isidore adds a short explanation of this hierarchy when he differentiates between the scale of the Earth, its lands, and the provinces as “parts of those, as Phygria is part of Asia, Raetia part of Gaul, and Baetica part of Spain.” There is, then, a hierarchical treatment in his spatial order of things. This is also evident in Book XIV, ‘On buildings and fields’, which he starts with cities, then turns to ‘famous towns’, then types of buildings and then ‘parts of buildings’, moving also from the urban to the rural. Isidore’s image of the world is thus an ordered and orderly one. Besides in the respective contents of Books XII, XIII, and XIV, this is evident through the sequencing of the three books themselves, moving from the cosmos, to the Earth, to its buildings and fields. The spatial order of the created world is translated by Isidore into a textual order on the

written page. His books, like the Earth and its parts, thus follow a hierarchical placing of subjects. From the structure and content of the geographical material in the *Etymologies* we gain not only insight into what Isidore considered important and relevant information about the physical and human world around him, but also gain a sense of his own spatial thinking, evident in how he seeks to order subjects according to differing spatial scales and hierarchies, from large to small, from high to low.

Isidore’s *imago mundi* was projected throughout the Latin West by being used in later textual geographies as well as visualized through *mappaemundi*. Isidore had himself intended to make use of a figure in Book III to illustrate ‘the shape of the world’, pointing out “the shape of the world is shown in this way.” This he dealt with as part of astronomy, preempting his book on the cosmos and its parts that came later. Similarly, his brief treatment of geometry comes earlier, included under mathematics (also in Book III) where he relates it to ‘measuring the Earth’, from whence ‘geometry takes its name’. Lozovsky notes this division of Isidore’s geographical material and suggests, “as a result, there is no unified image of geographical space in Isidore’s *Etymologies*.” Yet it may be suggested while his treatment of Earth description forms a series of discrete parts, they add up to an overall unifying image of the physical and human world, one that was repeated in subsequent textual and visual descriptions of terrestrial space. It was copied ‘word for word’ by Hrabanus Maurus in the ninth century in his *De naturis rerum*, for example, and was generally popular among Irish and English monastic encyclopaedists of the eighth and ninth centuries. Later, too, Isidorian geography was drawn upon by the author of *De imagine mundi*, of around 1100, attributed to Honorius Augustodunensis, one later manuscript of which includes a ‘world map with more than 200 place names and legends’. It also was the basis for the early thirteenth century *De proprietatibus rerum* by Bartholomaeus Anglicus, itself a popular source, drawn upon, for example, by Ranulf Higden in his *Polychronicon* of the mid fourteenth century. These textual works themselves often included in them *mappaemundi*, further repeating and reinforcing the textual geographies of Isidore, while medieval manuscript copies of Isidore’s own work showed in map form the parts of the Earth he described in the *Etymologies*. As these interconnected textual and visual accounts of terrestrial space were circulated and recirculated across the Latin West, so too were the academic geographies compiled by Isidore and others like him, such as Martianus and Macrobius and their precursors.

### **Visualizing and Textualizing Terrestrial Space 2: Topography and Chorography**

Ptolemy’s ‘spatial order’ was differentiated into cosmography and geography, and ‘chorography’, which “pictured the form and character of localized spaces and

places.” In the Middle Ages, it was ‘topography’ (*topographia*), as distinct from *orbis descriptio*, that referred to writing on specific localities and regions, as in the case of Gerald of Wales’ *History and Topography of Ireland*. Writing during the later twelfth century, Gerald had studied in Paris and traveled in England and Ireland on royal business for Henry II, but spent much of his time in Wales where he was born and where he served as a churchman, bringing him into regular contact with visitors and residents. Gerald also wrote a *Description of Wales*, similar in scope and style to his earlier *Topography of Ireland*. Both works drew on personal observations and local testimonies gathered through Gerald’s own travels and duties, but more broadly they relate to a long tradition in the Middle Ages of combining histories and geographies that Merrills traces through from the ‘canonical geographical writing’ of ‘Christian geographers’ of late Antiquity, such as the work of Orosius, Jordanes, and Isidore (see above). In Britain, this tradition was perpetuated especially through Bede’s *Ecclesiastical History of the English People*, as well as by Gerald of Wales’ topographical works on Wales and Ireland, and latterly Ranulf Higden’s *Polychronicon*, or ‘universal history’. All sought to place Britain in historical and geographical context, drawing upon earlier geographical sources, and in the process describing the character of the island and its relationship with the wider world. It is a tradition, Lavezzo argues, which is evident not only in textual accounts of Britain but also in contemporary visual representations and was instrumental in constructing and defining English self identity throughout the later Middle Ages.

Gerald begins the *History and Topography of Ireland* with an account of the island’s position and its overall dimensions in relation to Britain, and then proceeds to describe its characteristics, quoting both Bede and Solinus and contradicting them openly. He then turns to name Ireland’s “nine principal and magnificent rivers,” noting the division of the island “into five almost equal parts,” and the abundance of its lakes and islands, but leaving it to the third and final part of the work to give an account of Ireland’s history and people. In his *Description of Wales* Gerald takes a similar approach, dealing again first with “the length and breadth of Wales, its natural features and its rugged surface,” “before turning to consider the” “three more or less equal parts” of Wales, the genealogy of the Welsh princes of the three parts together with their administrative organization, and then in some detail names its rivers and mountain ranges, touching also on “the fertility of Wales and its attractiveness,” as he had previously in his *Topography of Ireland*. In defining the characteristics of Wales and Ireland, Gerald follows a common model, therefore, of addressing matters of geography before history. Geography it seems is given due prominence.

Gerald’s academic debt to Bede’s *Ecclesiastical History* is not only a source of material but also as a model for the structure he follows in his own work. Bede’s *Ecclesiastical History* had great status and popularity among later medieval historiographers, being copied from the eighth century onward not just within Britain but across Europe too, and without too much adaptation. The ‘geographical introduction’ to the *Ecclesiastical History* is addressed thoroughly by Merrills, who notes how “few modern scholars have expended much energy on Bede the geographer” (Merrills, 2005: 249–73), probably because his sources, “a patchwork compilation of Pliny, Orosius, and Gildas,” appear to be so unremarkable and orthodox. Bede’s introduction starts with an account of Britain’s position “opposite Germany, Gaul, and Spain,” as well giving the island’s overall dimensions, thus placing it in relation to continental Europe, and the wider world. He continues by describing the fertility of the land, its rivers, emphasizing their productivity, noting “the country was once famous for its twenty eight noble cities as well as innumerable fortified places equally well guarded by the strongest of walls and towers, gates and locks” (Merrills, 2005: 329). It is thus a laudatory description, reflecting Bede’s interest in his own country, as a land as well as a people, for he also pays particular attention not just to Britain’s relations to the outside world but also to the relationships of those within it, as well as their neighbors in Ireland. Recently, the way Bede made use of British and Irish geographical marginality, as a metaphor for their spiritual purity, has attracted particular comment. Indeed, Bede’s geographical introduction as a whole is seen by Merrills as “an almost eschatological geography” that owed much to the Roman and Christian authorities he relied upon.

In their descriptions of Britain and Ireland, Gerald of Wales and Bede share in a ‘geographic exceptionalism’ that celebrated the islands’ spatial distance and physical isolation from the rest of the Christian world, a point Lavezzo develops. She suggests that Gerald’s as well as Bede’s description and perception of Ireland as a favorable place was closely tied to their ideas about what it meant to be geographically peripheral, to be on the edge. Their views of Ireland as a land of “milk, honey, and vines” emphasize its fertility and abundance, ideas taken from Solinus and Isidore, and stood as geographical metaphors for the island’s perceived sanctity and ‘divine favor’. As with Isidore’s *Etymologies*, it was not just geographical and topographical details that got copied into later works such as Gerald’s *Topography*, but spatial imaginaries too. For Lavezzo this is made all the more intriguing as she identifies a complex paradox between Gerald’s favorable description of Ireland in his *Topography* and his otherwise wholly negative representation of the Irish people, who he sees as dirty and barbaric, a contradiction whereby “Gerald transforms the natural purity

that, in Bede, serves as a tool by which the writer elevates Ireland, into a means of demonizing the Irish.” Gerald’s descriptions of Ireland and the Irish are by no means innocent or passive illustrations but are themselves highly motivated accounts and emotively charged. He was writing on the ‘character of the country’ not for amusement but for political purpose, as was the case with his *Description of Wales*, where he concludes by giving explicit advice to the English on ‘how the Welsh can be conquered’, and ‘how Wales should be governed once it is conquered’. He wrote the *History and Topography of Ireland* soon after participating in the English conquest of Ireland in the reign of Henry II, having accompanied the king’s son, John, in his attack on Waterford in 1185.

While Gerald’s ‘geographical introductions’ can be seen in the context of perpetuating an established medieval historiographical tradition of linking geography and history, as with Bede’s description of Britain and its ‘eschatological geography’, and like those earlier histories of Isidore and Orosius, there are within them inherent spatial imaginaries that reveal something of their author’s thinking. With Gerald and Bede, their apparent geographical remoteness, writing as they were at the perceived edge of the world, perhaps comes through in the accounts of the lands they seek to describe. Yet, at the same time, despite their own marginal locations in Britain they were politically and intellectually connected, both at the time they were writing with contemporary ecclesiastical and aristocratic networks, and also across both time and space through the past sources they drew upon and in the spatial imaginaries they shared and passed on. These networks stretched the agency of particular geographical ideas across the realm. Higden, for example, was called by King Edward III to attend court and to bring with him his chronicles, though for what purpose is not recorded, while an ‘estate book’ of the lands that were the property of a Master Henry de Bray, farming in the east midlands of England around 1300, included at its start a ‘description of the world’ (*descriptio mundi*) and the three continents, a list of English counties, bishoprics, and kings, as well as an account of Henry’s own land.

In addition to textual descriptions of Britain and Ireland’s peripheral place in relation to the wider world, Lavezzo argues that the same English spatial imaginary was manifest visually in maps accompanying historiographical works of the later Middle Ages, including Gerald’s *Topography*, as well as Ranulf Higden’s *Polychronicon*. These images likewise placed Britain at the geographical margins of the world, and in her view reveal how Gerald and others were thinking geographically about the place of England (specifically), and the English, in relation to Ireland and continental Europe, and constructing cultural identities through the relative placing of others. With Gerald and Higden, maps and text are

thus working together to mutual effect. They are also relating *topography* – as place description – and *geography* – as Earth description, and hence connecting the local to regional and to global scales, reinforcing a tiered spatial hierarchy as Isidore made evident in his *Etymologies*. Rather than being two separate genres then, ‘academic geographies’ and ‘topographies’ were as interwoven as history and geography were. The nature of these interwoven medieval geographies offers the opportunity to enhance our understanding of the ways in which conceptions of space and place were socially constructed and mediated in textual and visual geographies of the Middle Ages.

## Conclusion

Geographical thought and ideas of the Middle Ages should no longer be seen as a hiatus in geography’s history. Rather, ‘medieval geography’ has connections, both empirical and conceptual, with those geographies of the ancient world that it borrowed from, and those of the modern age that it continued to influence. Indeed, through the work of geographers such as Beazley, Wright, and Kimble in the early twentieth century, it could be argued that medieval geography helped shape the modern discipline, at least in its Anglo American manifestation.

From studying medieval geography, what becomes clear are the continuities running throughout geography’s history, from Antiquity to the present day, in the circulation of geographical texts, as well as in the spatial construction of knowledge. They are evident, for example, in charting a ‘cartographic genealogy of the Earth’ that spans the ancient, medieval, and modern worlds. Indeed, such temporal–geographical connections and continuities point to the need to avoid artificially dividing between ancient, medieval, and modern geographies. A more holistic and integrated approach to writing geography’s history is required. The debt owed to earlier ‘encyclopedic geographies’ in the classification of geographical knowledge and ‘encyclopedism’ of the early modern period is a case in point. These continuities deserve much greater scrutiny and appreciation among human geographers, both to challenge enduring assumptions about geography in the Middle Ages and to reverse the growing neglect shown by human geographers toward studying the medieval period.

As literary and intellectual historians are demonstrating, geography’s medieval history is due a careful critical reappraisal, and here human geographers have a continuing contribution to make, for example, in bringing to bear their ongoing debates about the ‘geographical tradition’ and of ‘putting science in its place’. Such thinking will not only help to deepen understanding of the nature of medieval geography but it will also help to ensure that geographers do not lose this part of their

discipline's past. There are contributions to be made by human geographers, therefore, in the telling of their own subject's medieval history. From reviewing the recent work of nongeographers one area where such a contribution might be particularly insightful is in exploring the spatialities of 'medieval geography', not simply what geography was in the Middle Ages, and what was covered by 'geographical' texts and images, but more the significance of what these can tell us about geographical cultures of contact, learning, and dissemination of ideas and knowledge in the Latin West and beyond. This requires a study of 'geography *per se*' as well as 'geographical knowledge', and an approach that crosses disciplinary boundaries and differences. The medieval geographies outlined above hint at this potential.

See *also*: Cartography, History of; Cartography in Islamic Societies; Cosgrove, D.; Enlightenment Geography; Feudalism and Feudal Society; Geography, History of; Historical Geography; Knowledge and Education, Historical Geographies of; Medieval Historical Geographies; Wright, J. K.

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# Medieval Historical Geographies

R. Jones, Aberystwyth University, Aberystwyth, UK

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## Glossary

**Demesne** The land held directly under the lord's control in the feudal system.

**Feudalism** A social and spatial order in which power was devolved from a lord to a vassal and which was underpinned by a peasant economy.

**Kinship** The real and imagined extended familial relationships between groups of people.

**Peasant** Lowly individuals, who provided goods and services for the land that they received from their lord.

**Vassal** An individual who governed a tract of land on behalf of his or her overlord.

## Introduction: What Is the Medieval Period?

The medieval period or Middle Ages, extending from approximately AD 500 to approximately AD 1500, was a crucial phase in the development of political, cultural, economic, and ecological aspects of human societies. In political terms, the medieval period witnessed the emergence of early forms of territorial control. With regard to culture, more highly defined ethnic communities of people emerged during the Middle Ages. Fundamental developments also occurred in an economic context with the emergence of early forms of capitalist activities based on towns and cities. Finally, significant ecological changes took place during the medieval period, most clearly in terms of an increased human exploitation of natural resources. Importantly, geography was implicated in each of these developments. Various kinds of geography reflected these crucial developments for humankind but, at the same time, they also helped to shape the character of these developments.

Before proceeding to outline the key historical geographies of the medieval period, it is necessary to think through our use of the term 'medieval' or 'Middle Ages'. In the first place, we need to appreciate the length of the period encapsulated by these terms.

A short article that deals with medieval historical geographies can be criticized for skating over an extremely long period of history in too few words. Clearly, political, cultural, economic, and ecological forms and practices would have varied considerably between the collapse of the Roman Empire in approximately AD 500 and the beginnings of the modern period in

approximately AD 1500. In this respect, it is difficult to encompass all of the social and spatial forms that existed within this period in one short article. The aim in this article, therefore, is to draw attention to some of the key changes that took place during the medieval period in a variety of different contexts and to show how each of them possessed important geographies.

In the second place, we also need to focus on another important idea implied within the use of the term 'Middle Ages' or 'medieval'; namely that the medieval period is a distinct epoch between two other periods. We need to think, therefore, about character of the relationship between the medieval period and both the earlier classical period and later early modern period. One can elucidate evidence for a temporal disjuncture between the classical and medieval periods, for instance, in the fact that towns and cities within Europe, which had been key nodes within a Roman imperial network, fell into disrepair and were gradually abandoned during the early medieval period. And yet, Roman towns and cities, in spite of a certain change in function, were still used throughout Europe in the centuries following the breakup of the Roman Empire. In this respect, it is difficult to sustain the claim that the beginnings of the medieval period represented a radical shift in the character of human societies. There were important overlaps between the classical and early medieval period. At the same time, some have maintained that the shift to the modern period (experienced around AD 1500) also signaled fundamental changes to the various sociospatial organizations and processes operating within society. Various authors have contended, for instance, that forms of political and cultural identity were radically reconfigured during the modern period. Equally, there is a strong sense that the modern period, especially in Europe, witnessed the formation of distinctive and new forms of polities. Others have shown that there was much continuity between the medieval and modern periods and, indeed, it is possible to show that each of the allegedly 'modern' forms of politics, culture, and economy described above possessed roots that were laid down during the medieval period. Taken together, such arguments mean that we should avoid thinking of the medieval period as a totally distinct and separate period of human history. Rather, it is a period of human history that sustained many of the political, economic, cultural, and ecological forms and practices that were prevalent during the classical period. Similarly, the medieval period also laid the foundations

for many of the sociospatial forms and practices that were to assume greater significance during the modern period.

The article is structured as follows. The first substantive section examines the way in which various writers sought to think geographically during the Middle Ages and focuses in particular on the various efforts made to describe or write about the Earth, its peoples, and places. The following section then proceeds to discuss some of the ways in which contemporary geographers have attempted to study the various historical geographies of the medieval period and examines in detail issues relating to political transformation, the processes of urbanization, and the environmental histories of the Middle Ages. Brief conclusions then follow in which some broader implications of medieval historical geographies for Geography as a discipline are discussed.

### Thinking Geographically during the Middle Ages

The attempts that were made to think and write geographically during the Middle Ages were associated, in large measure, with the practices of geographical mobility that occurred during the period. New experiences, brought about by travel and mobility, could inspire individuals to write detailed accounts of alternative polities, cultures, economies, and ecologies that they had encountered. At the same time, geographical narratives about particular peoples and places could inspire further acts of mobility. In this section, three different contexts within which geographical writing and mobility have been implicated are highlighted. The first relates to a largely internal European dynamic of mobility that encouraged people to write about people and places. The second focuses on the process whereby European scholars began to write geographically about lands that they had experienced outside Europe. This is an important example, since it presages the geographical writing that underpinned much of the European imperial acts committed during the modern period. Finally, an example that challenges an Eurocentrism that is implied in the first two examples is discussed. The third example focuses on a set of mobile practices and a geographical narrative that took place wholly outside Europe.

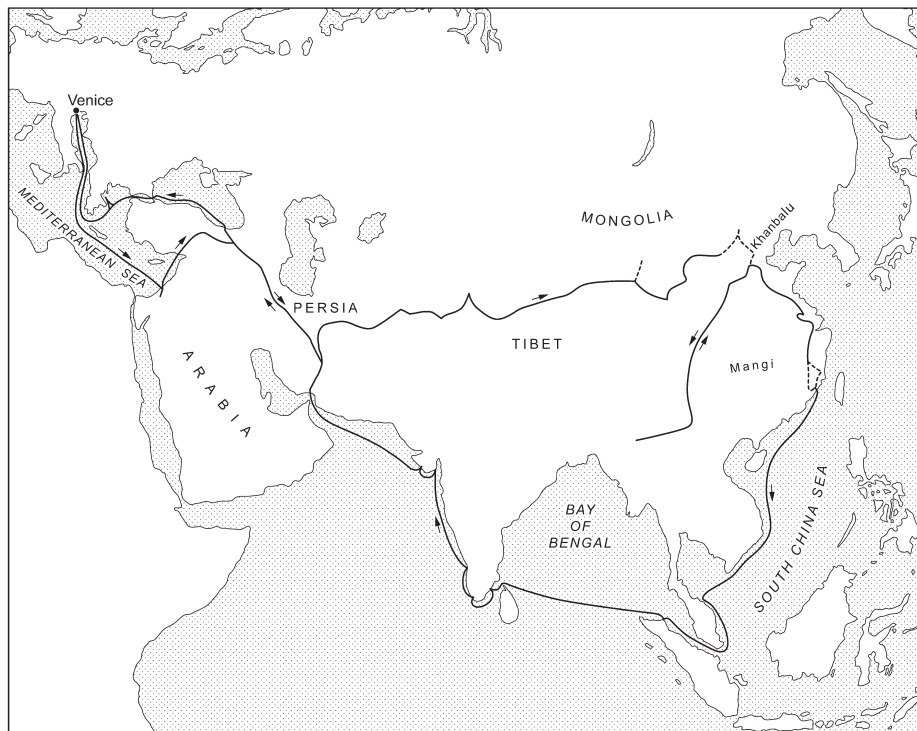
Many historians have noted that a key dynamic of the European Middle Ages was the way in which Frankish and Norman lords and noblemen extended the territorial reach outward from their 'heartlands' in northern France to more outlying areas of Europe. These acts of conquest and colonization, which took place between the eleventh and fourteenth centuries, were intimately tied up with acts of geographical writing. On the one hand, the encounters between Frankish and Normand lords and knights and other people, living in the more 'peripheral'

areas of Europe, encouraged the former to write damning accounts of the latter. In turn, these geographical writings could justify further acts of expansion and colonization by these Frankish and Norman lords. Echoing the use of forms of othering within a modern imperial project, the key tropes that were used to structure geographical writings concerning a European 'periphery' were those relating to barbarity. Postcolonial critics of medieval Europe, for instance, have drawn particular attention to constructions of religious difference, which marked out internal and external others, notably through binaries of Christian/Jew and Christianity/Islam, respectively. Some of the most startling illustrations of this process are the various condemnations of the ways in which these 'peripheral' peoples lived. For instance, Gunther of Pairis referred to the early medieval Poles as:

a people whose culture is crude; terrible of face, with a frightening brutality in their customs. They rage with a horrible sound, they are ferocious, threatening. Quick of hand, lacking reason, used to plundering. They scarcely behave like men, their cruelty is worse than the horror of wild beasts.

If these 'peripheral' were barbarous, as many writers asserted, then they needed to be 'civilized' by the representatives of an European 'core'. Of course, the most striking example of this connection between geographical writing, mobility, and a 'civilizing' project was that associated with the Crusades (AD 1096–AD 1291). Over nearly 200 years, hundreds of thousands of representatives of an European conquering and civilizing project traveled to the eastern Mediterranean to appropriate lands that were deemed to be central to the political and cultural identity of a Christian Europe.

The second example provides a different take on the connection between mobility and geographical writing during the Middle Ages by discussing one of the first attempts made by an European to write a geographical account of lands lying outside Europe. Written at the very end of the thirteen century, Marco Polo's *Travels* provide a 'description of the world', which extended from the area of Venetian influence in the Mediterranean to the Far East and from the Persian Gulf to the far north of Russia (see **Figure 1**). Marco Polo's ability to write such a far reaching geographical account derived in large measure from the military domination and political stability brought about by the creation of the Mongol Empire from the beginning of the thirteenth century onward. The Mongol Empire's control of most of the Eurasian continent led to an increased access for Europeans to trade routes, which led to the Far East. Venetians, such as Marco Polo's father and uncle, made the most of these new trading opportunities by traveling into, and trading with, the various lands controlled by the



**Figure 1** The Travels of Marco Polo.

Mongol Empire. Indeed, Marco Polo himself gained much support from the last of the great rulers of the Mongol Empire, Kublai Khan, and was sponsored in his travels throughout the empire. The *Travels* itself is a combination of Marco Polo's experiences of traveling throughout the empire over a number of years and a series of knowledges and narratives that he collected on his travels. What is striking about Marco Polo's account of his movements is its ethnographic qualities. His detailed narrative makes reference to the religious beliefs, the character, the trading activities, the styles of agriculture, and so on practiced by people living within particular cities. His narrative is equally concerned with explaining the history of particular peoples or places. He provides a detailed description, for instance, of how the Province of Manji was conquered by the Grand Khan and incorporated into the Mongol Empire. Following on from this, Marco Polo also tries to explicate the political economy that underpinned the Empire. For instance, he consistently notes the military and political structures put in place by the Khans to enable them to rule distant localities. Similarly, he discusses the paper money economy and the taxation regimes that helped to sustain the Empire's war machine. Finally, his narrative is also concerned with outlining the way in which what we may term the physical geography of the Empire contributed to its sustenance. Marco Polo, for instance, describes in detail the various rivers that he encountered on his travels, as well as the different kinds of crops and foodstuffs

grown in different regions. The latter discussion even includes an account of the high quality of the rhubarb grown in one upland region of the Province of Manji! In total, Marco Polo's account of his *Travels* in the Far East are based on a remarkably sensitive and wide ranging appreciation of the distinctive character of particular places and, as such, can be viewed as a forerunner of the kind of regional geography that became prevalent in human geography during the first half of the twentieth century. What is equally significant about his account is the way in which it is underpinned by an obvious admiration of the social and spatial order put in place by the rulers of the Mongol Empire.

The final example of geographical writing that is discussed is slightly different in that it is based on the extensive travels of a Muslim judge, Ibn Battutah, throughout much of North Africa and Asia during the fourteenth century. The significance of this example is that it helps to challenge some of the Eurocentric assumptions concerning the Middle Ages. It demonstrates the way in which an alternative Muslim world and worldview existed – and, indeed, was highly important – during the medieval period. Ibn Battutah's main motivation for commencing his travels was the requirement for all able bodied Muslims to complete a pilgrimage to Mecca at least once during their lifetime. His ability to travel was conditioned, in large measure, by the same factors that affected Marco Polo; namely the existence of an extensive, relatively stable and, by the fourteenth

century, largely Muslim land based Mongol Empire. The latter factor was highly significant given Ibn Battutah's profession as a Muslim judge. His highly portable skills and knowledges gave him the ability to gain employment in a large proportion of the towns and cities that he visited on his travels. Ibn Battutah's descriptions of the places that he visited mark him out not only as a geographer but also an ethnographer, a historian, and botanist. His account of southern India may be taken as an illustrative example of geographic writing. At one level, he is concerned with outlining some of the broader 'political geographies' that characterize the region, whether in terms of the ethnic and religious makeup of the region or in terms of forms of political control and subordination. At the other extreme, he also provides detailed accounts of some of the more mundane practices of the inhabitants. One fascinating section, for instance, outlines the manner and order in which different foods were served within a particular banquet. In a similar fashion to Marco Polo, Ibn Battutah was interested in both the human and the physical geographies of the places that he visited. He drew attention, for example, to the types of vegetation that grew within particular places but was also keen on showing the way in which these were then farmed productively and traded. Contrary to Marco Polo, Ibn Battutah's accounts of the places that he visited are underpinned by his own personal identity as a Muslim. He notes the location of mosques, the numbers of Muslim people living within particular places, as well as the way in which the Muslim faith influenced the various religious and secular practices that he witnessed. Even though Ibn Battutah had been diverted many times from his original pilgrimage to Mecca, his extensive travels over a total of 29 years were still predicated by his worldview as a Muslim.

What similarities can we note in these various medieval geographical writings? First, each of these different types of geographical accounts are linked in some way to mobility. Geographical writing could either affect practices of mobility or it could be produced as a result of an individual's or a group's mobility. Second, one can also cast some aspersions on the veracity of some of these accounts. Most clearly, the geographical writings about 'peripheral' European peoples and places were instances of propaganda and did not truly reflect their actual character. The accounts by Marco Polo and Ibn Battutah have also been criticized by medieval and more contemporary commentators for their lack of accuracy. Third, there is very little sense of the collection of what we may term geographic data as a basis for these narratives. They are, at best, based upon the personal observations of the traveler. Fourth, and following on from the previous point, the various geographical writings of the medieval period – particularly those of Marco Polo and Ibn Battutah – are highly descriptive in nature.

There is little effort here to explain the people, places, and processes witnessed in the accounts, apart from through reference to religious worldviews. Not all of these issues are shortcomings as such; they merely demonstrate that the type of geographic writing committed during the Middle Ages was of a different character to that conducted on the medieval period today. It is these more contemporary studies of the medieval period that are discussed in the following section.

### Thinking Geographically about the Middle Ages

The study of the historical geographies of the medieval period has been prevalent within the discipline of geography for much of the past 100 years. The greatest medieval geographer, arguably, was Sir Henry Clifford Darby, the first professor of geography at Liverpool (1945–49), and who was later professor at University College London (1949–66), and at Cambridge (1966–76). Darby conceived that historical geography should be concerned with understanding the historic changes that had affected landscapes and regions. Moreover, it was an approach that was based upon using contemporary methods and approaches as a way of understanding historic data. This approach was utilized in his early research on the medieval Fenland of the East Anglia of England but came to the fore more fully and more famously in the context of his editorship of *The Domesday geography of England*, in which he sought to use an unparalleled data source (the Domesday Survey of England, conducted in 1086) as a way of illustrating the way in which various places, located throughout England and Wales, had differed from each other during the medieval period. Of course, the promotion of the study of medieval historical geography did not come about single handedly. Other notable academics were involved in this project, most notably Emrys Bowen at Aberystwyth, Bruce Campbell at Belfast, Della Hooke and Terry Slater at Birmingham, Glanville Jones at Leeds, and Brian Roberts at Durham.

The study of medieval historical geographies, therefore, represents a varied, if rather limited, aspect of contemporary human geography. At present, medieval historical geographers examine various themes relating to medieval political geography, cultural geography, economic geography, population and land use, and ecology. It is impossible to review the variety of work being conducted on these themes in the remaining paragraphs of this section. Instead, the focus is on three illustrative aspects of the research currently being conducted on medieval historical geographies in order to provide a sense of the range of different ways in which human

geographers are grappling with the social and spatial forms that characterized the Middle Ages.

### Towns and Urbanization during the Middle Ages

The study of towns and processes of urbanization has been an important aspect of research on the Middle Ages in geography and other related disciplines. Research on this theme has been varied. In a quite straightforward context, geographers have been able to show how different medieval towns varied considerably in terms of their characteristics. The character of towns and cities, for instance, varied considerably during the early Middle Ages. The main reason for such a variation was the distance of the town or city from the geographical core of the Roman Empire. The decline in the functional vitality of urban centers occurred to a far greater extent in the early Middle Ages in parts of Northern and Western Europe, for instance, than it did in southern France and Italy. At the same time, we need to appreciate how the character of towns and urban areas changed in a temporal sense. It has been argued, for instance, that urban areas shifted from being merely centers for trade during the eighth and ninth centuries (described as *emporia* in Latin and often possessing the Germanic suffix *wik/wiic/wich*) to being centers for trade and production for much of the remaining medieval period. In this sense, we need to acquire a temporal and geographic sensitivity if we are fully to understand the variety of urban forms that existed during the Middle Ages.

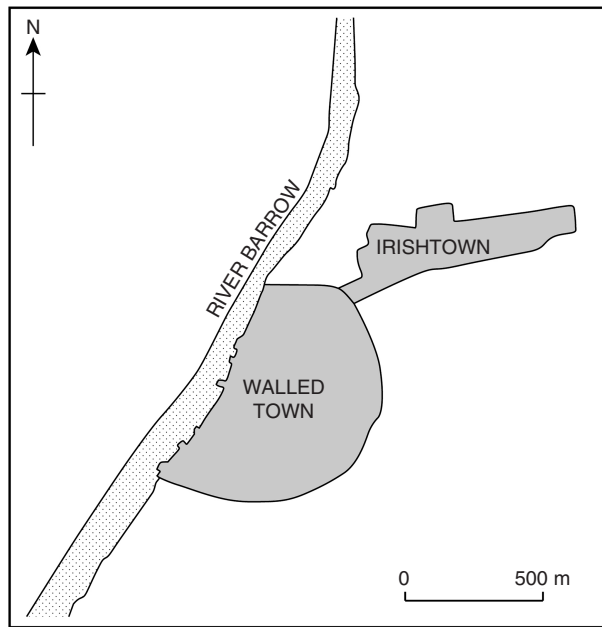
Equally, geographers have sought to demonstrate the important geographies that were associated with towns during the Middle Ages. First of all, it is evident that medieval towns were centers for trade over different geographical scales. Italian cities, such as Genoa and Venice, for instance, lay at the heart of long distance networks of trade that extended out to much of the known world and which imported a range of expensive goods – most notably spices and silk – from Asia into Europe. Indeed, the existence of such ‘international’ trading routes acted as the motivation for Marco Polo’s extensive travels throughout much of Asia during the thirteenth century, discussed above. Similarly, high quality textiles and metal goods were exported from a variety of towns and ports located in northwestern Europe to Italy and a variety of different trading towns located along the Baltic. Such ‘international trade’ helped to foster long distance connections between various towns and cities but it was also dependent upon the development of stronger associations between towns and their immediate hinterland. The growing economic and trading significance of such towns, especially during the early Middle Ages, was predicated in large measure on the high levels of craft production that occurred within their immediate hinterlands. Work that has charted the

character of such local and long distance trade illustrates the significant topological connections that characterized the medieval period and acts as a corrective to popular assumptions concerning the localized nature of medieval life.

A further key aspect of the process of urbanization that took place during the Middle Ages was its role as a facilitator of certain social order. The creation of guilds as means of regulating craft production, for instance, brought about a certain degree of socioeconomic order within towns and cities. We can also think about the role played by towns and cities in promoting order in a more sociocultural context. Towns and cities have always been connected with ideas of civilization and, in this respect, the formation of towns or boroughs in medieval Europe was viewed as a mechanism through which ‘peripheral’ and allegedly ‘barbaric’ people could be ‘civilized’. A number of historical geographers, for instance, have shown how the process of creating boroughs in Wales and Ireland was used by Anglo Norman kings and lords in order to conquer and subdue the Welsh and Irish people. The creation of new boroughs, possessing liberal social and economic rights, could be used to attract incomers from the core areas of the Anglo Norman Empire. The arrival of these individuals brought a greater stability to the Anglo Norman presence within these ‘peripheral’ areas. At the same time, this process of urbanization possessed important geographies. We witness this most clearly in the way in which these newly created boroughs were designated as ‘pure’ spaces within which Irish or Welsh people were not allowed to venture. In the settlement of New Ross in Ireland, for instance, the town’s original Irish inhabitants were expelled and were forcibly relocated to a suburb which lay outside the town walls (see **Figure 2**).

### Medieval Territorial Power

Equally important has been the research conducted by geographers and others on the changing political and territorial forms that characterized the Middle Ages. Two key changes affected European political space during the medieval period. The first was the reemergence of larger and relatively more stable political formations. The small scale, haphazard, and temporary political formations of the early Middle Ages gradually gave way to a series of larger and more stable political forms; so much so, indeed, that the European political map was far simpler by 1500. It contained far fewer but larger political units. Secondly, there was a shift in the way in which political space was conceived, becoming far more territorial in its makeup. The political formations of the early Middle Ages were conceived primarily as groups of people and only secondarily as territorial entities. During the early Middle Ages, ties of kinship helped to bind



**Figure 2** Social and spatial segregation in New Ross, Ireland.

groups of people together. The feudal system of order, which dominated much of Europe during the medieval period was also, in essence, a mechanism of governing space that was dependent on social relations between various groups of people; most notably between lord and vassal and between lord and peasant. The political formations of the later medieval period, however, began to be viewed, first and foremost, as territorial states. Both these changes are, of course, interrelated. The development of larger polities throughout the Middle Ages justified the creation of more bureaucratic and territorialized forms of state governance while the development of these new means of governance enabled the existence and survival of larger and more stable polities.

Given the significance of the control of territory for these emerging polities, geographers have been at the forefront of debates concerning these important political changes. Attempts have been made, for instance, to map out the growing territorialization of power experienced in Wales between the eleventh and the thirteenth centuries. The precise definition of lordships and territory became increasingly apparent in thirteenth century Wales, especially in the period subsequent to the Anglo Norman conquest of 1277–83. Following the conquest, it increasingly became the norm for Anglo Normans to lobby their king so that he could receive specific territories from him. For instance, Roger Lestrangle in 1283 pleaded with the king, asking whether he could ‘obtain for him Penlyn or Edeyrnyon, or one of them; or he would prefer Maillor Saysnek: he would very much prefer to come to Maillor Saysnek’. Of course, what enabled this carve up of the Welsh landscape was an

exact definition of the economic and political rights and dues associated with precisely defined territories. It is in this context that we witness the increasing territorialization of political power during the Middle Ages. Interestingly, these developments were mirrored in many ways by equally fundamental changes to the governance of Church lands. It has been shown how the economic and political power of the Church in medieval Cornwall, for instance, was originally promoted and latterly underpinned by the emergence of a territorialized network of parishes. Here, once again, we witness the way in which the development of new forms of political and economic authority within the Middle Ages were intimately tied in with a growing territorialization of power. Geographers, in this respect, have led the efforts to understand the discourses and practices that facilitated this process.

### The Environmental Histories of the Middle Ages

Finally, let us discuss briefly the way in which human geographers and others are beginning to focus on a rather neglected aspect of medieval history, namely the environmental history of the Middle Ages. Work in this area is beginning to examine: the opportunities and constraints provided by the environment during the Middle Ages; the environmental impact of medieval societies, focusing particularly on the way in which the environment was transformed during the Middle Ages; and the way in which various environmental hazards impacted on the development of medieval societies.

For the sake of brevity, let us examine two instances, which illustrate the connections between medieval societies and environmental history. The first example shows the impact of medieval forms of social and economic governance on the environment, as well as some of the environmental opportunities and constraints that helped to transform medieval society in Europe during the later Middle Ages. Work by historical geographers and others has begun to examine the significance of the environment as a constraining factor in the reproduction of feudalism as a means of socioeconomic order. Feudalism was predicated on a decentralized form of political control as various lords acted as their overlord’s local representatives or vassals. In more economic contexts, feudalism was based upon a system in which peasants and slaves were required to fulfill certain obligations for their lord; by paying money rents, providing food renders, or working the land held directly in the lord’s hands (*demesne*). In return, the lord offered a certain amount of land to his peasants so that they could subsist. As population numbers increased between the tenth century and the end of the thirteenth century, and as a ‘parasitic class’ of lords sought to increase the amount of money rents, renders, and services that they received from their

peasants, so the environmental pressures placed upon the land increased. Peasant production decreased and, as a result, famines and widespread human disease became more prevalent, especially during the fourteenth century. The argument, in essence, is that the environmental constraints of the feudal system ultimately brought about its collapse as a means of organizing medieval society.

The second example, once again, focuses on the interrelationship between medieval political forms and the environment but does so in a far more targeted manner. Recent research has examined the way in which the political systems that have been present in western highlands of Guatemala over time have influenced the types and the range of varieties of maize contained within the region. For much of the postclassic Mayan Period (AD 900 to AD 1524), Mayan society in the western highlands of Guatemala was organized in the form of segmentary lineages. This form of social organization is based upon notions of kinship. The main social and political unit was that of a relatively small lineage group but the social system also allowed for temporary alliances to be formed between different lineage groups, especially during the times of crisis. Significantly, the existence of localized social political units such as these impacted on the crop varieties – most notably maize – that were produced within the western highlands. Although a certain amount of trade in portable and high value goods took place within this society, trade in low value and high volume items, such as maize seeds, was extremely limited. The lack of a meaningful overarching political structure in the western highlands of Guatemala during the postclassical period, in effect, maintained a high degree of crop variety, which can still be detected today. Significantly, the variety of maize decreased in the period subsequent to the Spanish conquest of Guatemala (AD 1525–AD1821). This shift was not due to the imposition of a unified colonial political and social system – and a related increase in trade and exchange of maize varieties – as one might expect but rather because of the catastrophic decline in the native population, which took place between 1520 and 1770; it is estimated that the population declined by about 90% during this period. Fewer inhabitants and fewer farmers, as a result of this decline, meant that fewer varieties of maize were being produced and sustained over time. In this context, we witness how the environmental and social histories of the medieval period could combine in a kaleidoscope of influences.

## Conclusions

In this article, the key features of a medieval historical geography have been outlined. The article began by discussing the significance of geographic writing during

the medieval period. Contributions by people like Marco Polo and Ibn Battutah were brought about by political and social changes that took place during the thirteenth and fourteenth centuries, and their accounts have much to say about the character of people, places, and processes during this period. The study of medieval historical geographies in the contemporary period was also discussed. Three illustrative areas of contemporary research were highlighted; relating to medieval urbanization, medieval territorialities, and medieval environmental histories. Interesting and innovative research by geographers is being conducted in each of these contexts.

Let us conclude the article by raising two more problematic issues concerning the study of medieval historical geographies. The first issue relates to the tendency for studies of medieval historical geographies to display an Eurocentrism. Let us be conscious, in this regard, to the fact that the current article is largely Eurocentric in its outlook, dealing as it does with case studies linked to an European feudal society. To a certain extent, such an outlook is understandable since the use of the terms ‘medieval’ and ‘Middle Ages’ is based upon a temporal framework that is rooted within the historic trajectories of Europe. At the same time, there is scope to challenge the Eurocentrism of studies of medieval historical geographies by showing how the sociospatial formations that were prevalent in medieval Europe also existed – albeit perhaps in different formats – in other parts of the world. Indeed, it is likely that these extra-European medieval historical geographies have already been examined by geographers, historians, and others working within alternative national and linguistic traditions. In this regard, we may undermine the Eurocentrism of Anglo American and European understandings of the meaning of medieval historical geography merely by increasing our academic dialog with colleagues working within other countries. The second issue that needs to be raised is the relative decline in the number of studies being conducted by historical geographers on the medieval period. The reasons for this decline are not known but may be due to combination of factors. First, the lack and intractability of empirical sources for the Middle Ages may make it difficult for some to conceive of a research career that focuses on medieval historical geographies. This is especially pertinent since some of the linguistic skills – in Latin and Greek, for instance – necessary for medieval research is less prominent within school education than in the past. Linked to this is a second possible explanation, namely that the processes and sociospatial formations of the medieval period are so different from those of the more recent past and the present that to study them would require the development of a totally new set of geographical knowledges. Third, and building on the previous point, researchers increasingly may believe that

medieval historical geographies are irrelevant as a means of understanding some of the key political, economic, social, cultural, and ecological challenges that face us in the contemporary world. And yet, one could argue that there is much to be gained by maintaining or, perhaps, re-extending our temporal horizons so that they take account of the medieval period. Many of the sociospatial formations with which we are familiar with today were pre-saged during the Middle Ages. One important way of understanding some of the processes affecting human societies and environments in the contemporary world is by gaining a fuller comprehension of how they have been altered in the past, including the medieval period.

See *also*: Historical Geography; Medieval Geography.

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The ORB, the Online Reference Book for the Middle Ages.



# Mega-Cities

Y.-M. Yeung, The Chinese University of Hong Kong, Hong Kong, People's Republic of China

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## Glossary

**Extended Metropolitan Region** A term coined by McGee to describe the mega-urban region found in many countries in the Asia Pacific region. 'Desakota' is the term used to highlight the stage of rural-urban transition.

**Global City** A class of particularized cities that derive and thrive on the process of globalization. Saskia Sassen's seminal study on the global cities of London, New York, and Tokyo in 1991 has since been much extended.

**Growth Triangle** A form of subregional economic cooperative entity often involving three or more countries, capitalizing on their shared complementarities and geographical strengths, applied especially to the Asia Pacific region since the 1980s.

**Mega-City** A very large city consisting of at least 10 million inhabitants.

**Mega-Urban Region** A region built around one or more mega-cities, stretching as far as 100 km from the city. The transition from urban to rural landscapes is highly visible.

**Megalopolis** A term used by Jean Gottmann in his 1957 study of the northeastern seaboard of North America from Boston to Philadelphia, characterized by a more or less continuous stretch of dense urban settlements.

**Meta-City** A class of exceptionally large cities with a population of at least 20 million.

**Third World City** A city located in the developing world.

**Urban Corridor** A spatial form highlighting the spread of a number of cities over an area and showing a directional orientation.

**Urban Planning** A discipline or profession that concerns itself with several dimensions of the built and social environments in an urban setting.

**World City** A city that gains celebrity as it performs certain critical economic or other functions having a direct or tangible effect on global affairs.

and in developing countries. The global urban population, which stood at 0.73 billion in 1950, almost quadrupled to 2.84 billion in 2000, and to 3.15 billion in 2005, for an annual growth rate of 2.65% in the period 1950–2005. During the same period, the world's population grew at a rate of 1.71% per year; thus, its urban population grew more than twice as quickly as its rural population. The urban population in more developed regions was 0.42 billion in 1950 versus 0.31 billion in less developed regions. By 2000, the relative weights had reversed, and the respective figures were 0.87 billion and 1.97 billion, further increasing to 0.90 billion and 2.25 billion, respectively, in 2005. In the period 1950–2005, the urban population in less developed regions grew at a rate of 3.61% per year, nearly three times as rapidly as in more developed regions, where the figure was 1.37%.

As the world experienced rapid urbanization, cities themselves continue to grow rapidly, as measured commonly by the size of the population but lately by other criteria as well. Giant cities have appeared, but 'mega cities' is the preferred term to describe them because the United Nations has applied a quantitative description of these cities. Mega cities have been shown to have developed in tandem with the region within which they are situated, hence the emergence of mega urban regions. Mega cities are also world cities or global cities if they perform vital functions for the global economy or in other domains. With globalization and urbanization expected to accelerate further, mega cities, especially in developing countries, are confronted with many challenges.

## The Rise of Mega-Cities

As urbanization gathered speed during the twentieth century, academics attempted to track the growth of large cities. At first, the aim was to measure a city of notable demographic weight when it reached the size of 1 million or more inhabitants. In 1950, there were only 78 such cities, but in 2000 the figure had grown to 400, a more than fivefold increase within half a century. By 2010, there are expected to be 511 cities with a population of at least 1 million.

Since the 1980s, some cities have grown to become so large that a different concept had to be devised to track their growth. The United Nations uses the figure of 10 million, upgraded from the initial threshold of 8 million, to designate a new class of very large cities – mega cities. The rapid rise of mega cities is clear from the fact that in

## Introduction

The twentieth century was unprecedented in the rapid growth and urbanization of the planet's human population, particularly during the latter half of the century

1950, there were only two such cities (New York and Tokyo), but in 2005 the number had mushroomed to 20, accounting for 9% of the world's urban population. Since 2005, two more are on their way to that size category. By 2015, it is projected that there will be 22 mega cities in the world, of which 17 will be in developing countries (Table 1).

In fact, mega cities have been growing more slowly than the world's urban population as a whole, which averaged an annual growth rate of 2.4% in the period 1975–2005. Only Dhaka, Lagos, Delhi, Karachi, Jakarta, Mumbai (Bombay), and Manila grew more quickly. Between 2005 and 2015, only six of the expected 22 mega cities are projected to grow more than the estimated average annual growth rate of the world's urban population of 1.9%. These cities are Lagos, Dhaka, Karachi,

Jakarta, Guangzhou, and Delhi. It is clear from these lists that Asia and, to a lesser extent, Africa are the two continents that will witness a continued rapid growth of mega cities. Yet in 2005, these continents were the world's least urbanized, at 40% for Asia and 38% for Africa. They are expected to reach a level of urbanization of 54% and 51%, respectively, in 2030. From 1990 to 2005, African mega cities topped the world in terms of rate of growth (Table 1).

Table 1 also shows another spatial shift of mega cities over time. Since 1950, the proportion of mega cities in developed countries relative to those in developing countries has declined relentlessly. By 2005, the dominance of developing countries in the realm of mega cities had become indisputable. In the developing world, the rise of mega cities in Asia is especially striking: 16 mega cities

**Table 1** The world's mega-cities, 1950–2015 (the 30 largest urban agglomerations)

Mega-city	Population (in millions)				Average annual rate of growth 1990–2005 (%)		Percentage of the country's total urban population 2005 (%)
	1950	1990	2005	2015			
<i>Africa</i>							
						3.63	
Cairo	2.49	9.06	11.13	13.14	1.38		35.15
Lagos	0.29	4.76	10.89	16.14	5.67		17.19
<i>Latin America</i>							
						2.17	
Mexico City	2.88	15.31	19.41	21.57	1.59		23.87
Sao Paulo	2.33	14.78	18.33	20.54	1.45		11.67
Buenos Aires	5.10	10.51	12.55	13.40	1.19		35.95
Rio de Janeiro	2.95	9.60	11.47	12.77	1.19		7.31
Santa Fe de Bogota	0.68	4.91	7.75	8.93	3.09		23.38
Lima	0.97	5.83	7.19	8.03	1.41		35.40
<i>Asia</i>							
						2.90	
Mumbai (Bombay)	2.86	12.31	18.20	21.87	2.64		5.74
Delhi	1.37	8.21	15.05	18.60	4.12		4.75
Shanghai	6.07	8.21	14.50	17.23	3.86		2.73
Kolkata (Calcutta)	4.51	10.89	14.28	16.98	1.82		4.51
Jakarta	1.45	7.65	13.22	16.82	3.71		12.33
Dhaka	0.42	6.53	12.43	16.84	4.38		34.96
Karachi	1.05	7.15	11.61	15.16	3.28		21.09
Beijing	4.33	7.36	10.72	12.85	2.54		2.02
Manila	1.54	7.97	10.69	12.92	1.98		20.53
Istanbul	0.97	6.55	9.71	11.21	2.66		19.72
Seoul	1.02	10.54	9.65	9.55	−0.59		24.98
Guangzhou	1.49	3.92	8.43	10.42	5.24		1.59
Tehran	1.04	6.37	7.31	8.43	0.92		15.71
Shenzhen	0.17	0.88	7.23	8.96	15.07		1.36
<i>More-developed regions</i>							
						0.63	
Tokyo	11.28	32.53	35.20	35.49	0.53		41.76
New York-Newark	12.34	16.09	18.72	19.88	1.01		7.77
Los Angeles	4.05	10.88	12.30	13.10	0.82		5.11
Osaka-Kobe	4.15	11.04	11.27	11.31	0.14		13.37
Moscow	5.36	9.05	10.65	11.02	1.09		10.19
Paris	5.42	9.33	9.82	9.86	0.34		21.16
Chicago	5.00	7.37	8.81	9.47	1.20		3.66
London	8.36	7.65	8.51	8.62	0.71		15.90

Source: Data from United Nations, Population Division (2006). World urbanization prospects: The 2005 revisions, pp 46–55 and 126–129. *Report Of United Nations, Population Division*. New York: United Nations.

appeared in Asia in 2005. The growth of Shenzhen from a tiny border town of 0.33 million inhabitants in 1978 to a major city of 7.23 million in 2005 has been phenomenal, with an average annual growth rate of 15.07% between 1990 and 2005. **Figure 1** shows the spread of mega cities across the world, with a very clear concentration of them in the 'south'.

As **Table 1** also reveals, in 2005, some cities had a population of close to 20 million. By 2015, there are expected to be more such cities. A new term – meta city – has been coined to denote this class of 'hyper city'. It is a new type of human settlement above and beyond the scale of the mega city, spurred by economic development and increases in population. A meta city gradually swallows up rural areas, cities, and towns, to become a multinucleated urban form with one identity. The rise of meta cities will pose new challenges for humankind. Such cities are so gigantic in size that managing them and serving their inhabitants is a daunting task in terms of the resources, skills, and technology required. Meta cities are larger in population than entire countries. To wit, the population of Greater Mumbai exceeds that of Norway and Sweden combined. Yet, the world's largest cities account for only 4% of the world's total population. In 2005, Tokyo remained the world's largest meta city, with a population of 35.20 million. By 2015, Mexico City, Sao Paulo, and Mumbai are anticipated to join the league of meta cities. They will be further joined in 2020 by Delhi, New York, Dhaka, Jakarta, and Lagos.

### **Mega-Urban Regions**

Mega cities have grown so rapidly that their economic and other activities are prone to spill over their traditional boundaries. Given the cross border nature of many global economic activities, the concept of the traditional city is no longer a realistic one for measuring the population of a very large city and their activities. New concepts and statistics gathering frameworks have to be designed to capture the reality of such cities.

Foremost among such attempts are studies that have focused on mega cities in the Asia Pacific region, which are acting as the nucleus of a large range of economic, planning, and social activities that can extend to as far as 100 km from the city's center. Between the city and the surrounding countryside, there is a great deal of interaction, which is constantly changing in mode and intensity. The peri urban zone immediately surrounding the city is an area of maximum rural–urban interaction. McGee pioneered the concept of the extended metropolitan region (EMR) and, along with his associates, has applied it, with satisfactory results, to many countries in the Asia Pacific region. Jakarta, Bangkok, Manila, Ho Chi Minh City, Hong Kong–Guangzhou, Shanghai, and

Beijing have been found to support this formulation in the empirical studies that have been undertaken.

It has been observed that the expansion and merging of highly urbanized zones remains an important trend in many parts of the world. The continued coalescence of Boston–New York–Philadelphia–Baltimore–Washington (Jean Gottmann's megalopolis), Los Angeles–San Diego, Chicago–Milwaukee, Tokyo–Nagoya–Osaka–Kobe–Kyoto, Amsterdam–the Hague–Rotterdam (Randstad, Holland), Hong Kong–Shenzhen–Guangzhou, and Shanghai–Hangzhou–Suzhou are examples. By extending their reach and resources, they will increase their influence and imprint on the global economy. In the 1990s, Canada saw the forced amalgamation of several municipal entities in the provinces of Ontario and Quebec to form larger and new municipalities. Toronto, Ottawa, and Montreal have reorganized and expanded into new entities, but they are still a long way from becoming true mega cities, notwithstanding the mislabeling of the urban expansion process by the local media.

Looked at from a broader spatial scale, mega cities often form units in a wider and larger regional grouping. Within the Asia Pacific region and, to a certain extent, in Europe, subregional cooperative economic zones involving several countries have been formed. Known in Asia as growth triangles, the best and most successful examples are the Southern China Growth Triangle, with the participation of Hong Kong, Taiwan, and Guangdong/Fujian; and the SIJORI Growth Triangle, involving Singapore, Johore (southern Malaysia), and Riau Islands (Indonesia). The likening of the urban system in Europe to grapes or bananas similarly emphasizes the interrelationships of mega cities in different regional settings. In the same vein, the term, 'urban corridor', is used to refer to the interconnection between mega cities that has been observed to occur in many regions of the world. Within the Asian context, the formation of the BESETO (Beijing–Seoul–Tokyo) urban corridor is most striking and advanced, but a continuous corridor along the Western Pacific Rim from Tokyo along the coastal area southward to Java in Indonesia is emerging. Given the recent strong economic growth of China and the ASEAN (Association of Southeast Asian Nations) countries, this continental urban belt may well become real in a few decades.

### **From Mega-City to World City**

Mega cities and world cities began to gain prominence in the latter part of the twentieth century, but for different reasons. Mega cities are important by virtue of the size of their population, and because of their concentration of economic, political, and technological power. World cities, on the other hand, are famous for certain critical

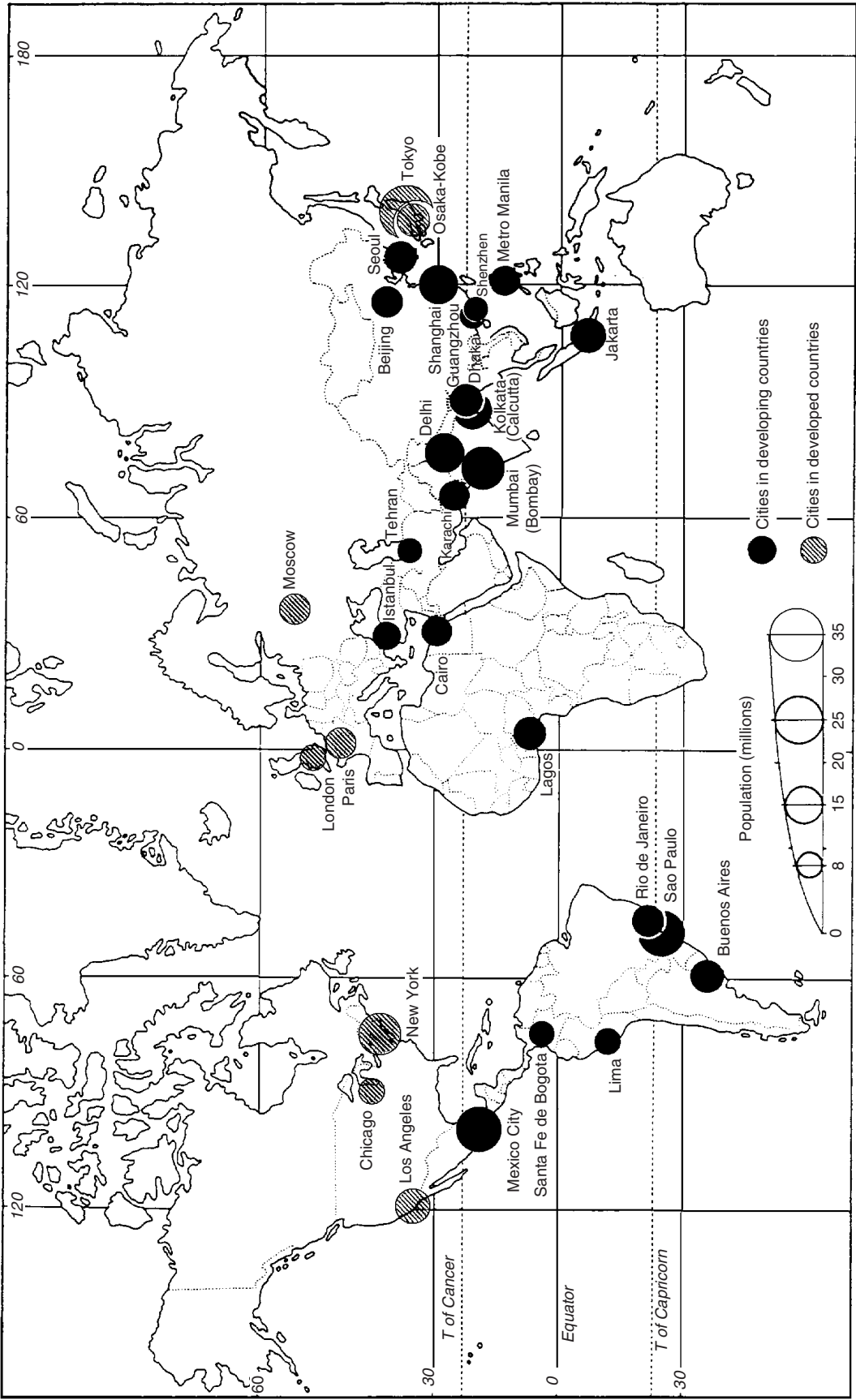


Figure 1 Mega-cities of the world, c. 2005 (the 30 largest urban agglomerations).

functions that they perform in the global economy, or for the worldwide impact that they have in a noneconomic sense. Whenever the lists of these two types of cities are compared, some overlap is observed but they tend to encompass different cities.

World cities, or global cities, are a class of particularized cities that drive and thrive on processes of globalization. They are command posts in the organization of the global economy, key locations for finance and specialized service firms that have replaced manufacturing as the leading economic sector in that city, sites of production and innovation in leading industries, and markets for products and innovations that have been produced. These multiple functions of world cities connect them with other world cities in the region and in other parts of the world, in a functional and effective network. World cities are part of the global economy, defined as one where capital flows, labor markets, commodity markets, information, raw materials, management, and organizations are internationally and fully interdependent throughout the world, even on a daily basis.

The new global economy has impacted cities in developed and developing countries in different ways. In industrially advanced economies, the loss of manufacturing jobs means that cities must restructure their economies in order to survive, as shown by the experience of Detroit, Chicago, New York, Manchester, and Osaka. Equally, other cities such as Los Angeles, Miami, Berlin, and Vienna have discovered new roles and are thriving in the new global environment. More specifically, Berlin has assumed the new role, and Vienna has recaptured its old one, of international business center for the central European region. New York, London, and Tokyo remain the world's leading financial centers, but the recent rise of Hong Kong, Mumbai, and Shanghai is noteworthy. The Hong Kong stock market has climbed to new heights on the back of the endeavor of Chinese firms to 'go out' through a listing in Hong Kong. The volume of initial public offerings (IPOs) in Hong Kong in 2006 exceeded that of New York.

The rise of world cities in the developing world is, in part, a result of the fact that the new global economy is being erected on a new international division of labor (NIDL). Cities in developing countries are becoming centers of productive activities and, consequently, theaters of capital accumulation. NIDL has been premised on four factors: a strong desire among firms to utilize less expensive sources of labor and more profitable locations for production; the response of firms to the growing bargaining power of certain developing countries in hosting industrialization; the expansion abroad of firms from developed economies in order to reduce costs and meet growing international competition; and the relocation overseas of firms or segments of their operations to sidestep well organized labor and government

regulations. As a result of the above four developments, the relocation of firms from developed to developing countries over the past few decades has been sustained and massive. One indication of this global shift is the growing and large scale phenomenon of foreign direct investment (FDI) in developing countries over the past few decades, focused sharply on their cities. Over the past decade, China has emerged as a top destination for FDI, part of the remarkable economic transition that has been taking place in that country since the 1980s.

Under the new global economy, competition among cities has intensified. Many research institutes have been tracking urban competitiveness, regionally or globally, on an annual basis. Indeed, many cities have been engaged in improving themselves, striving to achieve the status of a world city if they are not yet there, in a process that may be called world city formation. Their efforts are going into building a strong physical and social infrastructure. For example, erecting architecturally distinctive office buildings conveys an image of power and prestige; and constructing major international airports, superfast trains, and information highways will sustain the global reach of a world city. Many Asian cities such as Osaka, Hong Kong, Seoul, Kuala Lumpur, Shanghai, and Bangkok, have recently built mammoth, state of the art airports. Similarly, new container ports have been built in Shanghai, Shenzhen, and Tanjung Pelepas (in southern Malaysia). Fast trains now connect Taipei and Kaoshiung, Seoul and Pusan, and Shanghai and Beijing (under construction). Many of these Asian cities are preparing themselves to become world cities, if they are not yet in that class.

Cities also compete in their entrepreneurial skills through 'place making'. They are engaged in a competition to become internationally famous in order to improve their chances of attracting investment, tourists, and other resources. The right to host the Olympic Games, Asian Games, World Cup, World Expo, and other high profile events is fiercely contested. The positive effects of staging these world events have indeed propelled some cities to new heights of economic and social development, as hosting the Olympics has done for Tokyo, Seoul, Los Angeles, Sydney, and Athens. At another level, Disneyland in Paris, Tokyo, and Hong Kong, and Universal Studios in Osaka, are examples of successful investments in mass entertainment, capitalizing on the global brand names of the institutions in question.

## **Planning and Managing Mega-Cities**

With the increasing concentration of mega cities in developing countries, the challenges of planning and managing them are becoming ever more daunting

because these countries often lack the necessary resources, expertise, and experience to organize and run such cities. The magnitude and scope of the pertinent problems are unprecedented in the history of humankind.

In the 1990s, the Population Policy Section of the Population Division of the United Nations supported a mega city research project involving 20 such cities in developing countries. Several of its important findings may be summarized here. First, it was found that although big cities have some advantages that could make them attractive to certain types of industries, the empirical evidence for their overall economic attractiveness was inconclusive. However, most mega cities perform national and/or international economic functions, such as government, banking, insurance, and finance, depending on their relative connectivity to the global economy. Manufacturing employment figured prominently in Asian mega cities, ranging from 23% in Manila and Dhaka, to 35–40% in Mumbai, Kolkata (Calcutta), and Seoul. The informal sector is a key contributor to urban employment, providing 7 out of 10 jobs in Latin America and the Caribbean.

Second, mega cities recognize the need to adopt spatial strategies that would allow them to adjust to their growing size and functions. Many are striving to achieve a polycentric structure by promoting subcenters. Nevertheless, Cairo, Jakarta, Dhaka, and Chennai (Madras) have not succeeded thus far. Only Seoul appears to have achieved a measure of control over growth and some directional strategy by adopting physical measures, such as new towns, industrial estates, and green belts, complemented by social and tax policies.

Third, these and other studies have reaffirmed a widespread and severe lack of basic urban services in many mega cities, including a chronic shortage of housing, inadequacies in both the quantity and quality of the water supply, antiquated sewerage facilities, poor solid waste disposal, and polluted air and water. Squatter settlements and slums have proliferated. Some 40% of the inhabitants of Mexico City live in such conditions, while in Bogota the figure is 50% and in Manila 32%.

Other recent inquiries have pointed to an increasing economic and social polarization within mega cities, in part the result of accelerating processes of globalization. Urban poverty is grave and entrenched, a condition often viewed as an affront to human progress in an age when technology and globalization have brought unprecedented wealth and achievements. Crime and a deteriorating social order have emerged as societal problems, especially in mega cities in Africa, which also have to combat the endemic health problem of HIV/AIDS. Terrorism has become a new urban pathology that is plaguing mega cities, notably in the developed world, as a consequence of the terrorist attacks on New York and Washington, DC in September 2001.

In view of the plight of urban areas in the developing world, the United Nations and its relevant agencies have lent resources, commitment, and energy to understanding and are trying to ameliorate urban problems. These agencies, such as the World Bank, United Nations Development Program, UN HABITAT, and Urban Management Program; and other agencies such as Canada's International Development Research Centre and the Ford Foundation have been particularly active since the 1980s, when the problems of the mega cities in developing countries came to the fore. Much of the work that has been accomplished thus far has proceeded in the spirit of 'learning by doing', as there were no precedents from which to draw lessons. A guiding philosophy for much of the effort has been the firm belief that mega cities in developing countries have much to learn from one another. Thus, the approach of sharing experiences by building a network was followed, with the construction of a new platform on which all actors could play out their parts meaningfully and purposefully. The UN Conference on Human Settlements held in Vancouver in 1976 was the first such global event that brought politicians, planners, practitioners, academics, activists, media representatives, and others to the rare opportunity of comparing experiences and charting the way forward. This was followed by the City Summit held in Istanbul in 1996 and by Habitat III (World Urban Forum) in 2006, again in Vancouver. All of this underlined the commonality of the urban experience across the globe and the participants found much to learn from one another.

With the collective efforts that have been devoted to combating urban problems in developing countries, mega cities have now become cities of hope. Recently, both international organizations and scholars conducting research on mega cities, have been emphasizing issues of governance. Many governments across the developing world have collapsed because of fast paced political changes. These changes in government are a sign of the increasing aspirations of people to participate in governance, and an expression of greater demands for democracy and for transparency in public policy. In this respect, the role of nongovernmental organizations (NGOs) has been critical and civil society is emerging as a force recognized by the authorities and international agencies. Yet, cross border crime, massive speculative financial flows, and unwelcome cultural influences are some examples of what urban governments of today have to deal with on a regular basis. In this sense, urban governance is occasionally in a state of siege.

The mega cities of today are witnessing fundamental changes in the way they are governed, in how new technologies are changing urban life, and in how tolerable they are to live in.

To begin with, one must note the growing application of new technologies in the planning of urban areas.

Public–private partnerships and competition are often involved in the process. Malaysia’s Multimedia Super Corridor, which stretches from Kuala Lumpur’s Petronas Twin Towers to the International Airport and includes Putrajaya, the administrative capital, and Cyberjaya, the hi tech park, is a classic example of combining planning principles with new technologies.

Information technology (IT) is increasingly a part of urban life, as the Internet has become an indispensable tool in business transactions, the dissemination of information, the gathering of data, the provision of entertainment, and so on. Urban societies are fast becoming networked societies, with flows of ideas, money, and information traveling almost instantaneously within a city and across the world. The rise of the networked transnational corporation is an especially significant phenomenon, not only in developed economies but recently also in newly developed economies such as South Korea, Singapore, Hong Kong, Taiwan, Brazil, and India.

## Future Challenges

The twenty first century is an urban century in that, for the first time, any time after 2007 there will be more people living in urban than in rural areas. In other words, the human population has crossed the rural–urban divide and the urban population has exceeded the rural one. Mega cities in developing countries will be a major force in directing global processes and shaping the global economy.

Yet, the challenges confronting mega cities are immense. Mega cities are operating in a fast paced atmosphere of global change, in which people, capital, goods, and ideas are traveling at speeds never seen before. Massive and speedy monetary flows, triggered by computer registered transactions and speculative investments, contributed to the global stock market collapse in 1987 and to the Asian financial crisis in 1997. This is one downside of globalization. Globalization is also exerting a marginalizing influence between cities and nations, as well as within cities. In many cities and nations, urban poverty remains a daunting problem amid growing prosperity. The divide between the haves and the have nots has grown within cities, between nations, and across the globe.

There will be more freedoms and more constraints in the mega cities of the future. Greater freedoms will be extended to individuals and institutions because they will be networked electronically. Wired interactions will supplement face to face contacts. This will also affect urban lifestyles, as people can work at home, shop by computer, and travel using smart cards. The well heeled are likely to have property and business interests in several cities or countries, and families to be similarly

dispersed, out of preference. Citizens of these cities will be increasingly prone to ‘think globally and act locally’. Indeed, social organizations and political institutions face the challenge of having to capture the loyalties of people who have highly diverse orientations. In such a fluid and shifting milieu, urban governance will become ever more challenging, as apart from having to serve local constituents, urban administrations must deal with, and share power with, multinational corporations that are becoming larger and more powerful. Urban governments need to devolve power to local units and adopt a flexible approach to involve talented people in a civil society.

Above all, the mega cities of the future will have to improve their livability, in the areas of health, education, the environment, and, more generally, the quality of life. All survey data to date show that human development or similar indicators are positively skewed toward cities in developed countries. Mega cities in developing countries tend to score fairly or poorly in these indicators. The question of the livability of mega cities should be raised alongside that of their economic, environmental, and cultural sustainability. It will be incumbent upon these urban governments to rise to these challenges.

*See also:* Planning, Urban; Third World Cities; World/Global Cities.

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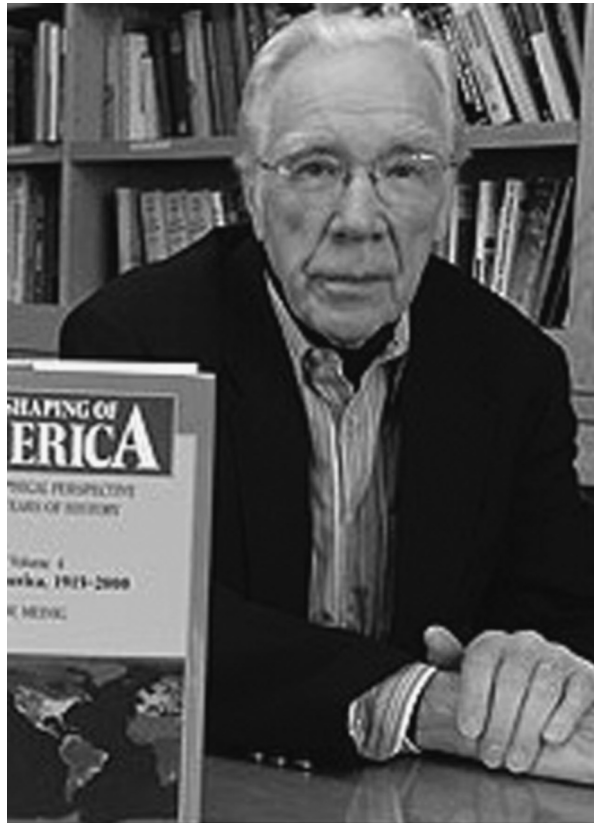


## Meinig, D.

K. M. Dunn, School of Social Sciences, Penrith, NSW, Australia

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### Meinig, Donald (1924–)



Donald William Meinig's texts demonstrate his comprehensive understanding of social processes, economic development, and biophysical conditions. They also betray his family background, born on a farmstead on the eastern edge of Palouse county, a famous grain area in Washington county where Meinig's geographical imagination was ignited by his youthful explorations of its human and physical topographies. Plans to go into the US foreign service were abandoned, but his geographical studies were interrupted by wartime and a period in the US Engineering Core. His gradual exposure to UK, and later Australian, historical geography (through a Fulbright fellowship) was to extend his geographical horizons.

Meinig (who acquired his PhD at Washington, 1953) worked for 10 years at the University of Utah (US). Since 1959, he served at Syracuse University, where the Department of Geography evolved to become a

prominent global node of geographical scholarship. During 1958, he spent a year in the Department of Geography at The University of Adelaide, Australia. His research on the South Australian wheat frontier became the basis of his 1962 book *On the Margins of the Good Earth*. Meinig traversed several thousand miles, visiting every township in the region, as well as exhaustively using archives (State Parliamentary records and municipal newspapers for the entire era). Field observations and archive mining were the career mainstays of Meinig's research method. Short hand descriptions of his basic approach include immersion and study from the bottom up. The general intent of his work was to encourage stronger appreciations of place and a clearer understanding of its dynamic nature.

Meinig's analysis of the colonization of the South Australian wheat belt, north west from Adelaide in the 1870s and 1880s, revealed his subtle ability to describe the links between agricultural development, transport, settlement, and biophysical conditions. The South Australian Government passed laws preventing farming beyond the Goyder's rainfall line, where rainfall was unreliable for farming, and the vegetation only appropriate for pastoral leaseholds. Meinig's analysis of local newspaper editorials and parliamentary debates traced how good rains and bumper crops had generated pressure on the government to expand the farming frontier. Goyder's observations were publicly ridiculed, and the theory that 'rains will always follow the plough' gained a popular following. Political pressure saw Goyder's line erased, sheep pastoralists had their lands resumed, and the wheat farming frontier expanded in a land scramble. For 2 years there were great successes among the wheat farmers. But 3 years of drought produced wide scale abandonment in the 'marginal lands' north of Goyder's line. Bio physical limits were a continued theme in Meinig's 1971 text *Southwest*, where he noted the tempering effects of natural hazards like drought on over development within fragile zones. He remarked on how a sudden influx of European agriculturalists would be followed by a stragglng exodus, a quick testing of the land's productivity by ordinary people, often at great personal cost.

Meinig's work never shied from the political tensions associated with colonization. This was most engagingly demonstrated in his book *Southwest*, in which he described the fortunes of three different peoples in the southwest of the United States. The three were: Indigenous Americans

(with their stubborn occupation and cultural maintenance); Hispanic Americans (their largely unrecorded cultural imprint and unrecognised 'traditional' occupancy), and the 500 year European presence (with the dramatic changes in resource use and the environment). Meinig's historical geography has a rigor and honesty that proscribes a whitewash. He commented on how expansions of Hispanic and Anglo Americans were often at the cost of Indigenous people, confining the latter to reservations and inhospitable lands. In 1968, he described the Anglo settlement in the Great Columbian Plain as a white invasion. He correctly characterized the cross cultural encounters in America as "harsh, and often bloody". Surprisingly, his Australian work is silent on the presence and history of Indigenous people. Later, he would preface the first of his four volume description of the *Shaping of America* with a justification of his unveiling of the ugly sides of colonization.

Meinig lamented the lack of a comprehensive description and analysis of American national history, and his work addressed precisely that gap. The catalyst for Meinig's book *The Great Columbia Plain* was his own life history in the Palouse region, followed by his graduate research on the Walla area. The *Columbia Plain* and *Southwest*, along with his book on Texas, and his esteemed paper on the Mormon history and presence (the most cited of his publications), comprised the springboard for his ambitious four volume historical geography of the United States. These volumes covered first Atlantic America (1986), then Continental America (1992), Transcontinental America (1995), and finally Global America (2004). One measure of his contribution in this field is the multiple citations of his work in *A Scholars Guide to Geographical Writing on the American and Canadian Past*. In the Preface to *Southwest* (1971, page vi) Andrew Clark described Donald Meinig as "one of the most evocative interpreters of the evolution of the American West."

In a recent book titled *Landscapes* there is a comment on the timeliness of Meinig's recommendations for studying landscapes. Meinig advocated the study of ordinary landscapes and he outlined how readings of landscapes are multiplicitous. The former recommendation was to eschew a pre occupation with exotica, and to repatriate our research gaze to the landscapes and people around us. The second was a harbinger of a fundamental principle of post structuralism – that there are many truths, and these truth claims are in a contest. Meinig said "It will soon be apparent that even though we gather together and look in the same direction at the same instant, we will not – we cannot – see the same landscape". Despite this multiplicity, Meinig did not abandon students to chaos and cacophony. He saw landscapes as texts to be read in a rigorous way. Meinig articulated seven principles for historical geography

(context, holism, localism, systems, tensions, dynamism, and growth). And he edited the text in which Lewis' seven axioms for landscape reading were presented. In *The Great Columbia Plain*, Meinig exhaustively detailed the sequences of human occupancy in that remarkable region of Washington State. He described the economies and cultures of Indigenous people (such as the Spokane, Nez Perce, and Yakima peoples) as well as the diverse religious and cultural histories of white fur traders and missionaries from Canada and the eastern US. The varied and competing political economies of hunter gatherers, fur traders, military administrations, gold miners, pastoralists, and wheat farmers were subtly described. It is an excellent guide to all researchers on how to carry out a study of sequent occupation.

Donald Meinig has an exceptional talent for the powerful telling of stories about landscapes and peoples. He has been a supporter of more personalized, honest, and creative renderings of geography, outlined most fully in his address to the Institute of British Geographers in 1983, which is widely cited by geographers undertaking studies of fiction, reflexive analyses, and using situated knowledge. Depth, honesty, openness, and rigor were markers of the way a geographer ought to read landscapes. This is indeed how Donald Meinig interpreted the landscapes of the United States and of Australia.

**See also:** Cultural Geography; Historical Geography; Humanism/Humanistic Geography; Indigenous Geographies; Landscape.

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Donald Meinig's Homepage.

# Memorials and Monuments

**D. H. Alderman**, East Carolina University, Greenville, NC, USA

**O. J. Dwyer**, Indiana University, Indianapolis, IN, USA

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## Glossary

**Counter hegemonic monument** A monument created to challenge a dominant interpretation of the past, demonstrating how memorials can be used as tools of social resistance.

**Mythologize** To create a myth, not necessarily in the sense of fabricating history but in converting memory into a widely shared and socially important identification with the past.

**Sanctification** The creation of a sacred place for remembering an event, person, or group, accompanied by the building of memorials and monuments.

**Symbolic Accretion** The appending of supportive or antagonistic commemorative elements onto existing memorials and monuments.

**Symbolic Annihilation** The manner in which memorials and monuments fail to represent (or misrepresent) the identities and histories of marginalized social groups.

**Symbolic Capital** The accumulation of prestige, honor, and influence through the manipulation and control of symbols and cultural representations, including memorials and monuments.

## Introduction

Memorials and monuments are of increasing interest to geographers, growing out of recognition of the social nature of commemoration and the important role that space and place play in the process and politics of remembering. Geographers envision these public symbols as part of larger cultural landscapes that not only reflect certain perspectives on the past but also work to legitimate them as part of the normative social order. Geographers analyze memorials and monuments through three conceptual lenses. The 'text' metaphor emphasizes a critical reading of the histories and ideologies given voice (and silenced) in the content and form of memorials and monuments, as well as the dynamic nature of (re)inscribing memory into space. The 'arena' metaphor focuses on the capacity of memorials and monuments to serve as sites for social groups to debate actively the meaning of history and compete for control over the commemorative process as part of larger struggles over identity. The 'performance' metaphor recognizes the

important role that bodily enactments, commemorative rituals, and cultural displays occupy in constituting and bringing meaning to memorials and monuments, suggesting that the body itself constitutes a place of memory.

## Social and Geographic Nature of Commemoration

The study of memorials and monuments is of increasing interest to geographers as well as scholars from a wide range of fields in the humanities and social sciences. In forming much of this interest is an understanding that memory and its manifestations cannot be fully explained in terms of cognitive psychology. While the mechanics of remembering and forgetting is a matter of brain chemistry and individual predilection, what comes to count as being worthy of commemoration is mediated within society. Many of our recollections of the past are collective memories that are constructed and transmitted to us through group interactions and a variety of cultural practices. What is commemorated is not synonymous with all that has gone on in the past. Rather, what is defined as memorable or historically significant is open to social control, negotiation, and contestation.

The social or collective interpretation of the past is constituted, in part, through the construction of material sites of memory, which include memorials and monuments. The conventional distinction between monuments and memorials – the former supposedly characterized by triumph and the latter embodying loss – is somewhat unhelpful. Monuments are one kind of memorial text, taking their place alongside a wide range of media designed to facilitate remembering and forgetting of the past. Typically situated in public space, monuments include a host of material culture elements associated with collective memory, for example, street signs, historical markers, landmarks, statuary, preserved sites, and parks. Together, they constitute what may be termed the memorial or heritage landscape.

Memorials and monuments are important symbolic conduits for not just expressing certain versions of history but casting legitimacy upon them. They give the past a tangibility and familiarity – making the history they commemorate appear to be part of the natural and taken-for-granted order of things. Memorials and monuments wield further social influence by serving as tourist destinations, civic gathering places, and settings for everyday activity. The power of commemorative place naming, for

example, comes from the manner in which history is inscribed into our daily vocabulary, both verbal and visual. Appearing on road signs, addresses, advertising billboards, and maps, the past is constantly made part of one's spatial and historical frame of reference. Like all cultural landscapes, memorials and monuments have a normative power, at once reflecting and reproducing social ideas about the past.

Memorials and monuments influence how people remember and value the past, in part, because of their apparent permanence and the common impression that they are impartial recorders of history. In reality, memorial landscapes narrate history in selective and controlled ways – hiding as much as they reveal. Consequently, the social process of remembering is accompanied, simultaneously, by a process of forgetting – an excluding of other historical narratives from public consideration and recognition. Because memorials and monuments often reflect the values and worldviews of the dominant social class, they tend to exclude the histories of minority or subaltern groups. Although not usually detectable from the surface, memorials and monuments hold deeper stories about how they were created, by whom, and for what ideological purpose.

Memorials and monuments obviously represent history, but it is wrong to see them as completely couched in the past. They are also mirrors of more contemporary events, issues, and tensions. Rather than having a fixed, static meaning, memorials and monuments are in a constant process of becoming as present social needs and ideological interests change. They fall in and out of public favor as opinions about the past shift. The rewriting of history is often carried out through a re-scripting of the identity and meaning of places of memory. While it is true that much of this rewriting is done by those in power, it is also done by everyday people as they seek to turn the memorial landscape into a site for struggle and resistance. There is increasing evidence of traditionally marginalized groups building counter hegemonic monuments that challenge the dominant historical narratives that frequently exclude them. Despite the impression that memorial landscapes are somehow frozen in time, they are perhaps better seen as open ended, conditionally malleable symbolic systems.

Geographers have made significant contributions to the study of memorials and monuments by recognizing how collective memory is shaped by the politically contestable nature of space and place. Where the past is remembered is not incidental but actively shapes the memorialization process. Every memorial and monument has a placement and relative location that may confirm, erode, contradict, or render mute the intended meanings of the memorial's producers. A memorial's placement refers to the specific condition of its site, for example, its

visibility, accessibility, symbolic elements, and its adjacency to other parts of the landscape. In contrast, a memorial's relative location or situation is examined more broadly in relation to the rest of the city or countryside. Relevant issues here include its location vis-à-vis the area's mosaic of race, gender, and class based patterns; its proximity to power filled sites such as the central business district or other memorials; the flow pattern of tourists and visitors who visit – and just as importantly, those who do not.

Public commemoration is not simply about determining the appropriateness of remembering the past in a certain way; it also involves deciding where best to emplace that memory within the broader cultural landscape. Sometimes memorials and monuments become embroiled in controversy when antagonistic memories are perceived as infringing upon one another's symbolic space. The importance that location plays in shaping the meaning and politics of commemoration is well illustrated in the context of ongoing efforts to celebrate the Civil Rights Movement in the United States. Because of white opposition, African Americans have struggled and often been unsuccessful in placing monuments to the Movement within the traditional core of memorial space in cities. For the most part, Main Street, the county courthouse, and city hall remain devoted to remembering white dominated historical narratives. Many of America's roadways named for Martin Luther King, Jr., are side streets or portions of roads located within poor, black areas of cities. The placement of these monuments reinforce the importance of traditional racial boundaries and has, in some instances, changed a street's symbolic meaning from a point of African American pride to yet another reminder of continued inequality and injustice (Figure 1).

## **Approaches to Studying Memorials and Monuments**

### **Memorial as Text**

Geographic interest in memorials and monuments has grown out of a concern for how the past is remembered, as well as a more general concern with methods for interpreting cultural landscapes. In particular, there has been a movement toward analyzing the landscape and its symbolic elements as documents that are written and read by social actors and groups within their own specific historical and ideological contexts. The 'text' metaphor has been one of the most dominant models for interpreting cultural landscapes, in general and those specific to memorials.

In a manner analogous to inscribing words on a page, the textual approach to studying memorials understands commemoration as the process of manifesting stories on



**Figure 1** Martin Luther King Jr. Drive in Greenville, North Carolina (USA) marks an area that is predominantly African-American with limited commercial development, whereas East Fifth is mostly white and more upscale. Originally black leaders wanted all of Fifth Street renamed not just part of it and have expressed deep frustration over the city's segregation of King's memory. Where the past is remembered is not incidental but actively shapes the meaning and politics of the memorialization process. Photograph by Derek Alderman.

and through the landscape. This approach mobilizes a series of characteristic questions that seek to understand what historical discourses are represented and given authority via the memorial. These questions include: What is said and not said about the past? Whose history is remembered or forgotten through the spatial inscription of memory? To what extent does a monument silence certain accounts of the past while it gives voice to others? Does the differential treatment of histories tell us something about power relations and patterns of inequality within historical and contemporary societies? And to what extent do commemorative silences perpetuate these unequal power relations into the future?

In the case of Australia and the United States, for example, memorials and monuments have traditionally been built or 'written' in ways that ignore or misrepresent the history of indigenous peoples. In these narratives, white explorers and colonizers are cast as civilized heroes while natives are depicted as primitive and inferior, if they are shown to exist at all. The monuments found in Adelaide's Prince Henry Gardens – one of South Australia's most important symbolic sites – show clear evidence of this type of symbolic marginalization. All of the statues, busts, and memorials that geographers have examined honor people of European, immigrant origin. Commemorative texts can also take on important gender patterns. Only a few of the monuments located at Prince Henry Gardens memorialize a female. In addition to being historically incomplete,

these exclusions assist in reproducing the social and cultural order, contributing to the further subordination and invisibility of under represented groups. How history is written and made socially important through memorials and monuments is not simply a matter of semantics but vital to achieving fairness and preventing the symbolic annihilation of marginalized social groups and their historical identities.

When interpreting memorials as texts it is important to note the dynamic nature of the 'writing' process. As was the case when paper was scarce and commonly reused time after time, memorial landscapes can take on the appearance of a palimpsest in which elements of past and present writing can be seen. This susceptibility to overwriting, embellishment, and erasure can also be thought of in terms of what has been called symbolic accretion. In a manner analogous to the geologic process of sedimentation, memorials and monuments undergo symbolic accretion as different historical meanings are layered onto them over time, thus challenging the notion that these symbols have a final, established meaning. Symbolic accretion often involves grafting a memorial with commemorative themes that ally with or confirm its original meaning. Yet, accretion can also be used to append alternative, potentially antagonistic narratives to memorials in ways that disrupt or contradict dominant interpretations of the past. Symbolic accretion is not only a way of analyzing the stratigraphy of ideologies written onto memorial landscapes. It also represents a political



**Figure 2** Long interpreted as offensive to New Orleans' black majority, the Liberty Monument was moved to a less prominent location and affixed with a new inscription. The inscription, pictured here, recognizes not only the White League but also those who fought against the racist organization. Monuments and memorial undergo symbolic accretion as different and sometimes contradictory historical meanings are layered onto them over time. Photograph by Owen Dwyer.

strategy used by groups to raise the visibility of their commemorative vision via an established memorial presence.

The once celebrated Liberty Monument in New Orleans, Louisiana, USA, offers a case in point. Erected in 1891 to commemorate the White League, a paramilitary organization that spearheaded the drive to disenfranchise African Americans in Reconstruction era Louisiana, the Liberty Monument was removed from the city's main thoroughfare in 1989 under the pretense of street repairs. Civil rights activists had long argued that the monument celebrated an illegal action and was an offense to the city's black majority. Following the protests by an odd coalition of white supremacists and historic preservationists, the monument was re-erected but this time at a new, less prominent location. Importantly, the re-placed monument included a new plaque, one that calls into question the memorial's original inscription by praising those who died fighting the White League.

The White League presumably did not envision that its monument would one day become a rallying point for civil rights activists, an antimemorial to white supremacy. Yet no memorial or monument speaks for itself; each one is dependent upon its audience to support – or betray – its vision of the past. Similar to the interpretation of a book, 'readers' of monuments will react differently to what is ostensibly the same story. The fracas over the Liberty Monument demonstrated that insofar as a memorial claims to present the authoritative version of the past, it furnishes different audiences with the raw material for a new round of criticism regarding what is 'true' or 'real'. Beneath the appearance of historical consensus

and stability, monuments – and by implication the meaning and significance of the events they represent – are the product of and conduit for ongoing debate (Figure 2).

### Memorial as Arena

Recognition of the multiple ways in which memorials and monuments can be authored, read, and acted upon leads to an examination of the politicized nature of public commemoration. This approach utilizes the metaphor of 'arena' to direct attention to the political struggles and debates that frequently revolve around the representation of the past through the landscape. While collective memories are under constant reconstruction and re-interpretation, the process is not done freely or without constraints. People's ability to commemorate the past in certain ways is limited by competition and conflict with other people wishing to narrate the past in a different way. The potential struggle and contest over whose conception of the past will prevail constitutes the politics of memory. In this respect, memorials and monuments are places for social actors and groups to debate and negotiate the right to decide what is remembered and what version of the past will be made visible to the public.

In emphasizing how memorials and monuments are arenas for the politics of memory, one must recognize that historical representation is not only a product of social power but also a tool or resource for achieving it. The transmission of a commonly accepted conception of history is vital to legitimizing established political orders.

By the same token, challenging the dominance of existing ideologies or ways of seeing the world requires the creation and diffusion of alternative interpretations of the past. It is little wonder, then, that wholesale changes in the memorial landscape often accompany major shifts in political ideology and power within countries. Governments often use public symbols to legitimate certain nationalistic interpretations of history. The memorials and monuments of an earlier regime are replaced by commemorative icons that mythologize a new set of heroes, military campaigns, and ideological causes. Accompanying these changes are decisions about what to do with now illegitimate memorials. Should they be destroyed, stored out of sight, or relocated to places that encourage public contemplation rather than emulation? Nowhere has this process been made more apparent than in Central and Eastern Europe after fall of communism. While these commemorative alterations are often represented in the media as dramatic and victorious in tone, the image belies the political struggles inherent in reinventing national history and tradition. In post Soviet Russia, political elites competed with themselves and the larger public over the control and transformation of memorials and monuments from the previous communist era. These places of memory became important pieces of symbolic capital within the new political order as state leaders vied to maintain or gain greater prestige, legitimacy, and influence (Figure 3).

Commemoration is especially controversial when it involves remembering trauma, atrocity, and violence. While some places of tragedy are obliterated, others go

through a process of sanctification in which people make them into sacred places, not in a strict religious sense but in terms of creating highly meaningful and respected memorials or monuments. Public remembrance of atrocity is necessary as a tool for facilitating social compensation to victimized groups, moral reflection among the larger society, and public education. Memorials and monuments related to Holocaust are instructive here, particularly in light of the competing historical meanings and interpretations that have been projected onto them. Despite Auschwitz's significance to Jews, the Polish Catholic Church has waged a controversial appropriation of the camp's symbolic space since 1970s. The martyrdom of Polish Catholics displaced representations of Jewish victimization. Atrocity is a difficult commemorative topic because it requires identifying victims, perpetrators, and heroes. While these roles would appear to be clearly set, they can be defined in quite fluid and sometimes opposing ways. Buchenwald became the site of such debates following revelations that the former Nazi concentration camp had also been used as a Soviet detention camp for Germans after World War II and that Nazi perpetrators were among the victims of the Soviet camp.

The past becomes contentious because of the close connections between memory and identity. How we imagine ourselves in the present is intimately linked to how we remember and represent ourselves in the past, providing justification for why we should be recognized and respected publicly. Heritage is inherently dissonant or open to discord or disagreement. Expressing one's



**Figure 3** As with many political revolutions, a commemorative reorganization accompanied the 1989 fall of the Communist government in Hungary. New memorials were created and previously neglected ones were restored. Many Communist-era monuments were moved from public places to Statue Park, an outdoor museum near Budapest. The statue of Lenin in the foreground, previously located at the main entrance of the Cspel Iron Works, was actually rescued and hidden by workers before it could be officially toppled. Reproduced with permission from Hungary-Statue Park.



heritage invariably means that another, different identification with the past is disinherited, excluded, or degraded.

Memorials and monuments play an important role in constructing a sense of belonging to a national heritage, although these commemorations can be a site of tension between nationalism and other competing lines of identity. The memorial landscape can also express notions of regional identity, which is also open for debate and reinterpretation among social groups. Recent public controversy in the southeastern United States over the public display and meaning of the Confederate battle flag provides a good example.

The Confederate flag, which was used by slave holding southern states during the United States Civil War, has become a lightning rod for competing interpretations about the symbol's meaning and, ultimately, the historical reasons for why the South seceded from the Union. On the one hand, many white southerners see the flag as a symbol of their ancestors' heroic fight for independence from an intrusive federal government, hence suggesting that slavery was not the 'real' reason for the Civil War. On the other hand, many African Americans view the flag as a symbol of racism and a commemoration of past efforts to preserve slavery and white supremacy. They argue that the mere presence of these memorials to the Confederacy not only marginalizes blacks from any meaningful discussion of the South's history but also openly conflicts with their ongoing efforts to construct a more empowering image of black history built upon civil rights and social justice. In this respect, the Confederate flag also functions as an arena for struggles over racial identity as black and white southerners compete to decide whose interpretation of the past will prevail. The arena metaphor, with its emphasis on contest and spectacle, prompts us to consider more closely how people present or display their connections with the past to the larger public.

### **Memorial as Performance**

While geographers have most often focused on the textual and contested nature of memorials and monuments, some have emphasized the importance of 'performance' to commemoration. The metaphor of performance directs our attention to the ways in which memorial landscapes serve as a stage, literally and figuratively, for a wide range of performances such as public dramas, rituals, historical re enactments, marches and protests, pageants, civic ceremonies, and festivals. It is not just that these performances happen in or at places of memory. Rather, the memorial landscape is constituted, shaped, and made important through the bodily performance and display of collective memories. For instance, since the late 1970s, the activist organization *Madres de Plaza de*

*Mayo* (Mothers of the Plaza) has carried out collective rituals such as occupying and marching in city plazas. They do this in the memory of children abducted and killed by the formerly oppressive Argentine government, forcing the country to come to terms with its troubled past. Through the bodily performances of the 'mothers', such as wearing white scarves in remembrance of the diapers of their lost children, ordinary plazas are converted into emotionally and politically charged memorials. The body itself can be viewed as a place for commemoration, as well as political expression (**Figure 4**).

Performance is particularly important within the heritage tourism industry. Host communities are often concerned with projecting a positive image to tourists, one that actively displays a distinctive and engaging local history. In many cases, existing memorials, monuments, and historic sites become stages for historical tours and re enactments that carry out this commodification or selling of the past. The packaging of the memorial landscape through performance is not confined to the drama created by actors and historical guides but includes the everyday, seemingly mundane practices of tourism workers as they simply talk about the past with visitors. Festivals and pageants are community performances increasingly used to highlight the historical identity of places. These landscape spectacles appear to be innocent if not often overly commercialized representations of the past. Yet, they – like any memorial or monument – highlight selective visions of the past. In 1996, Bristol, England, hosted the International Festival of the Sea in an attempt to market its maritime heritage. Festival organizers excluded certain histories from promotional performances, namely the port city's role in slavery and imperialism. Even more striking was the city's forced removal of traveler populations – itinerant groups who roam the countryside – from the festival site for fear of offending tourists. In this case, Bristol's festival organizers presented a sanitized image of the city, prompting us to consider how commemoration involves not only a selective performance of certain historical narratives (over others) but also decisions about who should (or should not) be part of these performances.

The sum of these different approaches is that memorials and monuments do more than simply reflect ideas about the past and secure them to the ground. They extend these ideas into the world and actively participate in how people write, read, debate, and perform history in selective and varying ways. Memorials and monuments are inherently political. They can be manipulated by those social groups in control while also providing a platform of resistance and struggle for those traditionally powerless. The past is a potentially contested terrain and where memorials and monuments are located – in our sense of time and our sense of place – plays a critical



**Figure 4** Members of Madres De Plaza de Mayo hold each other and walk together at the central plaza in La Plata, Argentina. These female activists demonstrate the important role that rituals, bodily performances, and displays of collective memory play in converting ordinary public spaces into emotionally and politically charged memorials. Reproduced from Bosco, F. J. (2006). The Madres de Plaza de Mayo and three decades of human rights activism: Embeddedness, emotions, and social movements. *Annals of the Association of American Geographers* 96(2), 357, with permission from Blackwell Publishing.

role in shaping what (and who) is ultimately remembered and forgotten.

See also: Cultural Politics; Festival and Spectacle; Heritage; Landscape Iconography; Material Culture; Memory; National Spatialities; Street Names and Iconography.

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# Memory

S. McDowell, University of Ulster, Coleraine, UK

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## Glossary

**Contestation** It is to refute, dispute, or disagree.

**Cultural Landscape** The environments which reflect the interactions between populations and their surroundings.

**Heritage** The selective use of the past as a resource for the present and future; an assemblage of myths, histories, values, and behaviors.

**Identity** It is the collective aspect of a set of characteristics by which a person or thing is definitively known.

**Power** It is the production of effects over something or someone.

**Representation** It means to communicate, depict, symbolize, or portray.

**Territory** It is a geographic space containing a homogeneous or collective group.

## The Nuances of Memory

Because of memory's integral importance to our sense of self, scholars of many hues have sought to understand it using a plurality of theoretical and methodological approaches. The study of memory has proliferated among a number of disciplines to such an extent that it is no longer sufficient perhaps to discuss it as some kind of unitary or abstract entity. There are, for example, multiple subgenres to memory: official, unofficial, public, private, collective, communal, local, national, societal, historical, emotional, urban, and postmemory – to name but a few, all of which have attracted the attention not only of psychologists but also of historians, anthropologists, sociologists, and increasingly, geographers.

Primarily and more traditionally, academics have thought about memory in terms of scale, from the individual or private which focuses on personal experiences or recollections of the past; the local or communal, which draws on key events or symbolic moments that have occurred within close knit groups; to societal memory which describes narratives of the past which are sympathetic to a broader, loosely interconnected population. On that same scale is public and national memory. The former emanates from the fusion of official and localized cultural expressions, which is often a manifestation of political and social relationships. It is, moreover, a process that is not only negotiated by official or national groups

but also by the media, academics, heritage institutions, and local community organizations. The latter – national memory – commonly derives from the state and its institutions representing the perceived hegemonic needs and values of the general public. Frequently thought of in conjunction with official memory, national memory is fundamentally linked to nation building and concentrates on specific aspects of the past which helped form the nation. Consequently, the state is usually the official mediator of national memory and, as such, it assumes responsibility on instructing the nation what to remember. The African National Congress (ANC) government, for example, after taking power in South Africa after apartheid, set about establishing 6 days of national remembrance. Unofficial memory typically used to describe memories that are not state structured and thought of as a binary opposite to official or national memory is arguably a somewhat ambiguous and dangerous term, in that it infers a certain lack of legitimacy or authority. This is, of course, refuted by many groups and individuals who regard their own individual, local, or communal interpretations of the past to be just as valid and 'official' as that of the state or other officially sanctioned forms of remembering.

More recent subgenres of memory, triggered, perhaps, by new cross disciplinary theoretical approaches and insights into the multifaceted and contested nature of remembering, include literal, exemplary, emotional, and postmemory. Literal memories are those recollections of the past attached solely to violent or disturbing events which do not extend to other similar events. Exemplary memories, conversely, extend their reference to other similar occurrences, thus making it easier to detract lessons from the past to inform the future. The study of 'postmemory' also looks at the effects of violence on memory and is particularly pertinent in analyses of Holocaust memory or the remembering of war. It describes a form of memory that has been circulated through other people's experiences of a violent event. In postmemory, memories are passed down through generations to be represented by people who have no personal attachment to the memory. Subsequently, they seek to reuse, reenact, and re represent those memories in order to feel closer to their ancestors. The term emotional memory, meanwhile, has been increasingly employed by scholars to describe the transgenerational remembering of traumatic events. At the heart of such varied trajectories has been an attempt to dissect the multiple meanings and functions of a complex and challenging concept.

## Memory and Geography

Phenomenological approaches to memory have pondered over whether or not remembering is something that is done, as opposed to something almost innate that people have, and scholars have questioned the extent to which the latter are different from our manipulation of them. Indeed, a growing body of work supports the argument that memories are not necessarily embedded cognitively; rather they are produced through social and spatial processes. The influence of place on the process of remembering has long been the subject of geographic interest, and geographers are specifically concerned with the representational dimensions of memory and how it is produced through social activities of remembrance, such as commemoration. It has been convincingly argued by many that all memories have a geography as they are recalled or evoked, for the most part, through specific sites and attach our recollections and experiences to particular places. When most of us think of the 11 September attacks in 2001, for example, we are instantly transported to the devastated site of Ground Zero – our minds replay the shocking scenes of the Twin Towers engulfed in flames. Equally recalling Martin Luther King’s “I have a dream speech” is now virtually synonymous with the National Mall in Washington and the backdrop of the Lincoln Memorial. Geographers, conceptualizing memory as spatially constituted, seek it in a place and a location and argue that there are strong connections between physical locations and remembering and commemorating the past. Concentration camps and battlefields, sites of bombings and assassinations, and the locations of speeches and celebrations are places that incite our memories. Places are best understood as environments that have been invested with meaning. They are, therefore, the locations with which people connect, either physically or emotionally, and are bound up in notions of belonging (or not belonging), ownership, and consequently, identity. Geographical studies of places of memory have centered on four specific areas: landscapes and commemoration, identity and heritage, the politics of remembrance, and increasingly the relationship between memory and territory.

### Dissecting Memory in the Cultural Landscape

The making and marking of place underscores the potential of cultural landscapes (which in geography can be understood to constitute those environments which reflect the interactions between populations and their surroundings) to act as tangible places to dissect the meanings and functions of memory. The desire to mark ‘place’ is often strong after a tragedy. People often flock

to the sites of deaths or killings, bringing with them ephemeral commemorative paraphernalia – flowers, prayers, pictures, and poems. The instantaneous commemoration of the 1995 Oklahoma bombing is illustrative of this point. Only hours after the bombing, the site’s peripheries became almost sacred space. Onlookers brought wreaths; toys, and messages of condolences. As the days progressed, ideas for a permanent memorial flooded into the governor’s offices from all over America. The site not only united the country in grief but also communicated messages of resilience and defiance. The wake of the 2006 London bombings evoked a similar response. Again the need to sanctify each site became immediate in the days and weeks following the attacks. Landscapes then, as representative entities, play critically important roles in shaping how the public interprets, defines, and debates its past. Simon Schama’s work on the relationship between landscape and memory has been particularly successful in propagating this approach.

A long established geographic concept is, of course, the idea of landscape as a ‘text’ or a communicational resource, as something to be read and interpreted. Any reading of it must then focus its features and layers, primarily on the visual images and symbols embodied within it. It is universally agreed that visual matter in particular is fundamentally important to the cultural construction of identity, and scholars are largely agreed that what is visible is ubiquitous, reinforcing the notion that the cultural landscape is a dynamic resource in the interpretation and articulation of identities and memories. Geographers have led the field in dissecting the visual or iconographic features of the cultural landscape, such as public buildings, monuments, plaques, plinths, graffiti, and street names. As inscriptions of memory which find tangible representation in the landscapes around us, they commemorate and champion partisan interpretations of the past and present onto public places. As such, they represent what is valued (and what is not) within a society, and can be read as icons of identity and spatializations of history; they are, what Pierre Nora famously termed *Lieux de mémoire* (sites of memory), which possess the ability to embody the past and stimulate remembering in fixed locales. Groups and individuals within societies reconstruct signs and symbols and read them in different contexts, thus transforming their reference and meaning. The cultural landscape then, and the memories and meanings it embodies like society, is in a constant mode of flux, as it consistently develops and mutates. Rarely passive, it is subject to reappropriation, interpretation, contestation, and destruction. Thus, cultural landscapes as sites of memories are representative, emblematic, evocative, and expressive, and reveal the contestable and diverse nature of acknowledging the past.

## Memory, Identity, and Heritage

The themes of identity and heritage have formed integral components of geographical approaches to understanding the meanings and functions of memory. Remembering the past is, of course, an essential part of the present, and is important for a number of reasons, one of the most significant being the articulation of identity. It is universally agreed that memory is something that is essential to our understanding as human beings, and therefore is inexorably tied to our sense of identity and to our ability to construct and deconstruct identities in the present. In cognitive terms, scholars believe that a person's identity is shaped only by that which is accessible to remembrance. For a group or nation to have a collective identity, it has to have a shared narrative of the past, an agreed acceptance of all those events which have formed the group over time, including knowledge of the group's origins. Particular emphasis may be placed upon specific moments or events which resonate strongly with the group's identity. These collective beliefs are crucially important in fostering a sense of togetherness and cultural solidarity. National cohesion, in particular, requires a shared awareness and identity that is endorsed through common historical experience. This gives weight to the idea that memory is socially constructed and negotiated in the present through a variety of different media and processes. Never static, it is malleable to the influences of the present and the requirements of the future.

Remembering the past is invariably selective as it yields to the demands of specific interests and ideologies at particular times and in particular spaces. As such, the past is continuously reshaped for contemporary identity requirements. This manipulation of memory is commonplace within every social order as it continuously retells and reinvents its past, often at the expense of historical accuracy. America's commemorative landscape had until the 1960s and 1970s completely omitted the narratives of Native Americans, African Americans, and Hispanics, to name but a few. Memories are typically modified to suit particular situations and times, and do not then always correlate with historical truths. Throughout the selection process, memories are reconfigured, becoming infused with myths. Such distortions are rarely accidental as the dimensions of 'forgetting' in the construction of identity are just as crucial as remembering. In many societies, the exorcism of dark, potentially damaging, or shameful memories is an integral part of maintaining a collective identity and ensuring the continuing unification of the group. So too are memories which threaten to disrupt a shared interpretation of the past. Silences within narratives of memory have become fertile ground for geographic analysis. Kenneth Foote's work on landscapes of violence and tragedy in the US explores text on the theme of

forgetting. One of Foote's case studies examines the deliberate erasure of the seventeenth century witch trials in Salem from public memory, illustrative of how shameful episodes in a nation's history can become erased or obliterated from public consciousness.

However, the past is, as geographers have noted, not simply subject to processes of remembering and forgetting, but its participants are also profusely sensitive to its potential in the present. If we understand memory as something that is alive, partisan, and negotiated in the present, then we must too accept that it is inexorably linked to the heritage process. Heritage is a term that is employed to describe the selective use of the past in the present. Conceived both spatially and socially it is an assemblage of myths, values, nostalgia, and traditions, and is carefully tailored to meet the needs of contemporary societies, be they cultural, social, political, or economic. David Lowenthal's works *The Past Is a Foreign Country* and the *Heritage Crusade and the Spoils of History* have, arguably, been two of the most important texts written on the complex relationship between memory, identity, and heritage. Heritage, Lowenthal believes, conjures feelings of inheritance, familiarity, commonality, and continuity and speaks to our sense of understanding. It can too be concretized in specific sites through the insertion of commemorative symbols, situated performances, or rituals. It is (like memory) constructed, a cultural product, or tool that is alive, negotiated, and contested. Just like amnesiacs who lose their sense of self because they cannot remember who they were, without our ability to remember, identity, culture, and heritage is lost. Through acts of remembrance, such as commemorations, cultures and traditions are formed, maintained, and destroyed, as memories are manipulated and exaggerated.

## The Politics of Memory

The study of places of memory can reveal how different political perspectives are expressed through spatial practices and how meaningful place is produced and reproduced through those practices. Geographers have written extensively on the specific capacity of places of memory to represent power, two in particular: Andrew Charlesworth, who has explored the meaning of Holocaust memory, and Karen E. Till, who has published widely on the politics of memory, have made substantial contributions to this field. Collectively, they argue that *lieux de mémoire* such as monuments, memorials, and buildings, which have been invested with meaning, carry conscious and subconscious messages, and are subject to competing interests. Their place in public life translates powerful ideological messages that are never apolitical and ensures the messages they communicate are open to contested interpretations. Charlesworth's research on

Auschwitz (as one of the most potent symbols of the Holocaust) shows how malleable sites of memory are to manipulation and how susceptible they are to power struggles. His examination of the contestation over symbolic space at Auschwitz highlights the individual attempts by both the Catholic Church and the former Polish communist state to claim ownership over the site for their own needs.

Dominant ideologies often evoke the past through spatial and temporal representations to reinforce their influence over society, dictating and defining what is remembered (and consequently forgotten). Those with the most at stake politically, or those with the greatest ability to exercise power, have a vested interest in the production of partisan sites of memory and bring the past into focus to legitimize a present social order. This can be seen in the postsocialist reconstruction of identity in Central and Eastern Europe, where after the fall of communism there was a return to presocialist values and national identities. Through evoking the presocialist period, the renaming of streets in places like Romania bolstered the postsocialist regime's claims to power. Instrumental to communal or group solidarity is a sense of unity only achieved through a shared memory or common experience. At the core of all social orders is a sense of continuity over time and space, sustained by nostalgia for the past and the careful tailoring of memory by powerful agents to fulfill the identity requirements of the present. Sites of memory, such as monuments, plaques, museums, and symbolic architectural spaces, as static and permanent reminders of the past concretized in the present are largely constructed by national governments to represent hegemonic values that cultivate notions of national identity and frame ideas and histories of the nation. As sites of civic construction, they instruct citizens what to value concerning their national heritage and public responsibilities. Such sites represent and embody power, greatness, resistance, memory, and loss. Citizens participate in the production and reproduction of the past through a variety of spatial practices, including wreath laying, attending memorial services, marching, and a number of other performative rituals. Reenacting and repeating the past at these sites not only consolidates the legitimacy of the memory being evoked but also reifies ownership of the space and reinforces the power of the group.

While the past has the power to bond communities, societies, and nations in the present, it can also operate as sites of resistance or division, particularly if the memory evoked has no resonance with groups or individuals within a particular social order. Remembering the past is not always consensual, and the creation of meaningful place is habitually fraught with contestation. Till's work on the struggle to find an appropriate past for the 'new' Berlin's present is particularly good at illustrating the

difficulties of finding common ground during the commemorative process. It is, for example, unlikely that all of a nation's population will offer equal support to the emphasis placed upon the remembering of a particular aspect of the past, and competing interests frequently collide over physical representations of power in the cultural landscape. In some instances, groups and individuals who contest the memory being evoked (or forgotten) will work to undermine or manipulate the memorial site or create their own separate important place which is indicative of their own interpretation of the past and understandings of the present. Take, for example, the efforts to challenge official interpretations of the past in Guatemala, which has been plagued by violence resulting from conflict between the state and guerrilla forces since the 1970s. In February 1982, the Guatemalan army killed 177 women and children and buried them in a mass grave (the killings later became colloquially known as the Rio Negro Massacre). Twelve years later, the tiny community of Rabinal Baja Verapuz constructed a memorial entitled the 'Monument of Truth' which, for the first time, told the 'truth' about the massacre and the government's involvement in rape, maiming, and murder. After only 2 weeks, the memorial was smashed by state forces in an effort to silence conflictual representations of what had taken place. Undeterred, the community erected another memorial the following year on the thirteenth anniversary of the killings. The second memorial was constructed from steel and concrete, testament to the community's wishes for its story to 'be told'. Names of the 70 children who were killed were etched onto the steel front of the memorial while the inscription on an accompanying plaque recalled the brutality of the event: "Children who were smashed against the rock." The eventual siting of the memorial to the victims of the Rio Negro Massacre signaled the creation of new spatial arenas through which to challenge interpretations about violence.

## **Memory and Territory**

Inextricably linked to the representation of memory are questions of territory and territoriality. If, as some geographers have suggested, all memories are metaphors of physical locations, it is important to consider the territorial implications of remembering the past. A territory is a demarcated geographic space that typically contains some kind of homogeneous group, sharing a collective identity or heritage. Territories control and mobilize groups and their resources inside defined boundaries where access is often strictly controlled (both physically and imaginatively). Identity, for example, is largely expressed through territoriality as groups, communities, and populations identify or connect with

particular places, landscapes, or sites. Memory therefore is fundamentally important in legitimizing or justifying territorial claims, as it infers a sense of natural or historical belonging (or not belonging), and generates a feeling of rootedness, familiarity, and continuity. Within societies then, various social orders insert symbols or perform activities which resonate with their interpretations of the past and their narratives of identity, which simultaneously incite remembering and bound or affirm territory. The conflation of the past and present through poignant sites of memory or other spatial practices reveals the potency of memory to concretize territorial demands over spaces of production. This can be clearly seen in segregated places, such as Northern Ireland, where ethnonationalist groups insert commemorative monuments along interfaces to demarcate their respective territories. Effectively, such spatializations of memory constitute territorial markers which are strategically placed or performed within and outside a geographic space. Physical boundaries, reenactments, or patterned movements and the gradual manipulation and construction of meaningful place confirm ownership over specific spaces, demarcating dichotomous boundaries for those who live within territories, as well as for those who live outside the territory (and whose narratives of the past do not resonate with those of the homogeneous group).

## Summary

In sum, memory is a process which is inexorably bound to our present day sense of self. We evoke it for validation, legitimization, and unity, and we draw on it in order

to challenge, refute, and undermine. It is political and often territorial, serving certain agencies and groups through communicating narratives of inclusion and exclusion, and continuity and instability.

See *also*: Genealogy and Family History; Heritage and Culture; Heritage and Identity; Nationalism, Historical Geography of; Street Names and Iconography; Time and Historical Geography; War, Historical Geography and.

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# Mental Health

C. J. Smith, University at Albany, SUNY, Albany, NY, USA

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## Glossary

**Deinstitutionalization** A long-term trend which has seen fewer people living and being treated as 'patients' in mental hospitals. This trend is associated with the closing of many public hospitals and the subsequent transfer of patients to community-based mental health services.

**'Deviant' Behavior** Behavior that is significantly different from the traditional or generally accepted standard.

**Mental Health** A state of emotional and psychological well-being in which an individual is able to function effectively in society, and meet the ordinary demands of everyday life.

**Mental Illness** General label used to describe any of a number of psychiatric disorders that are related to untypical/deviant behavior.

**Post-Asylum Geographies** The geographic study of mental illness and mental health in community settings.

**Psychiatric Ghettos** Geographically restricted areas, usually in urban core locations, that are characterized by an excess concentration of people experiencing mental health problems and of services and facilities catering to their needs.

**Sink Estates** The use of 'sink' in this context (in the UK) is intended to describe public ('council') housing estates that become places of last resort for individuals and families that have nowhere else to go and can not afford to buy properties on the private market. A 'sink' estate is normally associated with a high degree of socio-economic deprivation, which often goes hand in hand with criminal activity and a range of other social problems

**Spatial Epidemiology** Study of the origins and spread of disease within a population, emphasizing geographical variables.

**Stress/Psychological Stress** A mentally or emotionally disruptive or upsetting condition occurring in response to adverse external influences and capable of affecting physical and psychological health.

**The 'Drift' Hypothesis** Assumption or observation that a localized concentration of a phenomenon (e.g., mental illness) is caused by human movement into the locality.

## Introduction

In the early 1970s, some human geographers began to lobby for the serious consideration and study of social problems that had previously been ignored by their colleagues. As part of what might be referred to as the emergence of a social conscience within the discipline, the literature began to feature some reports of geographers' efforts to explore the dimensions of human suffering and what sociologists refer to as 'deviant' behavior. One component of this exploration was an approach to the constellation of spatial issues related to mental health and the onset of mental illness. Since that time, a significant body of research has emerged that can be referred to collectively as 'mental health geographies'. The early work did not register as a significant component in the larger realm of human geography output, and researchers approached the issues from a variety of conceptual and methodological stances, which made it difficult work to categorize accurately. With the passage of time, however, it has been possible to identify two overlapping categories in the work: one focusing on the distributional geographies (the 'spatial epidemiology') of mental illness, the other involved with the changing locational characteristics of the provision of care for the mentally ill, including interpretations of the effectiveness of such care, and community reactions to the siting of mental health services in community (nonhospital) locations.

In definitional terms, the majority of geographers working in this field appears to have taken as given the labels and definitions used in defining different categories of diagnosed mental illness. Mental health, on the other hand, is generally considered to be the absence of mental illness, either in a given individual or in a community. The research conducted during the last three decades shows that geographers have been eclectic in defining who it is they are studying and what their problems have been. For obvious reasons, mostly associated with the difficulties of data collection, many researchers have chosen either to make use of official diagnoses or to accept the implications of such definitions by focusing their work on a population housed in a facility whose usage assumes such definitions. In later studies, some researchers have gone beyond or outside these traditional psychiatric labels and have tried to describe and define the populations they are interested in by using terms such as 'stress' and 'psychological distress'. It is implicit

that such researchers prefer to focus their work on the problems associated with everyday life, and on situations in which individuals experience a series of adjustment difficulties that are not incorporated into or measured by the formal diagnostic categories of mental illness.

### Three 'Waves' of Mental Health Research?

The majority of the early research on mental health and mental illness was conducted in cities, and much of it was designed to test the hypothesis that specific urban conditions are associated with the onset of mental illness. It was the urban sociologists of the Chicago School who initiated such research, which involved mapping the distribution of specific mental illness categories in the city. In many of the published studies, the data pointed to a marked distance decay in the prevalence of mental disorders with increasing distance from either the city center or from a specific facility such as a mental hospital. The assumption was that many persons with a potential or actual mental illness condition would, in the absence of viable support systems, be housed in residential neighborhoods where living conditions were suboptimal. It was assumed that social isolation and other non normative living conditions in such neighborhoods were causal factors in the onset of their illness, and that if they returned to such neighborhoods after hospitalization, they would undoubtedly experience additional difficulties. The general view, in other words, was of individuals who are 'alone in the crowd', spatially proximate to others yet socially distant from them for a variety of behavioral and attitudinal reasons, and shunned by the wider society.

Geographers who began to map psychiatric case registers, beginning in the early 1970s, also found higher rates of diagnosed mental illness in downtown areas, which supported some sort of 'breeder' hypothesis, suggesting that life in such neighborhoods was dangerously stressful. Such studies became more sophisticated over time, but the conclusions were essentially the same: it seemed that people experiencing mental health problems were more likely to live in inner city neighborhoods, creating the rudiments what some geographers would later come to refer to as 'psychiatric ghettos' that would be home to a combination of facilities providing services for the mentally ill.

Most of the early work in this subfield was highly positivist in its approach, and generally undertheorized: researchers were looking for spatial patterns in mental illness rates and correlations with some obvious socioeconomic characteristics in an effort to test hypotheses about causation. In general, the researchers were able to map such patterns, at least crudely, and with some degree

of statistical significance they could describe and interpret the harmful nature of 'stressful' localities, which in many instances were to be found in urban downtown areas and along 'skid row'. Although few of the findings were remarkable or unexpected, the results of this early work made the case that patterns of mental illness, for so long defined in purely individual terms, could realistically be explored at the larger geographical or 'contextual' level, suggesting that place and location might be integral to the onset of mental health problems.

At intervals, an interesting spatial twist was added to or offered in place of this generalized conclusion, suggesting that at least part of the observed geographic pattern of mental illness resulted from human population movement, or 'drift', with the relocation of some people closer to mental health facilities being interpreted as an indicator of their deteriorating mental health. Some studies pointed to yet another potential explanation, namely, that for simple reasons of financial expediency and a lack of alternatives, psychiatric patients were being released (or 'dumped') into urban neighborhoods where opposition to their presence was minimal. To some extent this conclusion was interpreted as having less inherent interest for geographers, because the observed locational pattern was a contrived one, rather than the result of human choices. But it was also evident that living in the neighborhoods identified in this way represented an additional set of 'stressors' for people experiencing difficulties coping with everyday life, so it was not surprising to find high rates of recidivism. There is also a more positive interpretation to be made from the findings of such studies, based on the assumption that such neighborhoods provide a more normative or even positive living environment for the mentally ill. As the reasoning goes: it is precisely in neighborhoods like this (as opposed to more suburban and/or more upmarket locations) that supportive social networks of individuals experiencing mental health problems may emerge, alongside a clustering of mental health services and facilities which have been located there as a last resort. Such places may be seen by outsiders as the worst possible environment for the mentally ill; but from an other perspective they may be thought of in more positive terms, as perhaps the only and maybe even the best place for such people to live during difficult times.

The other branch of the mental health geographies' subfield has been associated with studies of the spatial characteristics and implications of the facilities, both institutional and community based, where treatment for the mentally ill has been provided. The earliest among these studies can be grouped broadly under the heading of 'asylum geographies', which focused on 'lunatic asylums', later relabeled as 'mental hospitals'. Such institutions first appeared in Western societies in the eighteenth and nineteenth centuries, and were intended

to separate the mentally ill from the mainstream of society, while at the same time providing some form of 'treatment' for their symptoms. In the 1970s and 1980s, this work would dovetail with what might be called 'post asylum geographies', made up of studies that had a number of overlapping research themes, including: (1) efforts to interpret the causes and consequences of the closure of the old asylums and the subsequent 'deinstitutionalization' of the mentally ill; (2) investigations into the provision and effectiveness of alternative care facilities provided in a variety of community based treatment programs; (3) descriptions and assessments of the emergence of spatial concentrations of former mental patients and service programs in specific urban locations, which became known simply as 'service dependent ghettos'; (4) studies investigating the impact of such community facilities on their host neighborhoods, which were accompanied by some of the earliest examples of what would become widely known as the not in my backyard (NIMBY) phenomenon; and (5) analyses of the successes and failures in terms of community adaptation and 'coping' among the already and the never hospitalized mentally ill. This last approach saw geographers exploring the dimensions and operations of community based social networks and the provision of local social supports, which can be interpreted, with hindsight, as prescient attempts to evaluate the effectiveness of locality based social capital, as well as being among the earliest examples of the emerging 'therapeutic landscape' studies that would later come to the fore in the broader field of health geography.

All of this work would later be described as part of the 'first wave' of mental health geographies, which were involved primarily with locational analysis studies of mental illness and the mapping of the geographic distributions of mental disorders. The work represented a range of different theoretical and empirical approaches to the study of social problems, and it should be interpreted as a welcome, if rare, foray into important areas of social policy by human geographers. Much research is still conducted in the tradition of this 'first wave', although the results are anything but consistent. A recent study in Canada, for example, reinforced the much earlier findings about the propensity of people experiencing mental health problems to be more mobile than a matched cohort, and more likely to move ('drift') from the suburbs to the inner city. The contemporary literature also continues to feature studies that are able to identify clear cut and significant evidence that certain urban neighborhoods act as 'stressors' and are likely to influence different measure of mental illness. Interestingly, other recent studies, in particular, one conducted by an interdisciplinary team of researchers at Bristol University which included some well known geographers, have disputed such findings. In this study the authors found

that neighborhood level factors accounted for less than 1% of the between individual variations in the data, leading them to conclude that place *per se* does not appear to have an important effect on the geography of mental illness.

Although such debates linger, and it seems likely that geographers will continue to offer their quantitative and mapping expertise to such studies, it was already clear – by the start of the 1990s – that another branch or 'wave' of mental health geographies was underway. In this new work, the research emphasis was shifting away from large scale, data based studies that either explored the effects of place/locality on measures of mental health, or involved spatial/structural critiques of mental health policies. The evidence suggests that the choice of topics and the methods in use in the newer work was influenced by work being conducted by geographers and nongeographers in the fields of cultural and disability studies. Some of the work falling into the category of mental health geography was beginning to focus on issues of identity, with the central questions being asked – shifting from a preoccupation with officially diagnosed categories of 'deviance' to a concern with 'difference'. Where the first 'wave' of mental health geographies had been dominated by empirical and quantitative examples of spatial science, the second 'wave' seemed to owe more to new developments within social theory: researchers were using mostly qualitative methods in small scale studies, and recognizing that mental health is structured by broader sociospatial forces.

This effectively shifted the mode of investigation from an analysis of space and geographic patterns to what has been referred to as "more interpretative engagements with the fusions of disability, identity and place." This reorientation, which accompanied rather than replaced research in the first 'wave' tradition, was probably being influenced in part by the 'cultural turn' within human geography, and in part by broader shifts in research foci suggested by contemporary work in postcolonial and feminist studies, postmodernism, and post structuralism. Studies within the second 'wave' can be characterized rather generally as falling into two very broad groups: one focusing on human differences and the way such differences are 'spatialized', in the sense of being played out and reacted to in space; the other group including studies that have been concerned with the ways people with mental health problems encounter space and place. A similar tendency can be identified at roughly the same time within the broader realm of health geographies.

Recognizing the value and appreciating the theoretical significance of such contributions should not imply that there was no value to the more positivist approaches associated with the first 'wave' of geographies of mental health, and as noted earlier, such studies continue to appear in the literature. It can be argued, however, that

the earlier studies represented only a scratching at the surface of what could be achieved in this subfield. It also is evident that such studies provided the context for and the background to the newer and 'softer' approaches that were more attuned to qualitative studies of human suffering. The content matter of studies conducted in the second 'wave' was not always and never entirely 'new' to geographers: in fact, some of them can be linked quite clearly to earlier studies that focused on identifying everyday life stresses and the issues associated with 'coping in the community'. The newer research projects, however, often had an entirely new theoretical base; they were usually carried out at a much smaller scale, and the methodologies were invariably quite different.

### Directions for the Future

A third 'wave' of mental health geographies that was thought to be on the horizon at the turn of the millennium does not yet appear to have materialized fully, although recent debates about the issue of policy 'relevance' within the broader realm of human geography indicate that some reorientation is being called for. What was significantly missing from the subfield of mental health geographies at that time (the early 1990s), and is perhaps still missing today, is the serious engagement of researchers with the important policy issues of the day. There are a number of reasons why geographers have steered clear of such work, including the traditional cynicism academics have for the 'dirty work' of politics and the more mundane work associated with 'applied' geography. Geographers with a spatial science and/or positivist leaning might have been easily put off, either in the realm of policy by a refusal to accept their relatively simplistic findings, or in the realm of theory by complaints about technological fixes, spatial fetishism, and ecological fallacies. At the same time, it seems likely that scholars engaged in the more reflexive work of the later era (the second 'wave') might have deliberately steered clear of large scale public policy debates, preferring to stay within the comfort zone of small scale qualitative studies.

As noted earlier, in the face of this reluctance, there have been calls from scholars working in several different subfields within human geography, for a 'policy turn' to match – and some would argue to compensate for the inadequacies of – the earlier 'cultural turn'. One pair of reviewers, for example, complained that although many human geographers are busily surveying and mapping geographies of 'exclusion', very few of them are actively involved in attempts to bring about significant change. This claim has been made quite specifically in the realm of urban geography in the recent past; and in an earlier review of the work being done in the health field,

geographers have called for greater emphasis on 'critical geographies' of health in an attempt to suggest future research activities. What was involved here was a recommendation for new ideas and practices within the subfield, linked – by a commitment to emancipatory politics – to a broader call for progressive social change, and the application of critical theories to the pursuit of applied geographical research.

If the agenda recommended here is to be extended to the realm of mental health research, geographers will need to become more ambitious in the types of research they embark on, more willing to explore a variety of theories, and perhaps of most importance, flexible enough to move across scales when circumstances call for it. Geographers working toward a critical geography of mental health might consider operating at two fundamentally different but clearly interrelated scales: one looking at the larger theoretical picture, and considering the spatial/structural influences on mental health and ill health; the other operating at the individual level, and calling for geographers to be actively involved in changing the existing power relationships that constrain human agency.

The first suggestion here would involve interpreting the occurrence of mental health (and other social) problems within the larger context of economic globalization and neoliberalism. This is by no means a new suggestion for human geographers, who have in fact been writing about and warning of the pervasive spread of neoliberalism for well over a decade, but apart from a paragraph here and there little emphasis has been placed on the human consequences of neoliberal policies, or on their impacts on the access to and delivery of human services. One exception to this is the work of a group exploring the role of neoliberal policies in the creation and maintenance of 'social exclusion', while combining the spatial perspectives of urban planning with the service delivery perspectives of healthcare providers and practitioners. This work is focused in Britain, where the downside of the current capitalist triumphalism has seen an increasing number of people facing greater economic risk and instability. As the authors recognize, spatial issues have been at the heart of this process, as a result of ever widening flows of commodities, finance, and production, and the continual creation of new patterns of spatially uneven development and instability.

The argument here is consistent with David Harvey's view that neoliberalism should be thought of primarily as a political project which results in the elevation of elite status for a privileged minority, matched by the rapidly declining status of the working classes and the unemployed. Neoliberal theorists, in recommending and pushing their cause, have painted a dark picture of the impacts of earlier welfare oriented regimes, as expensive and wasteful, sapping individual enterprise and

independence, limiting choices, and offering few incentives for self provision and personal responsibility. As neoliberal ideas gradually took hold, the role of the benevolent state in providing income support and public services was eroded, and constraints on markets, such as trade unions, taxes, and subsidies, were eliminated. Social regulation was shifted effectively from the national level to the individual level. The assumption was that poverty would eventually be lessened by continuing economic growth, made possible by a freer and more cost effective allocation of resources, and guided by market principles and newly emerging entrepreneurialism. It was hoped that the freeing up of labor markets would provide new opportunities for the poor and unemployed, and that the overall benefits of faster economic growth, 'trickling down' in all directions, would ultimately reduce the level of poverty. As has been extensively documented, however, in many places this did not happen: in Britain particularly, poverty increased massively, especially among people on fixed incomes, along with rising rates of unemployment and the emergence of an increasingly 'casualized' workforce. A large number of the unemployed were effectively cut off from the labor market by social and spatial barriers, especially damaging in the case of deteriorating housing areas (like the 'sink' estates in British cities). The urban poor, rather than disappearing, were increasingly on/in view, and often were perceived as an unruly and potentially dangerous 'underclass' group, of little use to the future economy, and acting as a permanent drain on it. Under such circumstances it would not be surprising to find rising rates of mental health related problems, made worse by the denuding of the landscape of service delivery that has accompanied neoliberal rule.

It is evident from a review of the research conducted within the field of health and mental health geography, that many (possibly a majority of) recent studies have begun from the assumption that a combination of poverty and inequality in some form or other is at the root of higher rates of health related problems in certain areas, which we can also assume are exacerbated by declining access to treatment and care options at the local level. It is clear, however, that to place the emphasis on the existence of inequality within a specific location (the local) ignores the reality of the much broader set of determinants of health and welfare problems operating at the larger scale (the global). In a recent report and analysis of this issue at a global level, for example, one researcher argues that the emergence of neoliberalism and its related social policies have had dire consequences for health and human welfare in a range of localities around the world. As the argument suggests: neoliberal philosophies and policies to some extent encourage inequalities, which are believed to have a positive motivational force for labor. Such policies tend to be

'individualist' in the sense that they have often been associated with attempts to stifle and eradicate a range of collective or state actions in favor of pushing for individual or family 'responsibility' and self provision, while at the same time they work to undermine the institutions that could reduce inequalities, and inhibit the forces that might be able to ameliorate or 'buffer' the worst effects of such inequalities through social provision. An empirical analysis suggests that in parts of the world where neoliberal policies have been resisted or applied with less fervor, people have better health, measured in a number of different ways, as well greater access to and a wider variety of health care services.

A theoretical stance on the corrosive role of inequality, however, is only one of the initial steps toward a critical geography of mental health. A review of the work conducted in contemporary social geography has recently suggested that if geographers are to pursue policy relevant research, they need to begin by showing more interest in issues of power and politics, both in theoretical terms and through their own action oriented involvements. The implications here for mental health geographies are quite promising. Individuals who have recurring mental health problems are hampered by a number of empirical realities, some of which have been the bread and butter concerns of geographers working within the framework of the earlier 'waves' of the sub discipline. For example, mental health services are almost universally poorly funded; mental illness remains misunderstood and the mentally ill are still significantly stigmatized; and individuals with recurring mental illness are more often than not consigned to live with spatial isolation, underemployment, and a denial of their rights. In political terms the power of the mentally ill, and their freedom to act, is inhibited by the dispersion of political power among the many interest groups concerned with issues of mental illness, and also by the widespread exclusion of the mentally ill from full participation in economic, social, and political life. The net result is that mental health concerns rarely make it onto political agendas, and proactive policy options are not often considered. Also, as several mental health geographers have been finding, especially those working within the second 'wave' of studies described above, many people experiencing mental health problems have difficulty articulating (and sometimes even recognizing) their own needs, and they tend to have very rudimentary knowledge about what is available to/for them in the community.

One possible major step in the right direction – and this could serve as a clarion call of sorts for mental health geographers – would be to focus on enhancing the individual agency needed to challenge this fundamental lack of power and knowledge. There are a number of options that fall directly in the path of mental health

geography research, including: efforts to focus on rights issues among the mentally ill; attempts to enhance national mental health legislation; improvements in the realm of advocacy, empowerment, and guardianship for the mentally ill; and better 'governance' in terms of higher accountability and quality control in the provision of mental health services. Consistent with such research activity would be more direct action, such as efforts to mobilize the mentally ill politically through voter registration programs and the creation of more active and powerful interest groups.

## Conclusion

Research conducted by geographers during the past three decades has brought some crucial and cutting edge attention to the study of mental health issues, including the focus on the spatiality of difference, and the role of place in identity formation. This work has significantly enhanced our understandings of the importance of space in the realm of mental health and the provision of mental health care. In spite of the new and richly theorized approaches, mental health geographers, like the majority of human geographers, appear reluctant to become active in grass roots politics or in issues of mental health policy. In the meantime individuals with mental health problems seem destined to continue to experience socio/spatial 'exclusion', they will continue to have their human rights denied, and they will continue to suffer from their lack of political capital and economic freedom.

See also: Health Geography; Medical Geography; Welfare Reform.

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## Relevant Websites

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For an introduction to the work of one of the leading researchers in this sub field, Dr Chris Philo, see the website describing the research group he is involved with at the University of Glasgow: the Human Geography Research Group (HGRG).
- <http://www.dundee.ac.uk>  
Social Inclusion and Mental Health, which describes a three year research program funded by the UK Economic and Social Research Council (from 2004–2007; grant number RES 000 27 0043 "Embodied Geographies of Inclusion: Placing Difference"). The chief researcher on this project was Dr Hester Parr (Department of Geography, University of Dundee).

# Mental Maps

S. Bell, University of Saskatchewan, Saskatoon, SK, Canada

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## Glossary

**Behavioral Geography** The branch of geography concerned with human spatial behavior and the processes that underlie spatial decision making and spatial actions.

**Cartography** The field of geography devoted to the creation of maps.

**Cognitive Map** The internal spatial representation of the world as we know it, and the accompanying affective responses that this knowledge evokes.

**Direct Mapping** Process of having a person draw a map or map-like figure, closely related to sketch mapping.

**Georeferencing** The act of assigning geographic coordinates to spatial information. In mental and sketch mapping this process can allow the integration of hand-drawn information with other existing geospatial information.

**Indirect Mapping** Process of using responses to nonmap drawing tasks to create a map-like representation of a geographic space.

**Mental Map** Preference surfaces generated by asking people about their attitudes and perceptions of different places.

**Sketch Maps** Maps drawn or created by hand or other free-drawing techniques.

## Introduction

Mental maps are external map like products used to represent what we know about the world. Geographers have long been interested in how we understand the world around us. Knowledge of the spaces and places we experience directly and indirectly on a daily basis is the foundation for how the world is known and how spatial decisions are made. Much of what we know about the world and the feelings this knowledge elicits (both from memory and as a result of experiences as they happen) has at least some basis in our 'cognitive map', the internal spatial representation of the world as we know it, and the accompanying affective responses that this knowledge evokes. The world in which we live can produce visceral responses related to places we have visited or about which we have learned. Furthermore, spatial information as coded and recalled in memory can be quite different from reality in terms of accuracy and completeness. That

both spatial and place based representations stored in memory and acquired through experience can be so divergent from reality makes studying this knowledge compelling. One approach that geographers and others have used extensively is the process of mapping what is known and felt about the world. This mapping can be done in variety of ways including both direct and indirect map creation. Direct map creation involves drawing or building a map or map like representation, whereas indirect one involves the creation of a map based on responses to a series of questions or tasks.

Maps are simplified representations or models of referent objects. In geography the referent object is almost always the Earth or some subset of the Earth's surface. In addition to being simplifications of the physical and human nature of the Earth, maps also include unique cartographic elements that are added to increase the utility of the map itself. These include but are not limited to labels, symbols, inset maps, legends, scale bars, north arrows, etc. Most people think of maps as paper renditions of a geographic area. These remain popular and are probably still the most common type of map but new types of maps have been emerging that are dynamic and take advantage of new computer, communication, and storage technology. Including these new map types, there are three broad traditions within cartography: the storage tradition, the communication tradition, and the analytical tradition. These traditions are mentioned here because they are also represented in our 'cognitive map'; we use our cognitive map to store information and knowledge about the world we know; we use our cognitive map as the basis for communicating information about the world as we know it; and we solve problems everyday by analyzing the spatial information we have stored in our cognitive map. Understanding the nature of our cognitive map is one of the central concerns of behavioral geography, that branch of geography dedicated to understand human spatial behavior and human spatial decision making.

The process of using and creating maps that represent our knowledge of the world is known by many terms. Mental maps, sketch maps, diagrams, multidimensional scaling, verbal descriptions, and navigational tracking are all techniques that have been used to develop external representations (outside the cognitive map) of the world as it is known by individuals and groups. Each technique provides unique information about how we perceive, code, integrate, and recall information and knowledge about the world around us. None should be considered

exclusively preferred over the others and each should be considered in light of the geographic question of interest. Some techniques, such as sketch mapping, drawing, and base map labeling, record responses in a map like form (“draw a map of the Brown University Campus” or “label these points on the map”), whereas others rely on decidedly non map like responses (“which of these two locations is closer to X” or “list these places in order of preference”) in order to derive a final product that looks like a traditional map.

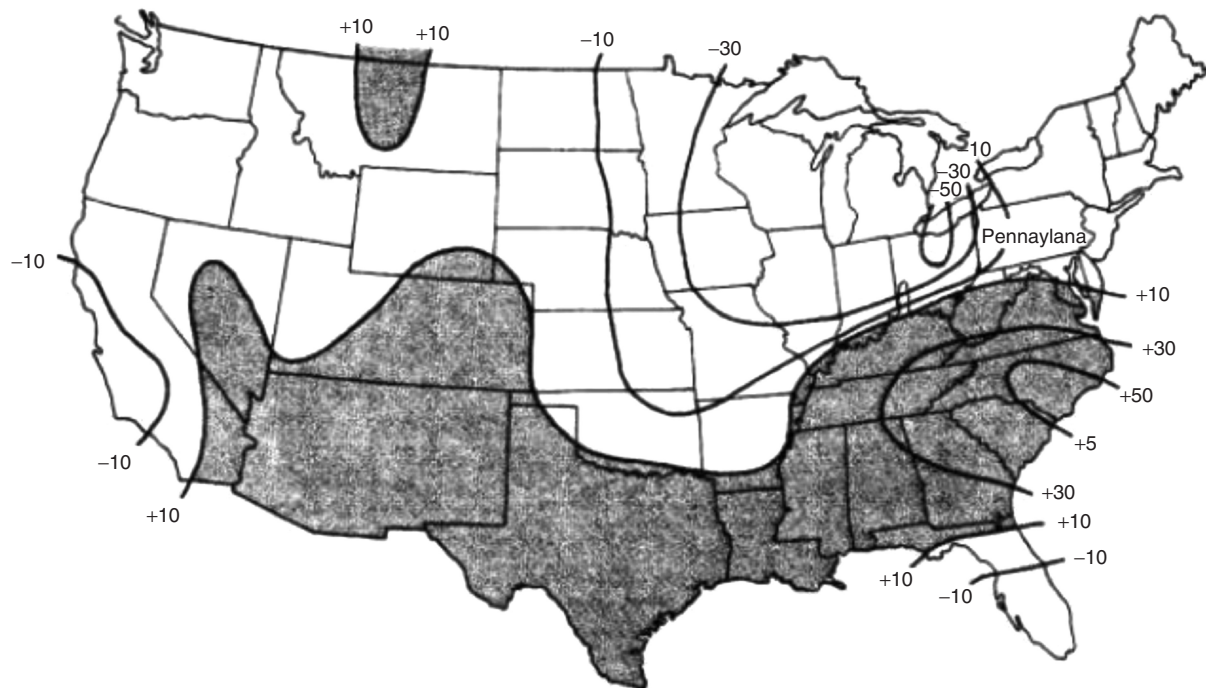
## Mental Maps and Sketch Maps

Peter Gould and Robert White were two of the first geographers to use the term ‘mental map’. While 1974 marks the publication date of Gould and White’s seminal book *Mental Maps*, it should not be considered the date by which we judge the term’s age. There is no doubt mental mapping was entering the discipline’s lexicon well before 1974 and had been used to refer to things other than physical maps. In fact, there is some confusion among the terms cognitive map, mental map, mental image, internal cognitive representation, and others. Gould used the term mental map to refer to preference surfaces generated by asking people from one place to rate their preference for selected other places. The preference ratings were then used to produce preference surfaces that were represented on accurate cartographic base maps. These products are well

known and have logically resulted in the assignment of the term mental map to this type of external representation of our cognitive map (Figure 1). The responses themselves were not map like but were associated with individual places which supported the creation of representations of aggregate responses that were very map like. Thus, the starting point for this discussion of mental maps will be a map like externalization (presented in true cartographic form) based on nonmap responses.

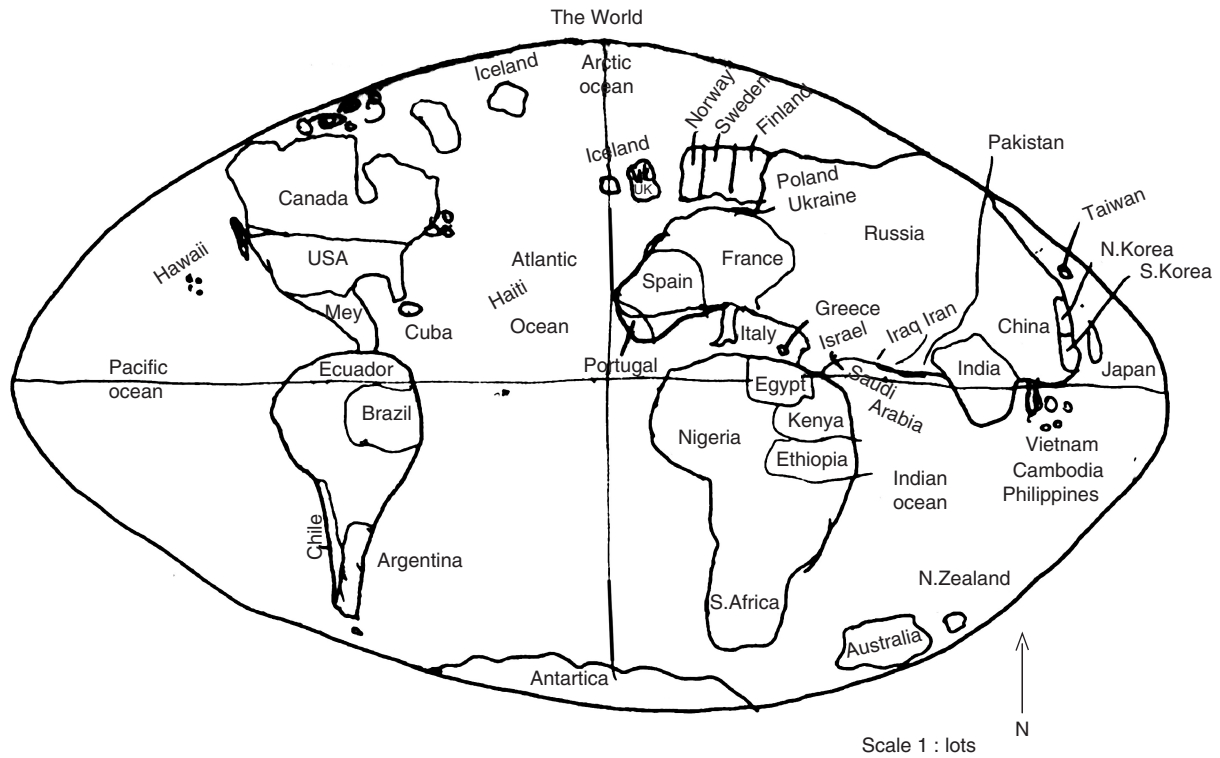
Many techniques share Gould and White’s approach to producing a representation of what is known about the world. Some approaches, such as multidimensional scaling, produce map like representations based on nonmap input. By having respondents indicate paired proximities an algorithmic technique can be used to create a metric spatial array (actual locations on a two dimensional (2 D) representation) of points that corresponds to a nonmetric assessment (judgments of the proximity pairs of places on a subjective scale) of the spatial relationships among a set of points. For geographers, this was useful because the output was a metric representation of real world points that was different from the actual distribution of those points, suggesting that the differences represented the deviation of the cognitive map from the real world distribution of the places in question.

A technique widely used both within and beyond geography has been that of sketch mapping. Sketch mapping consists of drawing map like representations under constrained and unconstrained conditions. Sketch



**Figure 1** Mental map of North Carolina geographic preference.





**Figure 2** A free sketch of the world resulting from the instruction “draw a map of the world labeling as many countries as you can.” This is an example of a direct mapping activity in which the map ‘product’ is a direct result of the task the person was asked to complete.

mapping can range from free sketching tasks during which maps are drawn on blank paper with limited instructions (such as “draw a map of your hometown” or “draw a map of the world labeling as many countries as you can”) to the placement of a symbol or symbols on a cartographic map (Figure 2). While the latter is the product of a person putting pen to paper, it involves very little ‘sketching’; it does not provide a map based representation of the individual’s spatial or geographic knowledge. It does, however, indicate where in the world that individual thinks something is located, which is potentially more useful (and interesting) than a sketch map that could be impossible to interpret. While sketch maps have a history almost beyond knowing (the first sketch maps could have been drawn in the sand or scratched onto rock walls), Kevin Lynch’s *The Image of the City* was the first thorough examination of drawings of urban spaces that helped delineate what people know about their home cities and more importantly provide a classification scheme for this knowledge.

### Does an Ideal Term Exist?

The term mental map has been introduced as the representation of a person’s, or group’s, preference for different parts of the world and is an example of one approach that uses the mapping paradigm for the

examination of our internal understanding of the world in which we live (our cognitive map). That it refers to an explicit, and elegant, method for representing people’s preferences for different places and how these preferences vary depending on where one lives should not be muddled by referring to all map based approaches as mental mapping. However, the more universal term, sketch mapping, through the inclusion of the term sketch in the name, might imply that drawing is a necessary component. Most of these techniques have in common the objective of elucidating the nature of spatial knowledge held by the person performing the task. Researchers in geography and other disciplines use these techniques for a variety of reasons. Initially the techniques are used to uncover the spatial knowledge held by the individual and the structure and arrangement of that information. In turn, this can be used to understand the processes that are the foundation for how the human brain encodes, stores, accesses, and uses spatial knowledge as well as the state of that knowledge (accuracy, abundance, bias, etc.). The researcher may or may not be interested in a specific place on the Earth’s surface.

### Mapping for Knowledge Assessment

As indicated above, mapping techniques can add to our understanding of how information is coded, stored,

accessed, and used by the human brain. Mapping techniques can also help us evaluate what is known about the world; the 2006 National Geographic–Roper survey on geographic literacy is an example of how sketching and mapping can be used to elucidate what is known about the world by individuals and groups. In the actual National Geographic–Roper survey, no maps were created but questions were asked regarding information on several maps which could be used to produce ‘maps of understanding’. Unfortunately no such maps have been produced based on the National Geographic–Roper survey results. The results in the final report of the 2006 Geographic Literacy Study are typical of the type of information that can be gained from mental and sketch mapping exercises targeted at distilling what is known about world, regional, or local geography. The benefit of this ‘no drawing’ approach to mapping is that the experimenter can control potentially confounding variables. Such variables include drawing ability, relative scale, and locational. By having participants label maps or identify country and/or geographic outlines, a valid measure of geographic knowledge can be established. Such techniques have been used to determine the relative lack of geographic knowledge held by North American school children in comparison to school children around the world and even differences between age groups and genders.

Sketch mapping can also be used as a training aid in geographic education. By increasing student skill and experience with maps and mapping, their ability to use such tools for developing geographic knowledge also increases. Geography for Life, the national standards for geographic education, outlines several ways that mapping can be incorporated into the essential spatial and geographic themes for acquiring and improving geographic knowledge. Building activities that incorporate mapping is an intuitive approach to increasing geographic literacy and can be done in conjunction with subject matter that is cognate to geography, art, math, civics, writing, science – just a few examples of academic areas that have some relationship to geography and mapping.

Beyond the use of mapping activities in education, the study of how spatial information is acquired and used in everyday life is a central concern of geographers interested in spatial cognition, spatial behavior, and cognitive mapping. A core goal of each is an improved understanding of how spatial knowledge is structured in the brain and what processes operate on this knowledge in order to solve spatial and geographic problems. These problems generally involve the mundane day to day activities we all perform, such as traveling from one place to another (either local or distant), giving directions to others, or deciding what shops, services, and other locations to visit and in what order.

## Other Applications of Mental Maps and Sketch Mapping

Geographers use several general types of mapping tasks that fall within the scope of mental mapping and sketch mapping. As described above, mental mapping is the process of collecting, in a variety of ways, responses related to geographic places with the goal of generating a map like representation, while sketch mapping is the process of producing spatial products (drawings, models, etc.) that represent geographic places. For the most part mental maps look more like traditional cartographic maps and communicate something about what is known about the places on those maps; sketch maps usually do not look like formal maps, a characteristic that is the result of relying on the artistic ability of the person creating the map as well as their (limited) knowledge of the world. This necessarily constrains what a sketch map can be used for; it must involve the presentation of spatial information in a map like form. Mental mapping on the other hand can focus more on the nonspatial nature of places.

A further distinction between sketch and mental mapping would be the extent to which the participant is directly/explicitly involved in the creation of the map; direct model (map) building requires the participants to create their own map, whereas indirect model (map) building is the result of responses to questions or through the creation of lists of the relationships among places. Several examples of each have been indicated already: direct model (map) building can be accomplished through map drawing, 3 D model building, and computer drawings, as well as labeling and augmenting outline maps. Indirect model (map) building can be accomplished through means such as simple lists, preference lists and ratings (as by Gould), paired comparisons, Likert scale ratings, verbal descriptions, and picture taking.

## Implication for the Use of Sketch Maps

Sketch mapping has been studied in many ways and used to study many topics. The reliability of the general technique has been confirmed, suggesting it is a viable means of testing and retesting geographic understanding. In other applications of the technique both drawing and 3 D model building has been used to better understand how both blind and sighted people acquire knowledge about their surroundings. Furthermore, the nature of geographic knowledge held by people around the world and of different cultures has been explored in an important series of studies by Aarinen which explores not only the ability of sketch maps to expose what is known about the world but also represents an initial examination

of the role that drawing ability and shape recognition play in the use and generation of sketch maps. Whether a sketch mapping or mental mapping activity is a valid method for a given research question is less well known. Very little research has been reported on the validity of sketch mapping for examining or evaluating geographic knowledge. A critical component of any sketch mapping task, and one not shared with less artistic mapping approaches, is the role that drawing ability or artistic ability plays in one's ability to communicate or represent what they know about the space being drawn.

Geographic researchers interested in using a sketch mapping approach should carefully consider several factors related to their topic of study as well as what their expectations are in regards to the mapping output. While researcher must remain aware of the costs associated with confounding variables and the validity of their instrument for a given study, there is no doubt that sketch mapping offers the enticing promise of a rich array of data as well as the visual and map like nature of the output. For these reasons it is important that the style of mapping exercise be carefully considered with respect to spatial limits and type of task. Limits can include boundaries (neat lines) and preliminary or seed information (country outlines, landmarks, street networks, etc.) that will guide the participant and provide additional tools during analysis. For instance, if a researcher is interested in how much knowledge a group has of world geography he or she might consider a sketch mapping task that presents only country outlines. This will provide an outline for the drawing of mountains, rivers, lakes, or other features, as well as the labeling of countries without the potentially confounding effect of participant drawing ability. However, such a task will not allow for the examination of participants' knowledge of country and continent shape and necessarily provides information that might give some participants clues to features they otherwise would not have recalled.

When researchers have specific and narrow objectives they should use discretion in the development of the mapping task. Limiting freedom becomes a valuable tool so that confounding variables can be eliminated. This might involve asking participants to include only specific information, such as roads or navigational landmarks in a task associated with spatial knowledge acquisition in a recently experienced environment, or to ask them only about specific parts of the world in a world map drawing or labeling exercise. It is in these situations that indirect modeling tasks might prove more efficient.

### **Using Mental Maps**

Researchers often use nonmapping (indirect model building) techniques to collect data that has a spatial

dimension and that will lend itself to being mapped. This might include country names recalled or labeled on an outline map that can be enumerated and used to generate a choropleth map of knowledge of world countries. An other example might be lists of addresses visited during a day out completing errands that can be geocoded and mapped. Geo coding is the process of assigning coordinates from a continuous global coordinate system, like latitude and longitude to street addresses. If the latter data are presented in order, the output map can also communicate the pattern of travel through the environment. Interestingly, neither of these examples tells us much about the nature of our cognitive map, although they do tell us a little bit about how it is used and give us a small sample of the knowledge stored there.

Sketch maps can be scored in many ways. Nominal data can be recorded simply by noting the presence or absence of certain features on the map, particularly those features that are important for solving spatial or geographic tasks or features related to the expressed purpose of the map. Enumerating the types of features or the number of different types of features will provide an additional level of data detail. Direct measurement of the map is also possible. If a path or other real world object has a certain shape or has edges that meet at specific angles, the measured angle on a drawn map can be compared to the actual angle and error between the two can be recorded. A more basic technique would be to compare with real world relationships the spatial relationships between and among features drawn on a map. In Canada, the province of Saskatchewan is to the east (right) of Alberta and to the west (left) of Manitoba; the presence or absence of each of these relationships can be recorded to confirm that Saskatchewan was placed in the correct 'topological' location in Canada. Furthermore, Saskatoon is a city in Saskatchewan; confirming that the point feature Saskatoon is contained by the polygon Saskatchewan will produce a viable score for that piece of information. If an overall 'map quality' score is desired, independent map raters can be used to assess each map's 'quality'. These assessments should be used carefully as there are opportunities for bias in terms of what constitutes good and bad sketch maps. In general, the use of mapping techniques in the assessment of geographic knowledge should be undertaken with great care and thoughtful consideration regarding the nature of the task and the goal of the research.

### **The Future of Mapping Our Geographic Knowledge**

Maps and mapping exercises have been used to better understand what we know about the world and have been used experimentally by geographers and nongeographers

in a variety of setting to learn more about our cognitive map. Much of this potential will be realized as new approaches to mapping our knowledge emerge. Ongoing developments in geographic information systems (GISs), computations cartography, and computer technology represent distinct opportunities for researchers interested in mapping as a research tool. Drawing maps on tablet computers will soon support the recording of not only the spatial dimension but the temporal as well. Such advances will reveal important information about the sequence of events that produce a finished sketch map. Existing GIS software tools can already be used to georeference elements of drawn maps and if done carefully can be used to integrate maps from multiple individuals to compare differences and elucidate commonalities. Some of these techniques are already in use and have produced a better understanding of the level of uncertainty in our communal cognitive representations of everyday geographic terms like downtown or neighborhood.

The state of the art of mental mapping and sketch mapping today will serve as a fertile ground for future mapping applications and research. The historic interest in sketch mapping and our mental representations of the world along with the long standing importance of maps to geography serves as the best evidence for the continued use of new and innovative techniques to bridge what is known (cognitive map) and what can be communicated (sketch and mental maps).

See *also*: Behavioral Geography; Cognitive Geography.

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# Métropole d'équilibre

G. Burgel, University of Paris 10, Nanterre, France

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## Glossary

**Centrality** Major concept of urban geography concerning both the material densification of space at various scales (town center, monocentrality or multicentrality of urban regions, capital, or national metropolis) and the polarization of economical, social, and political powers.

**DATAR – Délégation à l'Aménagement du Territoire et à l'Action Régionale (in France)** State institution founded in 1963. For over 40 years, it has been the inspiration and instrument behind all French public policies regarding the voluntaristic organization of the national territory. A major milestone in the terminology, it was replaced in 2006 by the DIACT (*Délégation Interministérielle à l'Aménagement et à la Compétitivité des Territoires*).

**Decentralization** Generic term designating both the deliberate dispersion of economic activities from the initial concentration hubs (industrial and tertiary decentralization) and the transfer of skills from the central state institutions to subordinate territorial levels: regions, departments, and municipalities. In the latter case, the term deconcentration is often preferred.

**Metropolitan Area** Extension of the metropolis which tends to combine the problems of internal spatial organization and the functional role of the large town.

**Metropolization** Complex urban concentration process involving the size of a large town, its economic and demographic growth rate and, more and more frequently if not always, its ability to control and manage companies, especially in terms of international and financial attractiveness.

**Urban Framework** System connecting the various towns of a given territory, based on their relations in terms of size, quantity and quality, services, and dimension of attractiveness space.

Over the last half century, the metropolitan growth centers have proved extremely successful in terms of fashion, if not in terms of efficiency, especially in Europe with the regional planning and development policies whenever the aim was to deliberately stop the hypertrophy of a national capital considered to be too invasive. One after the other, Hungary with Budapest, Rumania with Bucharest, and Greece with Athens have tried to provoke urban oppositions and territorial rebalancing programs faced with the sharp growth of their main

growth centers, both demographic and economic. The reference model remains France; however, where from 1963, the state tried to impose metropolitan growth centers to counterbalance the assumed over importance of Paris. Experience is an interesting laboratory for emergence of a planning ideology, creative implementation of spatial intervention tools and shifts in action, or even complete about turns, caused by changing economic mechanisms, especially the globalization of exchanges and the construction of Europe.

## Exceptional Emergence Conditions

Structurally after World War II, France represented an ideal setting for the invention of metropolitan growth centers. The urban system was durably marked by structural characteristics and anomalies in the normal distribution of town sizes, which had drawn the attention of observers for a number of years. 'Reilly's law' draws up a regular relation between the rank and the size of towns in a country, which is generally a straight line on  $x/y$  coordinate axes. In the case of France, the weight of the capital region is so large that we observe a sharp drop of the curve on reaching the second town in the classification. This regularity of 'Reilly's Law', which struck all observers, has never really been explained, but its exceptions have led to questioning and even concern. First, the weight of the capital region – in 1954, in a France that, under the effect of the baby boom and the start of the 'thirty glorious years' (strong economic growth from 1950–73), had just crossed over the historical threshold of 40 million inhabitants, the Paris agglomeration (Paris and its suburbs) already exceeded 7 million residents. Immediately afterwards, however, none of the major provincial towns reached 1 million inhabitants (Lyon, Marseilles, Lille). Conversely, there were nearly a hundred small and middle sized towns, which had from 50 000 to some 200 000 inhabitants at the time, fairly evenly distributed over the national territory, and which formed the true fabric of the French spatial framework. The architecture of this original device has not significantly changed today, if we consider a relatively uniform translation movement due to the increased urban growth from 1950 to 1980: the population of the capital had flattened out at 10.6 million inhabitants, all the largest regional metropolises had now reached 1.3 million inhabitants; and numerous medium agglomerations had grown from 100 000 to 500 000 residents mainly due to the fusion of the expansion areas of the towns forming

them. These remarkable steady situations were the result of very long term historical processes: the millenary creation of a nation state around its political and economic capital ensured its hypertrophic growth while sterilizing the ascension of competing metropolises; the departmentalization sought by the 1789 revolutionaries, to guarantee the equality of territories and above all the relay of the central influx, created and strengthened a dense network of prefectures. The book by Jean François Gravier *Paris et le Désert Français* systemized and popularized these dissymmetries for decades.

This original situation was theorized in the 1950s through the publication, delayed due to the unfavorable international climate, of analyses on the hierarchized urban networks. The American W.J. Reilly modeled the attractiveness of the commercial framework in American towns. A. Lösch made a general hypothesis on the organization of economic spaces. It was the German W. Christaller, however, who found the greatest success in geographical studies in France. His empirism, with his analyses located in Bavaria, seduced the partisans of a French School of Geography, fervent believers in the principles of regional monographs. While his system of territorial operation – seven level hierarchy of urban centers, gravitational attractiveness of services, and hexagonal nesting of town polarization areas – attracted all those who, since the publication of *Les Villes* in 1947 by Georges Chabot, had endeavored to set up a system of general urban geography through the functions of the agglomerations. In France, these geographic approaches were corroborated in particular by studies in the field of spatial economy (François Perroux, Raymond Boudeville), which emphasized the regional polarization generated by innovation and investment, often of public origin.

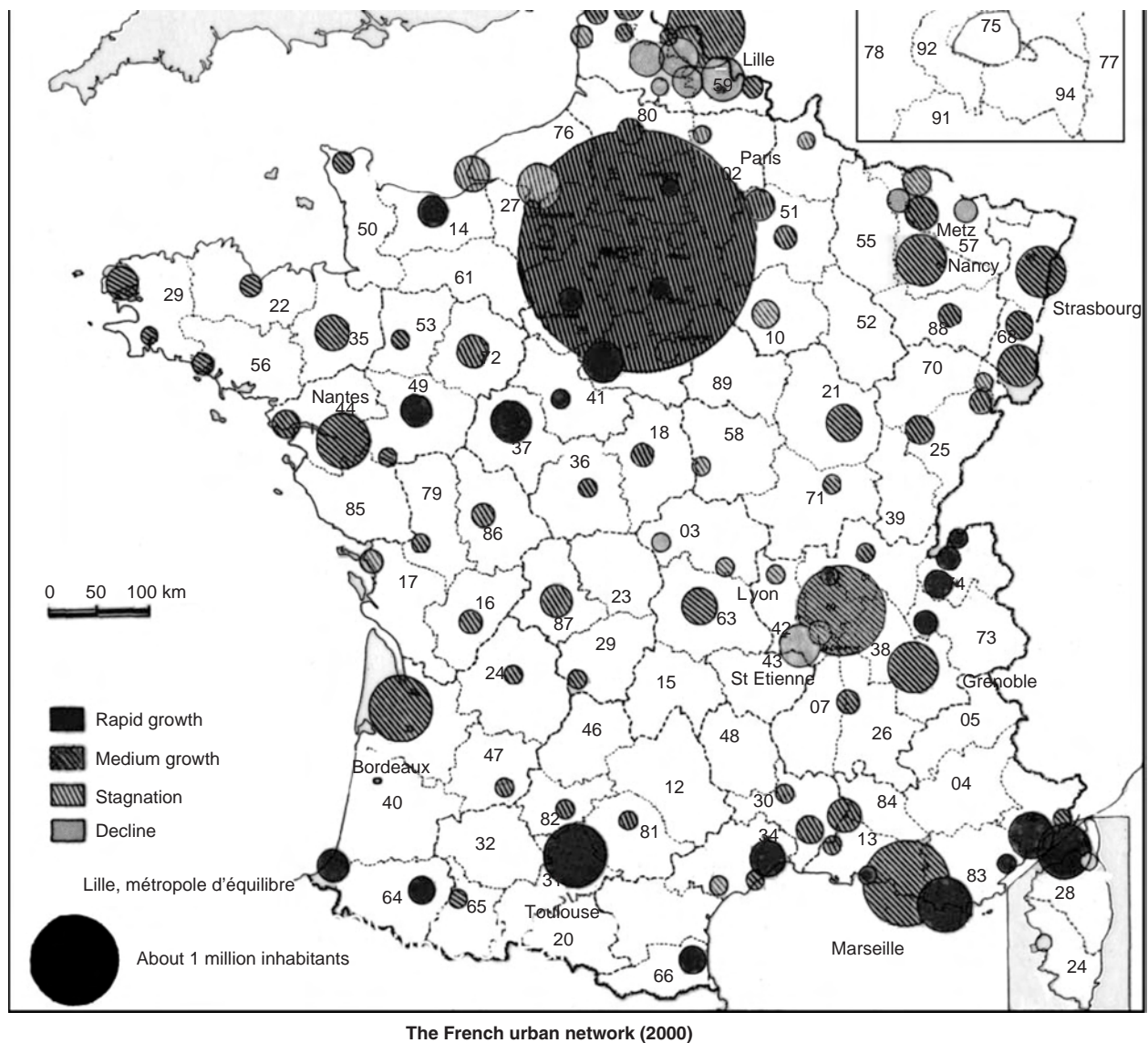
This gave rise in the early 1960s to an intense movement of intellectual and political activity, combining indiscriminately trends of thought often inspired by Marxism and a regal voluntarism initiated by the power of General de Gaulle, then at the peak of his power (creation of the 5th Plan). Some, in particular supporters of the geographer Pierre George, strived to prove the historical and social origin of hierarchized urban networks. The most famous were Michel Rochefort and Raymond Dugrand. At the same time, engineers and senior civil servants – for example, Paul Delouvrier, appointed 'proconsul' in Algeria at the end of the French colonization before becoming the leading figure behind the Paris new towns – were the builders of a voluntary policy aimed at correcting the imbalances generated by unconstrained capitalistic development. They all finally came to the conclusion that the idea of a certain degree of controlled spatial egalitarianism would guarantee a more stable social equity and a safer redistribution of the growth product. This consensus was reflected in the

Hautreux, Rochefort, Lecourt report, which represented the real birth certificate of the metropolitan growth centers, the initial charter of the DATAR (*Délégation à l'Aménagement du Territoire et à l'Action Régionale*), which was in the process of being set up and which used it as a basic theoretical reference for decades.

## Major Accomplishments of the DATAR

Statistical analyses and comparisons with the assumed model for the creation of urban networks led to the identification of the major exception in the French system: the lack of demographic size and structuring functions in the large regional metropolises (Figure 1). The solution was to strengthen and stimulate them through infrastructures and large public investments to 'counterbalance' the Parisian capital. Eight urban areas were therefore selected, partly because they were the next largest after the Paris agglomeration and partly because they were relatively distant from the capital and well distributed across the national territory, aspects considered to be an additional guarantee of spatial efficiency. From north to south and east to west, Lille, with its ties in the Roubaix and Tourcoing conurbation, the Nancy Metz bipole in Lorraine, Strasbourg in Alsace, Lyon and its two extensions Saint Etienne and Grenoble, Marseilles on the Mediterranean Arc, Toulouse and Bordeaux in the southwest, and Nantes – Saint Nazaire on the Atlantic coast.

Although ambitious, the project was unambiguous. The primary objective was to open up the provinces, still considered to be off centered and isolated by the star pattern formed by the royal roads and then the railways and further reinforced by the creation of the motorway network, radiating out from Paris. The decision was made to connect Paris to the major provincial metropolises by fast rail transport lines. This was the start of the French TGV (high speed train) adventure, admired by the entire world. The first TGV line, which would link Paris and Lyon in just 2 h, was launched in 1974 and inaugurated by President François Mitterrand in 1981. Thirty years later, all the metropolitan growth centers, except Toulouse, are in the process of being connected to the TGV network: in June 2007 the latest town, Strasbourg, one of the two European capitals, is 2 h 20 min from Paris. The TGV represented an outstanding technological achievement considerably reducing time and space, placing France at the center of the European means of interurban transport to the United Kingdom (Eurostar), Benelux and Germany (Thalys), Switzerland and Italy, and the Spanish peninsula. Paradoxically, however, the original intention of the advocates of the system has been diverted: the fast links obviously run in both directions and extending the TGV network increases the Paris



**Figure 1** The French urban network (2000).

centrality, making the French capital the hub of European exchanges.

The same uncertainty can be observed in the rationales applied to the metropolitan growth centers. The fathers of the theory of hierarchized urban networks considered services to be the driving force making the towns more attractive. Typically, in a way that reflects the financial crazes of the time, often forgotten today, the DATAR chose to place emphasis on the leading role played by industry. In a rather late analysis of its action, experts pointed out that "urban growth, the requirements for services and administration and the determination to reverse worrying sociopolitical imbalances, in addition to the criteria of a strictly industrial economic rationality, justified a policy promoting the major towns." It is clear, however, that the period of this policy focusing on

metropolitan growth centers corresponded to a second industrial age and especially to a need to increase the number of sites to match the extension of heavy industry, surrounded by a rich and complex sociospatial fabric – research centers, universities, and urban equipment. This example demonstrates a clear lack of foresight in the economic dynamisms already implemented and in the ability of the state mechanisms to promote or adapt them. From the very start of the 1970s, the number of industrial crises (coal mining, iron and steel, textile, automobile) increased, tertiary activities took over from the manufacturing industries, and in particular, company competitiveness escaped the yoke of the political authorities.

Still, in the same way as the large infrastructural equipment built the framework of the national territory, decentralization of the public services formed the

keystone of the state's attempt to promote the attractiveness of the metropolitan growth centers. Often foreshadowed many years earlier, the achievements continued over more than three decades, regulated by budget restrictions or resistance from the professional spheres. The central administrations, health, and culture therefore benefited from provincial sites obtained increasingly easily, the thinner the symbol or the faster the pace of requirements and creations: civil status of French people born abroad at Nantes, *Hôpital des Grands Brûlés* (serious burns hospital) and *Centre International de Recherche sur le Cancer* (International Agency for Research on Cancer) at Lyon or the *Villeurbanne TNP* (Popular National Theater) near Lyon. However, the tensions were somewhat more tangible for the Paris *Grandes Ecoles* and research. While Lille readily accepted the *Institut Supérieur d'Électronique* and Toulouse, obviously the *École Nationale de l'Aviation Civile*, the transfer to Lyon of some of the *Écoles Normales Supérieures* was made much more reluctantly. In the 1990s, the transfer of the *École Nationale d'Administration* to Strasbourg resulted for many years in split site education, costly for teachers and students alike, between Paris and the Alsace metropolis, in the same way as the European parliamentary sessions between Brussels! It is true that this represented an attack – justifiably(?) – on the actual bases of the central State.

In addition, the anti Paris policy, led by the DATAR, was to be a catalyst as active in the direction taken as direct promotion of the metropolitan growth centers. The implementation in 1955 of an 'approval' procedure authorized the administration (decentralization committee) to create or extend activity premises in the capital region, according to a standard of complex and permanently raised thresholds (e.g., 500 m<sup>2</sup> initially for industry, and then 1500 m<sup>2</sup> in 1972 and 3000 m<sup>2</sup> in 1985). In fact, these inflexible directives, much criticized by the suburban elected representatives who once again perceived them as the source of their current economic and social drawbacks, all the more since they had been relaxed for the Paris new towns, were of more benefit to the small and medium towns on the outskirts of Paris (Dreux, Évreux, Beauvais, Orléans) than to the much more remote provincial metropolises.

Lastly, the metropolitan growth centers were to serve as test benches for the new urban governance in the areas of regional integration and intercommunality. The need to consider territorial planning on an extended spatial scale, so that the regions surrounding the agglomerations promoted could benefit from the fallout from the public investments allocated, led to a broad definition of the intervention perimeters. From 1966, therefore, OREAMS (Organizations for the study of metropolitan area development) were set up in several areas around metropolitan growth centers (Marseilles, Nord, Nantes Saint Nazaire, Nancy Metz, Lyon Saint Etienne). Organizations focusing

on analysis and proposal more than action, under the authority of the regional prefects, they nonetheless foreshadowed an integrated vision of regional development. Similarly, the law of 31 December 1966, which set up 'urban communities' to group together under a single authority communes within a large agglomeration, was applied by governmental decision in four out of the eight metropolitan growth centers (Lyon, Lille, Bordeaux, and Strasbourg). This led, at a very early stage, to the emergence of the management instruments that were to spread 30 years later in a radically different decentralization political context: planning schemes under the control of the regions, communal groups on the initiative of the territorial collectivities.

### Shifts of a Regional Development Policy

Despite the massive resources implemented and the undeniable achievements, the policy of the metropolitan growth centers remained above all marked by the scale of disillusion and shifts with respect to the declared intentions. The heavy urbanization trends, upheaval of the centrality's political philosophies and logics, explain these shifts. The first error was probably due to a failure to place the theory of hierarchized urban networks into a historical perspective. Advocates of the fascinating generalization of uniform space geometry, the authors did not appreciate the fact that the spatial models described corresponded more to the maturity of the industrial societies than to the emergence of a civilization based on information and communication. Discontinuity of the territories, increased material and immaterial mobilities, and changing mentalities obliterated the traditional notions of hierarchy and centrality. In France, from the 1950s to the 1990s, the demographic growth of the Paris region no longer stifled the French dynamism and the metropolitan growth centers were far from reaping the reward of the hopes placed in them (Table 1). The middle sized towns, assumed to offer a happy medium between living environment and economic efficiency, were triumphant. To a large extent, the DATAR, without giving up the objective of fighting against the capital's hypertrophy, changed its aim and followed the trend: in 1972, state contracts were drawn up with the middle sized towns, then with the small towns, and lastly with the districts, an old notion of rural geography, resurrected for the requirements of technocratic development. To a large extent, the geographic fragmentation of regional policies weakened the legitimacy of the metropolitan growth centers.

Another reason for the changing logics was institutional, related to application of the decentralization laws in 1982–83. Quite paradoxically, transferring the skill of some of the central state authorities to the regions



**Table 1** Triumph of the French middle-sized towns over the metropolitan growth centers in the second half of the twentieth century (in million inhabitants)

	<i>Total population</i>	<i>Demographic gains</i>			
	<i>(1990)</i>	<i>1911 54</i>	<i>1954 82</i>	<i>1982 90</i>	<i>1990 99</i>
Paris agglomeration	9.3	1.7	2.3	0.4	0.3
8 metropolitan growth centers	6	0.9	2.1	0.2	0.5
Other towns > 50 000 inhabitants	13.5	1.7	6.3	0.3	0.8
Total of towns > 5000 inhabitants	38.5	5.4	13.5	1.3	1.6
Metropolitan France	56.6	3.2	12.6	2.3	1.9

and departments, in particular in terms of economic developments and territorial planning, affected a policy mainly aimed at decentralizing the bases of economic growth. The context was quite different, however. The metropolitan growth centers of 1963 corresponded to a deliberate attempt by the Jacobin system to correct its own exaggerations. From the 1980s, the state's financial and political withdrawal allowed a spirit of competition to grow between the regions and the towns. The metropolitan growth centers were inspired by a unique model. Metropolization now existed in various forms, with unequal resources and varying degrees of success.

These transformations were all marked with the seal of a radical upheaval of urban centrality, due to globalization of the economy and a weakening of the national states, especially through the construction of Europe. Towns were considered less in terms of their immediate and internal relations with the nearby spaces and their relations of subordination or command with the other agglomerations in a pyramidal hierarchy, than in terms of a system of more or less remote relations with centers of the same size. Paris was therefore not so much the hypertrophic capital of France to be challenged, but more a global city competing with London, New York, or Tokyo, to be supported as much as possible. Similarly, the regional metropolises were much more concerned with developing their own future individually rather than with playing a role in a national system, which must be entirely rebalanced. The current French metropolization process no longer consists exclusively of the higher levels of the demographic hierarchy. It is based on the activities, professions, and social layers that require the large town to develop and prosper: art, banking and insurance, company management, research, and telecommunications. At the same time, the principle of innovation centrality is maintained (very large towns) and a modernity distribution cycle is speeded up.

This set of complex processes finally explains why the current fate of the eight French metropolitan growth centers of 1963 seems less related to the univocal results of a planning policy than to the heritages and projects managed by each one. Three of them appear to have a privileged situation, although for different reasons. Lyon

plays on its historical destiny as an international metropolis at the traditional crossroads of the Mediterranean, Northern, and Alpine influences. Lille benefits from its architectural heritage, the futuristic Euralille, and its new position as 'European hub' between Paris, London, and the Randstadt. And Toulouse sees its global destiny tied to that of Airbus, the major competitor of the American Boeing. Two other more regional successes may appear in a favorable position, due to their peripheral situation, which was for many years a handicap in an era of construction of national economies before becoming an asset in a world open to the outside. Strasbourg is now promoting its status as European capital in a climate of political and economic construction drawn toward the East by institutional expansion. A sea breeze is once again blowing over Nantes from the Atlantic coast, at a time when Saint Nazaire has revived its industrial tradition in the commissioning of large cruise ships. Finally, the last three are struggling to recover from crises, after seeing them through more or less successfully. Bordeaux seems to be coping the best, following a long period of lethargy after losing the colonial traffic and an eclipse of its local political aedileship, a fatal blow in the new urban landscape. Nancy associated with Metz is struggling to overcome the environmental and human handicaps of historical continental industrialization (iron and steel). And notwithstanding the state's repeated efforts (Euromed for high tech reconversion of the docks), Marseilles is finding it difficult not to be overshadowed by its regional rivals, despite the fact that they are less privileged in terms of institutional policies: to the West, the 'gifted' Montpellier is top of the class in metropolitan economy (information technology, health), while to the east, Nice combines its touristic charms with the virtues of Sophia Antipolis, the French Silicon Valley. Proof, if need be, that the policy of the metropolitan growth centers has not been easy.

Overall, the metropolitan growth centers were subjected to a tremendous life size trial of a theoretical model designed to reconstruct the space organization and attractiveness of towns and a policy of interventionism applied from above. For a while, at the height of the industrial systems, they appeared to satisfy a universal

**Table 2** Urban performance increases with town size: greater metropolitan employment in French towns (% of the active population)

Total number of jobs in the urban area (in millions)	Number of urban areas	1990	1999	Trends 1990 99
5.1	1 (Paris)	14.3	16.0	+ 11.7
0.2 0.7	11	8.4	9.5	+ 20.4
0.1 0.2	21	5.7	6.4	+ 20.0
All urban areas	354	8.2	9.0	+ 14.8

and steadfast geometry of the urban networks and the efficiency of state voluntarism. They already neglected both the historical and social processes responsible for the production of regional territories and urban materialities, as well as the innovation power of the local environments. The sudden acceleration of technological, economic, cultural, and societal changes shook these theoretical approaches and disoriented their applications. This voluntarist policy of regional planning will have left behind it the testimonial of ambition, always necessary, irrespective of the direction chosen, the risk assumed, the material equipment structuring the territories and, probably even more, a spirit of revival, which played a role in the current success of the metropolises.

## Conclusion

Despite this relative theoretical failure of the policy of metropolitan growth centers, the French example has constantly fascinated numerous countries, which experienced the same symptoms of territorial imbalance in relation to a hypertrophic political and economic capital (Table 2). The DATAR and its experts did a great deal to export and adapt the measures taken, while the French state was considered a model of efficiency and successful compromise between respect for free market economy and public interventionism. Adopted often long after the initial idea and often with fewer means, these principles brought the same, often disappointing, results everywhere. This demonstrates that in modern times, the popularity of a policy depends less on the accuracy of

its theoretical bases than on the communication that accompanies it.

See also: Networks, Urban.

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# Middle East and North Africa

M. E. Bonine, University of Arizona, Tucson, AZ, USA

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## Glossary

**Desertification** The process of the degradation of the land due to desiccation, caused by both natural climatic factors and anthropogenic factors.

**Identicide** The policy to erase the cultural identity of a group or people.

**Islamic City** The view that Islam has been influential in the creation, morphology, and character of cities during historical times and even today, a model first proposed by Orientalists.

**Medina** The traditional or 'old city' in the Middle East and North Africa, specifically referring to the cities of the Arab world.

**Narrative of Loss** The typical architecture/urban narrative of the Middle Eastern city, that due to the loss of a past great civilization and plundering by colonization that the cities are in a perpetual state of underdevelopment.

**Orientalism** The concept as developed by Edward Said that postulates that the image of the Orient and its peoples were invented and formulated by writers, scholars, and artists of the West and which created a racist, colonist characterization of the Other.

**Petroleum Urbanization** The extremely rapid urbanization of the Arab states of the Gulf Cooperation Council (GCC) for which massive numbers of foreign workers are essential.

**Purdah** The seclusion, separation, and sheltering of women from nonrelative men.

**Qanat** A water supply and irrigation system in which a near-horizontal underground channel taps an aquifer at a higher elevation, and the water flows by gravity to the village and fields; especially still prominent in Iran.

**Qanat Irrigation Cultures** When a rural, village society and many of the economic and social relationships are influenced by the cycle and flow of the *qanat* and the irrigation practices.

**Urbicide** The specific policy and strategy for the destruction of urban fabric and cities in order to control, displace, or eliminate the population.

## Introduction

The Middle East and North Africa, as one of the world cultural regions or realms, has been defined in various ways that have resulted in rather different combinations

of nation states. This region sometimes is designated as only Southwest Asia, which would be those Arab states plus Turkey and Iran – and sometimes Afghanistan. Egypt might be part of such a region, which then might also be called the Middle East or the Near East, the latter term still preferred by archaeologists focused on studying the ancient cultures of this area. Rest of the states of North Africa, from Morocco to Libya, are also principally Muslim, Arab, and with similar arid environments, and hence the region becomes the Middle East and North Africa. It encompasses most of what is called the Arab world, except that Turkey and Iran are not Arab, and there are other states on the margins, such as Mauritania or Somalia, that are Muslim and arid but which usually are not considered part of this world cultural region. The complexities of just trying to define the Middle East have led some to say that it is somewhat an indefinable region.

## Desertification and Degradation Narratives

The Middle East and North Africa is comprised principally of arid and semiarid environments. Human occupation, including numerous empires and 'civilizations', has for millennia impacted these fragile landscapes, and the typical view until recently has been that humans have overused this environment, and that anthropogenic (human) factors have caused the desertification of many parts of the region. Nomads are particularly accused of overgrazing the land with their herds of goats, sheep, and camels, which leads to the loss of the scant vegetation, causing erosion and denuding of the landscape. These degradation narratives were particularly prevalent in the 1960s and 1970s (and later) for explaining the extreme famines that impacted the peoples of the Sahel in West Africa. The United Nations Conference on Desertification (UNCOD) held in Nairobi in 1977 represented this view, which led to national policies and programs to 'combat' desertification, as well as the 1994 United Nations Convention to Combat Desertification (UNCCD). Although numerous countries of the Middle East and North Africa (and elsewhere) have embraced this narrative, the debate about the 'encroaching desert' remains quite controversial. By the later 1990s, especially due to the 'greening of the Sahel' caused by the return of rains to much of West Africa, the debate about desertification has begun to incorporate the evolving understanding of climate variability and that natural drought

and climate changes may have as much as if not more impact than anthropogenic influences.

More recently, Diana Davis and others have begun to examine some of the historical roots of the degradation narrative, particularly how it developed during the French colonial period in North Africa in the nineteenth and early twentieth centuries. After the French invaded Algeria in 1830, they soon began to compare the rather dry and bleak environment around them with the accepted myth derived from the ancient Greek and Roman writers: that North Africa was once one of the most fertile regions of the world, including one of the principal granaries of Rome. Why would the environment have changed? What caused the desertification and loss of forests that were believed to have occurred since the Roman period? Arab nomads were the answer. Also using the writings of Ibn Khaldoun and other Arab historians, the French soon asserted that the fertile land of North Africa, including the existence of extensive forests, became desertified by overgrazing and the cutting down and burning of forests by hordes of Arab nomads.

The degradation narrative was then used by the French to implement their colonial policies in the name of environmental protection. Forests were taken over by the colonial French government and the indigenous use of forest criminalized. Large areas of agricultural and pastoral lands were appropriated. The control of pastoral nomads became one of the priorities of French policies and enforcement, all in the name of not only preserving the environment but also to bring back what was considered North Africa's fertile land of the past. The colonial policies also gave much of the appropriated land to French farmers – who sometimes did attempt farming in some rather marginal environments where previously only nomads had grazed their herds, and whose farming practices then in actuality often did induce desertification! The colonial environmental narrative not only lasted throughout the French colonial period but also formed the basis of the environmental policies of the independent states of North Africa after World War II, as well as continuing to be influential for present day programs, policies, aid, and practices.

### **The Scarce Resource: Water Wars and Conflicts**

The Middle East and North Africa has a considerable deficit of moisture throughout most of the year in the region, and the scarcity of water has led to many conflicts and even wars over this precious but absolutely necessary resource. Populations continue to increase in every nation of the region, requiring each year even more water for domestic use, industry, and irrigated agriculture. Conflict over water can be at the village level where the

individual allocations of irrigation water might be in dispute, or the quarrel might be between states over the division of the waters of major rivers such as the Nile or the Tigris and Euphrates.

Although some areas of the Middle East, such as central Turkey, have considerable agriculture from dry land (rainfed) farming, much of the region must be irrigated to produce crops. Traditional irrigation of local agricultural fields in villages usually revolves around a cycle of water in which the users have a specific number of time shares of water for irrigating their crops. It is not a volume of water but a specific length of time of flow, which might vary in the total amount of water available depending on the season or the climatic conditions influencing the specific aquifer or source of water. During drought seasons and years, there is less flow and hence less land can be irrigated. Water is used by flood irrigation, sometimes called border or strip irrigation, where water is conveyed in open channels and crops are irrigated by inundation of fields having low ridges to control the water.

Within Iran the *qanat* was (and is) used throughout much of the central plateau. This irrigation system obtained water by a near horizontal underground channels which were dug into aquifers at a higher elevation than where the water exited at the village and the cultivated fields. Water flows by gravity and usually the flow is determined by local climatic conditions. Historically, conflicts might occur where a new *qanat* channel was dug beneath an existing underground *qanat*, which would be able to drain some of the water from that *qanat*. Since about the 1960s, much of the conflict has been between existing *qanat* systems and new tube wells with modern pumps. The more efficient pumps would often cause the demise of *qanats* downstream by lowering the water table below the intake aquifer of the *qanat*. In some valleys where dozens of villages once depended on *qanats*, all of these systems went dry. Also, whereas the *qanat* water was shared water by villagers based upon rights to irrigate, the water from wells was owned by individuals and sold by volume. Unfortunately, many wells also went dry after a few years, creating a drastic decline in the availability of water – and in agriculture production. The village social structure traditionally had been based upon the flow and cycle of water from the *qanat*, and so these irrigation cultures and many of the social relations were also impacted by the demise of the *qanat* systems.

All of the major international rivers of the Middle East and North Africa are highly contested. The Nile for thousands of years has been used principally by Egypt, and it is only in the nineteenth and mainly twentieth centuries that conflict has emerged over its waters. Egypt has claimed the majority of the water of the Nile based upon its traditional use of the Nile, this usufruct creating the rights to the water. Yet, as irrigation and agriculture

schemes have developed in Sudan, this nation wants to use more of the water, from both the White Nile and the Blue Nile, for its own purposes. Then, as Ethiopia continues to develop and its population increases, it also will want to use the waters of the Blue Nile, which originates from Lake Tana in Ethiopia and is, in fact, the principal source of the main flood of the Nile in Egypt that occurs at the end of every summer. Development schemes and the desire to control more of the water led Egypt to build the Aswan Dam at the beginning of the twentieth century, and finally the Aswan High Dam completed in 1971. The sharing of waters of the Nile between Egypt and Sudan has been quite contentious, and this is without Ethiopia yet developing any major use of the Blue Nile.

Similarly, the waters of the Tigris and especially the Euphrates rivers are highly contested. Both rivers originate in Turkey, and as Turkey develops major dams and irrigation projects (the GAP Project), there is less water for downstream Syria and Iraq. The Euphrates is particularly affected by the dams in Turkey and Syria, leaving Iraq as the last recipient of the water, despite its longer historic right to use the river.

Although not a major river in terms of flow, the Jordan River and the waters underneath the Palestinian Authority (West Bank) are perhaps the most contested waters of the Middle East. The source of the upper Jordan River are three major springs, the Banaia in Syria, the Hasbani in Lebanon, and the Dan in Israel. A major tributary of the Jordan, the Yarmuk River, originates in Jordan and Syria, as well as forming part of the border between Israeli occupied Golan Heights and the countries of Syria and Jordan. It is the groundwater of the West Bank that is even more contentious, for much of it flows from there westward into Israel, which depends upon this water as part of its scarce water supply (up to 40% of the groundwater that Israel uses by some estimates). The limitations on the drilling of any new wells by Palestinians after the Israelis occupied the West Bank in 1967 caused considerable hardship for the Palestinians, which contrast considerably with the extensive wells (and swimming pools) allowed for the Jewish settlements in the West Bank. Even after the establishment of the Palestinian Authority, Israel still has the final control of the allocation of water in the West Bank.

### **Edward Said, Orientalism and the Islamic City**

The work of Edward Said (1935–2003) has had a profound impact not only in human geography but also for most other disciplines of the humanities and social sciences. Said provided a powerful intellectual framework showing how power and politics shaped the representation and interpretation of culture. His best known

work, *Orientalism* in 1978, along with such other works as *Covering Islam* in 1981 and *Culture and Imperialism* in 1993, depicts how the West represented – and really discovered and invented – the East (the Orient). Orientalism was created by Western archaeologists, artists, and writers in the eighteenth and nineteenth centuries, and it became part of the discourse of domination of the East by the West. The Middle East constituted the principal region for Said's examination and critique of the West's Orient, although India and other Asian 'Oriental' cultures are included as well. His concentration on culture and power influenced contemporary human geography by creating a greater focus on race, power, and representation, including imperial landscapes. This legacy also has had a major impact in furthering the colonial discourse and contributing to the development of postcolonial theory – even if much of that theory has been to counter and object to Said's Orientalism arguments.

Edward Said also had another, but related, passion. As a Palestinian his writings and energies were also directed toward the plight of the Palestinian Arabs, focusing on the injustices that have been inflicted on these people throughout the twentieth century and continuing today. He linked his critique of Orientalism with how the Palestinians were represented in the West. The Palestinian Arabs, as one of the uncivilized and degenerate 'Orientals', were seen as backward, while the Zionists were depicted as capable and civilized, besides the acceptance in the West of the prophesied claims to the biblical 'promised land'. Palestinians were associated with terrorism, ignorance, and despotism, while the Zionists were associated with democracy and liberal ideas. Hence, related to his Orientalism discourse, Said emphasized how the nature of power and representation meant that the Palestinians were being represented by others – and as the Other. His works, such as *The Question of Palestine* in 1980, in fact not only brought worldwide attention to the plight of the Palestinians but also provided a framework for countering identicide, the concerted attempt to erase historical Palestine and the Palestinian cultural identity – and, hence, giving the Palestinians a voice to the international community.

Orientalists, who also can be defined as those earlier scholars with knowledge of the languages and cultures of the Middle East and North Africa, were responsible for creating the concept of the Islamic city. This model was based upon the belief that Islam as a religion and way of life had a specific influence of the urban built environment as well as the inhabitants themselves. The French Orientalists, Georges Marçais, William Marçais, and Jean Sauvaget, for instance, developed these ideas in the 1920s and 1930s, which culminated in Gustave von Grunbaum's once influential 1955 article, 'The structure of the Muslim town'. More recently, the use of primary documents, such as *waqf* (charitable endowment) deeds or

*sijills* (*sharia* court records), has led to much more sophisticated analyses of traditional cities in the Middle East. *Sharia* law has, in fact, been significant for the morphology of Muslim cities, as Basim Hakim has shown for Tunis, where the heights of buildings, widths of streets, and ownership of shared walls were regulated by *sharia* and decisions by a *qadi*, the Islamic judge. In some instances, the *qibla* or the direction of prayer to Mecca influenced not only the layout of mosques but also the orientation of the traditional Medina itself.

The Islamic city or the Middle Eastern city also has been interpreted by the narrative of loss, that these cities have declined from a previous glorious past. Such a narrative and the models of the Islamic city or the Arab city or the Iranian city in the contemporary world eschews an examination of these cities as global cities which are impacted significantly by forces of globalization and internationalization.

### Rapid Urbanization, Oil, and the Impact of Globalization

Similar to rest of the developing world, rapid urbanization has been significant in the Middle East. Major cities, particularly the capitals and primate cities, have had tremendous growth as fertility rates remain some of the highest in the world (but declining) and rural and foreign migrants flock to the urban areas mainly for work. Several megacities have emerged in the region, with Cairo's population from 15 to 18 million, Tehran at least 12 million, and Istanbul over 10 million. Shantytowns and illegal settlements have accompanied much of the rapid urbanization, while refugee camps are part of the urban landscape of cities such as Amman, Beirut, and Khartoum.

The Arab states of the Arabian Peninsula and the Gulf Corporation Council (GCC) have undergone some of the most rapid urbanization anywhere in the world because of their oil wealth and small indigenous populations. Particularly as the price of oil began to climb in the early 1970s, this petroleum urbanization created a transformation of these cities in Saudi Arabia, Kuwait, Bahrain, Qatar, United Arab Emirates, and Oman. Development was extremely rapid and the native populations were inadequate and not sufficiently skilled, so that millions of foreign laborers have come to the GCC states to work. The forces of globalization have created a pool of foreign labor, which in fact constitutes the majority of the labor force in all six of these Arab states (and where foreigners are the majority of the total population in Kuwait, Qatar, and the United Arab Emirates).

In the first decades after World War II as these oil economies began to develop, most of the foreign migrant workers were Arabs – such as from Egypt, Yemen, Lebanon, and Jordan, including many Palestinian

refugees resulting from the Arab–Israeli conflict. In more recent decades most foreign workers are 'Asians', coming from India, Sri Lanka, Nepal, Indonesia, the Philippines, and other countries. Many Arab and Asian foreigners have been working in one of the GCC states for decades, but it is virtually impossible for them to obtain citizenship in these 'oil welfare' states. The Gulf also has turned into cities of gleaming skyscrapers. Abu Dhabi and Dubai are representatives of the forces of global capital – and oil wealth – massive five star hotels, indoor skiing facilities, and the construction of the world's tallest building attest to (what some call) excesses of wealth and development.

### The Arab–Israeli Conflict: Urbicide and Identicide and the Palestinians

Ever since the establishment of Israel in 1948 the Israelis and Palestinians (and other Arabs) have been in conflict, and this has remained one of the most difficult and intractable disputes in modern times. Water rights, refugee status, and 'right of return' of the displaced Palestinians, the status of Jerusalem, Jewish settlements in the West Bank, and many other issues divide these two peoples. Although hundreds of scholarly – and not so scholarly – books have been written by individuals from all disciplines, geographers also have contributed their perspectives. In particular, articles by Ghazi Falah and others in the journal he founded, *The Arab World Geographer*, have provided valuable information and insights into the conflict.

An example is the focus on urbicide, the specific policy and strategy for the destruction of urban fabric and cities in order to control, displace, or eliminate the population. Originally identified as a term for the planned and implemented destruction of (parts of) specific cities in Bosnia, such as Mostar, more recently, urbicide has been seen as a relevant concept related to the Palestinian cities of the West Bank and Gaza. Specifically, the policies of the Israeli government toward the Palestinian Arab population in the Palestinian Authority have been an attempt to demonize the Palestinian built environment as premodern, formless, and dangerous, hostile places, where terrorists and suicide bombers abound. Hence, it becomes acceptable (as Israeli policy) to destroy such built structures. Besides destruction, planning and implementation of new (Israeli) building structures and neighborhoods and new settlements can also be an integral part of urbicide.

The conflict between Israel and the Palestinians, in fact, has long provided ample evidence of violence and the destruction of built environments. Originally, with the establishment of the State of Israel and the resultant war in 1948–49, the exodus of much of the Palestinian population from the new boundaries of the state resulted in hundreds of villages being either razed or reoccupied

with new Jewish inhabitants. Many Palestinian settlements became ruins and even those that remained occupied by Arabs sometimes disappeared from Israeli maps. The demolishing of individual houses of Palestinians also became a policy of the Israeli military after the 1987 and 2000 'Intifadas', where residences which housed the family of a suicide bomber (or other individuals deemed a threat) were often bulldozed as 'punishment'. Since the 1967 war, at least 12 000 Palestinian houses in the 'occupied territories' (including East Jerusalem) have been destroyed in either individual or massive housing demolitions.

More recently, urbicide has become Israeli policy in the Palestinian Territories, particularly since the 2000 al Aqsa Intifada. In 2002, the Israeli Defence Forces occupied much of the Palestinian Territories, allegedly to counter Palestinian suicide bombers and Islamic terrorism (including leading members of Hamas). Besides destruction of urban fabric by missiles, tanks, and bulldozers, urbicide is also brought about by other measures which strangle and isolate the population of this perceived Other. A matrix of control has been created by the Israeli policies and military, consisting of Israeli settlements, bypass roads, and tunnels, and more recently by the construction of the Wall of Separation which sometimes even separates Palestinians from their own agricultural land. Major highways in Israel often will not have offramps to Arab settlements and usually there are no signposts signifying that Palestinian settlements even exist. Such highways may also be built principally on confiscated Palestinian agricultural land and these thoroughfares for the Israelis often can be barriers for the Palestinians to move between their residences and their cultivated lands.

Many of these policies become part of the strategy to marginalize the Palestinians – a policy of identicide. A concerted effort has been made to separate the Palestinians from their cultural and material background – from their identity. The destruction in 2002 of much of Nablus is an example of the policies and implantation which have created urbicide and attempted identicide in this largest Palestinian city in the West Bank.

### Gendered Space: Private and Public Space

Societies in the Middle East and North Africa tend to be the most segregated societies by gender in the world, although customs certainly differ by subregion, religion, class, lifestyles, and education. Predominately Muslim groups and peoples occupy this cultural region, and so the influence of Islam becomes central to understanding many of the social practices and patterns. Pastoral nomads have been the focus of many studies in the past,

where it was emphasized how nomadic women tend to be 'more liberated' than their counterparts in the cities – including not being veiled as well as often working alongside men (which is true for many rural women as well). These past studies also sometimes simplified the roles of women and men, with the males often considered as the principal herders and managers of all productive resources, while the women were seen as primarily the purveyors of domestic space. However, perspectives by human geography and feminist geography have contributed newer understandings of the role of gender and space among nomads, for instance. Nomad women, in fact, have considerable ethnoveterinary knowledge, often greater than the men. They play a major role in the daily care of livestock, and because of their extensive contact with their animals they have considerable knowledge of livestock diseases and indigenous range ecology. Yet, women are often ignored in government (and outside aid) funded programs and projects, which presuppose that the livestock production is entirely in the hands of the men, and hence, any information and funds for improvements are given only to the males of a specific nomadic group. Many nomads also have undergone sedentarization where they engage in more intensive agropastoral production, and these changes transform many of the household production strategies as well as the relationships between male and female.

Discussions of the veil and *pardab*, as well as women's rights, have in particular been a focus of much scholarship in the Middle East and North Africa. The *bijab* or veil worn by women designates protection and a boundary with the outside world, signifying the private world that encloses – and protects – a woman. Yet, it has been one of the principal symbols of oppression of Muslim women as interpreted by many writers and feminist scholars in the West. Women's rights in the Middle East, in fact, have been a constant struggle throughout the twentieth century and until today. Providing education for women and reforming divorce and polygamy laws show progress, but only partially and with differing results from country to country. One of the most symbolic reforms, the abolition of the veil, was carried out in such secular states as Ataturk's Turkey or Pahlavi Iran, but the reemergence of Islam and Islamists the last several decades has resulted in reveiling and the donning of Islamic dress. Many more women in Cairo are wearing the veil today compared to two decades ago, while since the end of the 1970s in the Islamic Republic of Iran, women must wear a *chador* over their head and body when venturing out into public space. Whereas the adoption of the veil and Islamic dress was once mainly voluntary and a personal decision, the rise of Islamic fundamentalists and their conception of an Islamic society and state have limited the choices available to many women today.

Whereas the duality of public and private space was once used to describe men's space versus women's space in the Middle East and North Africa, and Muslim societies in general, within the last several decades the perspectives coming from feminist scholars and particularly ideas from feminist political ecology and postmodern deconstruction have shown a much more complicated reality. Both men and women negotiate private space and women can control at times public space. At the household level both sexes have particular vested interests in the resources that they manage. The fact that many men of rural communities, including settled nomads, work for months or even years outside of the home, results in significant alterations in the role of the women in terms of the control of resources and production at the domestic level. As nomadic groups settle and develop new livelihood strategies, they retain some herding but engage in farming and labor migration. The nomadic identity begins to transform as the domestic and public spaces change.

### The New Media and the Public Sphere

Within just the last several decades the advancements in media and communication, similar to rest of the world, not only have profoundly affected the lives of individuals but also have transformed the public sphere. Terrorist organizations such as al Qaeda now make and distribute sophisticated training camp tapes, as well as producing tapes for the world media. That media also includes new Arabic language satellite television stations, such as Al Jazeera, being broadcast from Qatar in the Persian Gulf. Such media provides different voices and perspectives than those which come from the BBC, CNN, or CBS, and Al Jazeera in particular has become not only a voice in and for the Arab world, but also it has emerged as a major global provider of international news and critical perspectives. Arab societies across all of North Africa and the Middle East now watch these new stations, engendering substantive discussions and debates. On the lighter side, Egyptian soap operas have become extremely popular, as episode after episode mesmerizes much of the Arab world.

The new media might provide a threat to the state in some instances, for governments can no longer control what news and programs are being watched by their citizens, even though satellite dishes have at times been outlawed, as in Saudi Arabia and Iran. In other instances, the emergence of the new media has enabled Islamic customs, doctrines, and practices to be discussed and questioned. What is considered proper Islam and how to live an Islamic life are promulgated on the television, while counter arguments are made by other religious authorities. Audiocassette tapes and videos of antiregime clergy circulate in some countries. Islamic educational

videos and CD ROMs are available throughout the region. What is most significant, however, is that the masses in the Middle East and North Africa now have ready access to news and information; it is no longer the purview of just the government or the educated elites.

The Internet also has transformed the public sphere. Internet cafes have become crowded with youths and the cafes have become new, important public spaces. A multitude of websites are now available to this new generation. Islam is also part of the Internet and is another way that various viewpoints of doctrine or interpretation are spread. Diversity of opinions and discussions of numerous topics has created new social networks and contacts. Various groups, including Islamists and even terrorist organizations also utilize the Internet, many having their own websites. In about 2005, Arab blogging began in earnest and many new websites advocated greater political transparency for specific states and the Arab world in general. Governments and censors have countered and the battle for controlling cyberspace – and for reforming authoritarian governments – has begun. In some states, such as Saudi Arabia, Syria, Yemen, and Libya, the filtering and blocking of websites for political or moral reasons is done by the government, often by using only one provider controlled by the state.

### Conclusion

Stereotypes of the Middle East revolve around Islamic terrorists, rich oil sheikhs (with large harems), stoic nomads riding camels across burning sand dunes, and oppressed veiled and sheltered women shunning public spaces. The realities, however, are much more complex and subtle. These societies not only have embraced modern media and technologies, but also in many instances new lifestyles are being combined with a new commitment to the religion of Islam. The peoples of the Middle East and North Africa are in large part still adapting to a postcolonial world, and yet are still often being defined by the West in an Orientalist mode. It is true that many inequalities exist within these societies: between the state and the ruled, between majorities and ethnic and religious minorities, between man and woman. The intrusion of the West also has created contested political space, epitomized at the state level by the enduring Arab–Israeli conflict where the territorial and political struggles have polarized much of the region – and even the world.

*See also:* Desertification; Gender, Historical Geographies of; Islamic Urbanism; Poststructuralism/Poststructuralist Geographies.



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# Migrant Workers

C. Cindy Fan, University of California, Los Angeles, CA, USA

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## Glossary

**Circular Migration** Moves by a migrant between the sending and receiving areas many times over a period of time.

**Dependency Ratio** The ratio of the young and the old to the working-age population.

**Ethnic Enclave** A place within a city or a larger community within which members of a particular ethnic group tend to concentrate.

**Guest Worker Program** A program to recruit workers from another country to ease labor shortage in the host area, with the expectation that the migrant workers will eventually return home.

**Human Smuggling** The procurement of illegal entry of a person into a country, usually with the objective of making a profit.

**Human Trafficking** The recruitment, transportation, or receipt of persons through deception or coercion, usually for the purpose of exploitation or forced labor.

**Remittances** The portion of migrant incomes that is sent home.

**Replacement Migration** International migration that is needed to offset population aging, population decline, and shrinkage in the working-age population.

**Sojourner** A migrant seeking temporary paid employment in another country who intends to return home eventually.

**Xenophobia** Fear of strangers and persons from a different country, ethnicity, or culture.

## Introduction

Migration refers to the movement of people across a specified boundary for the purpose of establishing a new or semipermanent residence. Migrants are commonly understood as people moving over relatively long distances, as opposed to movers who move over short distances such as changing residences within the same city. Migrant workers are migrants who move for work and are also referred to as labor migrants.

As early as the late nineteenth century, E.G. Ravenstein had observed that most migrants left their homes in order to search for work of a more remunerative or attractive kind. Study after study since then have confirmed that the search for work is the most important motive of migration. Although people do migrate for other reasons

– family reunification, displacement by war, political persecution, etc. – labor migrants consistently constitute the preponderance of international and internal migrants all over the world.

## The Economic Geography of Labor Migration

### Push and Pull

From a theoretical perspective, the flow of labor is a result of uneven regional development. Neoclassical economic theory, which assumes free flows of factors of production, predicts that workers will migrate from low wage to high wage areas. Over the past several decades, the gap in per capita income between high income countries and low income countries has continued to widen. Not surprisingly, the level of international migration has also increased, so that today, more people are residing outside their country of birth than ever before. The International Organization for Migration (IOM) estimated that by 2005 there were at least 190 million international migrants. The more developed regions in the world – in particular, North America and Europe – consistently have the largest net gains in population from immigration and the less developed regions – Africa, Asia, and Latin America – have the largest losses from emigration.

Flows from less developed areas to more developed areas also occur between neighboring countries and within countries. Argentina, for example, has long been a magnet of migrant workers from poorer Latin American countries, including Chile, Bolivia, Paraguay, Brazil, and Uruguay, although Argentines are themselves migrating to Spain and Italy. In the US, since the 1960s, economic growth in the Pacific Coast states and the South Atlantic coastal states and job loss in the old manufacturing states in the Northeast and Midwest have sustained a westward and southward movement of the population, often referred to as the Rustbelt (or Snowbelt)–Sunbelt shift. The longstanding eastward migration in Russia, and the inland coastal migration in China, both represent movements from poorer areas toward destinations that offer better economic and job opportunities. The push from the origin and pull by the destination are, therefore, primarily defined in terms of where the jobs are.

What neoclassical theory fails to predict is the impact of labor flows on uneven development. According to the theory, migrant flows are expected to change the labor supply and demand in the sending and receiving areas

such that wages, as well as levels of economic development, will eventually equalize over space. Despite the trend toward integration of markets on a global scale and increased international migration, the gap between rich and poor countries continues to widen and will in turn reinforce the push and pull of international migration.

### **Labor Shortage**

Migrant workers move predominately from areas lacking jobs or desirable jobs to where labor shortage exists and where the attractive jobs are. Both economic and demographic reasons account for labor shortage. Places that experience rapid economic growth and job expansion often have labor demand beyond the capacity of the local workforce. Recruitment of labor may be from nearby or distant areas. Since the 1960s, Mexicans have migrated northward to work in the maquiladoras – foreign owned assembly plants near the US border. During the 1950s and 1960s, Germany and other Western European countries that experienced economic boom implemented guest worker programs to recruit unskilled assembly line workers from Yugoslavia, Turkey, and other Southern and Eastern European countries. Historical ties and geographic proximity explain the flows of low skilled labor from Tonga and Cook Islands to work in agriculture and manufacturing in New Zealand. Oil rich countries such as Saudi Arabia have long recruited skilled and unskilled workers from adjacent and distant countries alike. Labor recruitment has also involved human smuggling and trafficking. Between the end of the fifteenth century and the middle of the nineteenth century, millions of Africans were taken against their will to work as slaves in the Americas. Even today, children from Burkina Faso and Mali are sold to plantation owners in Cote d'Ivoire. Many Eastern European and African women have been lured to Western Europe by brokers who subsequently forced them into prostitution.

A mismatch between the labor demand in specific sectors and the local workforce may generate flows of workers with special skills. For example, foreign born workers constitute a significant proportion of the skilled workforce in the US information technology industry. Similarly, the longstanding and high demand for nurses in the US has exerted a migratory pull for foreign nurses, especially from the Philippines but also increasingly from Canada, the United Kingdom, India, Korea, and Nigeria. An aging population in the US will exacerbate this demand into the next several decades.

Demographically, changes in the age structure may result in labor shortage. Primarily because of aging, the dependency ratio in Japan and many European countries, such as Germany and Italy, is rapidly increasing. To make things worse, these countries have had low levels of fertility and are experiencing or will experience population

decline. Projections of severe labor shortage have set off a heated debate about immigration. While some point out that replacement migration – in the form of massive immigration to the above countries – can be a solution, others argue for increasing labor productivity as a preferred means to offset workforce shrinkage.

### **Household Economics and Strategies**

The neoclassical approach focuses on the individual as the unit of analysis, but perspectives that emphasize household economics and strategies show that migration decisions are often made in order to maximize benefits for the entire family or household. Labor migration is an important means to increase household income and reduce risk. China's floating population – people who are not living in their places of registration – is estimated to be between 100 and 150 million and consists primarily of rural migrants working in urban areas. They are pushed from the farmland because of large labor surplus in agriculture, and they are attracted to job opportunities in manufacturing and services in the booming towns and cities. Leaving some family members behind in agriculture and engaging in circular migration, these migrant workers are diversifying the household's income sources. Most important, their remittances – mostly used for living expenses and agricultural input and to finance major household projects such as building or renovating a house – are crucial for the household's well being.

Many, if not most, international migrant workers send home remittances. IOM estimated that total international remittances to developing countries have increased considerably over the past two or three decades and are amounting to about US\$100 billion today, a figure much higher than official aid flows to these countries. In some labor exporting countries (such as Mexico, El Salvador, Indonesia, the Philippines, Turkey, Morocco, Jordan, and Yemen), remittances account for a significant proportion of the national economy. A possible cost to households that receive remittances is they may become dependent on this source of income and hence vulnerable to economic changes not only in their own country but also in the country where the migrant works.

The household approach is also important for understanding the role of gender in labor migration and how migration in turn affects gender roles and relations. The conventional model, which assumes that the husband's career is the determining factor of family migration and the wife is the tied mover, is quickly outdated, as women enter the labor force in increasing and large numbers. In some cases, women migrants are the majority in the migration stream because they are of demand for specific types of work. For example, large numbers of women from the Philippines, Indonesia, and Sri Lanka are employed in Hong Kong, Taiwan, and Singapore,

where wage increases over the past decades have resulted in shortage of low skilled labor in domestic work and low end services. These migrant women send home large portions of their income and have become the main breadwinners of their families. It is not clear, however, if this has had real impact on women's status in societies where women are traditionally considered inferior to men. In other contexts, women's career has become an important factor in family migration. The gradual decline in mobility (across counties) in the US, for example, is in part explained by increased participation of women in full time jobs and thus families' reduced readiness to make moves in order to advance the husbands' careers.

### The Politics of Labor Migration

When labor migration takes place, it may initially be considered a temporary solution, by the migrant workers, as well as the receiving areas that recruit them. However, as migrants' duration of stay increases, as family members join them, and as migrants raise families and have children, they may become permanent *de facto*, if not *de jure*, members of the host society. Issues about migrants' rights, citizenship, and social acceptance are often sources of tension that are especially challenging to policy makers.

Many labor importing countries have had discriminatory immigration policies. Between the 1850s and 1870s, poor rural migrants from Southern China were contracted as coolies to work as miners, railroad builders, farmers, and laborers in the US. The vast majority of these sojourners were men, who intended to return home eventually. By the 1880s, prejudice and economic slow down culminated into the 1882 Chinese Exclusion Act, which was the first nationality based immigration law in the US and which suspended immigration of Chinese laborers and barred those already in the US from becoming citizens. The 1924 Immigration Act, furthermore, established a national origins quota system, which effectively banned all immigration from Asia, except for a small number of diplomats and students. It was not until the 1965 Immigration and Nationality Act Amendments that national origin, race, and ancestry were replaced by family reunification and occupational skills as bases for immigration to the US. Australia and New Zealand, likewise, in the 1970s and 1980s, replaced admission policies that favored certain national origins, especially the United Kingdom, by policies that employed skill and family reunification criteria. Debates on labor immigration almost always invoke one or more of the following three concerns.

### Labor Demand and Supply

Changes in labor demand and supply often result in changes in labor immigration policy. For example, the

1970s Oil Crisis and subsequent economic recession prompted the end of guest worker programs in Western Europe, where instead measures were taken to foster return migration of unskilled labor. Many migrant workers and their family members were left jobless. In response, France and Italy have periodically legalized undocumented immigrants, while Germany and the United Kingdom have launched programs that attracted high skilled immigrant workers. Similarly, in the 1970s, because of the departure of manufacturing jobs, entry of the baby boom cohorts into the workforce, and high levels of unemployment, Australia's immigration policies shifted to emphasizing skills in demand. Indeed, a human capital model of immigration, one that attracts migrants that are well educated and bring valuable skills, is increasingly popular.

In the US and other labor importing countries, a controversial and highly political issue is whether immigrants have adverse effects on the wages and employment of native born workers. The anti immigration view sees immigrants as displacing American workers, especially low skilled minorities who are already disadvantaged to begin with. Those holding an opposing view argue that immigrants are taking jobs that American workers will not or cannot do and that labor market discrimination and segmentation are more important explanations for the unemployment of native workers. Immigrants from and via Mexico to the US, for example, are primarily engaged in agriculture and other low wage, manual jobs that most Americans are reluctant to take. Findings from research, including econometric studies, are not conclusive, although there is some evidence that the labor market effects of unskilled immigrants in the US are small but they may be significant in particular industries, such as garment and meatpacking. A similar debate exists in countries experiencing large scale rural-urban migration. Rural migrants in Chinese cities are blamed for taking away jobs from the urban unemployed, although the former primarily work in the so called 3 D (dirty, dangerous, difficult) jobs that are shunned by urbanites.

### Societal Security

Societal security refers to the sense of security derived from cultural homogeneity, a strong identity, and confidence in the continuation of traditional patterns of language, custom, value, lifestyle, and standard of living. Immigrants may be perceived as intruders and outsiders who can threaten the age old process of creation and evolution of nation states. The Chinese Exclusion Act, for example, was based on the notion that individuals from certain national origins and of certain races were unassimilable and should therefore be prohibited from becoming part of the host society. Ethnic tensions in

Europe, likewise, have xenophobic roots. The Paris riots in 2005 are a vivid reminder of the persistent discrimination toward immigrant workers and their descendants. Although Hong Kong had become part of China in 1997 and is no longer a British colony, children born on the Chinese mainland to Hong Kong parents still must wait years before having the right of abode in Hong Kong.

Circumstances under which immigrant workers came, and their roles in the host country's economy, are central to the assimilation discourse. Japan has long maintained itself as a highly homogeneous country; yet, many Koreans born and raised in Japan and three or four generations removed from their Korean descent do not have Japanese citizenship. Most are descendants of Korean migrant workers forced to come to work in mines or factories in the first half of the twentieth century, when Korea was a colony of Japan and during which Japan suppressed Korean culture and language. Japan's naturalization practices have historically been strict; persons of non Japanese descent born in Japan are not automatically given citizenship. At the same time, many Koreans living in Japan choose not to naturalize for fear that their ethnic and cultural identity will disappear and they will lose political power. For centuries, and especially during the European colonial period in the nineteenth century, large numbers of migrants from heavily populated provinces of Southern China were recruited to work in mines and plantations in Southeast Asia. They became traders, entrepreneurs, and middlemen between the colonists and the natives, and thus were perceived as part of imperialist exploitation. Since then, Chinese migrants and their descendants have played important roles in the host countries' economies and in some cases have dominated business and trade. Yet, they are subject to discriminatory policies such as restrictions on college admission, professional occupations, and political participation. At the same time, the Chinese are criticized for their reluctance to integrate. Mixed marriages are not common. Ethnic tension, when fueled by economic problems such as unemployment, can escalate into violence, as seen in the 1998 anti Chinese riots in Indonesia.

### **National Security**

The third concern is national security, which involves both issues of illegal immigration and border control, as well as more specifically responses to the September 11 (2001) events. Illegal immigrants primarily are attracted to destinations of economic opportunities and intend to search for work there. They are, however, seen as law violators since they arrive undocumented or by illegal means or they overstay without official status. As the volume, scale, and sophistication of human smuggling increase, it is also increasingly connected to transnational

organized crime. Throughout the 1980s and 1990s, ships holding dozens, even hundreds, of illegal immigrants were found off the coasts of or arriving Europe and North America. Some of these ships sank or ran aground; some made it to the shore; and some arrived with migrants who did not survive the journey. The Fujian province of Southern China, which has had a long history of labor out migration, has been a major source of smuggled workers to the US and Europe. Typically, the Fujianese are from poor, rural areas and do not fit immigration criteria that emphasize skills and family reunification. The fees that the smugglers (snakeheads) charge are in the order of tens of thousands of US dollars; thus, most migrants who successfully arrive are required to work for months or even years to pay back the debt. As these migrants find work and settle down, they send back good, if not completely accurate, news of their lives, which reduce the perceived risk of smuggling and encourage more to come. Migrant networks not only convey information but also help potential migrants to fund the trip. Most Fujianese illegal immigrants living in New York have relatives who settled in the US earlier, who could provide loans and other types of assistance. Network factors become more important as the migration stream matures. Indeed, globalization has greatly expanded the means by which migrants maintain ties with their origins and reinforced the role of migrant networks in sustaining specific migration streams for a long period of time.

Illegal immigration from or via Mexico to the US, which has increased sharply since the 1980s, has been of much concern to the American policy makers and public. Illegal border crossing is seen as an act undermining the rules of entry and the national sovereignty of the receiving state, thus also reinforcing the negative stereotypes associated with immigrants as a whole. Despite the US government's efforts in deterring their entry, many migrants have successfully crossed the border, by turning to smugglers to help them enter through deserts and mountains, via the so called *banzai* runs with dozens of other migrants through highways, or through other means. In March 2006, the US House passed new legislation that would make illegal immigration a felony, impose new penalties on employers who hire illegal immigrants, and erect fences along one third of the US–Mexican border. A massive rally in downtown Los Angeles, reportedly involving more than half a million people, and demonstrations in Phoenix, Milwaukee, and other large cities, sent a strong message in protest of the legislation. In response to the political pressure, the Bush administration proposed a guest worker program but it has hitherto not received strong support.

International terrorism, and especially the 9/11 events, has driven international migration right to the top of the national security agenda, worldwide and especially in the

US. How did the 9/11 terrorists enter and live in the US is clearly a migration question and has implications not only for border control but also for immigrants as a whole. Responses by the US government included developing better technologies of border control, holding hundreds of predominantly Middle Eastern men without charges for long periods, and implementation of an electronic foreign student tracking system in educational institutions. While no concrete data exists, anecdotal evidence suggests that the US government has tightened approval of visas to foreign students, who may otherwise add to the high skilled workforce in the labor market. All of the above, together with profiling practices adopted by airport and other authorities, reinforce the perceived connection between security threats and immigrants and may further heighten racism on the grounds of national security. Despite the fact that the 9/11 hijackers were terrorists and not labor migrants, the increased fear of terrorism at the beginning of the twenty first century is likely to result in more restrictive immigration policies not only in the US but also in Europe.

## The Impacts of Labor Migration

### Demographic Impacts

Migration is selective, and labor migration is highly selective. Most migrant workers are young and in the working age, and thus their departure may result in a bipolar age structure in the sending area. In many Chinese villages that have experienced out migration of rural labor to cities, for example, the elderly and young children predominate. On the other hand, young migrant workers will make the population at the destination more youthful. Such changes in the age structure may have effects on birth and death rates. In places experiencing massive out migration, birth rate will decrease and death rate will increase; and in places receiving large numbers of young migrant workers, birth rate will increase and death rate will decrease. Also, migrant workers' fertility level may be higher than that of the population at the destination, as in the case of immigrants in the US. However, in most countries, the number of immigrants is not large enough to have significant impact on the overall fertility rate.

In general, migration is more selective of men than women. This is especially the case for labor migration over long distance and to new areas of development. Sex ratio in California during the nineteenth century, for example, was extremely high because the vast majority of the early settlers in the Western, frontier, areas of the US were men. However, sex selectivity of labor migration is heavily dependent on the jobs available to migrants. The maquiladoras near the US–Mexican border, for example, hire mostly women as factory workers.

### Economic Impacts

The economic costs and benefits of labor migration are often at the center of debates on migration and immigration but are difficult to calculate. Standard economic theory considers migration from low wage to high wage areas a means to allocate scarce labor resources to their highest value use. In this view, the receiving economy gains and expands because of labor in migration, and migrant workers also gain in the form of higher wages. Local workers most similar to the migrant workers may experience wage decline and job loss, but these negative effects tend to be small. It is extremely difficult to answer the question whether the costs of migrant workers to the host economy, including their demand for public services such as schools and health care, are greater or smaller than the economic value they generate. The answer depends heavily on migrants' age of arrival and their years of education. Because most migrant workers are young and in their working and taxpaying years, it is generally believed that their benefits are greater than their costs to the receiving economy. In addition, because migrant workers tend to concentrate at the extremes of the education ladder, involving those with high levels of education and skills, as well as those with low levels of education and skills, they may exacerbate the socio-economic inequality in the receiving society.

The economic impacts of migrant workers on the sending areas are usually mixed. The net effect on human capital depends on the migrants' level of skill and whether they are needed at home. Most developing countries welcome the opportunity to export their excess unskilled workers in order to relieve unemployment pressures and generate remittances. However, when skilled workers leave in massive numbers the risk of a brain drain is of concern. Some African countries, such as Malawi, train nurses and health care workers to world class standards only to lose them to countries that offer higher wages. The impacts of return migration are also difficult to discern. If migrants are returning to rest and retire, then their economic impacts on the sending areas would be small. However, migrants may return with new technologies, skills, and capital and ideas of use to them and to the sending areas, in which case they are well positioned to create jobs and promote economic growth in the home community. There is evidence that more of the highly skilled international migrants today are returning to their home countries, especially when the latter are experiencing rapid economic growth and are offering attractive financial and career incentives. A significant number of students originating from China and finishing higher education in Western countries, for example, have chosen to return. In addition, globalization has fostered a new type of transnational migrants, mostly highly skilled and some employed by multinational or transnational

corporations, who maintain dual or multiple lives and identities by living and working in the host society while maintaining close ties with the donor society.

### **Social Impacts**

Compared to demographic and economic impacts, the social impacts of labor migration are even harder to assess, in part because social changes are usually gradual and are results of multiple factors. Nonetheless, some common observations are notable. Social relationships and social organizations in the sending areas may change. Inasmuch as labor migration is more selective of men than women, the women that are left behind in the home community may take on new roles and have greater autonomy in making household decisions. On the other hand, women may also become increasingly dependent on their husbands as the latter become the sole or most important wage earners. Migrant remittances may be spent on education for children and improving the health and livelihood of the entire family. Migration networks, as well as the circular migration and return of rural–urban migrants, may introduce ideas and practices from urban areas and eventually bring about lifestyle changes in rural sending communities.

Popular destinations of labor migration tend to attract migrants from different origins; and as migrant workers settle down and bring their families and raise children, the population in the host society becomes more diverse. The social consequences of increased diversity, especially in relation to immigration, are often controversial and hotly debated. Conventional thought emphasizes an evolutionary process of integration, including first of all adaptation and adjustment, followed by acculturation, and finally full assimilation of immigrants into the host society. Inter-marriage with a member of the host society is often used as an indicator of assimilation. Critics of the above model question the inevitability of assimilation. An alternative model is multiculturalism or pluralism, in which immigrants retain their cultural and ethnic identities while living and working as full members of the host community. These different views have been driving the debates about public policy, such as those on bilingual education in US schools.

Geographically, immigrant communities have created distinct spaces and places defined by their identities and cultures. The term ethnic enclave is used to describe places such as Chinatown, Little Italy, and Little Havana in US cities where unskilled immigrant workers and their families first settled and were later joined by more immigrants from the same origin countries. These ethnic enclaves have become permanent fixtures of labor importing countries and bases for an ethnic economy, which facilitates immigrants' access to capital, protected markets, and pools of cheap labor. Critics of ethnic enclaves,

however, argue that these places hamper immigrants' ability to adjust to and assimilate into the host society. Nevertheless, more recent immigrants with higher education and skills appear to be less dependent on traditional ethnic enclaves while at the same time boosting new communities that appeal to a middle class and transnational lifestyle. The term ethnoburb, for example, has been used to describe suburban areas in the US where many professionals recently immigrating from Mainland China, Taiwan, and Hong Kong live, work, and shop.

### **Conclusion**

So long as uneven regional development exists, labor flows within and between countries will continue. Migrant work and remittances can be an important source of income increase and diversification. Once a migration stream occurs, it can be sustained for a long time by migrant networks. Globalization has further boosted mobility worldwide and the transnational flows of migrants with multiple ties and identities. Thus, labor migration cannot be switched on and off like tap water. Furthermore, historical experience shows that many migrant workers recruited to temporarily relieve labor shortage eventually become permanent members of the host society. The impacts of labor migration on sending areas are mixed. The long term economic impacts of labor migration on both the receiving areas and the migrant workers are positive, although there may be small, negative effects on local workers with similar skills. Demographically, young, immigrant workers can help to offset the workforce shrinkage in aging societies. Yet, the prevalence of social exclusion of immigrants, compounded by security concerns over illegal immigration, border control, and international terrorism, has continued to define labor migration as a controversial, political, and highly contested issue.

*See also:* Emigration; Ethnic Economies; Ethnicity; Immigration I; Migration; Mobility; Multiculturalism; Racism and Antiracism, Transnationalism and Labor Geography.

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United Nations, Department of Economic and Social Affairs, Population Division.



# Migration

P. Boyle, University of St Andrews, St Andrews, UK

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## Introduction

Migration is a topic which has attracted the attention of geographers, and other social scientists, for centuries. It is inherently spatial, involving the redistribution of individuals, families, and groups within and between countries. Through migration different communities are linked together in more or less formal networks of flows and the implications of these streams may impact on both the migrants and the places through which they move. Migrants are often among the most entrepreneurial and dynamic members of society, while others may be exploited and abused during forced relocation.

Consequently, migration research is incredibly diverse, including work that focuses on: the migrant and the factors that influence their decision making; the impact of migration upon migrants; the spatial patterns of migration and how they might be explained; the impacts on the origins and destination that migrants move between; and the various economic, social, and political implications of such movements. Migration research is therefore theoretically and empirically diverse and, with certain recent advances in social theory emphasizing the importance of mobility as a central construct in understanding contemporary lifestyles, it seems likely that migration will continue to be a central topic in the geographical imagination.

Virtually, everyone moves home one or more times in their lives and many will migrate over longer distances several times. For some migration is an exhilarating, liberating, and profitable experience. For others, moving may be forced upon them, embarked upon as a last resort or represent failure. Migration therefore plays a critical part in people's life courses, usually being associated with major life changes such as the move from the parental home into further education, the formation of a cohabiting or married union, a change in job, or the choice of a place to spend retirement. For those moving abroad, migration can represent even more drastic changes including separation from friends and family, the stress of the move itself, and the potential difficulties associated with coming to terms with a different cultural setting. Home and citizenship can carry contradictory and ambiguous meanings for immigrants, particularly for those who lead 'transnational' lives, which transcend localities and nations in different ways and at different times. The rules about access to citizenship vary between countries with France requiring 'cultural assimilation' and others

such as Canada, the UK, and the US encouraging a more 'multicultural' approach which recognizes the advantages of ethnic groups maintaining their cultural, language, and social traditions. Thus, international migrants may challenge the dominant ideas of citizenship, particularly when they are illegal, temporary, or spend time divided between different contexts.

Of course, migration also impacts on those caught up in the moves of related individuals. Family members may be 'forced' to move home when a key figure in the household decides to take up an opportunity elsewhere, while others may suffer from being left behind while parents circulate between work at home and abroad. Migrations have significant implications for society, both at the origin and destination. The increasing politicization of immigration means that it makes the headlines in many countries on a daily basis, with some right wing political parties focusing their agendas on the tensions that arise when immigrant groups arrive in what appear from the press headlines to be large numbers. Some maintain that large scale international flows of migrants may have a direct and significant impact upon the internal migration of members of the host society and that the ripples of migration that result may be long term. Elsewhere divergent migrant identities can result in contradictory responses to incomers and outgoers. Take some of the more remote areas of Britain in the Scottish Highlands and Islands, where the out migration of young adults and the attendant implications for the labor force is lamented, while the in migration of 'outsiders' and the potential implications for the cultural identity of places may also be a matter of concern.

Migration is therefore a diverse and challenging topic. For individuals and families, it concerns everyday aspects of their lives, while migrant groups can challenge and influence the cultural and political underpinnings of communities and nations. Further, there is an increasing awareness that migrations should be classified less as events occurring at critical points in a person's life course but, instead, should be regarded as processes which are interrelated and which themselves help to shape the cultural and political identities of both people and places.

## Defining Migration and Migrants

How do we decide who is a migrant? Despite the breadth of research on the topic, defining migration is not as

simple as it might at first appear. We need to distinguish migration, which has a sense of permanency and involves moves to 'distant' places, from 'residential mobility' which is usually assumed to involve shorter distance moves perhaps for housing reasons, or from temporary mobility such as holidays and short term relocations. Of course, what we mean by 'long' or 'short', 'temporary' or 'permanent' vary between studies and are often influenced as much by the data resource at hand, as by the theoretically guided principles. By definition censuses which usually include questions about a person's location 1 or 5 years prior to enumeration treat any move as a 'migration' although some researchers choose to separate flows that cross the boundary of some administrative area (migrations) from those that occur within these zones (residential mobility). Even then the problem remains that some moves within an administrative zone may be over a longer distance and represent more of a cultural wrench than moves between neighboring zones.

These rather technical deliberations are important for more quantitative studies of migration, but more qualitative approaches have often focused on migration as a cultural rather than a discrete event. For some, the attempt to distinguish migration from mobility or travel is an unnecessary and problematic attempt to separate blurred concepts as the points of departure and arrival are increasingly difficult to define. Thus, while those moving between nations have traditionally been referred to as 'international migrants', there is increasing recognition that this term is imbued with a rather positivist sense of relatively permanent moves from one fixed point to another. It fails to capture the fluidity of movement which many cross national movers experience and 'transnational migration' has gradually become recognized as a term which better reflects the changing experiences of many migrants during the twentieth century. For these people international moves are only part of a biography of movement between places, with some moves being more permanent than others, and many being part of a regular circulation between different places. Such transnational migrants are often bilingual and move easily between these different cultural settings, pursuing economic and political interests in both places. Whether this really is a new social phenomenon, or simply a new insight into our understanding of a process where migrants actively maintain simultaneous, multi-stranded social relations linking their place of origin and destination, encouraging us to rethink the notion that people and their identities are firmly linked to specific places and questioning the idea that these identities are stable, continues to be debated. Critics suggest that transnational practices have existed for some time and that eventual integration should not be precluded from studies of international flows. The 'myth of return' is an old fashioned term which still has some purchase for

those migrant groups who gradually come to terms with the inevitability of their new homes, despite a yearning for their place of upbringing which may never recede.

Another key distinction in the migration literature is whether the move is voluntary or forced. This overarching distinction helps to distinguish between certain groups, such as 'refugees', who may be forced to leave home because of the political situation, and those who make well planned decisions to move elsewhere voluntarily. Again, even this simple distinction is problematic. According to the 1951 United Nations (UN) Convention definition, refugee status is only conferred upon those who have a well founded fear of 'being persecuted for reasons of race, religion, nationality or political opinion' and who move between nations. Movers within countries are not strictly included, and there are far more 'internally displaced persons' than there are international 'asylum seekers' who have moved and are awaiting judgment on whether they have achieved refugee status. Nor are people forced to move for nonpolitical forms of persecution, such as those who face extreme hardship because of their ethnicity (the 'ethnic cleansing' in the Balkans during the 1990s is an extreme example of this), or for other reasons outside their control such as environmental disasters. Partly because of some of these problems, the definitions of refugee and asylum seekers that are adopted vary by country, often influenced by the political context at the time. Certainly, the press struggles to distinguish correctly between 'asylum seekers', 'refugees', 'economic migrants', and 'illegal' or 'irregular' migrants, as these terms seem to be used interchangeably, often in rather dismissive and contradictory ways. More recently, though, while the United Nations High Commissioner for Refugees (UNHCR) has not managed to revise the 1951 Convention, which has the major advantage that such a large number of countries are signatories, it does take a more pragmatic view of who should be treated as deserving of refugee status.

Even the use of the term 'voluntary' is not without its difficulties. Taking the example of internal, within nation, migration, the neoclassical assumption that people make relatively 'rational', voluntary decisions to move, perhaps in search of employment, fails to capture the subtleties of many migrants' experiences. The stereotypical 'speculative' economic migrant who moves in search of better prospects is a rare beast as most employment related moves are 'contracted' with the migrant moving once an employment opportunity has been secured. Even if the move can be regarded as 'voluntary' for the person stimulating the decision, for the other family members who are bound up in this move the decision may well be involuntary. More significantly, the term voluntary also implies that migrants act out these decisions, devoid of the various family, employment, and political structures that shape everyday decision making. Many moves are in

fact influenced by the decisions of others, even if the final decision to move may apparently rest with the migrant.

Thus, population migration is a diverse and complex subject which is difficult to define. It captures a myriad of different moves which are stimulated by various factors, some of which are more observable than others. It involves everyday experiences, such as single people moving to taking up new jobs in a different location, as well as some of the most profound changes to global society, such as the Jewish diaspora which has involved the relocation of thousands over centuries, whose ancestors may retain a strong yearning to return 'home'. It is no wonder, then, that the research conducted on the geography of migration is also extremely varied.

### A Brief History of Thinking on Migration

The philosophical approaches to geographical migration research have matched most of the major evolutions in ideas that have swept through the discipline of geography as a whole over the past few decades. Indeed, migration research has often been at the forefront of these philosophical developments. Much of the early research on migration focused on the identification of spatial patterns of migration and regularities in the characteristics of migrants which helped in our understanding of the causes and consequences of migration flows. In the nineteenth century, Ravenstein developed his 11 major 'laws of migration' which summarized the regularities that could be identified from data gathered from the 1871 and 1881 censuses. Even today some of these ring true as, for example, the majority of migrants continue to move over short distances and large towns still grow more from migration than from natural increase. Other general statements about migration have also had a long lasting influence on the subject. Lee's work in the 1960s developed Ravenstein's laws into a series of hypotheses concerning the volume of migration and its streams and counter streams, with a focus on the 'push' factors at the origin which stimulated moves, the 'pull' factors at the destination which attract movers, and the obstacles that 'intervening opportunities' between any pair of potential origins and destinations might present.

The development of such empirical laws that apparently governed the observed patterns of migration continued into the 1970s and Zelinsky's 'mobility transition' was an ambitious attempt to generalize the transitions that take place in the rates and scale of migration as society modernizes. This is perhaps the best example of a 'grand theory' of migration. The first, preindustrial, phase was characterized as having relatively limited and generally local levels of migration. Migration rates were expected to increase considerably in the modern period, but then to wane again in the fifth, postindustrial, phase

when circulation becomes more common than migration *per se*. While such attempts to define an overarching model of global migration patterns would be regarded as naïve nowadays, this approach certainly shaped much of the research that followed during the next couple of decades. The focus on circulation in the last phase of modernization chimes with the recent focus on transnational migration.

During the 1970s and 1980s, insights from neoclassical economics began to dominate the more quantitative approaches to geographical migration research. More emphasis focused on employment related moves with the assumption that workers respond to wage variations between places in rational ways – people were expected to move from low to high wage and from high to low unemployment places. This type of approach was popularized with the research by Todaro and others working in the global south where rural to urban migration was burgeoning. The 'human capital' model was a key extension of this work which focused on individual decision making and posited that rational potential migrants would assess the anticipated future stream of monetary and psychic consequences of migration. Although the majority of the subsequent research focused on anticipated differences in wage rates, the human capital model was a much broader approach which also recognized that a broader temporal perspective was required to understand migration decisions. Apparently irrational moves which were financially detrimental to the migrant household in the short term may well have made sense in the longer term, such that migration could be regarded as a form of investment based on anticipated gains.

Despite the conceptual advance of the human capital approach, its 'gender neutrality' has been argued to be unrealistic. In fact, there is growing evidence from the 'family migration' literature, which focuses on internal migration within countries, that moves tend to benefit the man more than the woman, at least in terms of labor market outcomes. The human capital model also posits a rather unrealistic assumption that people acquire and act upon perfect information. The approach removes the hurly burly of daily life from migration decision making and treats the migrant as a passive receptor of information. More behavioral accounts therefore developed during the 1960s and 1970s which stressed the mechanisms behind individual acts of migration and put the individual agent at the heart of the process. The role of perceptions and the fallibility of the rational decision making model were emphasized in these approaches as it was recognized that people do not always take 'perfect' decisions. Naturally, these philosophical leanings encouraged more qualitative approaches to be adopted, particularly as more strictly 'humanist' accounts developed which focused attention squarely on the beliefs,

aspirations, and obligations held by migrants themselves, rather than the more objective characteristics, such as income and education, which can be measured for these individuals. Thus, while it remains important to understand the economic incentives of migration, given that so many flows are driven by employment related factors, more realistic models which incorporate gender roles and individual attitudes and expectations have become more common.

None of the approaches described above took much account of the institutional and political structures which influenced migration flows. More structural approaches emphasize the conceptually deeper processes which underpin society, and which require theoretical insights, rather than the collection of observable characteristics. Examples of this work included studies of the role of colonialism and capitalism and the global implications for international migration between countries which have experienced uneven development. For example, the slave trade and its implications for millions of African slaves were organized through colonial structures which linked Africa and the New World, while the rise of world cities and skilled expatriate migration is a clear example where migration provides a linking mechanism for global capital. The rather extreme economic differences that exist between countries in the global north and south have not diminished in relative terms, even though economic conditions in many poorer countries have improved in the last few decades. Employment rates and wage gaps are often cited as the major reasons for stimulating mobility in such unequal contexts, with international migrants often being attracted to work in lower status, more poorly paid work in countries where the wages for these jobs are considerably more than could be earned at 'home'. In a growing number of cases, national governments in poorer countries play an important role in encouraging young adults to seek work abroad, in the hope that remittances will be returned. At the same time governments in over 30 receiving countries actively promote the immigration of skilled workers through various programs such as the 'Business Immigration Programme' in Canada or the 'fresh talent' initiative in Scotland. Through these bureaucratic practices, immigrants are categorized along a spectrum of desirability which reflect the imagined needs of nation states. Thus, nation states play a powerful role in mediating migration, by scripting the identities of transnational subjects, while the very existence of the nation state rests on the states' ability to police borders and to define and restrict membership through citizenship and other legal processes.

Alternative structures which have influenced thinking in migration research include 'patriarchy' which represents the subordination of women through a set of male dominated system of social structures. Unequal power relations within households mean that migration is often

undertaken on behalf of the man, while the women (and children) may be obliged to support such a move. It seems that 'gender roles', rather than 'relative resources' of partners, drive such decision making, as described below. Certainly, more feminist approaches have gained considerable purchase in a post structural literature which has recognized the growing importance of women in global migration streams. It has been argued that until the 1980s, migration was conceptualized largely as a male phenomenon, with discussions of migrant workers configured through masculinized definitions of mobility and economic activity. Some of the original theories of migration, such as the 'push/pull' approach, can be criticized for their emphasis on the autonomy and agency of male migrant workers and their focus on employment related mobility. Various approaches, including the 'household strategies' perspective, have since emphasized the role of women and the household context within which migration decisions are made. Thus, increasing attention has been paid to the feminization of migration, particularly in the transnational migration literature where women are acknowledged to play an increasingly important role as primary migrants and this has led to a reappraisal of theoretical explanations of migration.

Overall, migration research has a long and impressive history which has been guided from most of the major philosophical advances that have occurred within the discipline of geography. There has been a growing recognition of the need to move beyond an objective interpretation of migration as a reaction to a series of push and pull factors in relation to economic forces, with migrants' identities gradually being acknowledged as important factors shaping mobility and the interpretation of economic variables. It has also been recognized that simple models of discrete migration events may not capture the diversity of migration experiences which are interlinked throughout a person's life course. Not surprisingly, given this breadth of theoretical work, the methods used to explore migration also vary considerably.

## Methods of Migration Analysis

The methods used to analyze migration can be broadly divided into quantitative and qualitative approaches, although there is a growing body of more mixed method research. Quantitative studies include descriptive approaches, where flows of migrants may be summarized using different types of rate such as in and out migration rates which compare the size of flow to the population at the destination or origin, respectively. Other descriptive measures used to summarize migration patterns include those such as 'demographic effectiveness' which compare the size of net flows to places with the

total in and out flows, or measures of segregation such as the 'dissimilarity index' which describe the geographical mixing of different population subgroups such as ethnic or migrant groups.

However, quantitative migration research has also been at the heart of some of the more advanced modeling research that has been conducted by geographers. These include aggregate models of migrants flows between places, many of which are underpinned by the application of Newton's 'gravity model' which assumes that flows between different areas are proportional to the size (or populations) of these areas and inversely proportional to the distance between them. These 'spatial interaction models' are statistical approaches which can be fitted using different modeling assumptions and are now commonly based on the Poisson or negative binomial distribution. They can be used to identify the factors that influence migration flows, as well as to identify residual flows which are much larger or smaller than might be expected.

Micro level quantitative models of individual decision making and migrant behavior have also been applied, which deal with the individual level factors that stimulate behavior. Such 'discrete choice' models simply distinguish between those who do and do not migrate using a binary outcome variable. Rather more complex, and potentially much more enlightening, are quantitative 'longitudinal' models where information about individual's behavior is captured at more than one point in their lifetimes. Panel data sets, where a sample of respondents is repeatedly interviewed on a frequent (often annual) basis, are one rich source of longitudinal data. Other sources include birth cohort data sets, which have been successfully established in the UK and have involved capturing everyone born in a particular week and then re-interviewing them at different critical points in their lives, and linked administrative data which make use of routine census and other data sets to build up comprehensive pictures of people's lives through time. A major advantage of longitudinal data is that migration events can be regarded as a series of transitions which occur during a person's life course. Rather than focusing on cross sectional groups of migrants and nonmigrants (as is necessary in many analyses), migration can be linked to previous characteristics and to future outcomes in 'event history analyses'. Longitudinal methods have therefore been applied to numerous migration topics including, for example, housing careers, employment careers, and the links between migration and subsequent demographic events such as fertility.

Of course, qualitative approaches have also been widely implemented in migration research. Interviewing is a standard approach which offers the value of being able to collect the primary data that are required. Most secondary data, even those collected in the richest of panel data sets, usually only include a small number of

questions on migration behavior and the underlying causes. Thus, quantitative studies that rely on secondary data often include relatively limited information about the underlying causes of migration decision making. Interviews and more ethnographic techniques have been usefully applied to various migration questions and these allow a greater depth of understanding about the complex range of factors that influence migration processes.

Biographical approaches have also been advocated in recent years. More than simply ethnographic studies, this approach is philosophically different, drawing upon structurationist theory and attempting to collect information about the wider contextual processes that influence migration decision making. Explicitly recognizing the structural constraints within which migrations occur, it focuses on three major issues. First, migration is seen as an action in time, rather than as a discrete event. This encourages more longitudinal conceptualizations of migration processes, be they quantitative or qualitative. Second, each migration may be influenced by a range of overlapping causes, rather than being explained by a single (usually economic) factor. Some secondary data sets may include a question about why people moved to their current location, but the assumption that such moves can be attributed to a single factor may well be naïve. A move to a particular city may have been stimulated by a job opportunity, but the choice of the precise residential location will have been influenced by a range of other factors such as the cost of housing, the quality of local schooling, and more environmental considerations related to the residential neighborhood. Third, migration is seen as a cultural event, where migrant actors are embedded within, and themselves influence, a cultural and political context. This approach therefore moves beyond the more neoclassical assumptions which treat migrants as relatively isolated decision makers. Thus, this approach explores the narratives of everyday life within which migration is situated.

The breadth of migration research, both philosophically and empirically, has resulted in a wide body of interdisciplinary work that geographers have made a major contribution to. We understand a great deal about the dominant patterns of flows, the characteristics of migrants, and the causes and consequences of migration. One rather obvious, but crucial, observation is that migrants are a selective group – not everyone migrates and some people migrate considerably more than others.

## **Migration and Selection**

Migration is a selective process which involves some population subgroups more than others. Ravenstein's laws were an early attempt to summarize some of the distinctive characteristics of migrants, focusing mainly on

their demographic circumstances. Today, migration is still more common among certain groups than others. For example, in the global south, migration tended to be dominated by men who moved in search of employment opportunities, often spending time divided between rural and urban areas where employment opportunities arose at different times in the year. However, we have already seen that a growing number of migrants in poorer nations are now women for whom more varied employment opportunities are available and, in relation to gender at least, it is clear that the selective nature of migration has changed. Indeed, in some cases it is more that the perception of migration needs reconsideration. The example of Irish migrants to Britain is a good example where the statistical evidence shows that women have dominated these flows for many decades, but the dominant popular stereotype has been of the 'mick' or 'paddy' image and, until recently, academic research has also focused primarily on the male migrants.

Migration is also selective of age. Migrant 'age schedules' are often plotted to demonstrate how the rates of migration change through the life course. Focusing on internal, within nation, movers we know that migration is relatively common for young children, as families often move home to accommodate the growing size of the household and the different requirements that children have. Family migration then declines as children enter school and become embedded in social networks which are difficult to break. It then rises to its peaks in early adulthood, with those leaving home for work and education, gradually declining then with age until, for some, there is a small peak around or just prior to the age of retirement.

However, migration is not only selective of certain demographic characteristics. The highly educated, those with higher incomes and people in certain types of occupation, such as the armed forces, are also more likely to move around. Indeed, some researchers divide migrants into 'movers' and 'stayers', the former moving quite frequently during their lifetimes and the latter being much less likely to move at all. For some stayers 'cumulative inertia' may set in as the longer a person or family resides at a particular place, the less likely it is that they will move on.

One growing area of migration research concerns health selective mobility. On the whole, migrants are usually healthier than nonmigrants, which is often referred to as the 'healthy migration effect'. For example, international migrants are usually found to have better health than those they leave behind. For some groups, such as those moving from poorer to richer countries, their health may not be as good as that observed among those they join. For other migrant groups, their health is better than both those they leave behind and those they join. A number of studies have therefore considered

migrant health as an opportunity to tease out the influence of 'nature or nurture' on different diseases. If genetic effects are most important, we would expect that the rates of disease in a particular migrant group would remain similar to the rates observed in their home nation. On the other hand, if the rates of disease among the migrant group change over time to be closer to the rates in the destination society, then environmental factors are likely to play some role. This effect has been observed for numerous conditions including breast cancer among Japanese women migrants into the US, for example. Rates of this disease are low in Japan and high in the US and Japanese women who relocate into the US experience higher rates than those they leave behind suggesting that some aspect of the environment is having an influence.

Similar selection effects have also been observed for migrants within nations, with young adult migrants tending to be healthier than nonmigrants. However, this reverses in old age, when migrants tend to be less healthy than nonmigrants as many may be prompted to move into care or to be close to relatives when health begins to fail.

Such selection effects are important as they have implications for more general studies in which migration may not be the central focus. Numerous geographical and epidemiological studies ignore this potential biasing effect of health selective mobility. A simple geographical example would be a study which compares health outcomes by the deprivation category of the residential area, with the obvious expectation that health will be worse in more deprived places. However, while it is quite plausible, and indeed likely, that living in deprived areas will lead to poorer health, it is also possible that those in poor health are more likely to end up living in more deprived areas, because of health selective migration. Those in good health are more likely to leave deprived areas, and those in poor health may be more likely to end up or remain in these poorer places. Thus, at least part of the relationship between health and deprivation may be caused by these mobility patterns and, if ignored, would result in inaccurate conclusions about the causal influence of deprivation on poor health. This issue is a useful example of how valuable a longitudinal approach can be, as this allows the direction of effect to be considered in ways that are impossible using cross sectional data.

Of course, the selectivity of migration varies between different contexts and by the type of migration that is involved. Thus, we would expect different types of movers to leave different origins and choose different destinations. Young adults may be attracted to the bright lights of urban life, while families with, or expecting to have, children may be more likely to move away from urban centers into suburbs or surrounding rural areas. Thus, migration selectivity underpins the patterns and scale of migration that are observed.

## The Scale and Patterns of Migration

The broad patterns of migration are well known to us, although new and diverse sets of migration streams are forever appearing. Mobility has become such a wide spread practice that some talk of the 'age of migration', as few people worldwide have no experience at all of migration and its effects. Despite the apparent scale of these flows, though, estimates suggest that only around 3% of the global population is an international migrant, a surprisingly low figure given the regular headlines in many countries which highlight the ever increasing numbers of immigrants. There is also growing evidence that migration rates have not increased as dramatically over time as was once thought, at least within nations.

Providing entirely reliable estimates of the global scope and scale of migration is virtually impossible. Even estimates of local flows within many developed countries are difficult to produce accurately, particularly in countries where no formal registration system exists. The population estimates derived from national censuses, which provide the only national count of the population in some countries, are known to be least accurate for the most mobile groups such as young, single adults. Recently, it has become clear that the official statistics on flows into and out of the UK, for example, are particularly problematic as no formal system for recording such migrants is in place and small scale surveys of people passing through (air)ports are relied upon in the absence of better data. The estimates of flows between countries are even more difficult to derive if irregular migration is common. The number of Mexicans who have passed the border into the US may be in the millions, but it is extremely difficult to provide an accurate estimate of the true scope of this economically and politically important migrant stream.

Of course, although we have an impression that migration has reached unprecedented levels, which may be true of some origin–destination flows, it is certainly the case that major movements of people have occurred for centuries. Within eighteenth century industrial Europe and the US industrialization and the lure of the city resulted in massive flows of people from rural areas into urban centers. There was a limit to the number of people that could be accommodated in these cities and by the end of the nineteenth and beginning of the twentieth century, 'suburbanization' became the dominant pattern. Originally home for the working classes, the city suburbs became increasingly regarded as attractive, family friendly residential environments so that by the 1950s the suburbs became a culturally distinctive and popular site for a growing migrant middle class. Between the 1960s and 1990s, 'counterurbanization', or the net decline of the cities and net growth of the more accessible rural areas beyond the city limits through migration had become the dominant spatial pattern in much of Europe and the US.

This represented a radical reversal of the population concentration that preceded this period and most suggest that this was caused by a mixture of factors including quality of life decisions, economic restructuring, and industrial (re)location.

However, from the 1980s onwards this counterurban pattern has slowed, and in the US at least some metropolitan areas began to grow once more. Thus, some cities have now reversed the pattern of net out migration, as inner city areas 'gentrify' and attract a new group of mainly young inner city inhabitants, attracted by the various leisure and social opportunities afforded there. Some suggest that this reversal in fortunes for certain urban centers is strongly related to economic cycles and that job opportunities are underpinning this trend, while others point to the growing importance of immigration and the higher fertility rates displayed among these groups in certain cities. For example, the population growth of some global cities, such as London, has been driven more by international than internal migrants. Either way, it is clear that the dominant counterurbanization process has slowed and that for some groups at least, urban areas offer attractive, if only temporary, locations.

The lure of the city in countries in the global south has long been the dominant migration flow and in many countries it continues to be biased toward primate cities, although this focus seems to be diminishing to some degree. One of the most significant flows of migrant workers occurs within China, where there are estimated to be around 140 million internal migrants which, when compared to the 200 million international migrants worldwide, demonstrates the scale of this particular migrant flow. This is despite the fact that the 'floating population' of movers from rural to urban areas are not formally acknowledged in the Chinese *hukou* household registration system where they are treated as temporary migrants and as a result are channeled into the poorest paying jobs and are not entitled to the subsidized services available to urban residents.

The dominant patterns of international migration are a mixture of historically consistent flows which involve linked networks of particular origins and destinations, and new patterns which often emerge as a result of political restructuring or unrest. According to the UN, international migrants are those who have resided in a different country for at least one year. Major flows through history included the estimated 12 million African slaves who moved to the New World during the eighteenth and nineteenth centuries; another 12 million economic migrants who were processed through Ellis Island between the 1850s and 1930s on their way to a new life in the US; and 1 million migrants from Britain who made their way to Australia as 'Ten Pound Poms' whose passage and a £10 grant was paid by the Australian government.

One estimate from the UN suggests that in 2005 there were around 200 million international migrants, although this is likely to be a considerable underestimate as 'illegal' or 'irregular' migrants are extremely difficult to collect reliable data on. In certain contexts, the scale of this migration is remarkable. Something like 35 million Chinese currently live outside China, while in 2000 it was estimated that around 20% of all migrants lived in the US. In addition to these large flows of reasonably well documented migrants, the number of irregular migrants seems to be growing. For example, there are purported to be around 10 million irregular migrants in the US, most of whom originated in Mexico.

As described above, many migrants are forced to move because of the political circumstances. The definition of refugees which was achieved in the early 1950s was driven by the need to resettle many who had been forced to migrate because of the Nazi threat. By the 1960s, major refugee flows were growing in Africa and by the 1970s Southeast Asia began to experience large flows, particularly associated with Vietnam and the 'boat people' who fled following the communist victory in 1975 and the creation of the Socialist Republic of Vietnam. In the 1990s, a significant change was the growth of refugee flows in the global north, including Bosnia and Kosovo. Refugees continue to make up a major part of recent international migration flows – in 2005 there were estimated to be around 9 million refugees worldwide. Particularly large flows include those from Afghanistan, Sudan, the Democratic Republic of Congo, and Somalia. However, while the scale of these moves remains large, there are considerably fewer refugees today than in the last couple of decades – in 1990 there were reported to be around 17 million worldwide. While the public impression in many richer countries is that they are increasingly expected to bear the burden of refugee flows, the vast majority of such migrants originate in and remain in the poorest parts of the world. Flows within Africa, some of which occur over short distances between neighboring countries, still make up the majority of refugee movements worldwide.

It is indeed a mobile age but, as argued above, the proportion of the world's population who are international migrants remains relatively small. This is caused by a number of factors, including: the inability of many of the world's poorest to move elsewhere; simple inertia as most people are content with the circumstances in which they live and never contemplate long distance international moves; and the role of governments who often influence migration across their borders with some, such as that in the Philippines, actively encouraging international labor mobility and others, such as those in a number of communist countries, strongly resisting it.

While the geography of major migration flows has changed over time, some of the underlying trends associated with these moves have also changed. A far higher proportion of international migrants than ever before are

women and this trend is likely to continue in the future. In the past, most international women migrants moved to join their partners as 'family reunification' was a major cause of much mobility. Nowadays women are far more likely to move independently and many are the primary breadwinners for their families. Many of these transnational migrants are engaged in the reproductive, rather than productive, sphere, working as maids, or in entertainment, healthcare, or the service industries; for some parts of the world, such as the Philippines, these migrants make a major contribution to local and national economies. Indeed, in many parts of the world the scale of domestic worker migration (the 'maid trade') far outweighs the movement of professional workers.

There has also been a change in the origins and destinations of migration. Some traditional centers of out migration have more recently become attractive locations for in migrants – North African is one example which lost, and continues to lose, many migrants to Southern Europe, but which is now becoming a popular destination for migrants from sub Saharan Africa. While most international migrations were (or were assumed to be in the literature of the time) permanent, far more people move temporarily. Today, there is a growing emphasis on the role of 'circulation' with large numbers of migrants leading dual lives divided between countries where they may spend months or years at a time.

These large scale movements of economic and political migrants have implications not only for the migrant groups themselves, but also for the origin and destination areas which lose and receive them and in many cases the impacts of migration can be quite severe.

## The Impacts of Migration

As discussed above, for many people migration is associated with new opportunities and can be regarded as a positive experience which can be exciting and challenging. For others, though, migration may be a negative experience, perhaps forced upon them, by circumstances outside their control. For both host societies, who have to cope with what the right wing press often describe as 'migrant floods', and origin societies, who may suffer the implications of a 'brain drain' that accompanies skilled out migration, the impacts may be hugely significant at a societal level. Consequently, migration has impacts on the migrant themselves, but it also impacts upon the places they move between. It is important to realize that these impacts will not be static, but will vary over time.

## The Migrants and Their Families

Moving is a potentially stressful event, occurring relatively rarely for most and involving considerable



planning and expense as well as causing the breakup of social networks and the formation of new ones. Much migration occurs because the migrant(s) involved aim to improve their quality of life, perhaps through moving into a more suitable property or by choosing a more desirable neighborhood. These types of moves may well be over relatively short distances and are usually described as 'residential mobility' rather than migration. Longer distance moves are more likely to lead to greater disruption for the migrants involved, particularly when moving to a country which uses a different language, or to a place where there are few social contacts or support networks. Moving into new locations may even bring with it the risk of being introduced to new health risks, although in many cases the migrants themselves are often feared as the harbingers of disease.

These more negative consequences of migration are much more likely when the moves are forced or impelled, particularly if those involved have no choice but to leave possessions and, often, other family members behind. 'Human trafficking' is perhaps the most extreme example, and according to United Nations Children's Fund (UNICEF), over 1 million children per year are trafficked into the modern day equivalent of slavery. These abducted children are secretly transported across borders and sold like commodities or trafficked within countries for the sole purpose of exploitation. For these vulnerable individuals, migration represents the removal of basic human rights and an unpredictable and dangerous future. It can involve being forced into prostitution, illicit international adoption, or recruitment into armed forces. Among trafficked adults most are women, mainly forced into the sex industry. Trafficking is different to 'smuggling' which involves migrants voluntarily embarking on a move organized by smugglers. However, while these types of moves may not result in long term exploitation, on some occasions they can if the payment to the smuggler is not completed before the move.

Of course, the impact of migration may not be so severe, and in many cases moving home may involve a mixture of benefits and costs. Families who move because of a change of job of one adult (usually the man) may well have weighed up the potential pros and cons, although it seems unlikely that they will do so in an entirely rational way as posited by some neoclassical theories. Even so, it is probable that long distance moves will only be made if the benefits of the new opportunity appear to outweigh the attractions of staying put. One outcome of such 'family migration' is that women usually suffer from these moves, at least in terms of labor market outcomes. Thus, the consensus in a literature which spans over four decades is that women are more likely to be out of work, have smaller incomes, and work fewer hours than their nonmigrant women counterparts. Thus, the terms 'tied migrant' or 'trailing spouse' have been used to

describe those who may lose out from migration individually, even if the family as a whole benefits, and in most cases they are women. 'Tied stayers', on the other hand, are those (mainly men) who are discouraged from moving because of the implications it would have for others in the family, although defining and providing estimates of this group is rather more difficult to achieve.

Coming to conclusions about the benefits or costs to certain individuals is not always a simple task. Take, for example, the many thousands of transnational migrant women who leave their families to work elsewhere, often abroad, in order to send remittances home to their (transnational) families. Caught between two worlds, these women may inhabit rather contradictory spaces, often regarded as both insiders and outsiders at the same time. They may experience a sense of 'placelessness', 'floating' between locations and finding it difficult to identify with either place as 'home'. The marginalized position of migrant domestic women at the edge of society raises the intersecting relations of gender, ethnicity, class, and citizenship and there is clear evidence that these women suffer discrimination and varying legal rights across destination countries. Taking the Asian example, female migrant workers in Singapore are constrained by tight labor contract systems and little tolerance for civil activism, while in Hong Kong quite frequent demonstrations by domestic workers are tolerated and collective action therefore provides an opportunity to challenge some of the worst discriminatory practices.

To certain researchers, these women are to some degree 'forced' to move by feelings of family obligation, and living away from family and friends in circumstances that are often quite difficult may have serious emotional implications for the migrants and their close relatives 'left behind'. The impacts on their children and the elderly may be particularly severe as the family is reconfigured and transformed by these migratory processes. On the other hand, many of these women enjoy the economic independence associated with such moves, as well as the escape from traditional attitudes concerning women's roles at home. For these transnational women, life can be empowered by migration and the economic and social independence that it brings.

Thus, while certain types of migration can be summarized as being broadly positive or negative, many moves bring with them a mixture of costs and benefits, which are likely to vary for different household members. Similarly, it is not simple to determine whether migration has a positive or negative influence on the societies between which migrants move.

### **The Origin and Destination Societies**

The various impacts of international migration on the host and origin societies have been well documented and

they involve geographical, economic, and more socio-political implications. For origin countries a major impact of migration relates to 'remittances'. The World Bank suggests that migrant labor earns around US\$20 trillion and in 2005 that about US\$200 billion was sent home by migrants, much of it being returned to poorer countries where most migrants originate. Including informal remittances might lead to a doubling of that figure. The channels through which remittances are returned are diverse and a migrant industry has developed which facilitates the movement of people, their possessions, and income between nations. Some transfers are passed through formal channels and can be recorded, but most are informal and estimating their size is very difficult. Countries such as Mexico and the Philippines are major recipients of remittances, while the US, Saudi Arabia, and some Western European countries are major sources. How these are utilized in the origin country varies considerably between communities and families. In some cases remittances are invested entrepreneurially in businesses, or community based enterprises. In other cases, their uses may be less obviously productive, being spent on consumer goods or, in certain scenarios, being used to support civil campaigns or conflicts.

Overall, the redistribution of wealth and the consequent financial benefits that such remittances provide may seem obvious, but certain commentators regret the dependency that some place on these income streams. However, such migrations also supply a variety of 'social remittances' as new ideas may pass between origins and destinations, and migrants can continue to play a major role in political outcomes, as many retain their rights to vote while abroad. Much less research has considered the social and emotional impact on children and older people as members of their families leave for potentially long periods of time. The implications for caring are potentially serious, particularly as such a high proportion of transnational migrants are now women.

One drawback of these flows of migrants for origin societies is the fact that migration is selective (see above). The 'brain drain' refers to the loss of skilled migrants that some countries suffer. Although these migrants may make an important contribution to their home societies through the remittances that they provide, those that leave are often among the most skilled and educated. In some cases, there are fears that this will have deleterious implications for the labor market at home and the actions of richer countries who actively attract certain types of key workers when they are suffering shortages (the UK National Health Service has sought nurses from abroad for example) can make this problem particularly vexing, leading to calls that some form of compensation should be paid to the, usually poorer, countries who have invested considerable resources training these individuals. Other countries, such as Singapore, have launched

impressive public education campaigns, designed to encourage workers to take advantage of the skills training that can be acquired abroad, but emphasizing that their heart should remain in Singapore. This 'global city state' aims to embed itself in an extraterritorial terrain of network relations, from which profit can be extracted and one way of extending its influence is through the encouragement of inward and outward flows of capital, goods, services, information, and people.

In relation to the destinations, many argue that migrants are among the most entrepreneurial of groups and that most societies benefit from their presence. Most migrants are economically active and in many countries within Europe and elsewhere in the developed world where the population is aging and birth rates are well below replacement level, there is a growing recognition that migrant labor may be the only solution to the growing 'demographic deficit'. It is no surprise that so many countries actively encourage skilled immigrants to enter, but at the same time they actively discourage the entry of other groups with different backgrounds.

Thus, despite the benefits that most migrants bring they are also threatening for some in the destination societies. Migrant bodies are often depicted as diseased, racialized, criminalized, and undeserving. They may compete for jobs, one consequence of which is the depression of wage rates. Many complain that they make undue use of public services, especially healthcare. The impression of immigrants is therefore contradictory. While celebrating the diversity of ethnic difference in some aspects of daily life, such as the increasing breadth of cuisine available in most Western countries, fears of being under siege from groups who will resist being 'assimilated' are commonly portrayed in the media. The irony of this perspective in New World countries where the white majority are themselves descendents of immigrant groups is rarely acknowledged.

Research on the geography of immigrant settlement contributes to the tendency among some to maintain a 'them' and 'us' perspective with its focus on segregation, ghettoization, and 'proximity to whites'. Whether ghettos ever existed remains a debated point and, in an increasingly mobile world, the ability of ethnic groups to retain a cohesive community without clustering geographically is becoming more recognized. More recent research, particularly in the US, which apparently links the flows of incoming international migrants into key 'port of entry' states and cities with the selective out-migration of lower class whites who find the competition for jobs and housing too difficult, helps to fuel such concerns. Referred to by some as a 'demographic balkanization', critics have argued that the link between these two broad migration processes is at best weak (the overlap between immigrant and native employment markets is not great in most places) and that the use of

such terminology is particularly problematic and inflammatory suggesting, as it does, an immigrant induced breakup of a unified nation.

In some countries migrant groups are regarded with suspicion and even feared as the links between migration and security are emphasized. Recent terrorist atrocities in many countries have fueled a right wing reaction against 'others' who appear to threaten national sovereignty. It is certainly true that the political significance of migration, and particularly irregular migration, has been and continues to be a major concern for many societies. Perceptions of 'floods' of migrants are fueled by certain political parties and press organizations, and the surprising success of certain right wing politicians, such as Jean Marie Le Pen in France, Pauline Hanson in Queensland, Australia, and the late Pim Fortuyn in The Netherlands reminds us of the level of support that these groups can muster.

The impacts of migration on both migrants and the places through which they move are often significant but rarely simple to elucidate. In many cases migration is associated with a series of costs and benefits, which are often very difficult to quantify or judge against one another.

## Conclusion

The topic of migration has attracted the attention of geographers for many years as spatial mobility and movement are inherently geographical. The approaches taken to understand population migration are theoretically and empirically diverse. The contribution of geographers to our understanding of the patterns and impacts of such flows is significant and, as advances in social theory have been adopted in the discipline, the study of migration has developed in new and exciting ways.

Emerging migration trends which are likely to figure in both academic and popular discourses in years to come include the growing importance of women in international flows, the increasing importance of skilled migrants in the political agendas of origin and destination societies, the growing number of students who move easily across borders to improve their skills, the increasing reliance on remittance income in some of the poorer countries, the role of global cities as stopping points for migrant elites and the ever more mobile 'creative class', the growing importance of Asia in terms of global migrant flows, the religious, cultural, and ethnic tensions that arise from immigration, and the perceived threat to security that immigrants bring. These subjects raise significant questions of political, economic, and social change.

Further, theoretical thinking in the social sciences more generally is likely to become increasingly influenced by the appreciation that mobility in general is becoming a

defining element of global society. Although migration rates may not have changed as much over recent times as people imagine, the significance of migration in helping to shape and, for some, undermine the nation state is becoming increasingly recognized. Post structural approaches to the geographies of the nation state stress the importance of the categorization of immigrants, particularly in relation to the way that international borders are policed. As 'here' and 'there' breakdown for many transnational migrant groups, concepts of hybridity, borderland, and flow become increasingly pertinent in recent geographic research agendas, such that mobility, or 'migrancy', has become a central theme for many commentators in the social sciences. Indeed, some argue that the sanctity of the nation state is eroded by the international 'space of flows' of capital, commodities, information and labor, as the circularity of transnationalism challenges the concept of a state with guarded borders which has a goal of reproducing national citizens.

There is an increasing recognition that migration is a complex and multifaceted process, rather than as a discrete event; the concept of migration is more fluid than many commentators have assumed in the past. The temptation to treat migration events as discrete and independent of one another is therefore waning as migration is being regarded more a process, both for the migrants and the places through which they move. Individual biographies can be mapped as a series of discrete events, but they can also be regarded as journeys which consist of a series of interrelated start and stopping points that overlap and intersect with the journeys of others. The irony, of course, is that while transnational migrants are apparently less likely to forge meaningful bonds with destination societies, which for some might appear to reduce the 'threat' of immigration at least in terms of absolute numbers, it also raises the prospect of a growing body of incomers who are less inclined to adopt national norms and values than were previous waves of immigrants. The tensions associated with immigration for destination country governments therefore become increasingly difficult to manage, as economic migrants may be welcomed while other, potentially more vulnerable, groups are resisted. The development of innovative means of measuring, modeling, and understanding these migration patterns and processes represents a challenge for future geographical understanding of this important topic.

*See also:* Demography; Emigration; Immigration II.

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# Migration, Historical Geographies of

W. Jenkins, York University, Toronto, ON, Canada

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## Glossary

**Assimilation** A process whereby a minority group gradually adopts the attitudes, customs, and identity of the prevailing majority culture, thereby shedding its own distinctive cultural practices and identity.

**Cultural Landscape** The visual result of human interaction with the natural world as represented, for example, in the farms, fields, houses, villages, and cities that dot the Earth.

**Diaspora** The dispersion of a people from their original homeland and the common ties and identities that such a people form across their various sites of settlement.

**Indentured Labor** Where 'unfree' laborers are placed under contract to work for another person for a specified period of time, often without pay, and in exchange for accommodation and/or free passage to a new country.

**Moral Panic** A sudden increase in public perception of the possible threat to societal interests and values due to the activities of certain sections of society, such as youth and/or immigrants, as reported through the media (e.g., newspapers and television).

**Pogrom** An organized attack, often a massacre, against a minority group and often carried out with the tacit approval of official authorities.

**Racialization** The process whereby racial categories are created and assigned to a previously unclassified relationship, social practice, or group; its effect is to provide 'race' with a clear social meaning in a way that divides societies.

**Remittance** Money that is sent from one place or person to another, often from a family member abroad to family or relatives back home.

## Introduction

Migration, as studied within geography and other social sciences, generally refers to the permanent and semi permanent movements of individuals and groups across space. Such moves may range from the short distances involved with changing addresses within a city, town, street, or even building, to more long distance relocations across states and continents. Volume wise, movements also occur at both individual and group based levels. The reasons for such migrations are clearly many and do not always have a planned or predictable quality. Because of its often profound impacts on the welfare of peoples and the reshaping of places around the globe in the past as

well as the present, migration continues to be a key topic of interest not just for geographers but also for anthropologists, economists, historians, psychologists, and sociologists. For geographers at least, and those who pursue historical geography in particular, long standing approaches to the study of migration have ranged from quantifying the numbers of migrants moving within and between various nations and regions to evaluating the social and cultural impacts of those migrants on ordinary landscapes, rural and urban, in more local contexts. In recent years, however, topics such as the representation of migrants and their placement within wider discourses of, for example, race and nationalism have surfaced within the geographical literature.

## Conceiving Migration

The forces and circumstances that have motivated people to move around the globe throughout history are many and varied. Analysts of migration, such as economic historians and geographers, traditionally adopted models distinguishing between the origin and destination regions of migrants. These models typically involved to varying degrees of sophistication the quantitative comparison of an array of economic, social, and political variables within each region (e.g., wage rates, underemployment levels, land prices, and population densities) that were held to inform peoples' migration decisions. Within this framework, a series of 'push' factors in places of origin were contrasted with 'pull' forces attracting migrants to destination societies. The roots of such approaches lie in nineteenth century neoclassical economics as well as the work of scholars such as E.G. Ravenstein, who sought to formulate a series of 'migration laws'. Among the most noteworthy of Ravenstein's 'laws' were his claims that the major cause of migration was economic, that most migration occurred over short distances, and that migration proceeded mostly from rural to urban areas. While it is true that many migrants, with an eye to bettering their economic situations, compared the opportunities existing at home with those offered elsewhere, the factors affecting migrations were frequently more complex. At a broad level, the contexts behind movements can be differentiated between 'voluntary' and 'involuntary' where the enterprising moves of 'adventurer traders', for example, contrast clearly with the forced evacuations brought on by events such as environmental disasters, civil strife, and the raiding and trading of slaves.

Although the push/pull framework draws useful conceptual attention to the conditions behind peoples' decisions to move, it oversimplifies migration as a straight forward movement from A to B while neglecting its human and experiential dimensions. Migrants have proved to be more restless and transient beings than previously assumed. Micro scale research has revealed migration to be more of a stage process with stepwise, circular, and return patterns of movement. Fixed descriptions of migrant groups as 'sojourners' or 'settlers' are therefore of limited analytical value; migrants can oscillate between such categories at several points in their lives. Traditional approaches to migration have also neglected the specificities of political-geographical contexts, such as the historical role of states and empires in channeling and regulating the flows of subjects, citizens, exiles, and guests. As geopolitical entities, they could not only expel sections of their population but also control the mobility of others resident within their borders or between their colonies.

Broad conceptions of the historical migration process can thus be moved forward in two ways. First, the context that leads to migration can be considered as a continuum whereby those possessed with the freedom to make their own independent decisions to move are located at one extreme, and those without such freedoms at the other. Second, the complex geographies of migration, occurring at varying intensities and over different lengths of time, can be viewed within the framework of a 'migration system' that describes a cluster of moves from a well defined region of origin to one or more receiving regions over a given period. As political, economic, or environmental conditions change in any of these societies, the dynamics of movement within the migration system become transformed and redirected, or the system ceases altogether.

Migration systems were sustained in various ways. For one thing, opportunities needed to exist in destinations, whether to spur the movement of forced labor or to entice 'free settlers'. Among the latter especially, personal correspondence relayed migrants' informal commentaries about living conditions and the likelihood of success to those they left behind. The connections these engendered between kin, relations, friends, and communities in origin and destination localities that spurred further movements to the latter have been termed 'chain migration'. Mailed tickets for passage and financial remittances were crucial to this process. At another level, policy and propaganda by private shipping and railroad companies and government ministries played crucial roles in maintaining migration flows as long as opportunities remained in destination societies (**Figure 1**). The images presented within such documents of rich and cultivated landscapes bristling with promise and profits were often exaggerations of reality with descriptions of haphazard weather

patterns kept to a minimum. Whether it was a personal letter or a government issued pamphlet, potential migrants were learning about, and forming imaginations of, places and landscapes elsewhere. For those escaping oppressive political regimes, slippages of detail were not as important as being free itself.

Historians and historical geographers have typically viewed the Atlantic Ocean as a key arena in which several migration systems of varying magnitude became elaborated between Europe, Africa, and the Americas from the seventeenth century onward. The most famous of these is undoubtedly the forced movement of slaves from West Africa from the seventeenth to the early nineteenth centuries. Over the same time period and beyond it, Europeans moved in dramatic numbers to the Americas as well. In the case of the United States, migrants responded to the powerful place centered



**Figure 1** Poster: Canada 160 Acres fritt land till hvarje Nybyggare, ca. 1905-06 (Norwegian version of Canadian immigration poster offering 160 acres of free land on the prairies). Source: Library and Archives Canada/Department of Immigration fonds/C-132141.

myth that was (and is) 'the American Dream' with its 'promise of freedom' from the economic, political, and religious oppressions they experienced in their home lands. In the nineteenth century North Atlantic, for example, the flight of Irish peasants from the mid century potato famine was followed in later decades by the labor migrations of Italians and the movement of Jewish families from their 'pale of settlement' within the Russian Empire as a result of continued persecution and pogroms.

This scholarly focus on the Atlantic is gradually becoming balanced by studies dealing with other parts of the world. The Pacific Rim, for example, also witnessed similar displacements of people during the last two centuries. Under constant threat of drought and civil strife in the southern provinces of China in the second half of the nineteenth century, for example, those who could flee spread themselves out to other parts of Asia as well as to the west coasts of the Americas from Vancouver to Santiago. Other studies have been insightful regarding the gender composition of migrant flows. While many of the aforementioned Chinese were male, Filipino females settled themselves in North America, Western Europe, and the oil rich Gulf States in the second half of the twentieth century. In many ways encouraged by their own government, these labor migrants have become concentrated in the areas of domestic service and healthcare in their destination societies.

At a global scale, the mechanics of empire building fostered intercontinental migration systems, principally to satisfy settlement and labor demands across various sites of colonization. With Britain's abolition of the slave trade in 1807 and the ending of practiced slavery in its colonial possessions in 1833, the initiation of new migration systems of indentured labor from southern Asia were crucial to maintaining labor forces on plantations of sugar and other commodities in the Caribbean, southern Africa, and Fiji, intensifying the multicultural composition of these societies. It is not surprising that some historians have referred to this movement as a 'second slavery'. Other South Asian migrants who were not indentured were also recruited to build railroads and develop mercantile activity in eastern Africa during the nineteenth and early twentieth centuries (Figure 2). These examples illustrate well the 'political economy' interpretation of migration that views flows of migrant labor as integral to global capitalism's unceasing search for new markets while minimizing labor costs. Migrants were thus located at the center of a network of power that drew the interests of national and imperial governments together with those of private capital, the latter comprising variously shipping and railroad interests, agricultural producers, resource extractors, or urban captains of industry.

## Mapping, Measuring, and Representing Migration

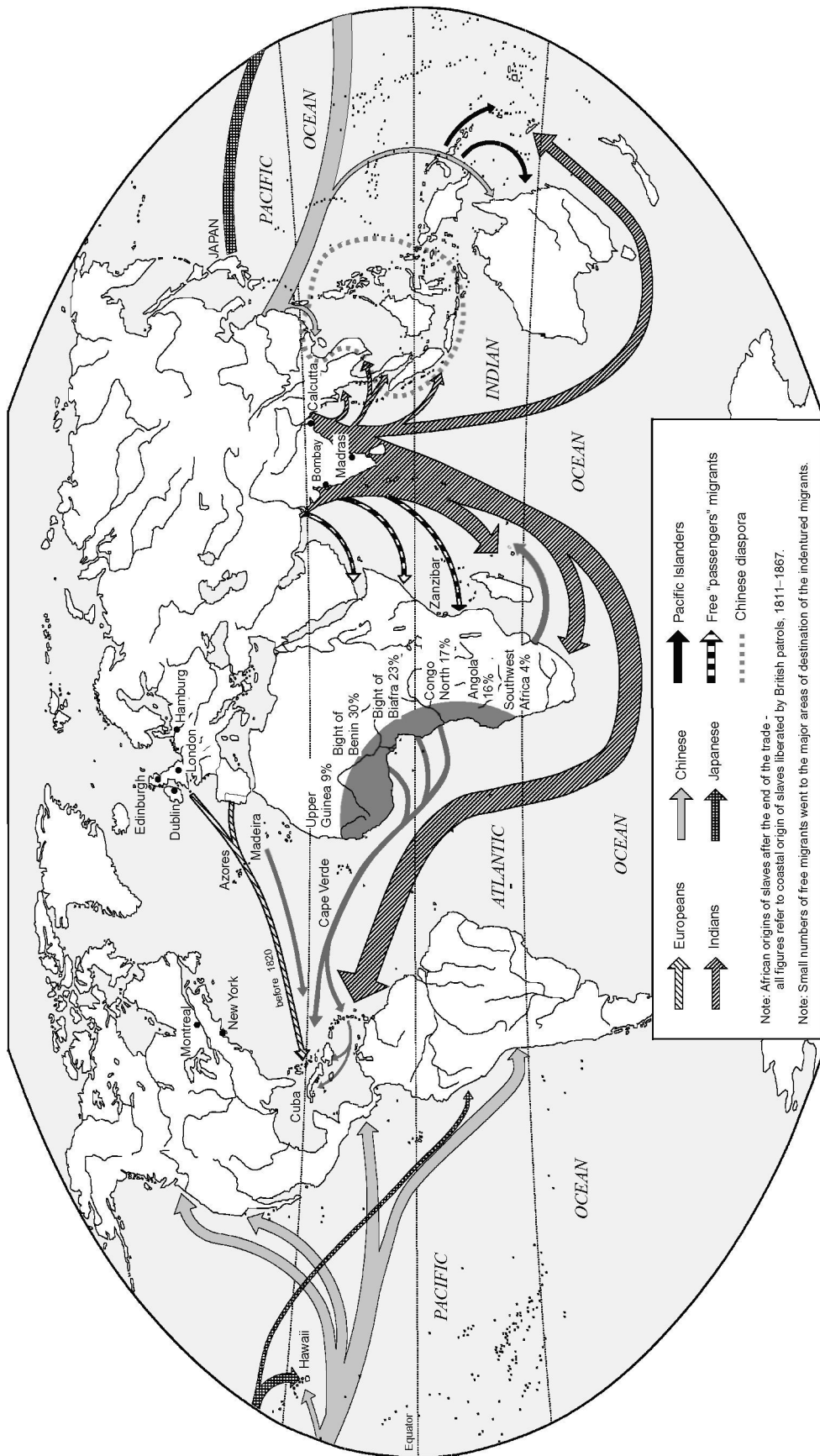
Historical geographers and other social scientists have used a variety of sources to understand not only the large scale effects of migration in different parts of the world through time, but also the lived experiences of migrants. National census returns, cartographic surveys, and the papers and reports of state parliamentary committees, in both manuscript and published form, have facilitated studies of internal migration, emigration, and immigration in urban and rural contexts over the past two centuries and more. Surviving passenger lists from steamship companies, as well as a variety of ecclesiastical records, have often shed important light upon the regional origins of migrants and their context of departure.

At a more qualitative level, newspaper accounts offer national and local perspectives on, and reactions to, migration in the context of receiving, or 'host' societies. They contain evidence on how migrants were represented and perceived by host societies not only in the text of editorials but also in images such as political cartoons. Within the evolving 'media culture' of the nineteenth century, such cartoons often depicted migrants in an unflattering light which served to underline their essential differences from their hosts and cast doubt on their abilities to adapt to their new cultural contexts. In some instances, newspaper reports of migrants as disease carriers sparked moral panics and street demonstrations against 'new foreigners', with the widespread use of terms such as the latter serving to underline who belonged and who did not.

Letters, diaries, autobiographies, and historical novels offer other important qualitative insights on the private lives of migrants and their journeys. For studies of recent migrants, oral history has been invaluable in mapping and contextualizing the places they experienced and the challenges they faced within each. Scholars have also used the cultural landscape itself as a field based archive to study the 'imprints' of migrants in various places, with house architecture, graveyards, and place names providing evidence of sociodemographic patterns as well as tastes and traditions among migrants. Such exercises in 'landscape reading', while not without their shortcomings, can nevertheless serve as an important supplement to what is gained through indoor research in archives and libraries.

## The Consequences of Migration

While migration has often been discussed in relation to the creation of new states and societies, this frequently occurred at the expense of preexisting ones. Scholars have usually illustrated this point by considering the



**Figure 2** Principal overseas migrations, 1830s-1919, of Asian indentured and free migrants. From Hoerder, D. (2002). *Cultures in Contact: World Migrations in the Second Millennium*. Durham: Duke University Press. Hoerder's map is adapted from Northrup, D. (1995). *Indentured Labor in the Age of Imperialism, 1834-1922*. Cambridge: Cambridge University Press. Maps 1 and 5 from de Gérard, C., Jan, M. and Rageau, J.-P. (1994). *Atlas Historique des Migrations*. Paris: Le Seuil.



encounter between European migrants and indigenous peoples in various parts of the world where land was not only expropriated by the migrants on their own terms but the pathogens they carried had deadly effects on local populations. This 'disease impact' of conquerors and settlers was especially apparent in the Spanish and Portuguese colonies of Latin America, where pandemics of smallpox, measles, and typhus devastated preexisting populations in the sixteenth and seventeenth centuries. Many indigenous survivors would be on the move over succeeding centuries, marshaled into labor forces for the mining of mercury and silver in the highlands of Bolivia and Peru, for example. At later times, the successful introduction of 'new settlers' prompted the development of techniques designed to gain knowledge about, and subsequently regulate the movements of those dispossessed from their lands. Here, the role of the American government in the aftermath of the nineteenth century displacement of Native American tribes from the Great Plains is instructive. The system of territorial reservations that resulted enabled the monitoring of movements of what was regarded as a potentially troublesome population while aiming to assimilate them to the ways of 'civilization'. The ability to move could be viewed as an act of subversion as much as an act of freedom.

The capacity of migrants to dominate the political contexts of their new settings was not always so assured, however. In these instances, migrants were recognized as minorities and their patterns of social incorporation and acceptance took many forms. The retention of separate cultural identities by migrants was often as much an imposed creation of host societies as it was of the migrants themselves, since the former were usually quick to form judgments about the capacity of the latter to fit in or 'assimilate'. Cities, especially port cities, were places where migrant visibility was heightened and issues of 'migrant difference' were played out in the search for work and shelter. Prevailing ideas about racial difference also informed the reaction to different groups of migrants. While the 'Chinatowns' of San Francisco and Vancouver emerged as minority migrant enclaves in atmospheres of hostility and prejudice in the nineteenth and early twentieth centuries, that of Singapore emerged in a situation where the Chinese became a demographic majority within a British colony. The creation of such urban diversities from migration was nothing new, however. Amsterdam and Vienna were profoundly affected by surges of immigration in earlier centuries, while the Venetian 'ghetto' of the sixteenth century represented an early attempt to deliberately segregate an outcast cultural group (Jews) within the boundaries of the city.

In other places and at other times, the contribution of migrants to the shaping of landscapes was far less recognized, especially if those migrants were not permanent

settlers. Depending on the context, their participation in labor markets brought them into contact with urban employers, rural landowners, native born workers, and other migrants of different origins. Migrants worked rural lands not just as pioneer farmers but also as low paid laborers, whether on the tea plantations of Darjeeling or the citrus groves of central California. The creation of popular idyllic images of landscapes such as California often blinded viewing audiences to the often bitter struggles between capital and labor that underlay their production and reproduction through time. In California, the East Asian and Mexican laboring men who had to tolerate the deplorable squalor of housing camps were (and remain) hidden in precisely this way. Viewed and treated as 'expendable foreigners', credit for the landscape's beauty was accorded to the landowners and not the workers. The latter situation was similar for migrants from southern Africa converging on the diamond and gold mines of the South African Rand from the late nineteenth century onward. Again, these migrant activities illustrate their role in underpinning capitalist societies whether through the cultivation of land, the exploitation of natural resources, or the development of urban industries. Despite the intermittent hostility of regional and state level legislation, employers could not afford to do without such cheap sources of labor though it is important to remember that these 'foreigners', far from always being docile servants of capitalism, were often also important transmitters of radical ideas who engaged in strikes and other struggles to improve their conditions of work as much as they were important agents in the transformation of material landscapes.

Migration has therefore, brought about a plethora of cultural interactions and intermixing in many places, with obvious consequences for territorial identities, and the idea of the 'foreigner' connects to the place of migrants within the development of national political systems and identities over the past two centuries. With more pronounced and popular ideas of national identity, citizenship, culture, and sovereignty circulating through the period, issues related to the comings and goings of people within the 'national territory' received increased attention from state governments and institutions. Immigration entered the policy arena and, as already noted, became directly linked to economic development and nation building, especially in parts of the so called 'New World' (e.g., Argentina, Australia, Brazil, Canada, New Zealand, and the United States). What nation builders saw as the 'blank spaces' of cultivable land in these countries was aggressively promoted in order to stimulate migrant imaginations, particularly in Europe. In the United States, immigration and the promised freedom of internal movement served an ideological purpose in glorifying the libertarian and democratic values at the heart of the nation's constitution. But the emphasis on



**Figure 3** Train carrying refugees in the aftermath of the partition of India and Pakistan in August 1947.

attracting Europeans to America betrayed the essential racialization behind this ideology, illustrated with the banning of Chinese immigrants in 1882 and the aforementioned confinement of Native peoples to remote reservations. There and in Canada a hierarchy of immigrant preference, based on prevailing notions of race, prevailed until the 1960s in order to preserve fixed notions of a white, English speaking, and Christian North American continent.

In other parts of the globe, emerging ideas about nationhood also became formulated with the ideal of national ‘cultural congruence’ in mind. An imperative existed, in other words, to align the geography of the ‘national people’ with the boundaries of the state in such a way that would produce such congruence. Through the narration and popularization of ideas about who counted among the national ‘imagined community’, displacements and expulsions were often resorted to in order to ensure the removal of the excluded ‘them’; ‘purified geographies’ of the nation could thus become realized. Such quests for national congruence have led to the movements of populations and selective immigration and citizenship policies in many countries over the past century and more. As is well known, the aftermath of World Wars I and II witnessed the redrawing of the political geography of Eastern and Central Europe along these idealized ‘nation state’ lines and, in the case of the Balkan states, led to later ethno-religious conflict. World War II resulted in massive population transfers within the same region while the decimated Jewish population looked to the new state of Israel as the place to forge new lives. Post war decolonization within the British Empire also resulted in the redrawing of borders and movement of peoples. The mass transfers of some 5 million Hindus, Muslims, and Sikhs across the newly created border

between India and Pakistan between August and November 1947 exemplifies how the imperative to equate nation and residence displaced many (Figure 3). This episode also exposed the gruesome effects of inter-communal violence when people traveling by train and road were exposed to attack by the opposite community; an estimated 200 000 adult and child migrants were killed during these dramatic months. The now familiar idea of the migrant as a refugee took shape as a result of episodes like this.

### **Migrants, Identity and the ‘Homeland’**

Migration was not just about arrival, it was also about departure. Migrants’ affections for, and relationships with, the lands they left were varied. Some looked back more than others, forever feeling a melancholic sense of exile in their destination societies; others, thankful for getting out when they did, were far less sentimental. Not all intended to leave their ‘old countries’ behind forever either and by the twentieth century, many could afford to travel the long distances home to visit and, finances permitting, resettle permanently. One American government report from the early twentieth century cited southern Italians as the group with the highest rate of return. The loyalties of these return migrants remained evidently weighted in favor of their region or nation of origin. Such patterns of migration were not always welcomed by their American hosts who expected migrants to settle within and embrace the values of their new nation, the ‘cradle of liberty’. The image of the opportunistic transnational labor migrant was born out of such debates, where his or her ‘flexibility’ was not necessarily seen as a good thing.

For others, temporary migration was part of a more clear cut career trajectory. The 'homeland' was rarely forgotten by those who forged their careers on its behalf in an imperial context as governors, civil servants, soldiers, and others. Empire building depended on the migration of these sorts of personnel from the metropolitan center to the colonial periphery for the purposes of government, administration, law and economic development, a process that became more formalized in the case of the British and French Empires in the late nineteenth and early twentieth centuries. Some formed part of ruling elites in more than one colony, for example, Thomas Pope Hennessy, who served as British governor in both Barbados and Hong Kong. In colonies with formidable summer climates such as India, British families were provided with periodic visits to the more familiar and 'suitable' climatic environment of their place of birth in the early twentieth century, although such visits often made clear that imagining and experiencing Britain as 'home' were often two different things. After years abroad, it was not uncommon for many of these Britons to feel a sense of displacement once the everyday reality of 'home' had to be negotiated. Only then did the emotional relationships they had forged in India come into focus, leading to a somewhat hybridized sense of belonging. Spending extended periods in the colonies did not necessarily engender a prolonged sense of 'exile' for many of these movers, and while some 'went native', the majority still anticipated Britain as their final burial place.

The previous section discussed the challenges migrants faced when encountering the assertion of nationalist identities in their places of settlement, especially when such identities revolved around fixed notions of culture and race. It is worth remembering, however, that such migrants did not remain passive to, and in some cases initiated, similar nationalistic impulses in their homelands of origin. Scholars in both the humanities and social sciences now use diaspora as a summary term to describe the often wide 'scattering' of people to places separate from what they recognize as their ancestral 'homeland'. Although this remains a rather under researched area among geographers, they are nevertheless developing understandings of the multiple ways in which migrants and their descendants continued to imagine these homelands and the significance of these imaginations. For some, such actions hardly extended beyond the symbolic cultural nostalgia felt during annual festivals, while others assumed more active stances in the politics of their homelands. This was particularly the case where projects of nationalist 'liberation' remained unresolved. Among the key actors in late nineteenth century Irish nationalist agitation, for example, were the urbanized Irish migrants in North America who provided money to support not only political campaigns at home

but also more radical initiatives such as the purchase and use of weaponry. By the early twentieth century, the Irish and Poles in the United States had become well known as proactive campaigners for the national independence of their homelands, taking their passions into streets and meeting halls as well as in print. Migrant or 'ethnic' leaders such as newspaper editors, religious figureheads, intellectuals, and other members of the middle class were important in such instances. Interpretations of migration as enforced exile caused by imperial injustice and mismanagement were particularly effective in mobilizing support among rank and file migrants for diasporic nationalist projects such as these, while the culture and 'imagined community' of the homeland was relentlessly translated through journalism, art, vernacular theatre, literature, poetry, music, personal letters, and often stirring occasions such as the street parades and lectures of visiting agitators.

## Conclusion

While the above discussion has concentrated explicitly on the migration of people, it is clear that the movements of these same people facilitated the mobility and exchanges of other entities across geographical space such as texts, animals, foodstuffs, and plants which contributed to the circulation of different forms of knowledge as well as the transformation of landscapes and societies in different parts of the world. While there has not been sufficient space here to cover these dimensions of migration, it would not be inaccurate to say that migration now forms one aspect of a wider interest among geographers on 'mobilities'. While migration continues to be an area of concern for historically minded geographers, it is becoming increasingly bound within wider inquiries about the ideologies and practices of capitalism, imperialism, and nationalism as well as the development and deployment of socio political categorizations such as race, ethnicity, and citizenship. As far as understanding migration as a process in itself is concerned, traditional push/pull perspectives have given way to more sophisticated understandings of migration systems and the consequences of movements on intercultural relations in different places. The coming decades should see such historical geographical studies of migration move into the post World War II era while continuing to embrace parts of the world beyond the Euro American Atlantic axis; they should also seek to deepen their understandings of migrant diasporas in a global context characterized by intensified interconnection.

See also: Archives; Ghettos; Imperialistic Geographies; Migrant Workers; Multicultural City; Nationalism, Historical Geography of; Remittances.

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# Military and Geography

M. Farish, University of Toronto, Toronto, ON, Canada

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## Glossary

**Imperial Archive** A term used by Thomas Richards in his 1993 book of the same title to refer to “a fantasy of knowledge collected and united in the service of state and Empire,” a fantasy seen as necessary in order to grapple with the predicament of controlling distant territories.

**Militarism** The extension of military influence into civilian spheres of life, most apparent when nation-states express expansionist or imperialist tendencies.

### Military-Industrial-Media-Entertainment

**Network** A term coined by James Der Derian, in 2001, to describe the expanding alliances between the now-traditional military-industrial complex and the media and entertainment sectors, particularly in the United States.

**Modernity** The condition of being modern, but also a loosely defined historical epoch characterized by a particular approach to history and geography, an approach that emerged in Europe in the sixteenth and seventeenth centuries and was globally dominant by the middle of the twentieth century.

## Introduction

The French geographer Yves Lacoste famously wrote that “geography serves, first and foremost, to wage war.” (Lacoste, 1976). He was referring to the fact that geography has always been essential to acts of organized violence. Military history is littered with examples of armies and planners mixing terrain and tactics to great or disastrous effect. But Lacoste was also suggesting something else: that despite its emergence as a valid intellectual field, geography was, then and now, still primarily a military idea and tool.

This claim might seem surprising to a student pursuing a degree in geography today. The fourth edition of the influential *Dictionary of Human Geography* (2000) includes no entry on military themes, and university departments, where the discipline has been given institutional credibility, rarely feature specialists who call themselves military geographers. Such individuals are much more likely to be found elsewhere, in armed forces academies, research institutes, and working for the US Department of Defense or its equivalent in other countries. Their sessions at major conferences, such as the Annual Meeting of the Association of American Geographers, are equally distinct, additionally attended by

only a handful of curious onlookers or determined critics. Military geographers are rarely listed in the pantheon of personalities trotted out during courses on the intellectual trajectory of geography, although many distinguished geographers have had military ties.

But as a number of geographers, inspired by Lacoste and other perceptive predecessors, have begun to recently document, the history of geographical ideas is inextricably tied to military imperatives, and geography is much more than that practised in academic settings. The American National Geospatial Intelligence Agency (NGA), formerly the National Imagery and Mapping Agency, which has extensive ties with both the defense and intelligence communities, is reputedly the country’s largest employer of cartographers. In the age of virtual reality recruitment tools, fluid news network simulations of combat zones, and the electronic proliferation of satellite photography through programs such as Google Earth, the world’s conflicts (at least those given prominence in the media), from Afghanistan to Iraq and beyond, have produced a dizzying catalog of geographical images and ideas associated with the practice of war. Militaries, in other words, continue to be central to the production and popularization of geographical knowledge – not only to formal cartographic representations, but to more elusive spatial principles, such as the perception that the world is a composite of hostile environments.

## Toward a History of Modern Military Geography

Despite the substantial, ongoing production of military geographies, and despite the recent re-examination of geography’s history from a more critical perspective, it is fair to suggest that geographers have yet to adequately account for the abiding associations between their field and the contemplation and conduct of war. While self-described military geographers are unlikely to publish in many of the discipline’s leading journals, this has not always held true. Perhaps, this shift is due to the changed nature of conflict, which at least as practised by the world’s more advanced armed forces does not seem to reach as deeply into popular consciousness as it once did – a distance that may well be deliberate. Or perhaps it is due to a simultaneous expansion and fragmentation of geographical inquiry, heralding exciting and welcome debates while paradoxically also encouraging compartmentalization into like-minded collectives.

Whatever the case, it is certainly instructive to consider the historical trajectory of military geography, a term that does not encompass all that is at stake here, but certainly provides a welcome focus.

## The Geographic Arts of War

Military geographers writing on the history of their field typically gather steam with the emergence of modern warfare, presumably traceable to the formation of a modern epoch in the fifteenth and sixteenth centuries. But then many military geographers are less concerned with the details of historical cases than they are with timeless principles of war, both philosophical and environmental. If there is one constant in the history of military geography, it is a forceful separation of culture from nature, resulting in a regional division of the world into generalized natural categories. Far more malleable than terrain and climate, in this model, is technological development, or the use of technology to minimize or even overcome environmental constraints. (Culture, however, is never entirely absent from such views, particularly but not exclusively when military geographers turn to urban landscapes.) The globe, in this worldview, becomes a finite space, and while knowledge does not necessarily guarantee victories, it is certainly the case that military geography takes knowledge as a key to power, and that geography is first and foremost a descriptive science, whose analytical properties are understood only in the most pragmatic terms.

### 'Geography Militant'

A full survey of military geography would reach far back into the histories of armed conflict and empires, and to geographers such as the Greek scholar Strabo. But military geography as it is studied and taught today is a product of the eighteenth and nineteenth centuries, the period Joseph Conrad famously referred to with the descriptor 'Geography Militant'.

In Britain, for example, the first intelligence agency, the straightforwardly named Depot of Military Knowledge, was created during the Napoleonic Wars to accumulate geographic information, including maps, on the military power and terrain of foreign countries. Although this activity did not continue consistently throughout the nineteenth century, it certainly prefaced more ambitious twentieth century attempts at gathering geographic intelligence, and also reflected the creation of an imperial archive necessary for the management of Britain's global possessions. By the late nineteenth century, the Intelligence Branch, a new government department, was collecting thousands of books and maps each year, and participating in the famous Anglo Russian 'Great Game'

in Central Asia. But in a matter of decades Britain's empire was in decline, and the geographical excitement that gripped the country at the apex of its power – excitement fueled by exploratory initiatives and romanticized campaigns – was waning. While this spelled the decline of several smaller geographical societies, the geopolitical rivalries between several European powers ultimately resulted in a much more direct role for military geography.

The organization of the Royal Geography Society (RGS) in 1830 and its nineteenth century activities were inextricable from the colonial operations of the British state, such that the Society became a useful guide for imperial expansion. And the 'New Geography' identified with the establishment of geographical education at Oxford and Cambridge Universities in the late nineteenth century was also found to be practically useful to a 'New Army' in the years leading up to World War I. But a formal field of military geography was much more prominent in the US, where geographical study could be found at the West Point Military Academy shortly after its establishment in 1802.

## The World Wars

Innumerable examples could be used to demonstrate the close relationship between the history of military geography and the history of cartography, but one of the most suggestive must surely be the role of maps in World War I, a subject that has been ably documented by the historical geographer Michael Heffernan. By the beginning of the twentieth century, one of the largest map collections in the world was housed at the London headquarters of the RGS. On the eve of the German invasion of Belgium and France in 1914, the Society opened this collection to the British War Office, particularly the Geographical Section of the Office's General Staff, which essentially merged with the Ordnance Survey during the war years. This combined operation supervised the production of some 32 million map sheets (the equivalent of 21 000 per day), mostly large scale trench maps. Meanwhile, the RGS became the site of frequent lectures on the war, some critical of British leaders for insufficient use of the country's geographic experts. Many of these lectures employed startling maps that documented the potential spread of German power over the globe – maps that invariably found their way to the popular press.

In another wartime center of calculation, the *Société de Géographie de Paris*, while much smaller than the RGS, was also providing its map collection and related resources to the French Army. Many leading French geographers were recruited to serve on a new commission that would produce maps and reports on various European regions for the French General Staff. Monthly public meetings of

the *Société* were devoted to the war, and German geographers were harshly criticized for their apparent devotion to imperialist causes. French geographers went on to produce a highly influential series of reports on French colonial policy and the future political geography of Europe, focused on the cartographic expression of national sovereignty. Paris was also the scene of the 1919 Peace Conference, an event featuring the work of The Inquiry – a vast effort to create a rational and scientific archive of geographic information at the American Geographical Society in New York in the late stages of the war.

The global scope of World War II prompted tremendous interest in an exhausting roster of places, a quest for geographic knowledge that frequently familiarized unfamiliar landscapes in the language of military interests. This meant that the intelligence gathering efforts of World War I were expanded in scope and direction, and that for the first time, the systematic study of regions with an eye to their strategic value emerged as a subject of scholarly significance. In the US, reports were published suggesting that social scientists with knowledge of the globe's areas were almost as significant, and as unusual, as officers familiar with combat in the same locations.

This apparent lack of cosmopolitan experience, a condition invoked repeatedly by worried pundits, drove attempts to accumulate geographic information and teams that could usefully analyze this data, components that were assembled in important wartime clearing houses, such as the Office of Strategic Services (OSS), the forerunner of the Central Intelligence Agency, and the Smithsonian Institution's Ethnogeographic Board. While neither was an explicitly military agency, each provided significant assistance to arms of the American military. The Ethnogeographic Board, for instance, produced a booklet titled *Survival on Land and Sea*, in 1943, which was distributed in the hundreds of thousands to the armed forces. Condensed enough to be carried easily by a soldier on foreign duty, the book contained "the main things that a man should know about living in wild countries." This invocation of untamed places suggests a preoccupation with hostile environments, both natural and cultural, and their control and defeat through the application of knowledge compiled by experts and then passed on to troops in the field. This preoccupation characterized American military activity throughout the twentieth century, particularly from World War II onward.

Although it clearly echoed earlier forms of travel literature, including works composed in the service or the shadow of empire, *Survival on Land and Sea* was just one example of a burgeoning military literature on endurance issued during a war of unprecedented destruction, mobility, and scope. These novelties were

captured in a *National Geographic* article, titled 'Fit to fight anywhere', also published in 1943. It documented the mental and physiological challenges of American soldiers warring "from hot tropic swamps to cold Aleutian fogs," but also various attempts to recreate such "strange conditions" in climate and fatigue laboratories. And while nontemperate climates were being simulated on domestic soil, so called 'combat scientists' were descending on the spheres of war, particularly the Pacific, where members of the Office of Field Service tackled problems of transportation, communications, climate, and insects. Troops with time to spare could aid this military science, particularly if they possessed a copy of the Smithsonian's *Field Collector's Manual in Natural History* (1944), by gathering specimens and shipping them back to the US for accumulation and study.

Military geography, therefore, had become much more than the narrow consideration of tactics and terrain. Dozens of geographers with little direct interest in military topics were called to Washington and other outposts of the American war effort. They worked, in particular, at the OSS, where the stirrings of geography's 'quantitative revolution' – still over a decade away from sweeping through universities in the US and elsewhere – were evident in both the interdisciplinary connections needed to address wartime intelligence and the occasional marginality of geographic perspectives in the face of challenging social scientific problems. In Britain, substantial contributions were made by numerous geographers to the colossal *Naval Intelligence Handbooks*, published in 58 volumes between 1941 and 1946, and regarded as the single, most substantial geographical endeavor ever attempted. In these and other cases, wartime service acted as a springboard into university careers for young scholars, and solidified the reputation of others. Richard Hartshorne, who held a senior position with the OSS, lectured at the National War College in the 1950s, and many other prominent American geographers received small slices of the enormous military funding available to scientific and social scientific researchers during the early Cold War. In sum, World War II, wrote Kirk Stone, a veteran of the OSS and Naval Reserve, "was the best thing that has happened to geography since the birth of Strabo."

## **The Cold War and Beyond**

In his *Military Geography* contribution to the influential volume *American Geography: Inventory and Prospect*, in 1954, Joseph Russell repeated the familiar argument that at the dawn of World War II, American knowledge of the globe's strategic regions was inadequate. After documenting the extensive role of geographers in the war effort, Russell made the case for military geography as

not only useful to the conduct of the Cold War, but also as a field that could, through its attention to particularly 'extreme' environments, provide the combination of practicality and integration seemingly required of the social sciences.

This was an ambitious claim, and in fact the trajectory of military geography diverged from that of the discipline in subsequent decades. Academic geographers continued to advise and conduct research for national militaries, and geography's quantitative revolution of the 1950s and 1960s owed much, particularly in the US, to military funding and the work of scientists and social scientists with ties to the seemingly omnipresent military-industrial complex. Advances in the technical practice of cartography, remote sensing, and related geographic sciences were directly linked to military initiatives in geodesy, space science, and other fields. But such deep connections were rarely acknowledged, and, at least until the 1970s, challenged even less frequently. Thus, as military geography was gaining legitimacy as an applied subject that could contribute variously to Cold War tactical doctrine, scientific intelligence gathering, or, more tangentially, the burgeoning field of area studies, the depoliticization of the discipline was creating a 'spatial science' that seemed, on the surface, distant from explicitly military concerns. (As historians of the quantitative revolution have documented, the geography of this period was distant from virtually all worldly concerns.)

The inevitable critique of abstraction and positivism emerging from social and cultural upheavals of the 1960s and 1970s was directed less at geography's Cold War affiliations than at its general lack of political purchase, although certain individuals, such as Yves Lacoste, specifically identified the dangers of military geography. For all the philosophical engagement with theories of social justice or humanism, very little of the emergent critical geography of the 1970s was concerned – as scholars in many other fields were – with the Vietnam War. While this is a surprising absence, it is crucial to recall that the ties between geography and militarism were hardly limited to self-described professional geographers. As the American armed forces and those organizations resisting them offered competing versions of 'militant tropicality' in Southeast Asia, scholars and activists were challenging the legitimacy of classic Cold War ideas, such as modernization theory, which at its worst offered scientific justifications for military interventions in the name of 'stability' and the endless fight against a voracious international communism.

In a more direct sense, military support and sponsorship was responsible for a succession of new geographic ways of seeing that continue to be closely affiliated with defense departments worldwide. The suite of systems and technologies comprising what is now

called GIScience – including geodesy, photogrammetry and remote sensing, and cartography – emerged out of a series of overlapping classified initiatives in the Cold War US. With the mobilization of cartography and geography during World War II, spatial knowledge and the means of its production were brought much more directly under state control.

## Contemporary Military Geographies

Despite acknowledging drastic differences in technology, war planning, and the range of duties given soldiers, studies in military geography today remain concerned, as one classic 1966 textbook put it, with "how geography may be used in the conduct of military affairs," and with "how geographic conditions may influence or constrain the exercise of military power." By these standards, military geography is a mere tool, able only to question the proper exercise of power – still understood overwhelmingly as national power – but not the assumptions built into the idea of power. The assertions that military geography is a type of applied study or that it is the common sense consideration of facts do not excuse its narrowness. Even while acknowledging the changed circumstances and scales of war, it has clearly failed to keep pace with theoretical and methodological changes within the wider world of geographical scholarship, perhaps with the exception of most GIScience.

Some leading American military geographers are aware of – and even embrace – this stasis, attributing the isolation of military geography to the radicalization of academic inquiry during the 1960s and 1970s. Regardless of this claim's veracity, it is still intriguing that the impact of intellectual transformations on military geography was so minimal. This would be unimportant were it not for military geography's ongoing, intimate affiliation with organized violence. Its proponents and productions, moreover, perpetuate the proximity of defense industries to universities. For this precise reason, it is a mistake to homogenize military geography, particularly as it is taught; there are regional differences, to be sure, but more importantly there is always some room, no matter what pedagogical approach is adopted, for debate and dissent within a teaching environment. This is worth recalling in any consideration of the perceived gap between military geographers and their critics.

Some of these critics have recently begun to examine the geographies of armed conflict – the spatial and territorial dimensions of violence – from quite a different direction. One important strand of this literature addresses the contemporary strategic preoccupation with cities, including the recycling of long standing Orientalist tropes to frame the urban spaces of the Arab world. Complex social landscapes, such as Baghdad, have been



turned into empty military targets through media representations of precision bombing campaigns, leaving cities as little more than nests of terrorists or destinations for destructive weaponry. The devastating impact of these weapons on the everyday geography of Baghdad and other flashpoints of the War on Terror has gone underreported in many major media outlets, and a prominent television station that did feature street level images of carnage, the Qatar based Al Jazeera, had its Baghdad offices bombed. Meanwhile, graphically sophisticated video games produced by the American military allow users to immerse themselves in replicas of these same environments, where they are charged with occupying and pacifying such stereotypical Arab cities. All of this suggests that to speak of military geography in the twenty first century is really to grapple with the seemingly infinite varieties of what James Der Derian has called the Military–Industrial–Media–Entertainment Network.

While hardly novel, the urbanization of war has also recently prompted broader investigations into the idea of security and the consequences of conflict for civilians, including particularly threatened or powerless groups. This suggests, again, that what might fall under the category of military geography is much more than terrain and tactics – and even the consequences of conflict. Themes such as military land use, the political economy of militarism, military citizenship, the many troubling associations between militarization and gender, and cultural representations of militarism are all crucial to understanding the tremendous imprint of military geographies beyond armed conflict. Military agencies continue to draw a substantial number of trained geographers, and to produce some of the most powerful geographies in circulation, but the extent of militarism is such that it influences places and lives seemingly distant from battlefields or bases.

Although military geography is undoubtedly practised, and military geographers employed, by countless armed forces – whether national or not – this ubiquity must be measured against profound imbalances in historical and contemporary militarization. In other words, a country such as the US, which accounts for an astonishing half of the world's total military spending, is undoubtedly able to employ more military geographers (especially when understood broadly), and to practice more technologically sophisticated, though not necessarily successful, forms of geographical analysis. More research is certainly needed on the role of military geography in China, home to the world's largest standing army, or in North Korea, where one quarter of the population (an estimated 6 000 000 people) are active or reserve troops. These are impressive and disturbing figures, but so too is the estimate that the total defense spending of the US exceeded one trillion dollars in fiscal

year 2007, and that outlays for the Pentagon alone (about half of that spending) were some 7 times that of China's entire defense budget. Such figures are invariably part of speculations by a number of prominent commentators on the costs and consequences, domestic and international, of American imperialism.

## Militarism's Geographies

Unsurprisingly, the shocking acts of terrorism on 11 September 2001 and the subsequent launch of a global and seemingly perpetual War on Terror jolted geographers into additional scrutiny of the field's military affiliations. The comforting myth that countries such as the United States or United Kingdom were 'at peace' was definitively shattered. Responses have ranged from wide ranging assessments of geographical knowledge mobilized in the service of controversial and devastating military campaigns to debates over the ethics of scholarly publishing – debates which focused on this very *Encyclopedia*. Recent international conferences have featured numerous sessions devoted to the critical analysis of militarism, security, geopolitics, and related topics. Interdisciplinary connections are being forged with anthropologists, historians, sociologists, and others with similar interests and aims.

In the spirit of critical inquiry and intellectual engagement, these developments in geography and beyond are welcome. Yet it is unclear whether they signal any reduction in the gap between academic geography and those types of geography sponsored by Departments of Defense. More importantly, much work remains to be done on both the geography of military activities and the even more pervasive (and often more elusive) geographies of militarism, defined basically as the extension of military influence into civilian spheres of life – to the point that in many societies the distinction is impossible to discern. Further research on the specific spaces of military power, the banal geographies of militarism, and the moral geographies of violence is thus urgently necessary.

See also: Critical Geography; Critical Geopolitics; Geography, History of; Geopolitics; Maps and the State; Orientalism; Political Geography.

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# Military Geographies

R. Woodward, Newcastle University, Newcastle upon Tyne, UK

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## Glossary

**Militarism** The extension of military influence into civilian social, economic, political, and cultural life.

**Military Activities** The activities undertaken by military forces at the behest of the nation-state for defense and security purposes.

## Introduction

Military geography is defined in two distinct ways. A long standing definition takes military geography to be the application of geographic information, tools, and techniques to the solution of military problems. A more contemporary definition takes military geographies to mean the study of the plurality of impacts of military activities and militarism on space, place, environment, and landscape. This second definition sees the relationship between militarism and geography as dynamic and interactive; militarism and military activities are both geographically expressed, in that they shape the world, and geographically constituted, in that they come into being in the form that they do as a consequence of the material and discursive conditions in which they evolve.

Both approaches – named here as military geography and military geographies for the sake of easy distinction – share a core concern with military activities and militarism as inherently spatial, and an understanding that these spatialities are multiple in cause and consequence. Both approaches to military geography are defined around military institutions and their practices as their primary object of inquiry, in contrast to, for example, political geography's focus on the state as the location of and actor in the exercise of military power. Both approaches recognize that the geographies of militarism and military activities are features of both the active and actual pursuit of armed force, and of the processes and practices surrounding the development and maintenance of military power beyond the immediate exercise of violence. Both approaches problematize the binary of war and peace and focus instead on the consistency of military institutions and the variety of ways in which military power is embedded and expressed.

These two approaches, however, speak to rather different positions on the role of academic inquiry. Traditional military geography is most usually a scholarship

in the service of the military objectives of the state, and sees its engagement with military institutions as politically and morally unproblematic or unremarkable. The approach of military geographies, in contrast, is associated with a more critical position on the application of geographical knowledge, with an explicit focus on how military power is developed and deployed at a range of scales, and a self-conscious moral positionality on the military production of specific configurations of social relations in space. Much of this work takes a highly critical view of the deployment of material resources and discursive strategies in the militarized pursuit of territorial control. It should be noted, though, that the extent to which antimilitarist and/or pacifist politics are promoted varies greatly between writers. It should also be noted that many writers on the spatialities of military activities and militarism see themselves neither as military geographers nor even as geographers; that their research and writing is included for discussion here is a testament to the interdisciplinary nature of military and spatial science, rather than to the coherence of intra-disciplinary labeling.

The terms 'militarism', 'military activities', and 'militarization' have not been overused in Anglophone human geography, which arguably has avoided explicit engagement with military institutions and their effects. Militarism can be defined as the extension of military influence into civilian social, political, and economic spheres, with the associated prioritizing, promotion, and preservation of a nation's armed forces. Militarization can be defined as the processes through which military influence and priorities are extended to civilian life. Military activities are defined as something rather different and more practical, namely the activities that (usually) the nation state requires for its defense and security, or for military offensives and interventions beyond its borders.

It follows from these definitions that we can distinguish between the geographies of military activities, which are the patterning of both material entities and social relations across space as a consequence of the production and reproduction of military capabilities; and the geographies of militarism, defined as the shaping of civilian space and social relations by military objectives, rationales, and structures, either as the intended consequence of the extension of military influence into nominally civilian spheres of social life, or as a by-product (perhaps unintended, sometimes not) of that process.

## A Brief History of Geography's Engagement with Military Activities and Militarism

Military endeavor requires geographical knowledge; the conquest of territory and the assertion of control over space through violent means makes necessary an understanding of that territory's physical features and social structures. Organized warfare has therefore always conscripted geographical knowledge and the tools, techniques, and labor of geographers. As modes of warfare have evolved and changed, in terms of both the objectives and targets of military violence, and in terms of the development of technologies of organized violence, so also have the modes of geographical knowledge changed. Furthermore, ways of conceptualizing space according to the requirements of military strategy have also evolved, in conjunction with technological and objective development of war. This connection between geographers and military endeavor is identifiable across a range of historical contexts, from the ancient Chinese world to the conquests of medieval Arab powers.

In nineteenth century Western Europe the relationship between the imperial state and the emergent discipline of geography was close and mutually constitutive; in order to facilitate imperial expansion, the territorial objects of desire needed to be mapped, described, and known. For example, the British and German imperial adventures of the late nineteenth century could not have proceeded without the input of Halford MacKinder and Friedrich Ratzel. During the global conflicts of 1914–18 and 1939–45, in both Britain and the United States of America, geographers contributed to the war effort through the compilation of knowledge about overseas territories for their respective governments and military strategists.

In the post World War II era in Anglophone and Francophone human geography, specifically from the 1960s onwards, we can identify a rupture in the trajectory of military geography, the origins of the two rather different interpretations of the subdiscipline identified above. A more traditional and conservative military geography has proceeded virtually unchanged from its nineteenth century roots. So, for example, the application of geographical concepts to military endeavors continues to the present with the engagement of strategists within the Israeli Defense Forces with spatial theory to facilitate military tactics and strategy in the Occupied Territories, with the use of geographic information system (GIS) and remote sensing and other visual imaging techniques in Afghanistan by the armed forces of the United States and allies in their search for Taliban operatives, and with the descriptive physical and cultural geographies of Iraq produced by American military geographers in assistance to military occupation of the country.

A more critical military geography has its genesis in the emergence of radical and dissident politics emergent in the 1960s, inspired by social change, civil rights movements, and the rediscovery within the social sciences and human geography of Marxist theory as a conceptual underpinning for a geography alert to social justice issues. Critiques, for example, of United States Armed Forces' military strategies during the Vietnam War, particularly those targeted against civilians, emphasized an oppositional and critical antimilitarism politics in their descriptions of the effects of military activities on agricultural areas. However, with the exception of a self identified applied military geography, Anglophone human geography to an extent disengaged with questions of militarism and its geographies *per se*, attending instead to a focus on the outcomes of military activities and the role of the state.

## Themes in Contemporary Military Geography

The range of themes that have emerged as either part of an explicit military geography/geographies project, or that could be incorporated within these distinct bodies of work, are diverse. Eight stand out and are discussed here.

A first theme is that of the historical geography of past military campaigns, a 'terrain and tactics' approach which takes as its area of study the influence of the impacts of geology, geomorphology, topography, biogeography, weather events, and climate on military campaigns and on specific battles. This approach is identified strongly with both traditional military geography, and also with geographical military history. Allied to this theme are studies which seek to assess the resulting impacts on landscapes and landforms of military activities, including the construction of fortifications and the effects of explosive munitions, and attempts to bring contemporary understanding to bear on past military events through archaeological and geoarchaeological tools and techniques. A key feature of much of this body of work is the use of topographic analysis tools and methodologies to establish how the natural environment affects the conduct of military campaigns. Evaluations of contemporary and historical geographies of military events have also examined the impacts on human populations of armed conflict and organized violence. Work in this area has focused, for example, on the disruptions to economic development and social cohesion, on health, welfare and education systems, on disease epidemics, and on industrial and agricultural productivity disruptions caused by warfare.

A second theme follows from this, and concerns the development of GIS tools and methodologies explicitly for military use. Particularly significant here are mapping

systems – many of which have developed through collaborative military–academic endeavor – techniques for terrain analysis for combat purposes, and strategies for visualizing terrain and territory. Changing modes of warfare have been instrumental here in pushing the development of techniques for visualizing and mapping urban warfare environments, as a prerequisite for military operations in urban terrain.

A third theme – and significant for revealing the nature of human geography's engagement with military issues – is that on the spatialities of the pursuit of armed conflict, and the consequences of that. Although usually identified in disciplinary terms as a feature of political geography and critical geopolitics (few writing on these issues would self identify as military geographers), it merits mention because it constitutes a coherent body of work around military issues. Topics within this theme would include the causes of armed dispute between states, the wider regional and global power balances predicated on military interventions, and the consequences for territorial integrity, borders, and boundaries of the pursuit of the state's objectives through armed violence by nation states. A critical geopolitics literature has emerged which assesses the militarized activities of nation state and subnational groupings in terms of their performative and representational strategies.

A fourth theme engages with the consequences for the spatiality of military activities of changing modes of warfare and motivations for the deployment of armed force. There is much debate within military science and related fields as to whether observable differences in the means of imposing armed force since the end of the Cold War (1989 onwards) have constituted some sort of revolution in military affairs. This debate centers around whether changes in military practice and capabilities have been solely or almost exclusively technologically driven, including developments in weapons, communications, intelligence and surveillance systems, in transportation and mobilities, and in strategies for force deployment, or whether this revolution is more fundamental to the causes of armed conflict. This alternative argument sees post Cold War conflicts around the world as remarkable for the rupture they represent with the past in terms of their origins, rationales, civilian involvement, and symmetry relative to opposing forces. Shifts include (but are not limited to) the rise of ethno-nationalist conflicts, of religiously identified conflicts, and resource wars (particularly over oil), and at a more abstract level, changing notions of security including environmental and resource security. A good example of how the spatialities of changing modes and motivations for armed conflict have been addressed is research and writing on the urbanization of military activities, including weapons systems and force deployment tactics developed specifically to counter an unequal opposing

force in urban terrain, strategies of spatial planning at the urban and regional levels explicitly to counter and defend against new forms of armed violence, and strategies for the targeting of urban infrastructure (urbicide) as an explicit tactic for armed forces.

A fifth theme concerns the economic geographies of military activity and military resource use. All military forces are major users of land and material resources, and the utilization of both shapes both the form and function of militaries themselves, and the form and function of affected localities. In terms of land use, the military ownership and control of large areas of land is arguably necessary for the maintenance and reproduction of military power. Such land uses may be very extensive indeed – commentators estimate that an average of 1% of all land is used for military purposes in many advanced capitalist nation states. Such land uses may be contested of course, with competing claims for land use drawing heavily on alternative visions of both the material utility and sociocultural significance of such spaces. In addition, military land uses extend to overseas bases; the United States Armed Forces, for example, maintain a ring of military bases spanning around the globe. Again, interpretations of these land uses are contested; are these a legitimate strategy for securing the interests of the United States, or a strategy for global hegemony forced by overwhelming military economic power interests? The consequences of both domestic and foreign military bases, in terms of their impacts on the economic geographies of localities and regions, are marked by their unpredictability. The type of facility, the nature of a region in which it is located, and the strength and density of the economic, political, and sociocultural connections which embed a facility in its locality will profoundly affect the military economic geographies imprinted upon space and place.

The economic geographies of militarism extend also to the defense industry, that sector engaged with the manufacture of weapons systems and other military matériel, and the networks and supply chains through which components are brought together, and manufactured objects distributed nationally and globally. Research work on the changing economic geographies of the defense industrial sector has emphasized linkages between an increasingly globalized industrial sector and national state security objectives, highlighting the tensions between the two. Of particular significance here is the capacity of the defense industrial sector to dictate military force deployment capabilities at a quite fundamental level, through supply led economies within the sector. The dependency of manufacturing regions on defense industrial activity has also been analyzed, with the technological developments in weapons systems driving a changing geography of production and distribution alongside trends in the distribution of

manufacturing and R&D nationally and globally. Also significant here is research which suggests the limited capacity most advanced capitalist economies have for defense industrial conversion and diversification. Most recently, the privatization and outsourcing of state security functions under neoliberal economic regimes, particularly in logistics and services for military personnel on base and in theater, raises profound questions about the movement of the locus of control over security provision away from the nation state, that institution which traditionally has had sole legitimate authority over the deployment of violence. This issue is particularly marked with the increased reliance of private security personnel to perform security related functions in lieu of enlisted troops.

A sixth theme concerns the social geographies of militarism and military activities, an issue revolving around civilian responses to and engagements with military presence, practices, and personnel, and around the social and cultural geographies produced, expressed, and embodied by military personnel themselves. The social and cultural consequences of military bases, for example, impact on local populations in ways dependent not only on the nature of the economic linkages between a facility and its host population, but also on social relations beyond the base wire. Degrees of harmony and integration at one extreme, and over social disruption and abuse at another mark the variability of impacts. Military bases, for example, are commonly associated with high levels of dependency among local populations on illegal and unregulated economic activities, such as trade in drugs, alcohol and armaments, and prostitution. The abuse and exploitation of certain local social groups, particularly women, by soldiers is a feature of many overseas bases. Domestic military bases generate their own social relations of security and danger, trust and mistrust.

Geographies of resistance and opposition also follow the military control of space. Such activities, ranging from localized disputes over specific military uses for particular sites to wider campaigns against a military presence in itself, are significant for the alternative conceptualizations of the use of space which they invoke. Protests against specific uses include resistance to activities on the grounds of their impacts on, for example, natural environments, valued landscapes, and social and economic well being. Antimilitarist protests against a military presence (such as the US military presence in Okinawa) or against specific military installations (such as nuclear weapons systems, or military intelligence sites) invoke moral objections to a more abstract notion of the militarization of space and place.

A further set of cultural and social geographies of militarism and military activities relate to the spatialities of gender relations and gender identities within military institutions. Military institutions, particularly residential

military bases, have social dynamics that may be starkly gendered in their spatial expression, and these in turn may be overlain by military–civilian differences. An example would be the differential access to and use of space in those military installations which function simultaneously as military garrison, military installation, and domestic residence for the families of military personnel. The gender dynamics within armed forces are themselves spatialized through the designation of gendered spaces, and the construction and reproduction of gendered military identities through the use of space. An example would be the embodied practices of military training as a means of constituting particular military masculine identities, and the fact of the practice of this across challenging spaces and landscapes.

A seventh theme is that of the environmental impacts of military activities, and the politics of military environmentalism. Armed forces are key users of global natural resources, including energy resources. Furthermore, military activities have pronounced environmental effects in both conflict scenarios, and in nonconflict situations through the environmental effects of the ongoing maintenance of the capacity of military institutions to exercise lethal force. There is little consensus as to whether a value judgment can be made about conflict versus nonconflict environmental damage; although the environmental impacts of armed conflict can be profound – witness the torching of Kuwaiti oil wells during the 1991 Gulf War – the ongoing and normalized use of domestic and overseas facilities by military facilities carries with it the risk of long standing and deleterious environmental impact.

The environmental impacts of military activities take many forms. Pollution is a key issue and includes both the visible rubbish and detritus of military activities such as the remains of ordnance (and unexploded ordnance) on training areas, and the hazardous littering of unexploded ordnance, particularly landmines, in former conflict sites. Nonvisible pollution hazards follow military forces around the contemporary world, and is the biggest single environmental issue associated with military bases. Chemical pollution includes toxicity to natural environments from the fuels, lubricants, solvents, and explosives used in the maintenance and testing of military vehicles, munitions, and weapons systems. Chemical and radiological hazards have been noted from the use of specific weapons, such as the use of the Agent Orange herbicide by the US Armed Forces during the Vietnam War, and the use of depleted uranium tipped projectiles during the 1991 Gulf War. The testing of nuclear weapons has in effect rendered some former testing sites uninhabitable, places such as Bikini Atoll in the South Pacific, and the weapons testing grounds of the Southwestern United States. A further environmental impact is that produced through environmental modification, caused by explosives impacts in testing and in

conflict, the destruction of specific habitats and the impact of noise, footfall, and tracked vehicular movements.

The politics of military environmentalism have provoked critical commentary from geographers interested in the military representation of armed conflict and related activities. At what point do the environmental impacts of military activities come to be described as destructive? Are there distinctions to be drawn on moral grounds between the environmental impacts of military activities versus other industrial, commercial, or leisure related land uses? Arguably, armed forces are just one of many institutions, particularly in advanced capitalist nation states, which cause both environmental modification and damage, and which seek to justify or rationalize such damage with reference to the necessity of such activities. What is significant here is not so much that environmental damage occurs but the reference to security and defense objectives as an overriding justification for such impacts.

The eighth and final theme to be considered here is the cultural geographies of militarism, particularly the construction and representation of military landscapes. Anglophone human geography's focus on landscape as a form that is both constructed and legible has provided a powerful impetus to studies of the ways in which military power is physically inscribed onto landscapes. The militarized construction and representation of landscapes is a strategic act. Work on the impacts of military nuclear testing in the Southwest USA, for example, emphasizes the representational practices of the US Armed Forces and Department of Defense in describing these desert areas as uninhabitable and unproductive spaces, a strategy of legitimation for the testing of nuclear weapons and a counter to local indigenous representations of this space as a living, working, productive environment. Another example would be the significant body of work that has built up around sites of memory, mourning, and memorialization, which fix into (usually urban) landscapes specific interpretations of past conflicts (see, for example, the strategies of memorialization that followed World War I, in the construction of war graves in former battlefields, and the placing of war memorials in cities, towns, and villages back home). Notable too is the fluidity of meaning around such places, visible in the changing national interpretations of former Nazi concentration camps in Central Europe, and the incorporation within national monuments of mourning and memorialization of multiple categories of participants of former wars. No longer are soldiers the only ones so honored.

### **Current Issues of Theory and Practice in the Study of Military Geographies**

Four issues of theory and practice in the study of military geographies dominate current work in the field. The first

is recognition of the need for a theorized approach to the pursuit of military power across space, one which recognizes the conceptualization of space and spatiality deployed by military forces (whether in operations or in basing) and is alert to the power geometries that such conceptualizations entail. The second issue relates to access to information and data on military activities, across the spectrum of such activities. A paucity of information on activities and impacts across the social, environmental, and economic spheres has long limited the nature of investigations into military geographies and the geographies of militarism. The third issue is the politics of the engagement of the academy with military power and military institutions. For a more traditional military geography, that engagement is relatively unproblematic. Within the critical political tradition in human geography, along a spectrum from pacifism to critical observation, issues of engagement with military institutions raise moral questions about the role of academic geographers. Sometimes those issues are starkly clear – whether or not researchers undertake research funded by military institutions, for example. Sometimes those issues are more complex; this encyclopedia, for example, is published by Reed Elsevier, a multinational corporation which through a subsidiary company ran a major biennial arms trade exhibition in London, the Defence Systems and Equipment International (DSEI). This connection led to debate within and beyond geography on whether academics should support through their publishing in Reed Elsevier books and journals, a key player in the international arms trade. The fourth issue – and this is entirely speculative – concerns the influence of wider global political developments on philosophical and conceptual trajectories within human geography. As the consequences become more apparent of the enormous human costs of the unrestrained use of military force by the US state and allies in Afghanistan and the Middle East, we should consider carefully how the discipline of geography can respond adequately to what many name the 'Long War', what it might mean to place war, and the outcomes of armed violence at the center of our geographical inquiries.

See also: *Critical Geopolitics; Geography, History of; Geopolitics.*

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# Mixed and Multiple Methods

J. H. McKendrick, Glasgow Caledonian University, Glasgow, UK

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## Glossary

**Analytical Levels (Analytical Scales)** They are realms of enquiry, each of which is associated with a different geography, for example, personal, familial, neighborhood, regional, national, and global. The objectives of enquiry and the manner in which structural forces are relevant to enquiry vary across these levels.

**Ecological Fallacy** The error of ascribing characteristics to individuals on the basis of where they live.

**Epistemology** This refers to systems of thought, which describes different ways of viewing, understanding, and appraising the social world.

**Multilevel Modeling** An approach to data analysis which simultaneously allows the relative significance of different analytical levels to be ascertained, for example, by incorporating personal, familial, neighborhood, and structural variables in the analysis.

## Introduction

Multimethod research describes the application of more than one method to engage a research question. However, as demonstrated in this article, this deceptively simple description belies a wide range of approaches to research.

Toward the end of the 1990s, there was a growing interest in multimethod research in human geography, with seminars, conference sessions, and special editions of journals debating this approach to research. The catalyst for this was dissatisfaction with the entrenchment of researchers into either side of a qualitative/quantitative divide, which was emerging as the manner in which qualitative research designs were mainstreamed in human geography was implicitly – and often explicitly – positioned in opposition to quantitative research designs.

There has been little direct discussion of multimethod research in geography since the 1990s. Textbooks of contemporary research methods in human geography pay little attention to multimethod research. Although text books tend to introduce students to quantitative research and qualitative research, there is virtually no discussion of bringing these together in multimethod research. Thus, the multimethod debates of the 1990s appear to have had limited impact on how students are introduced to research. One possible reason for the limited impact of the multimethod debates of the 1990s was that they primarily focused on using multimethod research to bridge the

qualitative/quantitative divide, which is only one of several reasons for pursuing multimethod research.

Although fading from the fore in methodological debate, multimethod research continues to be widely practised by human geographers. Indeed, multimethod research is not common in geography and should be considered as one of the defining features of the regional geography paradigm that prevailed in the second half of the nineteenth and the first half of the twentieth century.

## An Example of Multimethod Research in Human Geography

Bradford and McKendrick's exploratory study of the commodification of children's play space in the UK demonstrates the utility of multimethod research in human geography. Fieldwork commenced with the aim of reviewing developments in the commercial provision of playgrounds for young children in North West England. Key questions were addressed with respect to social exclusion, children's role as clients and consumers of services, family leisure, and children's 'place' in the built environment. A carefully balanced and interlinked research design encompassing questionnaire surveys, interviews, field observations, and video recordings was administered to children, parents, service providers, and play center staff. In summary, six commercial providers of children's playgrounds were profiled and research was conducted in ten field sites in the Greater Manchester area; 872 families were surveyed, of which 30 were interviewed (adults and children separately), and, in turn, from which seven participated in a second interview. This second interview was based on the family's video diary of a day visit to a commercial playground. Themes which cut across each of the methods emerged to shed insight into disabled children's experience of play space, children's birthday parties, family decision making, and the role of playgrounds in urban landscapes.

## Definition: The Parameters of Multimethod Research

### Mixed, Multi, Multiple, or Integrated?

Leaving aside the grammatical questions of whether the concept should be hyphenated (e.g., multi method), separated (multi method), or joined (multimethod), and whether or not the concept should be abbreviated (i.e., multi method) or (not multiple method), there are two

substantive issues pertaining to adjectival part of the concept that must be appreciated.

First, a distinction is sometimes drawn between multimethod research and mixed method research. Mixed method research is sometimes specifically used to describe hybrid applications in which two or more approaches are used concurrently (at the same stage in the research, at the same time, in the same place, and with the same group being researched). Hybridity can refer to a single research instrument collecting different types of data, for example, a survey comprising questions with fixed responses (amenable to quantitative data analysis) and questions with open responses (amenable to qualitative data analysis). Hybridity might also refer to using a single research instrument to collect data, which are themselves amenable to both quantitative and qualitative data analysis, for example, subjecting responses to open ended questions to quantitative data analysis (frequency of response) and qualitative data analysis (interpretative understanding of relationships and structure). When defined in opposition to mixed method research, multimethod research describes the independent application of more than one method in a research design. However, multimethod research is not always defined in contrast to mixed method research and is also understood to be a generic description for hybrid applications (described here as mixed method research) and the independent application of more than one method.

Second, integrated research is sometimes used by those who wish to emphasize the intentional deployment of more than one method in a research design. Although most proponents of multimethod research would agree that research should not be described as such if it merely comprises simple collections of qualitative or quantitative data without planned use of diverse methods with a serious attempt to integrate the conclusions, other commentators are less insistent on this point.

### **Stage and Level (Scale)**

Multimethod research is often staged and is described more comprehensively as multimethod, multistage research. The archetypical multimethod project is multistage in design, that is, the questionnaire survey (stage 1), which identifies key informants who are interviewed (stage 2) to explore details of key findings emerging from the survey.

More controversial is whether multimethod research should be used to describe research that spans more than one analytical level (scale). Some geographers have argued that research should not be described as multimethod if it spans more than one analytical level. Most concern here is directed at researchers transposing findings from areal levels (neighborhood, city, etc.) to social levels (individuals and households) and committing an ecological fallacy. There are two problems with not considering multilevel

research to be multimethod research on these grounds. First, it is reasoned that such research cannot be described as multimethod as the different components of this research (at different analytical levels) do not address the same issues. However, this critique rests on an overly narrow definition of a research question in which research is not considered to be whole if it involves an analysis over more than one analytical level. This is particularly limiting for the geographer who may be more inclined than other social scientists to directly explore relationships across analytical levels, for example, making sense of household behavior in the context of neighborhood norms. Similarly, and equally problematically, this critique also argues against the premises of multilevel modeling. Second, this critique tends to assume that researchers working across analytical levels will be prone to transposing results across levels. This wrongly makes the assumption that the researcher will transpose findings, as opposed to using them to contextualize or inform understanding at other analytical levels. As for multistage research, a more comprehensive description for research involving more than one method across analytical levels is multimethod, multilevel research.

### **Multimethod Research, Multimethod Research Design, and Multimodal Research**

The sophistication of the multimethod approach, or the ends to which it can put, can be described as progressing through three tiers, with each subsequent tier incorporating and extending the scope of the former.

First, at the most simplistic level, multimethod research is when more than one research method is used to address a research problem. Second, multimethod research designs not only comprise more than one method, but they also deliberately incorporate more than one method in research that consciously plans to capitalize upon the strengths afforded from using complementary approaches. Finally, multimodal research designs refer to when research deliberately embraces qualitative approaches and quantitative approaches to research.

The higher orders of this hierarchy are open to critique. Some might question the practical limits to which knowledge can be advanced by bringing together findings from diverse methods (multimethod research design), while others might question the epistemological validity of embracing qualitative and quantitative approaches (multimodal research). These 'key debates' are discussed below.

### **Uses of Multimethod Research**

There are four reasons why human geographers practised multimethod research, most of which comprise several dimensions.

**Data**

Unsurprisingly, most researchers refer to data considerations when accounting for their use of multimethod research.

First and foremost, multimethod research affords the possibility for achieving congruence through data triangulation, that is, to enhance the credibility of research by using different methods to generate similar, consistent, or convergent findings, thereby reaching the same conclusions.

Second, multimethod research can be used to extend the comprehensiveness of research by combining methods, each of which generates particular data, which when brought together are complementary and can broaden understanding of the issue at hand by enriching, expanding, clarifying, or illustrating.

Third, multimethod research can be used to highlight meaningful inconsistencies between findings produced through different approaches to the same research question. Here, the objective is to reflect upon, understand, and explore why different realities are constructed (and not to source ‘the truth’).

Fourth, explanation can be pursued through multimethod research. Here, the objective is not merely to extend the knowledge base. Rather, the objective is to design a subsequent stage in the research to specifically seek explanation for emergent findings (which may be unclear or controversial) from an earlier phase of the research.

Finally, and in a similar vein, multimethod research can be used to test hypotheses, which emerged from an earlier phase of research.

**Philosophy of Scholarship**

Multimethod research is consistent with traditional and some contemporary ideals of scholarship.

First, the breadth of understanding that is provided by multimethod research is consistent with approaches to geographical scholarship that preceded the systematic tradition. More specifically, multimethod research was routinely used to construct geographical understanding in regional geography. Second, multimethod research is also consistent with more recent concerns to ‘give voice’ to marginalized groups and to promote ‘polyvocal’ research. Similarly, a commitment to ethnography on the grounds that it offers a depth to understanding through immersion in the field is inherently a commitment to multimethod research, as participant observation is invariably buttressed by nonparticipant observation and document analysis.

However, although a multiplicity of methods are implicated in these endeavors, research would only be understood as multimethod if it involved the researcher actively using more than one method to explore research questions.

**Epistemological Preferences**

Multimethod research has been criticized by some on epistemological grounds – these debates are considered below. Here, it is important to note that there are three epistemological positions, which range from being tolerant of multimethod research to advocating this approach.

First, from an aparaadigmatic stance, practical decisions about research design and method should be influenced by the demands of the research and not by philosophical assumptions. Here, epistemology should not determine practice. Second, a dialectical stance acknowledges that philosophical assumptions inform research design, and proposes that these assumptions should be intentionally mixed to overcome limitations and partiality to produce more comprehensive and insightful research. Finally, a pragmatic stance advocates an inclusive framework which embraces multiple assumptions (and diverse methods).

**Political**

Finally, it should be recognized that the reasons for pursuing multimethod research may owe less to research design *per se*, than to ulterior motives. First, as outlined above, some of those whose primary concerns are epistemological or with particular ideals of geographical scholarship may be more inclined to pursue multimethod research to realize their goals. Second, multimethod research may be used as a learning tool for new researchers, for example, using different methods to engage the same question on geographical field courses. Finally, multimethod research may be used to gain the confidence of an audience. It has been argued that policymakers have been more wary of conclusions drawn from small sample, in depth, qualitative investigations; careful integration of complementary large scale quantitative survey results may be helpful in gaining the trust of an otherwise skeptical audience.

**Styles of Multimethod Research**

Attempts to devise a typology of have been troubled by the number of factors against which multimethod research can be categorized.

First, multimethod research can be classified according to the number of component studies/methods that are used.

Second, method type is a second basis for classification. The archetype multimethod research is the survey questionnaire combined with the in depth (key informant) interview. However, there is a wide range of multimethod research possibilities beyond this, ranging from combining very different types of method (e.g., controlled field

experiment and ethnographic participant observation) to combining methods that are merely slight variations of a methodological genre, for example, 'focus group interview' data with data from in depth 'personal interviews'.

Third, research can be distinguished according to whether methods are applied concurrently or sequentially. In concurrent designs, data are collected to test for congruence, to collect complementary data, or to highlight meaningful inconsistencies. In sequential designs, later strands can fulfill each of these goals or they can be used to explain or test the findings of the previous strand.

There may also be grounds for further subclassification by juxtaposing timing and method type, for example, distinguishing the large scale survey which precedes the key informant interview (perhaps to probe for explanation for why there is an association between survey variables) from the key informant interview which precedes the large scale survey (perhaps when the interview is used to generate response options for survey questions).

Fourth, the relative importance of the respective methods in multimethod research can be used as a basis for classification. Although all methods make an important contribution to the research, some components of the multimethod research may be more dominant or may be deemed to be more important to the overall project. On the other hand, the component parts may be considered to be of equal worth.

Fifth, multimethod research can be distinguished according to the point at which findings are integrated, that is, throughout the study or kept separate until the end.

Sixth, multimethod research can vary according to whether it has independence or interdependence between methods. That is, whether subsequent methods are applied without reference to preceding methods, or whether subsequent methods follow on from and develop preceding methods. On the one hand, it might be argued that independence is needed to ensure that results are not influenced by initial research. In contrast, it could be argued that interdependency is needed to ensure that the full complexity of a research problem is addressed.

Seventh, whether or not the research is undertaken by a team (perhaps with their own methodological specialisms) or by a sole researcher (by necessity, with competence across methods) is also used as a basis to classify multimethod research.

Eighth, a distinction can be drawn between a 'multimethod project' and a 'project or program of research that utilizes multiple methods'. Although both may pursue the same methods to the same ends, in the former, the multimethod work is designed as a single project, whereas, in the latter, the second stage research builds upon the work of an earlier research project.

Ninth, many classifications of multimethod research make reference to whether the design works within or across methods. As discussed above for hybridity, 'within

method' multimethod research is when a single research instrument collects different types of data or collects data which is amenable to both quantitative and qualitative data analysis. 'Across method' multimethod research is that in which different types of data are collected through contrasting research methods.

Tenth, the nature of the multiple in multimethod research can vary. There is a tendency to literally interpret 'method' as 'technique' when discussing multimethod research. However, it should be acknowledged that the multiple in question could pertain to how the method is applied, that is, the research could use multiple sampling frames, data sources, or analytical techniques.

Finally, and as was also discussed previously, multimethod research can be applied within or across analytical levels.

## Key Debates in Multimethod Research

Criticism of multimethod research has been directed at practicalities and its philosophical underpinnings.

### Practical Challenges

The first weakness with multimethod research is to acknowledge that it is more demanding in terms of time, financial cost, and researcher skills than single method applications. Not all researchers are equally comfortable or confident in applying a range of methods. In particular, this makes multimethod research a less realistic proposition for small scale research, such as that required of undergraduate dissertations.

Second, the pursuit of triangulation for congruence makes it difficult to deal with disparity between datasets. In particular, there is a need to avoid the tendency to try and identify which set of data is the most valid.

Third, proponents of multimethod research should avoid the tendency to present 'breadth' of study as an inherent virtue. While the search for more comprehensive understanding is a laudable goal that could be achieved through multimethod research, multimethod research is only a virtue if the design affords the subsequent/concurrent method to add substantially to what is known from other components of the research. Similarly, it should not be assumed that measurement error will always be reduced through multimethod research.

Fourth, there is a danger that, in seeking to capitalize upon the complementary strengths of different methods, the pursuit of multimethod research encourages a more limited application of method than might otherwise prevail.

### Deterministic Conjunctions of Epistemology and Method

The most fundamental criticism of multimethod research is that the application of more than one method in

**Table 1** How epistemology informs, rather than precedes, methodology and strategy: Examples from migration studies

Research tradition	Objectives	Migration example	Methods and application	Interview	Fieldwork	Nonreactive
Postivist	Establish empirical categories which are assumed to be of general (unversa) significance	(Patterns and outcomes arising from) Counterurbanization from SMSAs	<b>Mathematical modeling of census migration data to provide a national overview and trend projection</b>	Content analysis of responses to a structured interview to establish why households decided to migrate	Fieldwork survey in urban fringe to identify subtypes for 'migrant' residents (based on interview?)	Comparative systematic analysis of migrant and nonmigrant children's writing about what they like most about the rural (new) home
Humanistic	Value human experience and seek to understand the meaning and human significance of events	'Return' migration of 'American' Jewish families to Israel	Detailed social attitudes questionnaire to explore the meaning of established and understand the personal context of (nonfunctional) reasons for the migration	n-depth interview to explore the meaning of this migration experience to each individual migrant	<b>Ethnographic, participant observation to share the emotions, experiences, and significance of this particular migration</b>	Analysis of reported accounts (autobiography, speeches, magazine articles) of return migration to situate the personal significance of the action within wider socio-political context
Realist	Identify the structures which generate outcomes via mechanisms (necessary causes/powers) under 'specific contingent conditions'	Migration associated with decentralization of government departments from London to other parts of Britain	Expansive methodology being attentive to context enables the specifics of each department's migration to be related from the general experience	<b>In-depth interview with senior civil servants to uncover the underlying processes behind these departmental migrations</b>	Participant observation within the circle of decision makers to establish the processes which contribute to produce the resultant migration	Interpretation of a series of internal departmental briefing papers to chart the temporal development (the course) of the processes at work
(Feminist) Standpoint Theory	Knowledge socially constructed	Migration experiences of women partners (of) male company executives	Empirical study of women survey designed by women using the rural (family) language to generate an overview of migration experiences that they collectively deem to be important	<b>Focus group interview to share and rationalize migration experiences among the group</b>	Unobtrusive observation of family processes involving these migrants undertaken while fulfilling a service-sector function (removals estate agency house search mortgage lender etc)	Interpretation of experiences contained within letters commissioned for a women's journal on the subject of 'Me and my partner on the move'
Postmodernist	Establish that the 'multiple' position of the author (or reader) has influenced the production (or interpretation) of the narrative	Migration of the 'Third World' women	Log-near modeling of migration data to estimate the significance of different 'positions' on the propensity to migrate	n-depth interview with the women to 'unpack' their rationalizations of the migration	Unobtrusive access to migrant's experiences via a service function (e.g. labor market consultant removal contractor)	<b>Unpack autobiographies, personal journals, and/or letters of migrants which discuss the migration experience</b>

McKendrick J H (1999) Multi-method research: An introduction to its application in population geography *Professional Geographer* 51(1): 40-49

research can undermine epistemological validity. Proponents of multimethod research have observed that deterministic (or at least conservative) conjunctions of epistemology and method hold sway. In contrast, they argue that the range of methods that can be used within any epistemological tradition is greater than is generally assumed. This expansive view of methodological possibilities should not be interpreted as a claim that 'all methods are equal'. On the contrary, **Table 1** uses bold typeface to suggest that, for each research tradition, some methods are more useful than others, and that the preferred method varies between research traditions. Thus, the survey questionnaire is particularly useful for the positivist, the interview is likewise useful for the realist and the standpoint theorist, those working within a humanistic perspective would favor experiential fieldwork, while the postmodernist would be inclined to utilize 'documented' sources. These conjunctions are, and should be, the foundation of most research endeavor. This should not preclude the application of other methods, most obviously not only for circumstances where data availability is a problem, but also for circumstances whereby 'alternative' methods provide complementary insights.

### The Future of Multimethod Research in Human Geography

Multimethod research is an attempt to combine research methods to address a particular research problem. It is a generic term that encompasses a wide range of research strategies: it may be deployed strategically, it may be used over the course of a research project, and it may breach the qualitative/quantitative divide or it may be practised within each camp. This article has clarified the essential character of multimethod research.

Multimethod research has become something of an absent presence within human geography. That is, it is widely practiced, but is not openly discussed in methodological debates. It presents a range of opportunities, both substantive and strategic, and

methodologically, is an approach that is both tenable and viable. Multimethod research fulfills a number of research objectives ('tactical' and compensatory), is consistent with traditional models of scholarship, offers a model of research which destabilizes methodological dualisms, and, perhaps most importantly of all, provides the means to improve the effectiveness with which these issues are addressed.

See also: Interviews: In-Depth, Semi-Structured; Quantitative Methodologies; Transcripts (Coding and Analysis).

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# Mobility

P. Merriman, Aberystwyth University, Aberystwyth, UK

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## Introduction

Mobility and movement are of concern to academics working across the humanities and the social, physical, natural, and medical sciences. Physical geographers have concerned themselves with the movements of water, ice sheets, soil, plant species, and radiation, to name just a few examples, while mobility has been a long standing concern of human geographers working on a broad range of issues, from migration, transport, and trade, to imperial expansion, travel writing, tourism, globalization, and cultural diffusion. The next section examines how geographers have approached the issues of mobility and fixity, before showing how the emergence of anti-essentialist post-structuralist thinking, participative methods, and an interdisciplinary concern with themes such as embodiment, globalization, transnational migration, tourism, mobile communications, the Internet, performance, and the spaces of the car and airport, has led to a resurgence of writings focusing on mobility across the social sciences. The subsequent section examines the power relationships surrounding particular kinds of mobilities, and the discourses of exclusion which have gathered around the mobilities of such groups as gypsies, travelers, tramps, and immigrants. Then we explore how particular mobilities and senses of movement are accounted for in geographical writings on place and landscape. Mobilities have commonly been held to erode distinctive senses of place, generating feelings of placelessness, but in recent years geographers have come to theorize places and landscapes as dynamic, practiced and performed through the movements of all manner of things. The final section discusses recent work on cultures of transport, focusing on the geographies of the car and road.

## Geography, Fixity, and Mobility

Geography – a term whose etymology can be traced through Greek, Latin, and subsequently French – is often defined as Earth writing. When I talk to friends who have a limited knowledge of academic geography, they frequently suggest that geography is about physical landscapes, maps, or places. It is said that geography is, or should be, concerned with locating things and events, particularly physical landscape features. Fixity and locatedness emerge at the heart of such imaginaries of

what I and other the geographers do, and in these definitions, fixity is frequently constructed in tension or opposition to mobility. Things move or stay still. They are stationary or mobile. As Tim Cresswell has shown, throughout the history of geography, academics have developed a range of theoretical approaches and methodological tools for accounting for and exploring the relationships between mobility and fixity.

Mobility has been framed as unfortunate, abnormal, and problematic, and as inevitable, normal, and productive. In the 1960s, positivist constructions of human geography as a spatial science frequently constructed fixity or locatedness as the norm or ideal. Where movements occurred, they were constructed as rational, functional, and purposeful movements between fixed points. In the 1970s, time geography examined the mobilities of people engaged in everyday activities, while Marxist thinkers have long emphasized patterns of mobility, flow, and circulation in society and the economy. In focusing on place, many humanistic geographers constructed mobility as an eroding force or threat to the integrity of places. Human geographers working in the areas of transport geography, migration studies, and tourism have also done much to advance geographical research on particular kinds of mobilities. Early studies tended to focus on the causes and effects of particular mobilities, or on the quantitative dimensions of mobilities. However, since the late 1980s and 1990s there have emerged a large number of qualitative studies of mobility marked by a new wave of research on tourism, transport and migration, and the emergence of an interdisciplinary interest in themes such as globalization, transnational migration, diasporic cultures, mobile communication technologies, the Internet, performance, and postcolonialism.

With these developments, and the increasing purchase of anti-essentialist post-structuralist thinking, and participative and performative methods, it has been suggested by Mimi Sheller and John Urry that the social sciences are seeing a ‘mobilities turn’ and the emergence of a ‘new mobilities paradigm’. Mobilities research does appear to be flourishing, but it is important to be cautious about such proclamations. Mobilities research is not that new. Much contemporary research builds upon long established and broader reaching developments in the social sciences. New and emerging research questions do not necessarily lead to a ‘turning’ of disciplines and research agendas, or the establishment of new paradigms. It is important, therefore, not to overstate the influence of

these new agendas, or to overlook more firmly established lines of research. Indeed, while 2006 saw the launch of the interdisciplinary social science journal *Mobilities*, and the publication of a number of important books on mobilities, we should not forget that the *Journal of Transport History* was first published in 1953, *Transportation Research* in 1967, and the *Journal of Transport Geography* in 1993.

Mobilities research does not simply provide a new unproblematic nonessentialist way of thinking, tracing narratives built around metaphors of mobility and fluidity, and allowing academics to move away from sedentary theories rooted in ideas of fixed, solid essences. This was the mistake made by a generation of post modern, post structuralist, and feminist theorists who embraced a 'nomadic metaphysics' that celebrated (and frequently romanticized) the transgressive mobilities of the migrant, traveler, nomad, or theorist in an attempt to depart from a 'sedentarist metaphysics'. There is a politics and geography of power bound up with practices and discourses of both mobility and fixity, and as Tim Cresswell has asserted, it is important for human geographers and other social scientists to expose these power relations and examine the social, spatial, and material processes by which particular mobilities are produced. Modern Western societies may appear to emerge and gain life through the mobilities of all manner of things, but our worlds are punctuated by a broad range of material things and sedentary beliefs. In Western nations it is commonly assumed that their inhabitants will have nationalities, fixed dwellings, postal addresses, and either lease or own property. The geographies of mobilities are inseparable from particular materialities, whether of transport infrastructures, passports, human bodies, border fences, or walking boots. What is more, when one travels, one does not simply travel across the landscape. Mobilities rework, shape, animate, and perform places and landscapes.

### **Mobility, Politics, and Exclusion**

Advertisers, manufacturers, and academics delight in informing us that our communications and movements are speeding up, the world is shrinking, time-space compression is occurring, and that there is an 'end to geography'/'geography is history'. We are said to be increasingly mobile, living in a 'hyper mobile' world, and yet through such assertions we are provided with little sense of the differential experiences and impacts of mobilities. The geographies and histories of mobilities are often missing, and popular cultural commentators seem to overlook the long and tortured history and complex geography of globalization. As Doreen Massey points out, we do not all have access to e mail, television,

public transport, private vehicles, or immigration visas. New connectivities and mobilities produce geographies of exclusion, disconnection, inequality, and immobility. Pacific islands which were once key stopping points for passing ships are now bypassed by intercontinental airliners. In rural Britain, cuts in public transport provision and post office closures have had a detrimental impact on the communications and mobility of vulnerable groups without access to cars or the Internet. Indeed, while the movements of the business traveler, commuter, Western tourist, quarantined animal, and airmail letter may be facilitated by businesses and governments, the mobilities of less empowered minorities are frequently overlooked, while the movements of groups such as refugees, gypsies, and migrant workers are closely regulated and commonly criticized. People and things, then, are not always free to move. Human and nonhuman bodies have different capacities to move, or purposes for moving. The mobilities of human bodies, water, oil, and many other things may appear to be governed by 'natural laws', but their movements are enmeshed in complex political, economic, and cultural geographic processes. Governments, large companies, academics, and a broad range of individuals have long been concerned with how mobilities are performed in different ways and at different scales, from the microspaces of the human and animal body, to the scale of the nation state or globe.

### **Governing Mobilities**

Mobile entities are incessantly identified, classified, and monitored. The mobilities of commodities are tracked by logistics experts and distribution companies using computers, Universal Product Code (UPC) bar codes, radio frequency identification (RFID) tags, and written inventories. Customs and excise agencies attempt to stem the flow of illegal drugs, untaxed cigarettes and alcohol, or unauthorized agricultural imports, tracking their movements using international policing networks, informers, and more or less sophisticated searching technologies. Animals may be quarantined. In the UK certain species of domestic pet (including dogs, cats, and ferrets), once microchipped and vaccinated, can be issued passports to travel within the European Union (EU). Authorities are continually trying to categorize mobile objects and individualize mobile subjects, and judgments are made about the movements of particular things.

When I fly to the USA for an academic conference, as a British citizen I am required to stand in an immigration queue designated for non US citizens. I am required to have a machine readable passport which can be swiped, and might soon be required to have one of the new generations of biometric passports featuring a computer chip which can store facial biometric data (including key facial measurements and characteristics), a digitally



encoded photograph, and other personal information. And yet, I am afforded certain privileges not possessed by all non US citizens. As a citizen of one of 27 'developed' (the majority Western European) countries, I do not need to apply for a visa. I simply queue up with my completed I 94W visa waiver form, answer a few questions, submit my passport and fingerprints for scanning and, hopefully, I am granted permission to enter for up to 90 days. Non Western travelers, and those deemed to be a moral, physical, or biological threat to the USA and its citizens, receive a quite different treatment, while throughout the world thousands of migrants scale fences, cross deserts, rivers, and seas, or travel in the back of lorries in an attempt to traverse national borders. People smuggling has emerged as a high profit activity for criminal gangs.

My experiences at US immigration checkpoints are predictable, occasional events, but my mobilities and mobile communications are governed and monitored in many other seemingly mundane but significant ways. My movements through the airport, as with the street, railway network, or shopping center, can be monitored or registered with closed circuit television (CCTV) cameras, pedestrian, or vehicle flow counters, at check in desks, ticket barriers or toll booths, and predicted and guided by architects with computer simulation models, computer aided design packages, and a variety of architectural and design features. Software and computing are increasingly being embedded into the built environment of Western countries. Credit card purchases and supermarket loyalty cards collect data on mobility and purchasing patterns, generating information which is highly valued by marketers and consumer profilers. Our mobilities are registered by the movements of our mobile phone, in addition to the calls we make. The movements and locations of our bodies, identification documents, financial transactions, and private technologies, then, are tracked by an array of government and corporate agencies. We 'move' and are 'traced' through transportation networks, border control points, electric cables, radio waves, and computer databases. But while the scale and capabilities of tracking technologies may be changing, authorities have long been concerned with tracking the movements of individuals and groups. The pervasiveness of computer, digital, and optical technologies which are used for tracking mobilities should not lead us to overlook a much longer history of 'technologies' for governing mobile citizens and maintaining extensive political and economic networks: from the history of customs agencies and imperial trading companies, to the history of passports, visas, and radar.

The mobilities and spaces of car driving in Britain are particularly instructive. Long before government agencies, transport engineers and the police utilized automatic speed cameras, CCTV cameras, number plate recognition technologies, and computer databases to

monitor and regulate vehicle drivers, their movements have been identified, individualized, and regulated through the use of vehicle number plates, driving tests and licenses, codes of conduct, police speed traps, 'sleeping policemen' (speed control ramps), traffic lights, roundabouts, and a whole host of other technologies. Governments and the police have long recognized that to govern mobile vehicle drivers across a fairly extensive network of roads, they need to combine juridical and disciplinary techniques of government with liberal principles which encourage drivers to practice techniques of self government, controlling the movements of themselves and their vehicles. Experienced drivers appear to embody the skills and practice the etiquettes (both formal and informal) of driving in particular environments, performing the act of driving and governing their own movements and conduct in automatized, precognitive, and unreflexive ways. They may subtly resist or re interpret the formal rules of the road, but the potentially fatal consequences of inattentiveness and rule breaking lead the majority of motorists to drive in more or less socially acceptable ways.

### **Mobility and Exclusion**

By engaging in particular strategies or government programs, and deploying a broad range of technologies, individuals and authorities aim to exclude particular mobilities, activities, entities, and individuals from the public/private sphere, and minimize the risk of certain events occurring. The mobilities of illegal immigrants, drug smugglers, travelers infected with diseases such as SARS (severe acute respiratory syndrome), and suspected terrorists are approached with varying degrees of urgency and intensity by authorities, who 'profile' and 'screen' travelers and categorize those deemed to be 'high risk': whether this is due to their name, ethnicity, religion, nationality, travel itinerary, or their body temperature. This section focuses on the mobilities of two groups who are frequently excluded or criticized by political and cultural commentators: first, asylum seekers and economic migrants; and second, tramps, gypsies, and travelers.

In the UK, asylum seekers have been consistently constructed by the right wing and tabloid press as out of place: as unwelcome immigrants whose claims to refugee status are untested or unproven, and who are 'scrounging from the state'. Asylum seekers are not yet proven to be 'legitimate refugees' (according to the 1951 UN Convention) entitled to protection from political persecution, and reactionary social commentators frequently label them as 'bogus asylum seekers'. The stability of British society and Britain's economy is presented as being under threat from such mobilities, and the dramatic and emotive language which journalists and others use draws

upon metaphors of uncontrolled flows of fluids or the spread of infectious diseases. Headlines shout about ‘floods’, ‘tides’, and ‘waves’ of immigrants, and this language is not limited to the mobility of asylum seekers. With the accession of ten countries (including eight East European countries) to the EU in 2004, commentators focused their attention on the 600 000 or so individuals who came to the UK in the first two years (May 2004–June 2006). Tabloid newspapers suggested that ‘the tide’ or ‘surge’ of EU migrants needed halting, as the British economy, health service, and Briton’s jobs were said to be under threat. There is, of course, a long history of hostility to immigration and immigrant mobilities, in the UK and elsewhere. Prejudices and political and juridical discourses have gathered around the movements of people for hundreds of years, and entire academic sub-disciplines and theoretical debates – including studies of migration, colonialism and postcolonialism, diasporic cultures, and Orientalism – focus their sights on the social, economic, cultural, and political imagination and effects of migration and travel. National histories are crosscut with narratives and memories of immigrant and emigrant mobilities, and the diasporic and hybrid cultures which emerge are frequently defined by, or seen to be practiced through, those very mobilities and their spaces. We are urged to trace the ‘routes’ shaping cultural formations, rather than searching for the ‘roots’ of cultures and identities. Attention is focusing on the ‘Atlantic geographies’ and ‘Black Atlantic’ cultures weaving North America, Europe, Africa, and beyond, demonstrating how mobilities are practiced and experienced in strikingly different ways. The histories and geographies of mobility and migration reflect complex power relations, and geographers have done a great deal to help expose such power relations.

Mobilities are frequently constructed as central to, and essential to, capitalist development and circulation, but it is also common for mobilities which do not appear to have a (legitimate) purpose or destination to be romanticized as a way to escape, or criticized as a threat to, the routines of sedentary societies. In the USA, mobility has long been central to both mainstream and counter-cultural imaginaries of the nation. Mobility was central to narratives of pioneering Westward expansion, and both road transport and railway travel (as well as shipping) became embroiled in accounts of nation formation. The road, in particular, has been portrayed as a space of freedom, escape, and resistance for a broad range of individuals: families fleeing the depression and poverty of the dustbowl states in the 1930s (as depicted in Dorothea Lange’s photographs, or John Steinbeck’s 1939 book *The Grapes of Wrath*); men escaping the responsibilities and mundane realities of domestic life in Jack Kerouac’s 1957 book *On the Road*; or the two women escaping abusive relationships in the 1993 film *Thelma and Louise*. Such

narratives are often highly gendered, and it has been argued that academics must not simply affirm or romanticize popular narratives which equate mobility with freedom and resistance. People stay put and resist. Others may have very little freedom or choice in their movements. What’s more, there are a whole series of mobilities – for example, those of refugees and asylum seekers – which are more commonly criticized than romanticized.

As Tim Cresswell shows in *The Tramp in America* (2001), during the 1870s a moral panic gathered around the mobilities of the tramp. The completion of an extensive network of railway lines in the American West, coupled with a fluctuating economy and increasingly mobile workforce, acted to facilitate the movement of homeless and jobless men and women across America. In 1875, Josiah Flynt estimated that as many as 10 000 tramps rode the boxcars every night, and the mobilities of these tramps were presented as unpredictable, threatening, immoral, and pathological. A broad range of discourses gathered around the movements and actions of the tramp. Sociologists sought to define and understand the life world of the tramp. Laws were enacted to control the mobilities of tramps and vagrants, although such categorizations were conveniently applied to a broad range of individuals deemed to be ‘out of place’, enabling the police to arrest the unemployed and working class activists. Despite the presence of a significant number of female tramps and hobos, the tramp was frequently constructed as a male figure who posed a threat to women and the moral sanctity of the spaces of the home. The figure of the tramp was constituted as degenerate and pathological by eugenicists and medical experts. In film and cartoons, most famously *The Tramp* (1915), starring Charlie Chaplin, widespread stereotypes of tramps and hobos were used to illicit laughter, but unlike more official narratives Chaplin’s character emerged as a hero representing resistance to authority. Cresswell’s writings reveal how the tramp was ‘made up’ in a variety of ways, but while tramping was constructed as a modern problem in the USA in the 1870s, England and other countries had seen panics over vagrancy and homelessness as early as the late fifteenth century.

In the UK the mobilities of gypsies and travelers have long been constructed as a threat to society and capitalist spatiality. In contrast to romanticized stereotypes of ‘traditional’ Romany gypsies traversing the countryside in horse drawn wooden caravans, contemporary gypsies and travelers equipped with motor vehicles and modern caravans are frequently constructed as a polluting presence who threaten the planned order of a ‘Middle English’ countryside. Gypsies and travelers are presented as being out of place in the contemporary English countryside, and in 1994 Britain’s Conservative government enacted a Criminal Justice and Public Order Bill which included clauses designed to control the mobilities and

actions of gypsies – along with New Age Travelers, ravers, hunt saboteurs, and environmental campaigners. During discussions of the Bill, British Members of Parliament suggested that the legislation was not aimed at ‘real gypsies’, but at New Age Travelers who, in their view, had chosen to drop out of society, leave urban areas and paid employment, and adopt a mobile lifestyle. New Age Travelers were labeled as dirty scroungers who did not belong in the countryside, and the Act entitled police forces to set up road blocks and control the movements of groups of travelers, ravers, road protestors, and hunt saboteurs. As geographer David Sibley pointed out, the Criminal Justice and Public Order Bill was ‘emphatically concerned with controlling movement’ (1994, 301).

## **Mobility, Place, and Landscape**

### **Mobility and Placelessness**

Geography is frequently presented as a discipline concerned with places or landscapes, and it has been suggested that increasing levels of mobility might herald the ‘end of geography’ and the erosion of place. In his 1976 book *Place and Placelessness* the humanistic geographer Edward Relph suggested that increasing mobility had brought about the extension of placelessness in the twentieth century. The modern infrastructures of the airport, railway, and roads were seen to cut across the landscape, generating feelings of placelessness. In the mid 1990s, French anthropologist Marc Augé developed a similar argument in his book *Non Places* (1995). Augé argued that ‘nonplaces’ were characteristic of an era of ‘supermodernity’, with an excess of information, increasingly mediated social relations, a shrinkage of space, and people becoming increasingly closed off to the world. Nonplaces were seen to be fairly generic ubiquitous spaces of detachment and solitariness, and common examples include spaces of mobility such as motorways, airports, and hotel lobbies, as well as other spaces of modern consumption and circulation, like shopping centers, theme parks, and industrial estates. But the questions to ask here are: is it useful to approach such environments as nonplaces or as placeless? And do we need to delineate a new species of place – especially a negative term, that is, nonplace – to account for people’s experiences or engagements when moving through such environments? Social scientists, including geographers, have mixed opinions on the usefulness of these terms. On the one hand, Augé and others do appear to articulate or refract the somewhat unreflexive and distracted ways in which some travelers move through such spaces, paying little attention to environments they inhabit and traverse, and forgetting their actions. Modern spaces of mobility are frequently designed to facilitate such journeys and transactions, and our familiarity with such environments

and modes of travel brings about shifts in our senses of being and dwelling in travel, and shifts in the spatialities and phenomenologies of inhabiting and moving. On the other hand, a broad range of other academics have asserted that people inhabit such spaces in a diverse array of ways, and airports, motorways, and shopping centers are highly variegated, politicized, and policed spaces. Airports may be occupied by regular business travelers who reflect very little on their surroundings, but they are also inhabited by thousands of workers, first time travelers, and a not insignificant number of homeless people who authorities frequently attempt to exclude from such spaces.

Experiences of distraction, boredom, solitariness, and detachment are characteristics of all manner of environments and the production of many different places, despite the globalization and standardization of architectural styles and the fact that a large proportion of travelers may not actually reflect on or remember their surroundings. People may feel isolated or bored at home, at work, or in picturesque villages (which are frequently upheld as the archetypal, meaningful social place). What’s more, while spaces of mobility may appear to be asocial environments where people rarely converse with one another, and where there is little sense of community, academics such as Marc Augé operate with rather narrow and conservative definitions of both ‘the social’ and ‘place’, overlooking the ways in which different mobilities may be conceptualized and enacted as practices of connection, and the importance of all manner of material technologies in social relations. Mobile telephones, letters, e mails, light houses, or indeed car horns, wing mirrors, and indicator lights, are integral to the social relations and communications of mobile actors, and mobilities are produced and performed through an array of more or less transitory, individualized and embodied social relations and associations with these and other things.

As an array of geographers such as Tim Cresswell, Kevin Hetherington, Doreen Massey, and Nigel Thrift have suggested, we need to rework our definitions of place, taking account of complex spatialities and temporalities, and the ongoing mobilities of people, nonhuman things, and information into and out of places. Rather than thinking of places as fixed, rooted, frozen in time and space, and closed off to the world, we need to think of places as relational, open to the world, and ‘in process’. Places are constantly performed through the ‘gathering’ of materials and movements. It is useful, here, not just to think of ‘places’ as concretized ‘nouns’ or ‘things’, but to think about the ongoing, incessant ‘placing’ of the world, and the processes which lead to the emergence of both highly reflexive and mundane/backgrounded attachments, associations, and significations. An understanding of different mobilities and

mobile processes can therefore highlight the importance of conceptualizing place as a noun and a verb. Places are continually undergoing processes of ‘placing’ and the same could be said of landscapes.

### Landscape and Mobility

Landscape, mobility, and movement are closely, if subtly, entwined. Landscapes change, viewpoints shift, and people inhabit and move through their surroundings in different ways. Throughout the long history of esthetic engagements with – and commentaries on and in – the landscape, writers, landscape gardeners, painters, film makers, and academics have, to varying extents, taken seriously the ways in which people move through particular landscapes. Landscape designers have accounted for the viewpoints and esthetic experiences of those who walk or drive through landscapes. Artists, too, have engaged with the embodied movements and esthetic sensibilities of the mobile viewer, developing particular techniques for reflecting or expressing the dynamism and movement associated with particular landscape perspectives. J. M. W. Turner’s atmospheric landscapes, Giacomo Balla’s abstract futurist paintings of passing motor cars, Laszlo Moholy Nagy’s experimental color traffic photographs, and Julian Opie’s video installations of British motorways, to mention four quite different examples, use a range of artistic mediums and strategies to refract different senses of movement in the landscape. J. B. Jackson’s writings on America’s vernacular landscapes reflect a similar sensibility, as he attempted to articulate the viewpoint of the mobile observer who traversed the landscape by car, truck, or motorcycle. This genealogy of sensibilities to mobility, and the difference that mobilities make to understanding and encountering landscapes, is complex and varied, and in the past decade or so academics have advanced similar arguments in suggesting how geographers, anthropologists, and others should approach and theorize landscape. During the cultural turn of the 1980s, geographers writing about landscape drew increasingly upon techniques such as iconography and textual analysis, engaging with debates in the disciplines of art history, anthropology, literary studies, history, and cultural studies. Landscape was approached by geographers such as Denis Cosgrove and Stephen Daniels as being represented or textualized in different media and materials, and bound up with particular visual cultures and ways of seeing. They rarely interpreted landscape as being fixed or static (although they were often accused of this), and their work frequently articulated the ways in which people moved through the landscape, and how landscape representations were produced, circulated, encountered, recognized, and consumed in particular settings. Nevertheless, since the early 1990s anthropologists and archaeologists

such as Barbara Bender, Tim Ingold, and Christopher Tilly have drawn upon phenomenological writings in an attempt to move away from a focus on representations of landscape. It has been stressed that landscapes are not ‘static representations’ but are in process, in movement, and in a state of becoming. In their attempts to comprehend particular fieldwork encounters they have focused on the diverse ways people dwell in, inhabit, and move through (especially walk through) the landscape. More recently, geographers such as John Wylie have examined the performative and affective dimensions of walking through the landscape, and throughout these academic engagements it is suggested that reflective accounts of our embodied mobilities provide more satisfactory non representational or processual ways of apprehending the ongoing constitution of both self and landscape. As with writings on place, then, academics are increasingly suggesting that we should approach landscapes as open and produced through particular mobilities and movements, paying attention to the embodied mobilities by which we inhabit, traverse, and view the landscape. As art historian W. J. T. Mitchell has suggested, we should consider landscape as a verb rather than (or as well as) a noun.

### Travel and Transport

Geographers have held a long standing fascination with travel, and the history of the discipline is closely entwined with histories of travel and exploration. The majority of British undergraduate geography students will go on a field class and undertake fieldwork during their degrees, and physical or imaginative travel to other places appears to be a central concern of many geographers. As geographers have developed an increasing interest in the representational practices and embodied mobilities of their own discipline, so they also have been paying increasing attention to the social and cultural geographies of travel, travel writing, tourism, and transportation. Geographers have examined the imaginative geographies which are refracted and produced through travel writing, the geographies associated with different cultures of exploration, and they have developed a sustained interest in the environmental, social, economic, and cultural dimensions of tourism. This section provides a slightly different focus, examining the social and cultural geographies of transportation, and particularly the increasing attention paid by geographers and social scientists to ‘automobilities’, and the geographies of the car and road.

### Transport, Society, and Space

Transportation forms part of many people’s daily lives, whether we travel by motor car, bus, train, airplane,

bicycle, foot, or consume commodities which have been moved by such methods. The past few centuries have seen massive changes in the capacity of many people to travel and communicate across great distances. In addition to the expansion of modern communications technologies such as the postal system, telegraph, telephone, and satellite technologies, the expansion of railway networks, the rise of the private motor car, and the growth of airline travel has helped to transform perceptions of space, time, speed, and distance. In Britain, improvements in coaching technologies and roads helped to increase stage coach speeds in the late eighteenth and early nineteenth centuries, while the railway construction boom of the 1830s and 1840s led to a massive reduction in journey times, and the emergence of distinctly new experiences and geographies. Britain's railway companies were among the nation's largest employers in the nineteenth century, and they facilitated the mobility of passengers and important commodities. The railways brought a new technology and vast engineering and architectural structures into Britain's rural and urban landscapes. Some found these spaces and technologies exciting, others found them frightening, while many first class passengers found the public nature of this mass mode of transport depersonalizing and at times embarrassing – as they were unaccustomed to sharing compartments with strangers. In an era characterized by locally measured clock time, the demand for accurate railway timetabling led to the adoption of a standard time across each company's network and eventually the entire nation. The railways became associated with a broader 'industrialization' of space and time, while the speed of railway travel led to the emergence of new ways of looking at the passing landscape which Wolfgang Schivelbusch has termed 'panoramic perception': where landscapes lose their depth, and passengers are forced to look or glance differently at the evanescent scenes scrolling by.

Transport technologies have had a significant impact on the geographies of work, leisure, and homelife. As urban areas have expanded so new forms of public transport such as the horse drawn tram and bus, electric tram, electric railways, underground railways, and motor bus have helped to speed up urban travel times, making it more practical and less onerous to commute to work. As Greater London expanded in the early twentieth century so the new deep level electric underground railway companies attempted to generate new business by promoting suburban and country living and the ease and economy of commuting. This was a time when an increasing number of people from urban areas were discovering rural areas, and this discovery was facilitated through increases in leisure time, and increasing numbers of tour guides. It also reflected the increasing popularity of walking, bicycling, train excursions, and (later)

motoring. As urban areas expanded so railway and bus companies extended their networks out toward villages surrounding large cities such as London, facilitating travel across greater distances for leisure and business. Of course, it would be too simplistic to suggest that new transport technologies caused urban expansion or vice versa, but the close alignment of urban and transport expansion, and the new forms of urban and suburban development which arose in the twentieth century, fueled accounts which suggested that mobility and movement were threats to the particularities of place. The movements of cars, people, and commodities, to name three examples, have variously been seen to erode local distinctiveness, community cohesion, senses of place, and to generate feelings of placelessness. As suggested in the previous section on mobility, place, and landscape, such accounts are overly simplistic.

It is not only urban geographies which have been closely aligned with changes in transport technologies. The growth of railway travel, bicycling, and car travel have had far reaching effects on rural areas, positive and negative. At a very different scale, the geographies of empire have long been entwined with the geographies of transportation, from shipping and railways, to the motor car and air travel. New transport technologies facilitated the weaving together of empires, and such things as railway networks and modern roads have variously been seen to be essential to the governance, policing, and development of colonies. Shipping technologies were central to the geographies of colonial conquest, expansion, and trade, and they facilitated the forging of the 'Atlantic geographies' mentioned earlier, and the transportation of both voluntary and involuntary imperial travelers. Enslaved Africans faced the possibility of death and serious illness in the horrific conditions onboard ships traversing the 'middle passage' between Africa and the Americas. In the later nineteenth and early twentieth centuries shipping companies such as British India and P&O (Peninsular and Oriental Steam Navigation Company) transported mail, goods, and more fortunate imperial travelers between Britain and its empire. In the 1890s and early 1900s leisure cruises were becoming increasingly popular, while after World War I, P&O and other companies actively promoted their services to the thousands of hopeful emigrants seeking new lives in countries such as Australia.

In the 1920s and 1930s, commercial airlines like Britain's Imperial Airways and Dutch company KLM developed air routes linking their respective home nations with their empires, and with the growth in mass long distance air travel from the 1960s we see the rise of new Atlantic, Pacific, and global geographies. The growth in air travel has given rise to new geographies and geographical imaginations, altering people's perceptions of distance, and more recently becoming enmeshed in debates about

emissions/global warming and terrorism. Western academics, students, or members of the public tend to take their mobilities for granted. We inhabit a variety of spaces of travel, transport, and mobility on a more or less regular basis, and we may not inhabit such spaces with any great excitement. We may see particular modes of transport as merely functional, as delivering us from A to B, and we may not reflect on the geographies or spatialities of our movements. Nevertheless, an understanding of the mobilities and transportation of a range of people, ideas, and things is integral to our understanding of the geographies of many more seemingly stable processes and fixed locations. Mobility and stasis, fixity and fluidity, are relative, relational, and variegated conceptions.

New transport and communication technologies are aiding the development of new practices and forms of mobility, but it is important not only to remember that many people do not have access to new technologies and forms of mobility, but that many older forms of mobility and communication are still widely practiced (including the postal service, train travel, walking, and cycling). Walking is still a vital form of mobility for the vast majority of people, not only on a micro scale ‘in all societies’ (moving around the house, workplace, the local neighborhood), but for those without access to private cars or public transport in Western and non Western societies. In rural Africa the vast majority of trips are undertaken locally on foot, while many of those completed for domestic purposes – such as collecting water, fuel, and food – are carried out by women. Feminist scholars have undertaken extensive research on the gendering of such mobilities, exploring the embodied practices of women, the gendering of metaphors of mobility, gender differences in experiences of mobility, differentiated patterns of access, and much more.

### **Automobilities, or the Geographies of the Car**

Transport is big business, and particular modes have attracted detailed attention from economists and environmentalists. Transport economists, engineers, psychologists, architects, and transport geographers have attempted to understand, model, and facilitate the movement of people and goods through transport networks, but it is only more recently that sociologists have begun to pay attention to the more qualitative social dimensions of transport and travel. One key literature has been the critical writings which have emerged on ‘automobilities’, and specifically the sociologies of the car and driving.

Economic geographers, transport geographers, and environmental geographers have a fairly long standing interest in the motor car. They have traced the shift from Fordist to post Fordist modes of production. They have modeled the flows of motor cars along roads, and they have traced the growth in motor car ownership and use.

Geographers have long recognized that motor vehicles matter to environmental geographies, and yet social and cultural geographers, along with sociologists, have arrived somewhat late in examining the social relations and practices surrounding one of the most significant material objects in the lives of several billion people worldwide. Cars and other motor vehicles matter, not just because of their resource use, emissions, production innovations, or significance as globalized commodities. Cars also matter in our social lives and cultural relations, and for over a century they have been enmeshed in complex globalized, nationalized, localized, gendered, sexualized, and racialized discourses of identity formation, desire, exclusion, and stereotyping. Indeed, one would argue that if environmentalists, politicians, and economists want to understand why many people appear to have an unrelenting addiction to driving and attachment to their cars, it is vital that they take seriously the embodied practices, social relations, ontological formulations, spatialities, and discourses of rights which are enacted when driving or owning cars.

Social scientists have been paying increasing attention to the complex and variegated social relations associated with driving and the spaces of the road. Sociologists have stressed that although motor vehicles appear to provide an unrivaled capacity to facilitate autonomous mobility (or automobility), a driver’s movements are contingent upon an extensive network of actors responsible for manufacturing, servicing, fueling, and regulating vehicles, as well as planning, constructing, and maintaining roads. Motor vehicles appear to be popular and unrivaled because they combine a sense of autonomous and independent mobility, with feelings of privacy, power, and speed. When stepping into their vehicles humans become something else, and a number of sociologists have examined how car drivers are somewhat hybrid or cyborg figures, whose movements, spatialities, and very being emerges through the joint action of people in cars. What’s more, when they are fully trained, gain confidence, and have become familiar with their vehicles, drivers perform the act of driving in relatively automatic, unconscious, unreflexive ways. As with actions such as typing, drivers appear to embody their driving knowledge and skills and perform these actions in relatively unthinking and effortless ways, while the very process of driving gives rise to detached engagements with one’s surroundings and a perpetual forgetting of one’s actions and movements through the landscape. Driving entails rather disengaged, distracted, or unreflexive modes of attention. And yet despite this somewhat detached involvement, a broad range of academics have shown how driving entails significant affective engagements, producing distinctive emotional geographies associated with intense feelings of anger, excitement, and fear. The design of motor vehicles creates limits to how drivers can express their intentions

and emotions, and drivers often get frustrated or angry at the apparent obliviousness, deafness, or blindness of other motorists to their actions and feelings.

The emergence of hybrid beings and ontological formations such as the car driver is intimately associated with the distinctive spatialities of the car, road, and driving. Drivers must develop an awareness of what is going on inside, alongside, in front of, and behind their vehicle, judging the width of their vehicle, its capacity to break and accelerate, glancing in mirrors, and expressing their intentions using indicator lights. Drivers simultaneously inhabit the public and private realm, occupying a personalized and privatized space (often infused with the personal soundscape of one's music collection), while at the same time traversing the public highways and engaging in actions which have major consequences to oneself and others. Motor vehicles have had a major impact on the geographies and sociologies of the road, for with the domination of many urban roads by petrol and diesel driven vehicles, other road users such as pedestrians, cyclists, and indeed animals have gradually been forced on to the verge or specially constructed pavements/sidewalks. Organizations such as the British anti car group Reclaim the Streets have argued that this results in the privatization of an important public space. Indeed, urban geographers and sociologists are beginning to recognize that mobilities more generally, and cars in particular, are a fundamental part of the life (and, perhaps, death, in the case of cars) of cities, with the flow of all manner of things across their boundaries. We often encounter cities when moving through them – at, below, or above ground level. We engage with buildings kinesthetically and visually through our everyday mobilities: walking through buildings and driving past landmarks. The proximity of homes or office sites to underground stations or major roads can impact upon their value or perceived development potential. Think about the strategic location of billboards at major road junctions, or the impact of the diagrammatic plan of London's tube network upon people's imaginations of that city. Different mobilities are fundamental to how cities function, and how they are encountered as vibrant, energetic, exciting, congested, polluted, or scary places.

In the past, academics have attempted to discern globalized patterns in the consumption of cars, but there are distinctively localized and nationalized geographies to the consumption of vehicles and the spaces of the road. Anthropologists, sociologists, and geographers have shown how people drive, inhabit, and consume their vehicles differently in different societies and cultures. For example, the Pitjantjatjara aboriginal peoples of South Australia have incorporated cars into their material culture and cultural practices in specific ways, using, valuing, exchanging, abandoning, recycling, and navigating them in ways that may appear unfamiliar to Western observers.

Cars, as material objects and spaces, become embroiled in highly distinctive social relations, rituals, and practices of mobility and consumption.

Social scientists may have been rather slow in examining the multifarious ways in which cars have become embroiled in our lives, but commercial organizations and cultural commentators have long recognized the significance of the motor car in our cultural lives. Novelists, playwrights, photographers, artists, pop musicians, film makers, and toy manufacturers have engaged with humanity's fascination with driving and cars. Hundreds of films (some of which may be classified as road movies) have explored the activities of driving and the consequences of automobilities. In literature, writers have explored the automotive passions that are expressed by a wide range of fictional characters, from the reckless aristocratic Toad in Kenneth Grahame's *The Wind in the Willows* (1908), to James Ballard and Vaughan searching for their next car crash in J. G. Ballard's *Crash* (1973). As these different examples highlight, motor vehicles (especially cars) are enmeshed in our worlds in multiple ways, giving rise to economic, social, cultural, political, and environmental impacts and effects.

## Conclusions

Mobility and movement are a fundamental part of our ongoing engagements with the world, and these mobilities are being explored by academics working across the humanities and social sciences, as well as the physical, natural, and medical sciences. Human geographers have held a long standing interest in different mobilities, focusing on geographical patterns of migration, transportation, and tourism, but in the last decade or so there has been a resurgence of writings on mobility in human geography and across the social sciences. With the increasing purchase of anti essentialist, post structuralist thinking, participative and performative methods, and the emergence of an interdisciplinary interest in themes such as globalization, transnational migration, diasporic cultures, communication technologies, and the geographies of the car and airport, so the topic of mobility has assumed a more prominent position in a wide range of international, interdisciplinary debates and agendas. Mobilities have been celebrated for their transgressive potential, but social scientists have argued that we must not see a language of mobility, flux, and movement as a simple solution to overcome sedentarist thinking. Instead, we should attempt to reveal the complex politics of mobility, examining how different mobilities are produced, practiced, and regulated. Mobilities and materialities are closely entwined, and mobilities rework places and landscapes on an ongoing and incessant basis. Mobilities are important to human geography and our human geographies, and the flows,

circulation, and mobilities of all manner of things will no doubt appear and reappear throughout this encyclopedia.

See *also*: Distance; Fluidity-Fixity; Landscape; Migration; Migration, Historical Geographies of; Non-Representational Theory/Non-Representational Geographies; Place; Tourism; Trade, Transport and Communications, Historical Geographies of; Transport and Social Exclusion; Travel and Travel-Writing.

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# Mobility, History of Everyday

C. G. Pooley, Lancaster University, Lancaster, UK

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## Glossary

**Automobility** The dominance of the motor car in twenty-first-century society, not only for transport, but also as a social, economic, and cultural icon.

**Everyday Mobility** The routine journeys that most people undertake on a daily basis, including travel to school, to work, to shop to visit friends, and for leisure.

**Mobility Transition** The notion that all countries will move through a transition from low to high levels of daily mobility and residential migration, in parallel with changes in the demographic transition.

**New Mobility Paradigm** The concept that in twenty-first-century Britain mobility has itself become a significant activity rather than simply a means to travel from place to place.

**Path Dependency** The concept that certain key technological, institutional, or other developments have long-lasting effects shaping later developments and hindering further innovation.

**Space-Time Pathways** The ways in which individuals tend to travel over specific routes, regulated by external constraints, and often mutually interdependent.

**Virtual Mobility** The concept that development of the Internet, mobile phones, and related mobile communications allow people to interact and be 'mobile' without physical movement or face-to-face contact.

## Definitions

Mobility is central to almost all activities and few people do not engage in some aspects of everyday mobility. In all parts of the world, children travel to school; adults commute to work; most people travel to visit friends and relatives, to shop, to participate in sports or entertainments, or to go on a holiday. Most of the time such movements are a taken for granted part of everyday life but, possibly for this reason, the history of everyday mobility has received much less attention than other aspects of population movement such as long distance migration. However, it can be argued that everyday mobility should not be viewed as a distinct activity, separate from residential migration, but rather as part of a mobility continuum that ranges from short distance everyday moves to international migration and virtual mobilities (Figure 1). Moreover, it can also be suggested that there is increasing interaction, and blurring of distinctions, between these different types of mobility. Thus,

for instance, greater mobility opportunities in the twentieth century allowed at least some people to exchange commuting for residential migration, as they preferred to travel longer on a daily basis rather than move to a house closer to work. In the later twentieth century residential migration to live in a desired school catchment, thus influencing the journey to school, has also been common in some locations. In both the past and the present, some people effectively live in two (or more) places and thus the concept of 'home', and the journey from home to work, becomes indistinct. For instance, seasonal migrants may live and work in a variety of places; students live in the parental home and at college; and children whose parents live apart may have different homes, and hence different journeys to school, depending on which parent

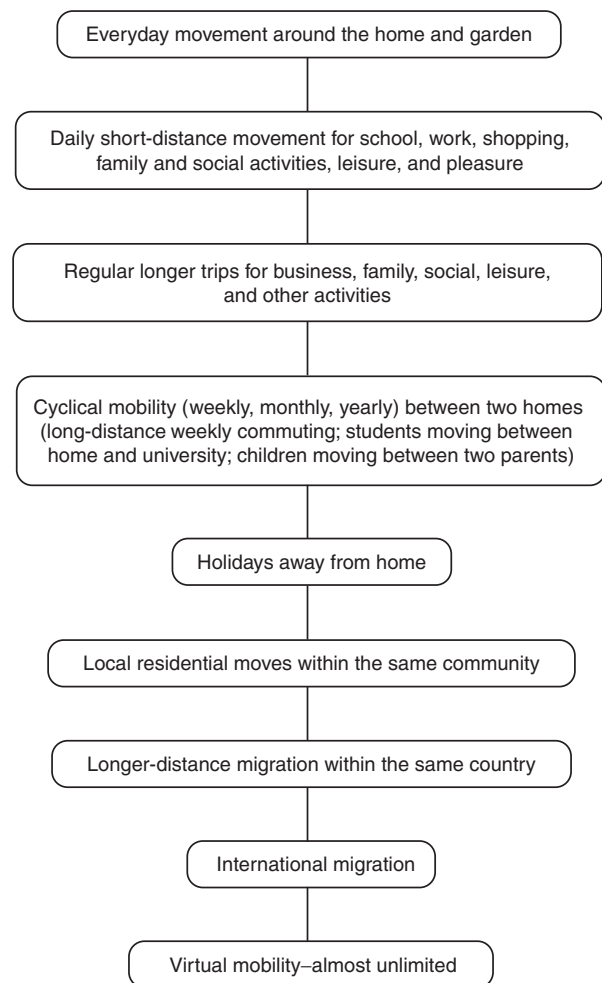


Figure 1 The mobility continuum.

they are living with at the time. In addition, in the twenty first century many activities that previously required mobility can now be undertaken without leaving the computer on your desk. Thus, virtual mobility allows contact with relatives on the other side of the world, the purchase of goods on line, and the acquisition of information that previously would have required a visit to a library. In these senses concepts of mobility are mutable and everyday mobility should be seen as part of a much larger set of interacting processes.

### Why Is Mobility Important?

At its most basic everyday mobility is the process that allows society, economy, and family life to function. It is the glue that holds everything together. In this sense neither its significance, nor its relevance to human geography, need further justification. However, it can also be suggested that mobility has a number of costs which further increase the significance of everyday travel beyond its role as a process that allows society to function. At least five sets of mobility costs can be identified (Figure 2). Everyday mobility imposes costs on individuals in terms of the time spent traveling, the implications of this for personal health and well being (through, for instance, stress and exposure to pollution), and the consequences of disrupted family routines with often complicated arrangements for child care or meals. High levels of mobility also impose costs on society, culture, and economy. The economic costs may be seen in loss of effective working time due to long commuting journeys, or in impacts on healthcare provision through work related stress. Lack of leisure time may impact on both individual quality of life and societal cohesion as people feel unable to participate in neighborhood activities. The environmental costs of mobility are obvious, especially in car dominated cultures with high

levels of congestion and pollution, while governments have to deal with the political costs through impacts on the exchequer and the electoral costs of transport planning decisions that may be unpopular with some. For instance, restrictions on motor vehicles may please environmentalists but anger many individual motorists. Thus, it can be suggested that everyday mobility, however and wherever it is undertaken, is likely to not only have significant impacts on and relevance to individuals and their families, but also wider implications for governments and other institutions that seek to regulate, in various ways, aspects of the economy, society, and environment.

### Theorizing Mobility

Traditionally, studies of mobility have operated within quite confined disciplinary spaces. For instance, research on the engineering and technological aspects of travel and transport has rarely interacted directly with cultural and sociological studies of travel behaviors. Geographers have contributed to this debate only at the margins, focusing principally on mobility as a spatial process, and with more interest in the implications of movement rather than in travel itself. In recent years, however, these barriers have begun to disappear and there has been increasingly fruitful interaction between mobility researchers from a variety of disciplines. This section highlights just a selection of the approaches that have been used. Much research on mobility emphasizes change: that levels of mobility – not only of people but also of goods, services, ideas, and information – have increased dramatically over the past few decades and that there is an almost inevitable link between increased mobility and high levels of economic development. As long ago as 1971, the American geographer Wilbur Zelinsky encapsulated some of these ideas in his ‘Hypothesis of the mobility transition’ which argued that as societies ‘modernized’, they experienced higher levels of both residential migration and population circulation (everyday mobility). In common with other stage models of ‘development’, Zelinsky’s ideas have attracted much criticism, but this assumption of almost inevitable change toward ever higher levels of mobility (sometimes termed hypermobility) remains both pervasive and persuasive. Geographers have also contributed significantly to mobility studies through their work on space and time. In the 1970s, the Swedish geographer Torsten Hägerstrand developed his influential ideas about space–time pathways, and such ideas have remained especially influential in studies of space, place, and mobility. More recent research on mobility in geography has drawn heavily on theories developed in sociology and cultural studies. For instance, the works of Bourdieu and de Certeau have been used to explore the ways in which everyday

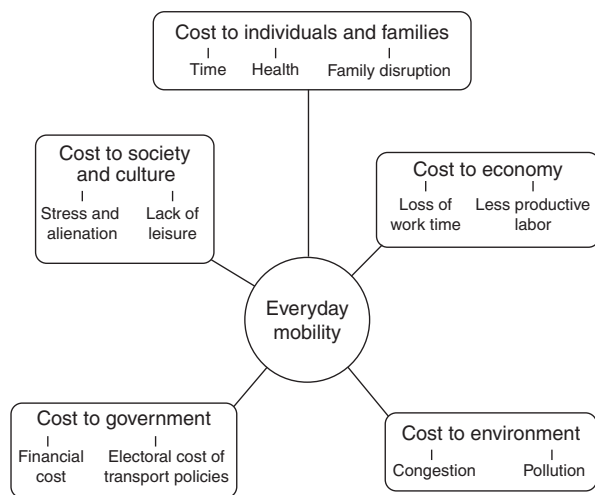


Figure 2 The significance of everyday mobility.

mobility links to performativity. Every time we step outside our front door, we consider how we look, and how we might be viewed, and thus commonplace journeys can become a performance that is embedded in everyday life.

While much research on transport has utilized an engineering approach, focusing on technological solutions and modal splits, mobility researchers have focused mainly on the ways in which particular technologies, especially the motor car, have achieved dominance leading to cultures of 'automobility'. Concepts of path dependency have been used to explain how and why the automobile became such a dominant feature of twentieth century travel, with increasing emphasis not only on the environmental consequences of car dependence, but also on the cultural implications as the automobile itself becomes a symbol of social life. For instance, it has been argued that the car has become much more than a means of transport, and is now a possession and space that can be personalized and utilized to make statements about the self. Mobility researchers have also engaged directly with discourses on risk. It can be argued that high levels of mobility contribute to perceptions of risk at a variety of levels. These range from the environmental damage done by emissions from cars, planes, and other modes of transport to research on individual and societal perceptions of risk that have increasingly restricted mobility for some groups that are perceived as vulnerable. Thus, despite increased mobility opportunities, it is argued that young children find their freedom of movement more restricted than in the past. It has been suggested by John Urry that, in the twenty first century, mobility is at the core of society and he posits a 'new mobility paradigm' which suggests that rather than travel being a means to an end, mobility has itself become the significant activity. Travel itself (for instance going for a car ride) can be a leisure pursuit; many people use travel time to work productively; and new mobile communications enable people to continue most everyday activities while on the move. Moreover, virtual space allows people to 'travel' without actually moving. Thus, functional and symbolic aspects of corporeal travel and mobility activities become increasingly intertwined, with mobility (either physical or virtual) central to this process. Although none of these trends are entirely new, it is usually argued that all have increased markedly over the last century and with a notable acceleration from the late twentieth century.

### **Global Geographies of Mobility**

It is usually argued that globalization has made distant places more similar and has led to the dominance of Western cultures and technologies around the globe. What, then, are the implications of globalization for mobility experiences in different parts of the world? Certainly, there

are clear global influences. The automobile is increasingly dominant and desired in all parts of the world, mobility potential has undoubtedly increased almost everywhere, the environmental implications of, especially, increased air travel certainly have global implications, and new mobile communications are available in all parts of the world. However, it can be suggested that there are two factors that may mediate these trends. First, in the context of everyday mobility – rather than, for instance, long distance migration – it can be suggested that processes of globalization and technological change have rather less significance. For most people, in most societies and at most times in at least the recent past, the majority of everyday activities are undertaken close to home and do not require sophisticated or new forms of mobility. For instance, in twenty first century Europe and Africa, most young children attend a school relatively close to their home and, even in a car dependent country such as Britain, walking remains the single most important means of traveling to school for primary school children. Longer distance trips remain relatively rare and, even in rich European countries, most people will only use air travel once or twice a year (and some never fly). Thus, it can be suggested that for everyday mobility there are fewer inherent differences over time and space than (for example) with regard to residential migration, and thus globalization processes have had less opportunity to generate change. Second, it can be argued that despite globalization trends there remain massive global inequalities in access to everyday transport. While it is assumed that in the West most people can gain access to a car if they wish (though some may choose not to for a variety of reasons), in many poorer parts of the world the automobile, although often privileged by planners, remains accessible to only a tiny minority of the population. Throughout much of Africa and parts of Asia and South America, the usual means of travel for most people are on foot, by bicycle or on public transport. The degree to which globalized and Westernized forms of travel have become truly universal should not be overstated, and there is little evidence that these inequalities in the global geography of everyday travel are going to change rapidly.

### **Change Over Time**

Generalization about long term changes in everyday travel is difficult due to a lack of detailed data. Because everyday mobility is usually viewed as a mundane activity, and because it has relatively few long term impacts, it has rarely been systematically recorded even in rich countries of the world. Apart from in the recent past, statistics for all countries are hard to find and rarely reliable. More usefully, it is suggested that the history of everyday travel can be conceived as passing through four phases that represent different approaches to mobility. These are not meant to

be 'developmental' in the conventional sense, and there is certainly no suggestion that all countries will encounter all stages, or that they will necessarily follow a particular order. They are arranged in a broad chronology that fits with the history of everyday travel for most people in many developed countries of the world, but in most times and places more than one phase could occur concurrently as different people had varied mobility experiences.

For much of human history, everyday transport has been organic, based on human and animal power. In many poorer parts of the world walking, horses or oxen still provide much everyday transport. During the second half of the nineteenth century in Europe, relatively low technology forms of transport (trains, trams, buses, and bicycles) became progressively more widespread, but due to cost constraints were only rarely utilized by the poor. Faster and more private forms of transport (especially cars) remained the preserve of the elite. However, from the 1920s widespread use of both cycles (especially by men) and public transport was common in European cities. During the twentieth century, and especially after about 1950, a combination of wider access to existing forms of transport (especially the motor car) and increased availability of newer technologies (especially planes) increased mobility potential enormously in most rich countries of the world. However, in poorer countries, although such transport is available it remains restricted to a minority. It can be argued that we may now be entering a fourth phase of green or virtual mobility, as concerns about the environmental and resource impacts of high levels of mobility may lead both to the implementation of new technologies and/or the replacement of physical movement by virtual movement. However, although both are currently possible, as yet there is little real evidence of significant change in mobility behavior. One enduring feature of everyday travel is the relatively unchanging nature of mobility inequalities. In most time periods and most parts of the world, some can move more freely than others. In general, mobility is easiest for those on high incomes, and those living in richer countries and/or in urban areas. In most countries and time periods women have experienced more mobility disadvantage than men, while both the young and the elderly are likely to have restricted mobility. It is argued that, although there have been massive changes in transport technology, and in access to mobility opportunities, over the past century, many of the core characteristics of everyday mobility have changed relatively little.

## Modal Change

In the rich countries of the world there has been an undeniable decline in the use of walking as a means of transport. Indeed, it can be argued that one of the reasons

why pedestrians are rarely catered for in transport planning is because walking is now viewed principally as a leisure activity rather than a means of transport, and thus it is seen to be of secondary importance. Thus, in Britain personal travel on foot fell from 34.8% of all trips in 1975/76 to 23.5% in 2005, and travel to school on foot by children aged 5–10 fell from 73.5% to 49% over the same period. However, the same statistics can be viewed from another perspective. In Britain in 2005, 70% of all journeys of less than 1 mile were on foot, and one third of all travel by children was on foot. A recent survey of everyday mobility in Manchester confirmed the continued importance of walking for children's travel, with 50% of travel to school by children aged 10/11 undertaken on foot in 2002/3 compared to 76% in the 1940s. It can thus be argued that, despite a decline in the absolute amount of travel undertaken on foot, walking continues to be an important mode of everyday travel. In most of the poorest countries of the world, walking remains the only available means of transport for many people in both urban and rural areas. With very low rates of car ownership, most long trips are undertaken by public transport and thus walking is usually also a secondary component of these journeys. Thus, in cities such as Dar es Salaam and Nairobi walking accounted for around 46% of all trips, and in rural areas dependence on walking even for quite long journeys is even greater. However, despite the numerical importance of travel on foot, transport policies have often mirrored those of the Western world, giving prominence to road and other transport schemes that favor the urban elite, and perpetuate mobility inequalities.

Cycling and walking are often linked together as accessible, cheap, and environmentally friendly travel modes. They also have a shared experience of marginalization by motorized transport. However, in reality cycling and walking are very different. Most importantly, whereas most people without mobility impairment can walk, a bicycle is a moderately sophisticated item of engineering that by no means all can or want to use. Indeed, it can be suggested that historically use of the bicycle has more in common with the evolution of car use than it does with walking. In Europe and America bicycles developed as leisure vehicles for the rich in the late nineteenth century, but by the early twentieth century were cheap enough to become widely used for much everyday mobility, especially by men. Thus, in Germany bicycle use peaked in the late 1920s, with the cycle accounting for 15–40% of the modal split in most German cities in the 1930s, rising to 60% in Berlin. Similarly, in Britain in the 1930s and 1940s, some 20% of journeys to work were undertaken by bicycle and the cycle was the single most important form of transport for men traveling to work. In the second half of the twentieth century, bicycle use fell dramatically in most European cities with

bikes accounting for only 5% of travel in Germany by the late 1960s, and for just 1.3% of all trips in Britain in 2005. However, in the Netherlands cycling still accounts for some 6.6% of traveler km compared to just 0.6% in the UK. In poorer countries of the world cycling has played, and to a large extent still does play, a much more significant role in urban transport. Shanghai has been cited as the cycling capital of the world, and bicycles form an important mode of transport for short to medium journeys throughout China. Indian cities also record very high rates of cycling, and the bicycle accounted for over 38% of trips in Delhi in 1999. In many ways the situation in Chinese and Indian cities is not unlike that in much of Europe in the 1920s and 1930s. Bicycles are a preferred means of transport because they are relatively cheap and allow rapid movement around a congested city. However, as in Europe, the position of cyclists is fragile. Despite low rates of car ownership, the streets of Asian cities are congested and cycling is dangerous. Moreover, cycling is often seen as an outdated mode of transport, and city planners and many cyclists themselves equate wealth and development with the acquisition of a motor cycle or car.

National statistics clearly demonstrate a decline in the use of public transport in most rich countries in the world with, over the past half century, private car traffic growing almost equally at the expense of both walking and public transport. Thus, whereas in 1966, 40.3% of all journeys in Britain were undertaken by bus or train, by 2005 this had fallen to just 8.2%. The decline in public transport use has been especially marked in the USA: although 38.8% of work trips are made on public transport systems in Europe, in the USA the figure is just 9%. In most countries the decline in public transport use has been especially marked in rural areas. Public transport plays a much larger role in everyday mobility in most poor countries of the world. This is clearly demonstrated in India. In Mumbai motorized public transport modes account for 40.9% of all travel, compared to just 9.3% by motorized private travel, and in Chennai (Tamil Nadu) 44.5% of trips are by the transit system compared to 8.8% in private motor vehicles. In contrast, in Melbourne (Australia) motorized private travel modes accounted for 73.8% of travel compared to just 7.1% by motorized public modes. However, despite the obvious importance of public transport in the cities of developing countries, it can be argued that this transport mode is facing similar pressures to those seen in the richer west. As people become more affluent then buses are deserted in favor of more comfortable taxis or, in some cases, private cars, and long established (if sometimes poorly managed) public transport systems are increasingly being threatened by Western style transport planning schemes that see fixed route systems in particular as obsolete, and which prioritize private motorized transport for a minority.

The extent to which private motor transport has come to dominate everyday mobility in almost all richer countries of the world, and in many urban areas in poorer countries, can hardly be overstated. In the USA motorized private transport accounts for 88.5% of all trips; in Australia and New Zealand it is 79.1%; in the Middle East 55.9%; Western Europe 49.7%; High Income Asia 41.6%; in Low Income Asia and Latin America around 35%; in Africa 32.3%; and in Eastern Europe 26.8%. In all areas car dependence has increased over the past few decades. Many studies have demonstrated the degree to which once a car is owned people are very reluctant not to use it. There is also a strong opposition to schemes which impose financial penalties on car use. In Britain such attitudes can be identified from about the 1950s when car use began to change from being mainly a leisure activity to an everyday means of travel to work and for other personal business. Today such attitudes are even more firmly ingrained, and are expressed in opposition to policies such as congestion charging, road pricing, and workplace parking charges. However, there is also extensive evidence that the car does not necessarily bring improved access and mobility to all, that where policies to restrict car use and to provide alternative modes of transport are put into place, the dominance of the car can be challenged without restricting personal mobility; and that increased incomes do not necessarily lead to greater vehicle use.

## **Conclusions**

It can be argued that there is a strong sense of path dependency in the history of everyday mobility. Once certain key modes of transport become established they acquire such economic, social, and cultural significance that it is very difficult to change travel behavior without dramatic intervention. This has certainly been the case with the motor vehicle where, in all parts of the world, but to varying degrees, automobility has become the dominant aspiration of most people, and provision for motor vehicles has been a major plank of transport policies. However, a historical perspective on everyday mobility also suggests some other scenarios. First, examination of changes in everyday mobility over time shows that although mobility potential has increased dramatically, and most people do undertake more long journeys than used to be the case, for many people, for most of the time, everyday travel (for instance to school or work, to shop or visit friends) is relatively short distance and repetitive. In this sense the structure of everyday travel has changed much less than might be expected. Second, where changes in travel behavior have been forced on people (for instance the withdrawal of tram systems in British cities in the 1940s), most travelers

very readily shifted to other forms of transport. Thus, it can be argued that most everyday travel remains short distance, predictable, and adaptable; and that it may be possible to reduce car dependency for short trips in urban areas without significantly altering travel behavior.

See *also*: Historical Geographies, Urban; Industry, Historical Geographies of; Mobility; Transport, Public.

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# Modern City

J. R. Gold, Oxford Brookes University, Oxford, UK

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## Glossary

**Human Ecology** The area of ecological inquiry that deals with the interactions between human beings and their environments.

**Modernism** A shared international tendency within the arts that emerged in the last decade of the nineteenth century and the first three decades of the twentieth century, which sought to express the spirit of modernity through radically different forms of representation that often challenged established practices.

**Modernity** Quality or condition of being modern, the sense of living in modern times.

**Modernization** The process of social transformation induced by the switch from agrarian to industrial modes of production.

**Urbanization** The relative growth of the population living in towns as opposed to rural areas.

## Introduction

Any use of the term ‘modern city’ needs careful definition. In one sense, it need not imply anything more than that which is current but the term often gains added potency from the epithet ‘modern’ signifying a sense of opposition. The modern city is not just that which is here and now but also something that provides a sharp contrast with what has gone before. In this sense, labeling a city as ‘modern’ reflects the fact that cities are normally the places where economic, social, and cultural innovations first appear. Most of these innovations are passing fashions that quickly fade, but others can constitute pervasive new trends that bring far reaching changes to both the city and the wider society.

Judgments about the nature and consequences of these changes reflect the attitudes that observers adopt toward ‘modernity’ – the sense of living in modern times. Some have viewed modernity in a positive light, stressing the benefits of abandoning the constraints of the past, liberating progressive thought, and fostering creativity. Others interpret modernity pessimistically, identifying emerging trends as likely to alienate the city’s residents and undermine the quality of life. Judgments about modernity, of course, can vary over time. The typical changes brought by city center reconstruction in the 1960s, for example, were overwhelmingly identified at the time as the march of progress and as bringing

much needed order to urban chaos. Two decades later, the same developments were roundly condemned for misunderstanding how cities function, as abandoning fundamental values, and as being motivated by commercial greed and bureaucratic arrogance.

This sense of ambiguity underpins both principal uses of the term modern city as it is employed here. The first sees the modern city as synonymous with the ‘industrial city’, relating the term to a period lasting from roughly the 1820s to the 1970s, in which the city was reshaped by the modernizing influences that occurred in the wake of demographic and technological change. The second sees the modern city as a late stage in the development of the industrial city, coterminous with the rise of modernism in architecture and planning and, therefore, restricted to the three decades after World War II.

## The Industrial City

Formulating an understanding of the industrial city necessarily invites comparison with its preindustrial counterpart. The latter was an outpost in a sea of rurality. Typically walled, with narrow streets and tightly packed buildings, it maintained close links with the countryside, notably through ties of landownership and by serving as a marketplace. The preindustrial city was socially stratified, with power concentrated in the hands of ruling families or occupational groups (especially guilds), who were themselves associated with long established areas (‘quarters’) of the city. Its craft economy saw trades clustered in specific quarters but there was no functional differentiation in land use, with an intermingling of houses, shops, workshops, and markets.

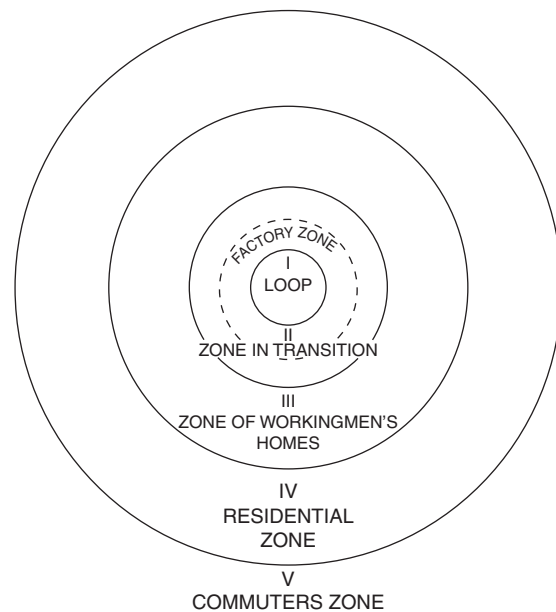
The advent of industrialization, rapid demographic increase, and urbanization (the relative growth of the population living in towns as opposed to rural areas) brought irrevocable change. The city became the prime forum for modernization – the process of social transformation induced by the switch from agrarian to industrial, especially mechanized, modes of production. The loosening of the class boundaries that typified the preindustrial city allowed new networks of social relationships, derived from occupational specialization of labor, to flourish. In these circumstances, the way of life for the working classes became dictated by the factory clock, with people taking their identity from their place in the workforce.

The interplay between quantitative and qualitative aspects of modern urban life fascinated social theorists.

City dwellers would be in contact, directly and indirectly, with thousands of other people, rather than just a few hundred as in rural society. It was believed that such increases in the scale of urban life had a profound, albeit mostly deleterious, impact on the way that people lived. The German social theorist Fernand Tönnies, for example, contrasted rural and urban lifestyles, arguing that the former was characterized by the warm primary social relationships of community (*Gemeinschaft*) and the latter by the cold, impersonal, and contractual relationships of society (*Gesellschaft*). His compatriot Georg Simmel accepted that there were positive elements to city life, particularly through removing the constraints of small town life and allowing individuals to assert their uniqueness, but expressed concern about the price of adjusting to the new environment. He argued that the slower tempo of rural society permitted unconscious and habitual behavior patterns, whereas the modern city forced people to devise conscious strategies if they were to cope with the sensory overload that resulted from the quickened pace of life. Simmel argued that this condition caused a distinct 'metropolitan personality', manifested in the detached and blasé approach that people adopted when dealing with their fellow citizens.

His ideas, in turn, influenced American social theorists, particularly Robert Park who had attended lectures that Simmel gave in Berlin in 1899. Park took the idea that individuals and groups had to adjust to come to terms with modernity although, unlike Simmel, believed that the city was also a product of nature, especially human nature. From that standpoint, Park proposed that human society might be studied using concepts analogous to those employed by ecologists when studying plant communities. Park moved to the University of Chicago in 1914, where his proposal for the study of 'human ecology' strongly influenced the approach to sociological inquiry adopted by the University of Chicago's Department of Sociology and Anthropology. The so called Chicago School of social researchers used their home city as laboratory, applying ecological concepts to fieldwork based studies of, *inter alia*, community formation, gangs, hoboes, social movements, and race relations. They recognized that distinct communities, identified by their shared social characteristics, were clustered in geographically delimited portions of the city. Following ecological theory, these were termed 'natural areas' and constituted the 'niches' which different communities occupied within the city.

The idea of natural areas served as the cornerstone for generalizations about the spatial organization that lay beneath the superficially chaotic appearance of the modern city. The most famous exposition of these principles was the concentric zone theory, developed by Edward Burgess in 1924 (Figure 1). Chicago, located on the shoreline of Lake Michigan, had steadily expanded



**Figure 1** The growth of the city. Source: Park, R. E., Burgess, E. W. and McKenzie, R. D. (1925). *The City*. 51p. Chicago: University of Chicago.

outward for over a century. Burgess interpreted that experience to propose a model of five ever expanding concentric rings. At its heart was the central business district (CBD) known in Chicago as 'the Loop', although the model was generalized to address the tendencies of any town or city to expand radially from its center. Burgess noted that Chicago's growth was fueled by the arrival of poor immigrants, who had little option but to accept cheaper housing in the run down districts close to the urban core. This area, known as the 'zone in transition', not only housed the city's transient elements and underclass, but also saw the greatest competition for land and resources due to the pressure on land caused by the growth of business and light manufacturing. As time went by, the poor could take advantage of their rising standards of living to move out to locations where housing was better and crimeless, with their place taken by newer immigrants who, like their predecessors, had to take what was on offer. Poorer areas, therefore, were located near the center and more prosperous districts near the city's periphery. Processes of change occurred through sequences of 'invasion' (the spread of a community into an area previously occupied by another) and 'succession' (the resulting changes in the composition or structure of an ecological community).

The concentric zone model showed that the modern city had an underlying sociospatial structure vital to its functioning rather than being an inchoate mass of loosely related parts. Later theorists attempted to revise and extend Burgess' formulation. In 1939, Homer Hoyt added sectoral principles (development in wedges out from the



city center), although he was more interested in the location of higher priced housing than developing general models. In 1945, Chauncy Harris and Edward Ullman suggested that cities might have multiple nuclei rather than a single center. Collectively, their ideas influenced thinking about the structure of the modern city and, indeed, excited another generation of urban theorists in the 1960s and 1970s with the rise of spatial analysis.

Nevertheless, the models had long drawn adverse comment for their Darwinistic and ecological basis, with critics arguing that they oversimplified urban land use patterns and failed to explain how natural areas formed in the first place. In addition, although belatedly realized, ecological models effectively described the past. For most US cities, the CBD had reached its peak by the late 1920s and no longer supplied the engine by which the dynamics of the commercial economy generated waves of invasion and succession. Later, the onset of deindustrialization further eroded the value of ecological models by removing other key dynamics of growth. Yet long before that time, new developments in planning and architectural practices, themselves rooted in the logic of industrialism, had arisen that appropriated the term modern city for the period of postwar development characterized by radical urban reconstruction. Those practices were rooted in the rise of modernism.

## Modernism

While there is no single consensual definition for 'modernism', it was essentially a shared international tendency that emerged within the arts in the last decade of the nineteenth century and the first three decades of the twentieth century. Manifested in the work of disparate and largely independent movements that challenged the established order, modernists sought to express the spirit of modernity, in both its optimistic and despairing modes. In terms of representation, modernism prompted a search for forms that expressed the needs and challenges of modern times against those of the past. Seen in this way, modernism was defined primarily by forms and aesthetics. These included atonality in music, abstraction in art, free verse in poetry, streams of consciousness in novels, and geometric and unadorned shapes in architecture. At another level, modernism was identifiable by the attitudes that underpinned the new representations, which included attitudes toward the past, the arts and their relationship with industry, and the conduct of everyday life. Modernism, thus, was not just a matter of painting, sculpting, or designing buildings in radical ways; it also signified that the individual artist or designer had adopted moral positions guided by the 'right spirit'.

At the outset, then, the development of modernism in general and architectural modernism in particular was

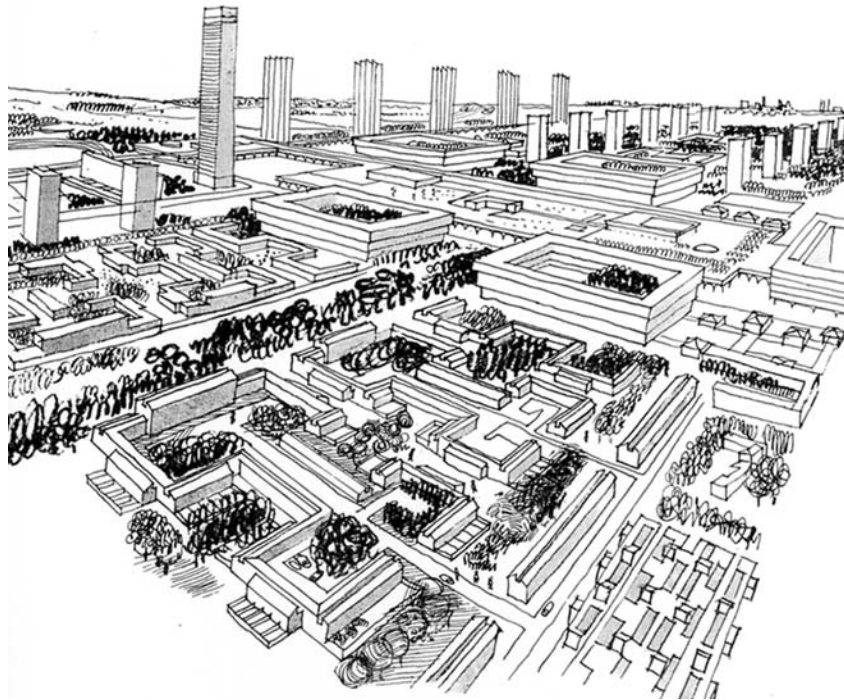
founded in critique. Modern architects rejected the conventional role of the architect as restricted to being the designer of special buildings. Rather they believed that for architecture to work, it was necessary to take a holistic view and become involved in the design of the everyday environment at all scales from interior design to the city and beyond. Modernists castigated traditional building practices for placing pursuit of style over function and for failing to take advantage of the potential of new constructional materials, such as steel, glass, and concrete. Above all, they criticized what they saw as the muddle and confusion of the industrial city, which had grown without formal plan and with minimal concern for the welfare of the working population.

Instead, architectural modernism embraced rationalist approaches toward the ordering of urban space, with development guided by comprehensive ('master') planning. Modernists celebrated the potential of industrialized building methods as offering the opportunity to remake the modern city and offer better conditions for its inhabitants. The dwelling, from this point of view, could be as precisely, quickly, and efficiently made as any manufactured product. The 'modern movement' saw architecture as responding primarily to what the building was supposed to do. In emphasizing function rather than being deflected by considerations of culture or style, modernism therefore claimed to offer principles suitable for universal application. These principles in due course would lead to visions of the modern city that combined buildings, traffic movement systems, and land use in ways quite different from anything previously attempted (**Figure 2**).

## The Making of the Modern

There were many hearths of modernism. North American cities, particularly the late nineteenth century Chicago, made their contribution. In 1885, for instance, the 'Loop' gained the first recognizable skyscraper with the completion of the ten story 'Home Insurance Building'. Designed by a local architect William LeBaron Jenney, it showed the development potential of 'iron and steel' framed structures that freed buildings from the height restrictions imposed by the load bearing strengths of conventional materials. Chicago's CBD quickly took on a pronounced vertical dimension (**Figure 3**), with the city acting as the proving ground for building forms that would later change the appearance of the downtowns of large cities throughout the world.

Another important source of influence came from the public housing estates of West European cities, particularly Rotterdam and Amsterdam in the Netherlands and Munich, Hanover, and Frankfurt in Germany. Housing was always of particular concern for modernists, with social housing programs offering the opportunity to raise



**Figure 2** Scheme for the regeneration of Boston Manor (1958). General view from the southeast. Source: *Architecture and Building*, 1958, vol. 33, p 337 (journal ceased publication in 1960, authors deceased, copyright untraceable).

the living standards of the working classes. The city of Frankfurt, for instance, created eight major housing developments between 1925 and 1929, providing 15 174 living units – roughly 11% of Frankfurt's total housing stock – primarily in peripheral estates of row housing. Designed by the Architect's Department under Ernst May, the estates were notable both for innovations in prefabricated concrete slab construction and for use of 'minimum habitation' (*Existenzminimum*) space standards to maximize the number of dwelling units created. Achieving these standards was dependent on extensive use of ingenious built-in storage, foldaway beds, and kitchen design. Around 10 000 of the dwellings, for instance, were equipped with the industrialized and ergonomic 'Frankfurt kitchen' which was intended to modernize and simplify household chores.

These and similar developments provided ingredients for the visionary city schemes produced by European modernists immediately before and after World War I. The German architects Bruno Taut (1880–1938) and Ludwig Hilberseimer (1885–1967), the Swiss architect Le Corbusier (1887–1965), Russian urban decentralists such as Nikolai A. Miliutin (1889–1942) and Mikhail Okhiovitch (1886–1937), and the Italian Futurists Antonio Sant'Elia (1888–1916) and Mario Chiattone (1891–1957) all contributed images of urban futures that responded to the opportunities made available by science and advanced technology. Their chosen designs varied profoundly in spatial organization and esthetics, but broadly



**Figure 3** Steel-framed buildings in 'the Loop', Chicago.

contributed two prototypic visions of what the future city might look like. One type exploited the potential of mass transportation, with the components of the city arranged into corridors along high speed transport lines, simultaneously offering enhanced mobility while retaining proximity to open countryside (due to the narrowness of the strips of development). The other type comprised the ‘city of towers’, in which the modern city appeared as a geometrically arranged and high density agglomeration with a pronounced vertical dimension.

Further development of these ideas came from the activities of the *Congrès Internationaux d'Architecture Moderne* (CIAM). Founded in 1928 as an international body for promoting and disseminating modern architecture, CIAM was the most important forum for discussion of ideas about modern city design in the interwar period. Its meetings and manifestoes consistently asserted the architects’ right to be involved in city planning. Although far from being harmonious or single minded, the organization promoted an analysis that saw architecture as appropriate if fit for purpose. CIAM’s approach took four elements – work, housing, transportation, and recreation – as the key functions of the city and held that the city worked best if these were allocated to separate land use zones or channels. Although this left aside the difficult question of how to deal with town centers, CIAM’s functionalist recipe appealed as a way to end the conflicts produced by mixed land use and looked to segregation of pedestrians and vehicles as a rational way to design cities for the motor age.

### **Making the Modern City**

Economic and social conditions after the war were not immediately favorable to the rapid reconstruction of the modern city. Nations that had experienced wartime destruction and the upheavals caused by mass flows of migrants necessarily prioritized resources for urgent action to renovate the urban fabric, deal with housing shortages, and repair infrastructure. In most cases it took until the late 1950s, when the immediate problems of economic austerity had receded, for policymakers to tackle the larger question of pervasive urban problems. When doing so, they could take advantage of a social consensus that favored planned and comprehensive approaches rather than piecemeal action and which saw the industrial city, once the symbol of modernity, as now associated with the failure of the old order. The ethos of the times, combined with rising standards of living and growing awareness of the challenge posed by rapidly increasing car ownership, favored urban reconstruction and modernization. The moment was therefore propitious for the spread of modernist thinking about the broad framework of the city and its various components

– workplaces, leisure facilities, city centers, hospitals and health centers, schools, universities, housing, and roads.

The first step in comprehensive redevelopment was wholesale clearance of dilapidated districts, although official definitions of ‘dilapidation’ frequently bore the hallmarks of convenience if an area of existing development stood in the way of rebuilding a town center or constructing new housing estates. Planners routinely sought to recreate urban structure by adopting principles of single land use zoning. Housing areas were conceived as ‘neighborhoods’ in which good design supposedly led to the flourishing of communal life and, particularly when dealing with social housing, gave previously deprived tenants an opportunity to experience a markedly improved standard of life. New housing estates were emblematic of the modern city, at their best providing an exciting imagery of tall buildings set in green open space – the embodiment of a ‘city in a park’ (**Figure 4**). Shortage of resources, however, frequently led to approaches that neglected the necessary provision of social and communal facilities and concentrated on producing the maximum number of dwellings at lowest cost. This was particularly the case in cities that experienced shortage of suitable land for building.

Traffic arrangements saw the introduction of traffic free precincts in association with high capacity roadways and multistory car parks. There was extensive use of vertical segregation of pedestrians and vehicles by means of flyovers, underpasses, and subways. Sensitivity to the subtleties of place was secondary to the pursuit of spatial order, often leaving major historic landmarks and buildings as isolated and forlorn islands in a sea of change. Important changes also occurred in the appearance of the built environment. Skylines became punctuated by tall buildings, with the use of modern materials and the adoption of novel building technologies contributing to a new visual vocabulary of nontraditional built forms. This affected the construction and appearance of houses, of offices, factories, transport facilities, bridges, and street furniture. Concrete became a favored building material. Official handbooks provided guidelines for landscaping, signage, and even ways of trimming trees fringing the highways.

Architects and planners, of course, rarely had a free hand to impose blueprints derived from visionary principles. In Britain, for example, town center renewal scarcely occurred before the 1960s, with the passage of time since the end of the war serving to foreclose options. To elaborate, the property boom had seen piecemeal accumulation of office blocks and partial redevelopment of high streets of many towns and cities in a manner that paid little attention to the wider needs of the town. Highway authorities, for their part, had also created roads without close coordination with plans for the built environment. In Birmingham, for instance, the city’s



**Figure 4** Flats at Alton West, Roehampton, London (LCC Architects Department, 1954–1958).

engineers pushed forward the long awaited ‘inner ring road’ in 1956–57, deliberately choosing not to adopt a plan for the central areas in case its stipulations deterred investment by the commercial sector. Instead, they sought to capitalize by offering potential developers sites along the line of the ‘ring road’. This led, for example, to the Smallbrook Ringway, one of Britain’s first urban motorways, becoming lined with continuous ribbons of offices and shops – an extraordinary negation of the principles of pedestrian–vehicle segregation so cherished within modernist circles.

This saga of insensitive road planning was not atypical, either in Britain or elsewhere. The private car was then closely associated with personal mobility and freedom of choice. A powerful coalition of politicians, planning and design professionals, and commercial interests connected with the road industry shared an ideological commitment to supply led solutions for road problems. Few challenged the prevailing view which held that, with suitable surgery, the older urban cores could accommodate modern traffic and communications flows on an indefinite basis. After all, city planners and local politicians associated such surgery with the pursuit of progress, with cities needing to change to meet the demands of the internal combustion engine. Carving urban motorways through the knotted entrails of the inner city and building high capacity ring roads ranked along with remodeling city centers and employing high rise flats as precisely the actions expected of progressive municipalities.

### The Demise of the Modern City

The confidence with which these goals were pursued would soon be severely dented by wholesale criticism. To

some extent, the critique had already emerged *before* the main phase of reconstruction occurred. In the late 1950s, Jane Jacobs, an associate editor of the *Architectural Record*, took issue with prevailing approaches to urban renewal. As outlined in her 1961 book *The Death and Life of Great American Cities*, Jacobs saw the city’s vitality threatened by a utopian and predominantly visual artistic approach to redevelopment that failed to take account of urban complexity and intensity. During the early 1960s, studies on both sides of the Atlantic made it clear that comprehensive redevelopment policies failed to take social factors into account that, in some instances, compensated for the physically blighted nature of areas earmarked for clearance. These studies made little impact at the time, but their importance was reassessed, when a raft of other problems became manifest in the late 1960s and early 1970s. City center redevelopment schemes repeatedly failed to resolve how to devise attractive town centers that gave expression to civic identity and placed narrowly defined functionality before liveability. Road developments, especially urban motorways, added to urban pollution and created impenetrable barriers within the districts they bisected. Pedestrianized precincts suffered from visual sterility and placelessness. The reputation of social housing, especially estates of tall blocks, collapsed in the face of high profile reportage of constructional, social, financial, and management problems.

Taken together, these criticisms led to the paradox of the modern city becoming a historic term. Just as the modern city *sensu lato* became superseded when processes of deindustrialization finally removed the intimate relationship between modernity and industrialism, so too did the strength of criticism directed toward modernist intervention render the modern city *sensu stricto* a thing of the past. Henceforth, commentators would have to

resort to the prefix 'post' – postmodern and postindustrial – to meet the linguistic problem of how to describe what came after the modern city.

See *also*: Urban Architecture; Urban Representation/Imagination; Urbanization.

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# Modernity

D. Linehan, University College Cork, Cork, Ireland

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## Introduction

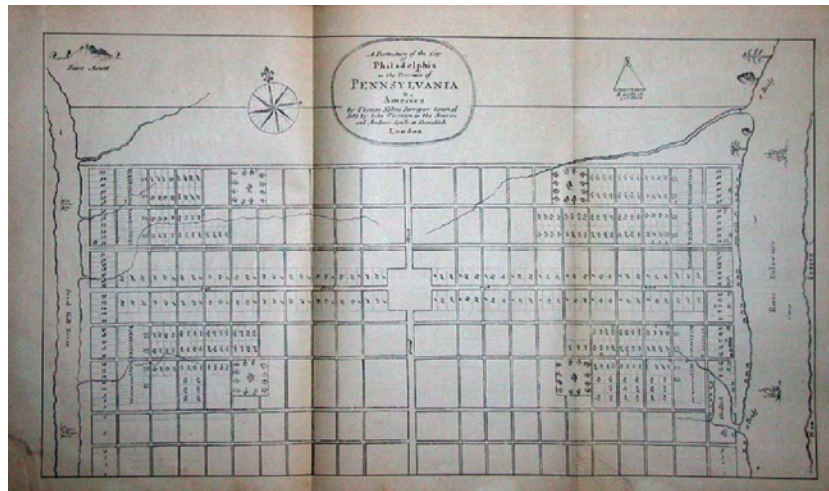
It is simply not possible to say when precisely modernity begins, but it is widely accepted that a highly articulated version of modernity emerged in Europe from the fifteenth century onward when three key developments combined to usher in a new social order. These three developments were: the expansion of scientific and humanist knowledge, the rise of capitalism, and the growth of strong centralized states. The creation of the modern world as a consequence of these developments has been intensely geographic in nature. Together with urbanization, colonialism, and globalization, modernity involved extensive contact and mixing between world cultures, the creation of new geographic divisions of labor, the constitution of new spatial relationships, and profound transformations of nature and the environments. The incremental and often contested consolidation of modernity has steadily transformed commerce, communication, and culture and altered public and private transactions in social life. Bonded together by a strong belief in progress, the relationships were mutually reinforcing and represented a powerful discourse about a new way of organizing political, economic, and social life. Although these relationships have gone through many different changes, they remain at the heart of the project of modernity. Dispersed between the foci of knowledge, capitalism, and the state, geographical thought and practices can be regarded as key agents through which modernity has been formed, coordinated, and produced. Simultaneously, the conditions created within modernity have reshaped how people perceived global relationships, imagined the environment, lived in places, and gone about organizing the economy. An appreciation of modernity from this perspective challenges the very basis upon which space and place are conceived and encourages more nuanced and 'relational' approaches to thinking about human geography.

## Modernity, Knowledge, and Geography

For many observers, the intellectual foundations of modernity lie in the transformations in the production of knowledge between the Renaissance and the Enlightenment. This historical period was characterized by the rising dominance of individualism and, in contrast to the fatalism of the medieval period, tended to promote an optimistic outlook on the potential of humankind. Based broadly upon the

rediscovery of knowledge from classical antiquity and the Arab world made during the Renaissance, the cultural and technological innovations of the Enlightenment enabled the creation of a scientific worldview that ushered in new regimes of order, progress, and rationality. The Enlightenment is sometimes portrayed as a rupture in the history of human development, following which people in the West increasingly imagined themselves in novel ways. This development established a new and powerful social imaginary whereby it was assumed that modern society was on a progressive trajectory, and through rational, scientific endeavor, was destined to transcend its limitations and rise to a higher stage of human development. In contrast to the premodern individual who may have viewed herself and the world through the lens of myth or religious belief, the modern person increasingly drew upon the tenets of humanism and science, and in time, would be asked to become more reflexive and self-conscious in outlook. This new sensibility was well reflected in the literature and art from this period onward. The rise of portraiture, the proliferation of personal diaries, or the self-conscious hero in William Shakespeare's *Hamlet* (written in 1600) who asks himself 'to be or not to be' can all be regarded as cultural artifacts generated among some of the new spaces of modernity which proliferated from this time onward – spaces such as the art gallery, the coffee house, and the theater.

Geographical ideas also changed radically during the Enlightenment, and concepts of nature, time, and space were fundamentally re-ordered and reflected strongly the impulse of modernity. The Enlightenment worldview helped naturalize the essentially representational category of geometric space as 'fact'. This awarded new powers to the abstractions of the mapmaker, the surveyor, and the architect, whose work could be used to powerfully envision the state of the world (Figure 1). Developments in geographical science, notably in new techniques and theory in navigation, surveying and mapping, became a key way to both perform and represent a modern worldview. Through, for example, the consumption of globes, atlases, or travel logs, geographical knowledge enabled literate Western individuals and societies to see themselves as modern and distinguish themselves from the so-called primitive 'others' (Figure 2). Geographical science also provided a set of techniques to plan and implement the conquest and reorganization of terrestrial resources. For instance, by calculating and measuring landholdings, topographical surveying underwrote the legal appropriation of the commons and the transformation of communal and ancestral



**Figure 1** Plan of the city of Philadelphia (1683). Devised by William Penn, this conception for Philadelphia is among the earliest examples of utopian city planning. As illustrated here, one of the most explicit expressions of Enlightenment thinking was in the use of grids to organize urban development and human settlement. Grids appeared frequently in colonial contexts, underwriting the distribution of land and urbanization in Australia, North America, and Africa.

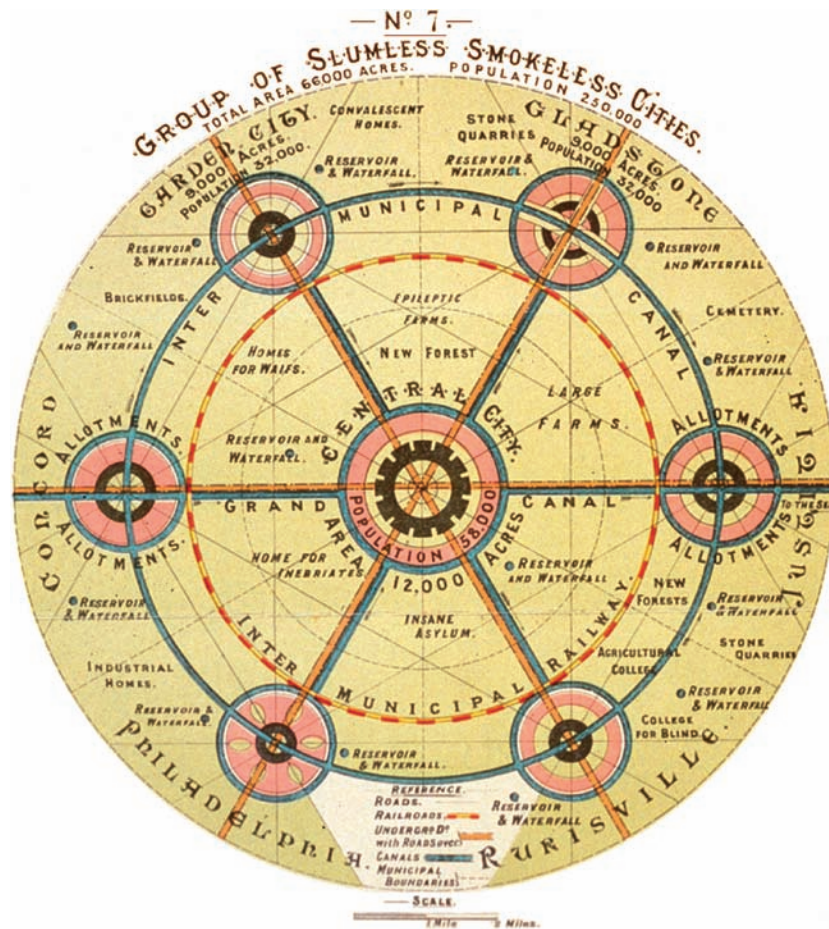


**Figure 2** One of the several large globes made for Louis XIV of France by the Italian geographer and cartographer, Vincenzo Coronelli, in 1683.

land into private property. Geographical science also enabled European exploration, moderated the risks in global sea travel, and in innumerable ways supported the appropriation of resources and peoples exploited by colonialism. In this regard, it can be said that modernity became closely associated with a spatial logic that informed the organization of resources and investment and played a key role in the distribution of land.

More broadly, within modernity, the creation and application of knowledge became instrumental to the rational

organization of society. Consequently, ideas of progress and the use of scientific knowledge were foundational attributes of most forms of planned urban transformation in the nineteenth and the twentieth centuries. From Thomas More's *Utopia* to urban plans devised by Ebenezer Howard or Le Corbusier, Enlightenment values have had an enduring effect on shaping space and society (**Figure 3**). These ideals became impressed into the planning of cities like Vienna, Paris, and Barcelona, which in the eighteenth and nineteenth centuries laid out new systems of streets,



**Figure 3** Illustration from *Garden Cities of To-Morrow* (London, 1902). Ebenezer Howard's diagrammatic illustrations of how a model garden city should be planned were always understood to be idealizations, but nevertheless, were enthralled by Enlightenment and Utopian thinking. These geometric designs embraced the problems and potential of modernity, and presented new visions of order. Howard offered a workable plan for a progressive urban society, which through spatial planning would address the alienation of human society from nature by integrating cities into the surrounding environment.

promenades, boulevards, and park networks. These new modern spaces were intended to reflect the civilized and modernized outlook of their populations and more particularly, the modernizing impulse of their political elites. The spatial signature of this progressive culture can still be seen in the symbolic cores of many European cities, such as Paris, Madrid, and St Petersburg, crowded with monumental architecture, spectacular landscapes, and progressive urban institutions such as galleries, exhibition halls, and museums, all committed to the heroic celebration of human endeavor and creativity, core humanist attributes.

However in line with the ambiguous and contradictory qualities of modernity, it has been observed that the pursuit of order has often involved profound social disruption. Modernity was often achieved with severe costs to liberty, life, and ecological sustainability. In spite of its claim to progress, modernity held within it, the seeds of barbarism. In his lectures on 'physical geography', the Enlightenment philosopher and geographer, Immanuel Kant concurred with another pillar of Enlightenment thinking, David

Hume, that white Europeans were superior in racial characteristics to Asians and Africans. Both these key thinkers declared that Africans were incapable of rational thought, cultural expression, and were to all extents 'outside humanity'. These kinds of positions embedded inside the Enlightenment project helped underwrite European arguments for the acquisition of colonial lands and ensured slavery was maintained until the mid nineteenth century as the basis for the commercial exploitation of resources in the so called 'New Worlds'. As such, the utopian promises of the Enlightenment were rarely attained. Indeed, they were often distorted, as, for example, in the 'civilizing' but more often than not, racist mission of European colonialists in Asia and Africa in the nineteenth century, or the rational but brutal organization of concentration camps during the twentieth century. Consequently, modernity – in particular, how it represented by Enlightenment thinking and its inheritors – may be understood as a duplicitous event, promising stability and progress, but often presenting a stressful, destabilizing, and precarious experience. This was



particularly the case for the peasantry, the poor, and in digenous peoples, exploited by colonialism, harmed by racism, and excluded from the comfortable orbit of bourgeois protection and social life.

### **Modernity, Capitalism, and Space**

Underwriting modern forms of knowledge was the dynamic of capitalism, which as outlined above, often instrumentalized the potential of Enlightenment thinking in the pursuit of profit and higher levels of productivity. The emergence and consolidation of capitalism led to sweeping changes in the organization of social and political life. It specifically led to the creation and destruction of markets and the social and cultural institutions that supported and thrived within these new arrangements. Many geographers have drawn upon Karl Marx's observations on the role played by new forms of production and consumption in upheaval of spatial, temporal, and social relationships (**Figure 4**). With capitalism as its engine, these conditions gradually transformed the human experience through the instrumental re-casting of nature, economy, and personal life. Capitalism thrived in the new technological and political conditions of modernity and created new ways of organizing money and credit, agriculture, work, and trade. These transformations all found profound expressions in the landscape. The transformative power of capitalist modernity is well revealed in the international development of sugar and cotton cultivation between 1600 and 1800. These developments created a vast and highly interconnected Atlantic trade, involving the systematic enslavement of millions of African peoples, who were modernized against their will by coercive discipline and forced transportation to work as slaves in vast plantations, whose construction involved the obliteration of indigenous people and the destruction of natural habitats. The wholesale disruption of social life, the oppression of the individual, and the creation of intricate geographies of dependency, inequality, and exploitation involved within such systems was regularly expressed in the histories of capitalism. Developments such as manufacturing, mining, and plantation based agriculture frequently undermined the rights of workers and the poor while simultaneously threatening or destroying the ecological sustainability of the environment to extract profit.

In addition to extraordinary impacts on localities and their communities, for Marx, the power of industrial capitalism resulted in the 'annihilation of space'. This process generally described the ways in which the spatial boundaries and obstacles to trade and travel were broken down by investment in new transportation infrastructure and communication technology. Following the development of reliable trading routes within Europe,



**Figure 4** Johannes Stradanus, detail from *Nova Reperta*, c. 1600. One of the most significant developments within modernity was the acceptance by the populace of 'standard time', whereby modernity was made tangible through the adoption of a highly regulated way of conceiving time. In England, for example, from the early 1500s, public timekeeping was widespread, with 80% of market towns serviced with a public clock. These developments, together with the eventual widespread adoption of wrist watches in the early twentieth century, literally connected new technologies of time-keeping to the body, and restructured people-conscious organizations of reality.

technological innovations with global impacts, such as the development of canals, steamships, railways, and telecommunications, made distance culturally and economically less significant. Places became increasingly interconnected, their populations more mobile, and the goods and ideas they produced and consumed increasingly integrated into extended circuits of trade, communication, and knowledge. The sociologist Anthony Giddens has noted that advances provided by such technologies redefined the meaning of geography and radically shifted the foundational basis of place. It followed that in modernity, the very meaning of 'presence' shifted and relations between those activities embedded in the locality and those of 'absent others' elsewhere increasingly shaped the nature of place and of human consciousness itself. This process ensured that social and economic relationships were lifted out of local contexts and shaped in a wider field of social relations. Thus, when Europe and America were first connected by telegraph cable in the 1860s, the Earl of Carlisle could stand on the windswept shore of the West of Ireland where the telegraph came ashore and declare: "Hitherto the inhabitants of the two worlds have associated perhaps in the chilling

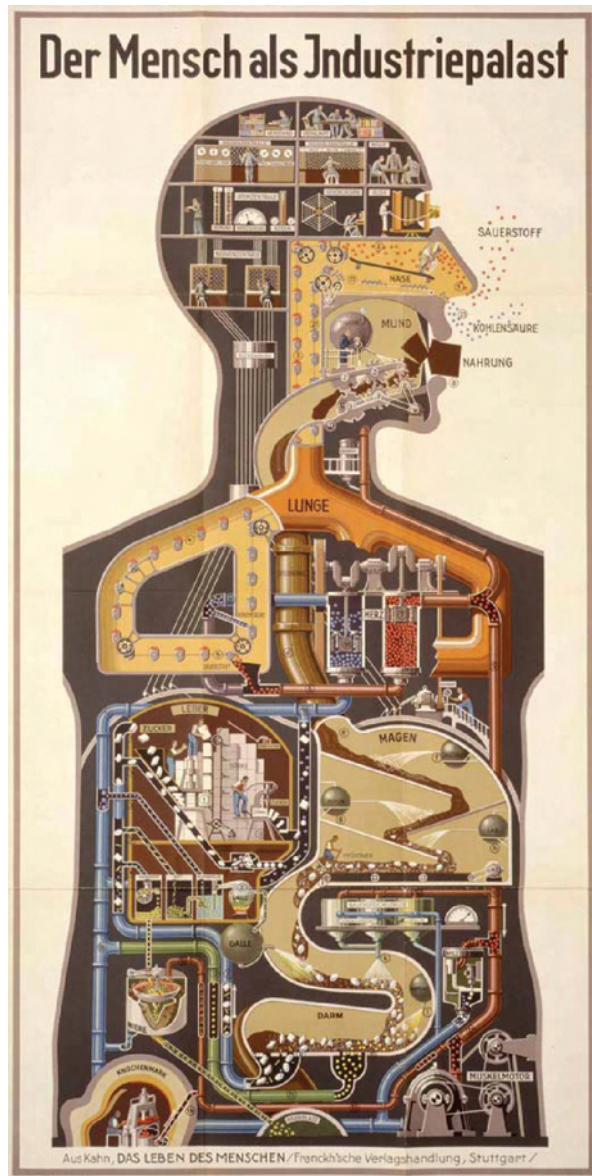
atmosphere of distance with each other – at a sort of bowing distance; but now we can be hand to hand, grasp to grasp, pulse to pulse.”

In time, cities such as Buenos Aires, Berlin, Shanghai, or Mumbai were dramatically transformed by the extraordinary power of industrial capitalism and the impacts it had on world trade. These developments were often rapid and disruptive and in themselves came to signify the experience of modernity. In Paris, reconstruction undertaken in the mid nineteenth century effectively separated the financial and commercial districts from residential and recreational areas in the city. This transformation destroyed many areas of the medieval townscape and involved a radical displacement of many elements of the city’s population. Under capitalist modernity, urban dwellers often faced the contradiction of being thrilled and emancipated by new urban spaces, but also felt disempowered and excluded from the new metropolis that emerged. There has been no shortage of artists and social commentators who conceived a link between the new social and environmental conditions of the city and psychological state of the urban dweller. Whether concerned to interpret the effects on the individual to exposure to city crowds, the acceleration of personal life or people’s separation from nature, a range of classic interventions by Simmel (1901), Mumford (1938), and Wirth (1964) posited new inter relationships between self and society within modernity. George Simmel’s seminal essay, ‘The metropolis and mental life’, based primarily on the transformations he witnessed in his own hometown Berlin during the late nineteenth century, identified the emergence of an essentially modern attitude of the urban dweller, based on indifference and rationality. Hence, as much as the metropolis symbolized progress and enlightenment, it has also been recognized that the impacts of modernity in the city also resulted in the loss of community, the erosion of tradition, intense individualization, and in its worst forms, social atomization. These characteristics were captured by Marshall Berman’s (1982) classic text *All That Is Solid Melts into Air*, where he famously refers to modernity as storm of perpetual disintegration and renewal, propelling people into a life of struggle, anxiety, and ambivalence, in which they are faced with the task of constantly revising the basis of their identity. At the same time, however, other observers have emphasized that the modern city was also a space of liberation, of freedom, and security. This has been particularly noted in the case of twentieth century Western women, who were offered new roles and ways of life in the new economies of the modern city. The city then became a space of liberation, particularly from the restrictions of women’s lives in traditional, and often, patriarchal rural societies. Such apparent contradictions in the experience of modern city life reflect squarely the problematic meanings of modernity itself.

## The State and Modernity

As a social and ideological force, modernity has always found fertile grounds for development within the opportunities created by the modern state. In contrast to stateless societies characterized by informal modes of governance, incoherent political boundaries, and a dependency on custom to resolve disputes, the modern states consolidated their rule over a strongly defined territory, and were able to expand their bureaucracies, standardize the application of the law and taxation, and particularly through the control of the military and the police enhance their capacity for surveillance and control. This process led to the domination of physical space, the control of land, and the constitution of the legal and illegal subjects of the state – ‘the citizen’ and ‘the alien’. Importantly, this compulsion to create order did not stay fused to state institutions but percolated throughout society where obligations to ‘progress’ and indeed to ‘civilization’ shaped, either through compulsion or persuasion, the daily practices of individuals and organizations. The social theorist Jürgen Habermas argued that many of the fundamentals of the modern civil society were ensured through the creation of opportunities for debate and discussion, in what he termed the ‘public sphere’. His work demonstrated that the ‘public sphere’ emerged in a number of institutions during the eighteenth century. From the salons and drawing rooms of Paris frequented by artists, actors, and politicians, to London coffee houses filled with merchants, sailors, and bankers, new styles and practices of communicating emerged and were protected within the embryonic contexts of liberal democracy. Together with the growth of literacy and the print media, these spaces functioned as points for debate and information exchange. They also became sites where new tastes, values, and norms of conduct were diffused through society, ensuring the populace was always aware of what was fashionable and ‘new’.

In a comparable context, the work of the philosopher Michel Foucault on the history of subjectivity, governmentality, and space has also been highly influential in shaping the geographers’ understanding of the relationships between identity and spatiality within modernity. An important pillar in Foucault’s observations on modernity is the issue of surveillance, whose constancy in modern society, he suggested, profoundly altered people’s behavior and mentalities to such a degree that individuals internalized the rules and aspirations of the modern state. As part of the ‘civilizing process’ of modernity, key institutions such as the civil service, the police, and schools emerged as agents of modernity, scrutinized the population, and regulated in turn new forms of conduct in the populace. These behaviors included observance to social and personal hygiene, ‘proper’ public behavior, and control on personal morality. Within the modern state, it has been acknowledged that these civilizing values and practices shaped the disposition of people in a broad range of urban institutions, such as the factory,



**Figure 5** *Der Mensch als Industriepalast*. (Man as an industrial palace) (1926). Devised by the illustrator Fritz Kahn. Here, he located industrial modernity within the body – the digestive system is imagined as a chemical factory, nerves were pictured as telephone wires, and eyes as cameras. Symbolically merging the body with industrial technology epitomized the qualities of ‘high modernity’, reflecting full confidence in modernist, technologically based solutions to social issues.

museums, exhibitions, art galleries, department stores, and dancehalls, where the modern body and the modern subject were embedded into the project of modernity (Figure 5).

## Modernity Futures

Located around the hub of knowledge, capitalism, and the state, geographical practices and thought have been

consistently bound up with the project of modernity. Although these relationships continue to go through many changes, the importance of modernity for geographical research remains core to understanding the qualities and impacts of contemporary life. Undoubtedly, today modernity is again at the crossroads. As a consequence of ongoing social, political, and economic transformation, some commentators have argued that there is a crisis over whether society as it is envisaged within modernity can now be identified, notably as categories such as ‘locality’ and ‘community’ seem undone by rampant globalization. At the heart of these concerns are critical questions about the nature of social bonds, the institutional order, and collective life itself, which may or may not have fundamentally changed. It is clear however that in spite of the postmodernist critique, which sought to challenge the basis of modernism, modernity itself remains a set of processes which inevitably transforms everyday consciousness and identities. It continues to impact profoundly on global development and it continues to mutate and adapt to local contexts and cultures. As such, the geographical engagement with modernity means embracing a far more subtle notion of place than presented in traditional ideas of the discipline, with their particularly bounded notions of place, and geographical scale. Engaging the consequences of modernity ensures that geographers will continue to invest in place but not as traditional mapmakers whose cartography sealed the difference between people and their culture with thick inky lines. Modernity’s geographies show that even as things fall apart, people and place are forever healing, creating new landscapes, new challenges, and new conditions for the human experience.

See also: Capitalism; Enlightenment Geography; Modern City; Public Space.

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Clocks and Clock Time in England.

# Modernization Theory

R. N. Gwynne, University of Birmingham, Birmingham, UK

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Modernization theory refers to a body of theory that became prominent in the 1950s and 1960s in relation to understanding issues of economic and social development and in creating policies that would assist economic and social transitions in poorer countries. This body of theory had significant influence in policy making from the 1950s to the 1970s. The various components of modernization theory received critiques from the outset, but their influence within policy making endured for a significant period of time.

However, the set of theories that tried to interpret the process of modernization in the 1950s and 1960s was by no means a coherent set of ideas but a wide ranging set of work from theorists located in a range of disciplines – as well as countries and universities. Many subsequent critiques of modernization theory have not fully examined the wide and varied range of contributions, preferring to focus on one or two prime candidates for their analysis. This brief article will attempt to examine a greater range of modernization theorists than normally come under scrutiny.

In retrospect, it could be argued that the most significant contributions in modernization theory came from economic theorists, on the one hand, and sociologists, on the other. This article will seek to reevaluate the full range of modernization theory and will reexamine these literatures in terms of two categories – an analysis of the set of economic theories that attempted to explore the key features of modernization followed by the sociological version.

It is first useful to put modernization theory into a geopolitical context, and more specifically that of the Cold War. After the end of World War II, the United States became the hegemonic power in the capitalist world but its former ally in that war, the Soviet Union, rapidly emerged as the only rival – and with a markedly different ideological agenda; the Second World became the shorthand for all those countries within this Soviet bloc. Preston argues that the bipolarity of the Cold War era set the context for policy makers and academics in what became known as the First World (USA, Western Europe, and their allies). Ideas and policies for development in the so called Third World (the world's poorer countries in Latin America, Africa, and Asia) had to concern a distinctive 'free world' approach to what became known as the modernization of economies and societies; the containment of communism and aid donor competition (between the USA and the USSR) were

additional factors. Part of modernization theory specifically set up agendas and policies for a noncommunist pathway to development at the height of the Cold War – as most famously in Walt Rostow's influential book of 1960, *The stages of economic growth: A non communist manifesto*.

However, the roots of modernization theory go further back than the aftermath of World War II. All modernization theories start with an implicit or explicit reference to a dichotomy between two ideal types: the traditional or backward society and the modern society. This was a concern of theorists from at least the mid nineteenth century. Most modernization theorists then argued that these two ideal types of social structure were historically connected through an evolutionary process which followed certain general laws.

## The Economic Theories on Modernization

In the 1950s and 1960s the most influential economic theorist on modernization was undoubtedly Walt Rostow. He was one of the few people who combined being an academic with a significant political role – as key advisor to the Kennedy and Johnson administrations of the 1960s (between 1966 and 1969 Rostow held the post of National Security Adviser to the White House). In his biographical chapter, Menzel saw Rostow as a convinced liberal with a missionary like zeal which was expressed equally in his commitment to development and his anticommunism.

Rostow argued that, based on his analysis of the prior experience of the UK, USA, and other industrialized economies, all societies need to pass through five stages of economic growth. The process started with a traditional society dominated economically by agriculture and low productivity. The second stage involved achieving the preconditions for takeoff in which Rostow highlighted both political and economic themes – the political constitution of a national state, the expansion of trade, and an increase in the rate of investment. Rostow saw the evolution from stage two to stage three (he used an appropriate metaphor of the epoch, takeoff, to describe this stage) as the most problematic; with takeoff economic growth becomes a permanent feature of society, the rate of investment goes up to 10% or more and technological change becomes embedded within society. The next stage, the road to maturity, was conceptualized as a long historical period as every aspect of the economy is modernized and makes use of the new technologies.

A fifth stage of high mass consumption sees the economy more oriented to consumer goods and services. Whether Rostow's contribution constitutes a theory at all rather than merely a taxonomy of economic stages is one of the fundamental criticisms and the empirical validity did not often tally – some countries had elements of takeoff but did not achieve sustained economic growth, for example.

In the 1950s and 1960s there were few 'modernization' theorists who chose to counter Rostow's arguments on economic grounds. One of the few was Alexander Gerschenkron, a Russian Jew who had arrived in the US via Austria in 1938; his Russian and East European heritage was key to understanding his arguments. Gerschenkron argued that economic modernization could be an important force if linked to the concept of backwardness. As other countries modernize and backwardness in a country deepens, the underprivileged society will become increasingly sensitive to the contrast between itself and the successfully modernizing state. He argued that the role of the state, modernizing elites, and new ideologies could galvanize a society toward a 'spurt' of industrialism and accelerated growth.

Gootenberg has subsequently argued that there were two core concepts underlying Gerschenkron's approach. One was the paradoxical advantages of backwardness; countries that tardily industrialized could import advanced scientific and industrial techniques that put them on the cutting edge of world product cycles and competition. Second, there was the concept of substitutes. Looking back on East European industrialization (as opposed to that of the Industrial Revolution in England) Gerschenkron argued that if an element or prerequisite for growth were lacking (such as formal capital markets), these societies were adept at developing new institutions, such as state industrial banks, as a substitute.

Two clear distinctions can be drawn between Rostow's and Gerschenkron's versions of economic modernization. First, Gerschenkron privileged historical discontinuity over linearly conceived continuities. Theories of backwardness could lead to different pathways; relative backwardness could be overcome by novel strategies for accelerated growth. In other words, history could ride roughshod over any neat recipes of prerequisites and takeoffs. Second, Gerschenkron was explicitly relational. Later industrializers were different precisely because they were affected by the first industrializers.

Gerschenkron's relational approach was much more widely accepted by Latin American economic modernizers than the arguments of Rostow – even though (unlike Rostow) Gerschenkron made little attempt to directly transfer his arguments into the development policy arena. This was left to Albert O. Hirschman, an economist of a similar Middle European origin. Hirschman is best known for his theory of unbalanced growth, whereby a pattern of accelerated growth may be stimulated by

concentrating development efforts on key industries and locations in lagging regions. Hirschman's books and his conceptualization of economic linkages can be understood as putting Gerschenkron's unorthodox substitutes and stage skipping into the policy framework of development. Furthermore, Hirschman can be seen to make the link with geographies of modernization as he argued that growth must also be geographically unbalanced, taking place through 'master industries' which have the potential to generate linkages in and around the location of a key industrial plant.

Growth thus becomes concentrated in certain regions of a country. Hirschman was optimistic about growth effects trickling down to other regions where industrial investment was not being made; the regional development problem becomes a spatial case of unbalanced growth. It was also presumed that the state would intervene to influence the geographies of unbalanced growth whenever they became serious national concerns.

Whereas Hirschman was distinctly optimistic about the nature of unbalanced growth, Myrdal, another economist with an interest in the spatial implications of economic modernization, was much more pessimistic. One of Myrdal's key concepts for the spatial incidence of activity in free market economies was the 'process of cumulative causation': economic activities become concentrated in certain centers, to the detriment of other spaces within the country and are reinforced by movements of capital, goods, and people. Myrdal called these movements spread (from centers to periphery) and backwash (from periphery to centers) and saw negative backwash effects (such as outflow of surpluses from periphery to centers) as the dominant force creating increasing inequality with the modernization of economies.

The first geographer (or regional development planner) to become involved in these debates was John Friedmann who very much systematized the work of Hirschman and Myrdal and developed a clear exposition of the core-periphery model within economically modernizing countries. His work on regional planning in 1960s Venezuela still provides the classic empirical work on regional development planning within the modernization framework (Venezuela was seen as experiencing Rostovian takeoff at the time). Venezuela's massive oil resources were being funneled into the growth pole of Ciudad Guayana, a new city being built on the basis of steel and aluminum in the country's 'undeveloped' east. This regional investment was seen as a way of reducing the excessive centralization of the economy in Caracas.

A number of quantitative geographers then appeared on the scene to explore the themes of modernization and space. The work of Gould, Riddell, and Soja introduced (respectively) modernization surfaces, trend surface analysis, and the geography of modernization. The work

was not only noted for a heavy emphasis on quantitative method but also for a circularity of argument. Modernization was linked to central place theory and there was an inherent tautology behind the quantification. The measurable modernization variables were essentially urban in nature and hence it was no explanatory surprise to find that 'modernization' came through the urban central places of the developing countries in question. The resounding critiques that such prominent though narrow treatments of modernization received have meant that geographers rarely ventured back to discuss the concept of modernization as developed by other social science disciplines, and particularly the versions developed from within sociology.

### **The Sociological Version**

It could be argued that economic versions of modernization and their spatial ramifications give only a partial view of the development process. There are some economic criteria that can have very contradictory effects. The resource conundrum is one example. Significant investment in a nation's natural resources such as coal or oil has been important in guiding the economic pathway of some countries (USA, UK, Germany) but virtually insignificant as a factor in many others (Japan, Taiwan, South Korea). Meanwhile, there are many countries with large scale investments in and ownership of natural resources that have found it difficult to achieve a sustained form of economic development – Venezuela and Nigeria would be two examples. For example, Venezuela, after being seen as a strong candidate for takeoff during the 1960s and 1970s, subsequently became a country fluctuating between decline and stagnation.

In contrast to the economic focus, another strand of modernization theory argued that cultural and social variables are more significant than economic ones. The idea of a transition between two polar types of society (traditional and modern) has a long historical tradition within the social sciences. The work of Max Weber in particular was very influential for the postwar modernizers. By using Weber's classifications one can construct an ideal type of a traditional society, with the predominance of a traditional type of action (action determined by well rooted custom) and a traditional type of authority (whose domination is based on the belief in the everyday routine as an inviolable norm of conduct). Weber made the point of comparing this traditional society with what he called the new 'rational' society.

Parsons extended this Weberian framework by arguing that social relations and roles can be determined in terms of five dimensions which present polar alternatives. These are the 'pattern variables' which help to define the

differences between traditional and modern societies and four of them were particularly significant for his analysis:

1. *Affectivity versus affective neutrality in terms of roles.* Essentially this means the difference between a role having immediate gratification in its performance or being affectively neutral.
2. *Ascription versus achievement.* Some roles provide status according to their physical and nonachievable social attributes (class, sex, age, family) while in contrast roles can provide status according to and depending on performance and merit.
3. *Diffusion versus specificity.* Some relations are functionally diffuse in that they cover a series of unspecified dimensions (friendship, family roles) in contrast to others which are functionally specific in that their content is clearly defined (within a firm, for example).
4. *Particularism versus universalism.* Role expectations can be defined for individuals in terms of their 'particular' situation which cannot be transferred (family relations) while other role expectations can be determined as being more 'universal' in character (purchaser and seller within a market transaction).

In this way Parsons argued that every society possesses a set of 'role expectations' or the roles which the individuals within the society expect one another to perform. Parsons noted that in traditional societies roles tended to be affective, ascriptive, diffuse, and particularistic. Meanwhile in modern societies roles can become affectively neutral, performance oriented, specific, and more universal. Each society protects this series of role expectations by its system of rewards and retributions.

Together, the role expectations and the system of rewards and retributions constitute a 'social value system' which has a substantial ability to condition the activities of society's individual members. One interpretation was that mobile societies in which the talented individual could rise by achievement irrespective of background would provide a more suitable social value system for entrepreneurial recruitment than hierarchic, traditional societies. For economic growth to occur within a free market society, it was important that the behavior patterns of capitalism (risk taking, profit motivation, the impersonal nonfamilial organization) should blend with the society's prevailing value system and receive wide social approval. Considerable empirical evidence to support Parsonian logic was provided from such diverse cases as the United States and Japan since the 1870s.

In retrospect, one key problem of Parsonian theory was that the concept of social approval exaggerated the cohesion displayed by societies as they experienced modernization and economic change. This problem was taken up in the Parsonian tradition by an academic who wrote most of his significant sociological work in Spanish

and hence has been largely ignored by most critiques of modernization theory. Gino Germani was born in Italy but migrated to Argentina to escape fascism in 1934 (he had been imprisoned for over a year for distributing antifascist propaganda) and wrote his seminal work in Spanish in 1966.

In contrast to Parsons, Gino Germani saw social change within a context of economic growth as asynchronous (or not synchronized). In other words, social institutions, social groups, and social values change at different velocities with economic growth. Thus, social forms coexist within society that belong to different epochs and stages of modernization. Some parts of society remain fairly traditional and backward but exist alongside others which have already become modern. Germani thus argued that the process of modernization is conflictive and is lived as a crisis which divides groups and institutions.

Germani's thesis was threefold and was strongly influenced by Parsons. First, in preindustrial societies most actions are prescriptive whereas in modern societies there is a predominance of elective actions. Second, in traditional societies change tends to be a violation of traditional norms and therefore is abnormal and rare; in an industrial society, on the contrary, change becomes a normal phenomenon. Finally, traditional societies possess an undifferentiated structure with few institutions performing many functions. In modern societies, each function tends to be performed by a specialized institution which results in a highly differentiated structure.

Germani argued that these three main changes of the modernization process must also occur in the sphere of knowledge, science, and technology. Instrumental rationality, separation from theology and philosophy, and increasing specialization must guide the production and development of knowledge. In the sphere of the economy, new specific and autonomous institutions must appear, operating according to principles of rationality and efficiency. Social stratification must change from a system based on inherited attributes to one which works according to norms of achievement and performance. This entails a shift from low levels of social mobility to high levels of social mobility. In Latin America the lack of social mobility was a key theme of the 1960s, a time in which elites were seen to be very much in control in most Latin American societies. The contrasts and comparisons between Italy under Mussolini and Argentina under Peron always fascinated Germani, particularly the conflictive nature of 'modernization' in both cases. The implication from Germani's analysis that there should be an increase in the political participation of the popular strata gained widespread support, particularly within Latin American universities and student political movements.

The key difference between Parsons and Germani was that the latter saw modernization as asynchronous.

Germani distinguished several types of asynchrony: geographical (as with cores and peripheries), institutional, intergroup, and motivational. Furthermore, Germani's idea was that due to asynchronous change contemporary developing countries suffer from many cleavages and problems which did not exist in those countries which developed earlier. This gives an interesting link to the Gerschenkronian version of modernization and economic change in that the situation in developing countries is radically different from that which existed in advanced nations in the first stages of their development.

## Concluding Remarks

Modernization theory was a body of theory that dates from the 1950s and 1960s.

It undoubtedly had strong ideological undertones and part of its thinking was framed by the exigencies of the Cold War and the perceived division of the world into two competing ideological blocks. However, a number of interesting debates were formed within this period as between Rostovian and Gerschenkronian versions of economic change or the differences between Parsons and Germani over the conflictive or consensual nature of societies experiencing modernization.

Subsequent critiques of modernization theory have tended to identify modernization theory with the unilinear approach of Rostow in the economic sphere or the consensual perspective of Parsons in the sociological. However, both these approaches were severely criticized from within the contemporary framework of modernization theorists, a theme that is 'conveniently' ignored by subsequent critics. One aim of this article was to show that the body of modernization theory was not a consistent set of ideas but one with significant variations of disciplinary emphasis and of policy recommendations.

Furthermore, the questions of modernity and modernization are still crucial areas of teaching and research in countries grappling with the process of modernization. In this context, the approaches set out by Germani and the linked theories and policies of Gerschenkron and Hirschman have had a more long lived influence within the Latin American region than those of Parsons and Rostow. Although the term 'modernity' has tended to replace that of 'modernization', the search for the theoretical and empirical underpinnings of the economic and social forces behind the modernizing process is still significant.

It may be true to say that the strength of modernization theory coincided with the establishment and growth of many key global and regional institutions of development, such as the World Bank in Washington or the United Nations Economic Commission for Latin



America in Santiago. These institutions became strongly framed by some of the key ideas of modernization theory. Examples include the perception that industrialization has a close relationship with development and the importance of establishing national and regional plans to orchestrate the process of industrialization and economic growth. Subsequently these issues have proved the ingredients for part of the postdevelopment critique.

However, by the early twenty first century, it has been the work of the less ideological theorists of the time, such as Gerschenkron and Germani, that have 'lasted' in that they can still inform contemporary theorists, particularly in Latin America. Unfortunately many of the trenchant critiques of modernization theory have conveniently air brushed out (or ignored) these writers in terms of the canon of modernization theory. While Rostow and Parsons are seen as prime candidates for critique, the more nuanced interpretations of Gerschenkron, Hirschman, and Germani are often not tackled. This could be part of the crisis of 'area studies' in the universities of North America and the UK; the declining status of regional approaches could be seen to dim the chances of a 'Gerschenkronian inspired' political economy, which belongs with geographically and culturally embedded disciplinary traditions.

See *also*: First World; Postdevelopment; Second World; Third World.

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# Modifiable Areal Unit Problem

D. W. Wong, George Mason University, Fairfax, VA, USA

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## Glossary

**Ecological Fallacy** Erroneously inferring individual situation or behavior based upon aggregated data.

**Geographically Weighted Regression** A form of local regression weighted by neighboring values and the weights are functions of distances to neighbors.

**Geostatistics** A branch of spatial statistics which focuses on statistical spatial interpolation methods such as kriging.

**Raster Data** Geographical surfaces and features are represented by layers of grid cells. Each grid layer represents a theme. It is also known as grid data or field data.

**Spatial Autocorrelation** Correlation of observation values over space. Positive spatial autocorrelation will exhibit a clustering pattern, whereas negative spatial autocorrelation will exhibit a disperse pattern.

**Spatial Interpolation** The procedure or technique to create a spatial surface based upon values from sampled point locations.

**Spatial Resolution** The size of spatial unit for which the data are captured or tabulated.

**Vector Data** Geographical features are represented by the three geometric primitives of point, line, and polygons.

## Introduction

Geographical data possess unique characteristics that are not present in aspatial data. One such characteristic is that they are scale dependent. Spatial data can be gathered at, or tabulated for, different spatial resolutions, such as different pixel sizes in remote sensing images, or different census areal units in population census. Therefore, we can partition space into different scale levels. Even if we keep the spatial scale somewhat constant, there are many, or even infinite ways to form regions and data can be tabulated according to these various partitioning schemes. In other words, the boundaries of regions can be modified at different scale levels or according to different zonal patterns at about the same scale, and data can be tabulated according to these different zonal systems. But when data tabulated according to different zonal systems are analyzed, it is unlikely that they will provide consistent results even though the same variables are used and the same areas are analyzed. The variability or

inconsistency of the analytical results is mainly due to the fact that we can modify areal unit boundaries and thus the problem is known as the modifiable areal unit problem (MAUP).

One may easily recognize that as long as we do not use individual level data, but use aggregated data, the MAUP will arise. In other social science disciplines, individual observations are often aggregated into groups according to various socioeconomic or demographic variables. The MAUP effect may not be apparent in those cases. But when the observations are grouped by location, the MAUP will emerge. In fact, as long as the data possess location information, the MAUP will be relevant. Therefore, the MAUP is a concern not just in human geography, but also in political science in the context of voting, in sociology when studying population characteristics, and in economics when studying regional economics issues. It is equally applicable to the analysis of physical environment.

## Definitions and Effects of the MAUP

The term MAUP was first coined by Stan Openshaw and Peter Taylor when they experienced the range of  $r$  squared (measure of correlation) that one may obtain by aggregating data to different scale levels and according to different spatial partitioning systems. Specifically, the MAUP refers to two types of variability or inconsistency in data analysis. Smaller areal units can be merged to form larger but fewer areal units. This may occur in social science when a number of census blocks are grouped together to form a census block group, and a number of block groups are grouped to form a census tract in the US census geography. In remote sensing, the raw data captured by the sensors may have 30 m resolution, but can be aggregated to form grid cells with 60 m or 90 m resolution. In this case, data are aggregated or tabulated into larger areal unit with lower spatial resolution. Therefore, multiple data sets can be tabulated for different geographical scale levels. The areal units at different scale levels form a geographical hierarchy. The same analysis can be performed using data at different scale levels, but will likely have different results. The variability or inconsistency in the results from data at different scales is known as the scale effect – a sub problem of the MAUP.

Another subproblem of the MAUP is the zoning effect. When the spatial scale is somewhat fixed or the number of areal units is kept constant, the region can be

delineated into a number of areal units, but the boundaries of delineating units can be drawn in many ways. Or in more common situations, the boundaries have been drawn already, but over time, the boundaries need to be adjusted while maintaining the original number of units. This often happens in modifying census enumeration units for censuses. When populations of local areas change, the boundaries of census units including voting districts are redrawn to maintain roughly the equal number of people within each unit. The number of areal units stays the same, but the boundaries partitioning the region change. When data sets for the same area, but tabulated according to different partitioning systems, are analyzed, they will likely produce inconsistent results. This is known as the zoning effect, another subproblem of the MAUP.

There is a general impression that zoning effect is more relevant to vector format data than to raster data, but in fact, the zoning effect may affect raster format data in a subtle manner. It is true that in raster data, the boundaries of cells are fixed as long as the cell size is determined, unless irregular cell size such as quadtree or other variable grid formats are used. However, where the grid system is placed over the study region it is not an obvious issue. The grid system can shift slightly in different directions but still cover the study region adequately. Multiple grid systems can be used with the same grid size (scale), and data from these systems may not yield the same analysis results.

Since the discovery of the scale effect in 1930s and the formalization of the problems under the MAUP umbrella in 1970s, most research efforts have been focusing on the scope and effects. That is what types of analysis will be subject to the MAUP and the extent of the impacts. With a few exceptions, the general consensus is that the MAUP is quite pervasive across various classical statistical techniques, spatial analytical procedures, spatial models, and spatial statistics. While the MAUP effects are easily recognized in most descriptive statistics, much focus was put on its impacts on correlation analysis. Openshaw and Taylor conducted the monumental experiment, which later resulted in the labeling of the MAUP, and demonstrated that data created through various spatial aggregation methods offered correlation coefficients over a wide range of value. In general, correlation coefficients are smaller (lower correlation) between variables for data tabulated for smaller spatial units (data with higher spatial resolution). Larger spatial units (lower spatial resolution) tend to raise the level of correlation among variables.

The results of the correlation experiment conducted by Openshaw and Taylor have significant implications for many types of quantitative analysis and modeling used in geographical research. Correlation is the basis of almost all classical statistical methods, including regression

analysis. Thus, all classical statistics based upon correlations of variables are subject to the MAUP. Subsequent studies have shown that relationships among variables can switch from one direction (for instance, slightly negative) to another (strong positive) when smaller areal units were aggregated to form larger units.

While the MAUP effects, especially the scale effect on classical statistical analysis, are quite obvious when their impacts on correlation analysis are identified, their impacts on spatial analytical techniques and spatial models are less transparent. As a result, many geographers have investigated how MAUP can affect different types of spatial models, including location–allocation analysis, spatial interaction models, input–output models, and a few others. The general consensus is that the MAUP effects are pervasive among spatial models. In some cases, spatial versions of certain analyses are more sensitive to the MAUP effects than their nonspatial counterparts.

## **Sources of the MAUP**

Enumerating the impacts of the MAUP is useful in order to recognize the potential pitfalls in spatial analysis. It is, however, necessary to understand what causes the MAUP. In general, one could claim that when individual observations (which can be humans or physical objects) are used in the analysis, then the MAUP effects will be unlikely to appear. When observations are grouped together, and data are summarized or aggregated for the groups of individuals, the analysis results based upon the grouped data will be different from those obtained from analyzing individual level data.

Nevertheless, there are at least two general approaches to group or aggregate individual level data. On the one hand, individuals can be classified into groups according to certain groups of the individuals, such as socioeconomic status or racial–ethnic identity, and these characteristics do not utilize location information. On the other, individuals can be grouped together based upon where they are, or they are grouped by regions to produce data at the aggregated levels. But in geographical space, there are many, and theoretically infinite ways to delineate boundaries to form regions, and smaller regions (such as counties in the US) can be aggregated to form larger regions (states). MAUP refers to the latter type of aggregation based upon space and many data in geographical research are provided in spatially aggregated formats or sometimes also known as ecological data. Many social science disciplines, such as political science (e.g., in voting), economics (e.g., in regional development), and sociology (e.g., population analysis) also utilize spatially aggregated data frequently.

In general, we can aggregate individual level data into smaller units (more in numbers) or larger units (less in

numbers). Analysis results from all these levels will not be consistent, as the information content of the data has changed or been lost through the aggregation process. The ideal situation is that when we aggregate individual observations into a group, all individual observations are identical. Then the group values will represent individual values perfectly. In this case, there is no loss of information content between the individual and aggregated level data. Unfortunately, in reality, individual observations do vary even if we try to group highly similar observations or small regions together. Still, if individual observations are not identical, the aggregated data will lose their accuracy in describing individuals. In other words, how well the aggregated data can describe individual observations is inversely related to the MAUP effects. In social science, this is often known as the ecological fallacy problem, which refers to the inaccuracies of inferring individual situation or behavior based upon aggregated data.

When individual observations are grouped together, they are all represented by some summary measures. Often, measures of central tendency, such as mean or median, will be used. Average height or weight is often used to describe a population, and median household income is often used to reflect the socioeconomic condition of a neighborhood. When one single value is used to represent all individual observations, variation among observations is not captured by the data anymore. When more variation exists among individuals, the aggregated value will be a poorer describer of individual observations. The extreme highs and lows will be ignored at the aggregated level, and they are all replaced by a value somewhere in between. When one examines the aggregated values, they will be less varied than the original values, or the data are smoothed through the aggregation process.

In the spatial context, individuals within the neighborhood are grouped together and aggregated data are used to represent the characteristics of the neighborhood. Neighborhoods in the vicinity can be aggregated together to form regions, and the grouped data at the neighborhood level will be aggregated with other neighborhoods to form data at the region level. Through this spatial hierarchical aggregation process, data at multiple levels can be created. But as the data are aggregated to the higher levels (fewer in numbers of areal units), the data will have less variation as they go through the smoothing process successively. In the US Census, individual observations within a census block are aggregated to provide the census data at the block level. Several blocks can merge together to form a block group, and several block groups will form a census tract. Above the tract level, the census geography includes counties, states, divisions, and regions, following one hierarchical order. We can expect the scale effect when examining census data at different census levels.

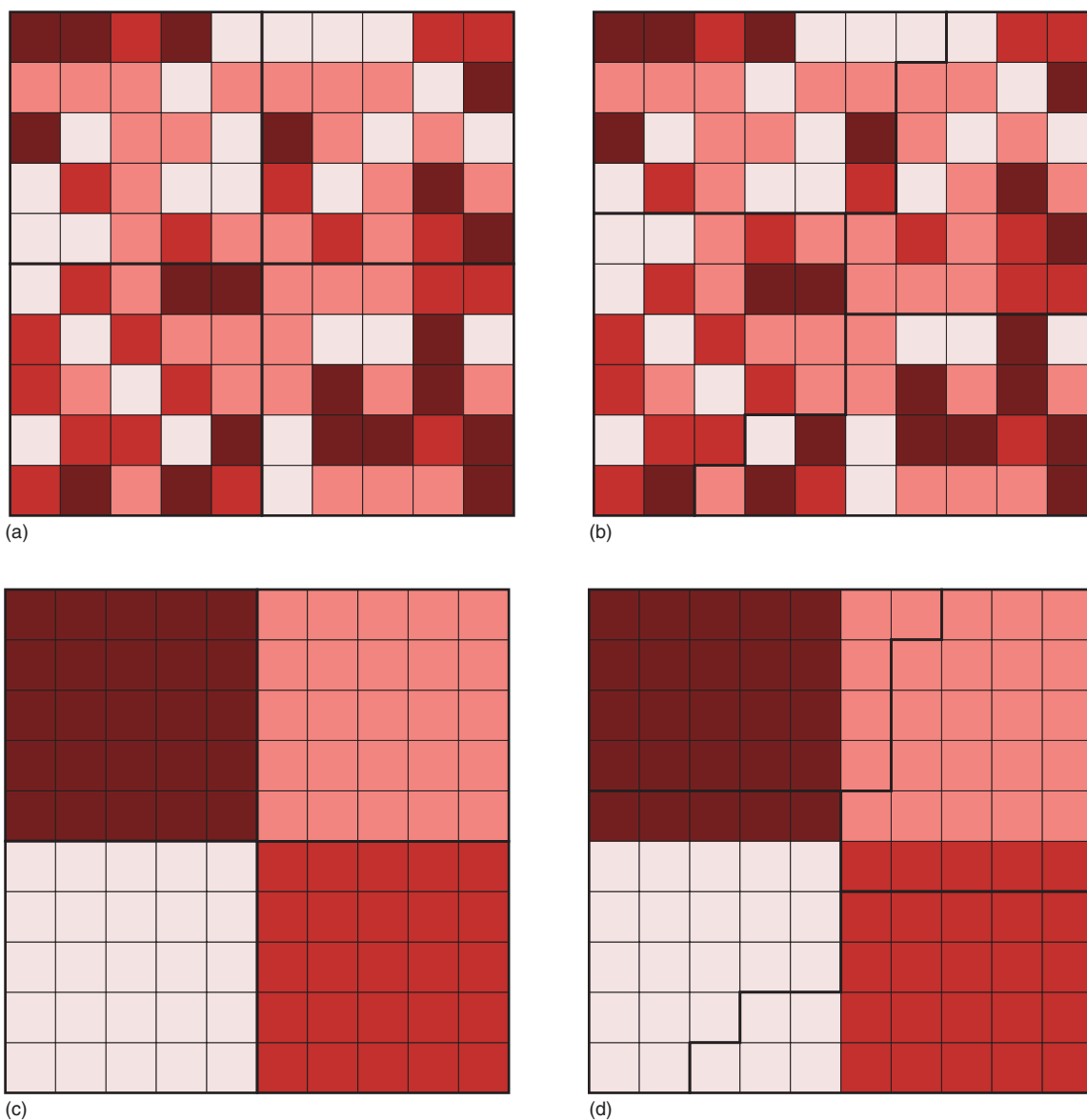
The same smoothing process is applicable to explain the zoning effect when numbers of units are about the same, but boundaries are drawn in different ways. Assume that we have different ways to partition the region, and there are some underlying patterns of similarity among observations or subregions. Depending on how the boundaries are drawn, if dissimilar observations are grouped together, we expect a large degree of smoothing. But if the boundaries coincide with the underlying patterns of the observations to group similar observations together, then little smoothing may occur. Therefore, the magnitude of zoning effect depends upon the variation among observations, the spatial pattern of observations, and to what extent the boundaries match the pattern.

In **Figures 1a** and **1b**, observation values are distributed randomly, but two zonal systems are used to aggregate them. Given the randomness of the data, the two zonal systems will still produce different aggregate level data sets, but their difference will probably be small. Significant smoothing will occur within the zonal units. However in **Figures 1c** and **1d**, observation values are distributed in a clustering manner. While the two zonal systems imposed upon them are not dramatically different, the zoning system matches the clustering pattern of the data in **Figure 1c** perfectly, and the zoning system in **Figure 1d** slightly mismatches the pattern. In **Figure 1c**, no smoothing will occur within each zonal unit. However in **Figure 1d**, each zonal unit includes mostly identical observations with a few different observations. Smoothing or averaging will occur within each unit to eliminate the differences. The magnitude of smoothing also depends upon how different the four values are. If they are dramatically different, more smoothing will happen. But if they are just slightly different from each other, the magnitude of smoothing will be small.

To summarize, the magnitude of the MAUP effects is related to the internal homogeneity of areal units. Smaller areal units with identical or very similar values will generate less 'scale effect' or less smoothing when they are aggregated to form larger units. Zoning effect will also be minimal when only similar units are grouped to form different zonal patterns. It is to be noted that in spatial statistics, homogeneity or similarity across units is referred to as spatial autocorrelation. Because the degrees of similarity across units affect the MAUP effect, therefore, MAUP and spatial autocorrelation are related.

## Potential Solutions

The literature on the MAUP is repleted by studies assessing its impacts. Literature in recent decades has switched the focus to identify solutions to the MAUP. In early years, two somewhat extreme approaches were suggested. The core issue of the MAUP is the



**Figure 1** (a, b) Random distribution of observation values with two zoning systems; (c, d) clustering of observation values with two zoning systems.

inconsistency in analytical results when data are tabulated at different scales or zonal systems. The ideal goal is to obtain consistent results regardless of the scale or zonal patterns. It is quite clear that data at different aggregation levels or for different zoning systems will be different due to spatial smoothing, and there is not much the analyst can do about it. Then, the burden lies on finding analytical techniques that are frame or scale independent. The other extreme is to admit that the MAUP does exist and currently we do not have methods to handle it successfully. At the minimum, we should acknowledge its existence by showing the variability of the results when data at different scales or from different zonal systems are used. The spirit is to show the uncertainty of results due to the spatial nature of the data.

Between these two extremes, many attempts and approaches have been investigated to address the MAUP. Some researchers argued that among the two sub-problems of the MAUP, zoning effect is easier to handle as it can be treated as a spatial interpolation problem. Two different zonal systems for the same area will give different analysis results. In order to resolve the inconsistency, we may use spatial interpolation technique to estimate the data on a new zonal pattern based upon the two existing sets of zonal data. On the other hand, scale effect has been the focus of many endeavors to handle the MAUP. Developing scale independent or scale insensitive spatial analytical techniques is a noble call, but so far has limited success. Only a few methods seem to demonstrate such property to some extent, but

they were developed for specific applications and have limited usage. The migration model suggested by Waldo Tobler is one of the few successful attempts. It is very unlikely that we will be able to develop general tools or models that are scale independent.

Instead of developing techniques to tackle the MAUP, another approach is to deal with the data. The MAUP stems from the fact that data can be aggregated spatial in many ways. The question is which aggregation is the most preferable based upon certain criteria. The approach is characterized by developing optimal zoning systems according to different modeling objectives or criteria. For instance, if the objective is to identify a fixed number of depots to minimize the total delivery cost to a set of census tracts as represented by the center points of the tracts, the optimal zoning approach will identify other possible zonal patterns comparable to the census tract boundaries, but can offer the lowest total delivery cost. In general, techniques associated with this approach have been quite mature and are operational. However, when different criteria are used, different zoning systems have to be developed.

Some researchers adopted a statistical approach to model the scale effect by incorporating the correlations between units within the zone or region. The essence of this approach, as demonstrated by the correlation experiment by Openshaw and Taylor, and the fact that spatial smoothing as the source of the MAUP, is to capture the correlation within zones or regions at different scale levels. These multiple levels of correlation are taken into account in the statistical models when aggregated data are analyzed statistically. The concept is sound, but computationally very intensive and difficult to track. As a result, it does not offer a practical solution. In between searching for scale independent spatial analytical techniques and merely acknowledging the presence of the MAUP, a middle ground approach is to document the sources of the MAUP. This is very much a spatial accounting framework with the objective of identifying where in the region the discrepancies arise at different scales and how much these are attributable to various locations. In other words, this approach intends to identify where and how much spatial smoothing takes place in the hierarchy of zonal system from small units to larger units. This approach has been demonstrated in the study of measuring segregation at different spatial scales and has the potential to be expanded to other applications.

Because ecological data are commonly used, the MAUP is also known in other disciplines. In political science, especially in the voting literature, the MAUP is often discussed in the context of ecological fallacy and the error bound technique has been suggested to handle the ecological fallacy issue by providing a margin of error when inferring individual situations based upon aggregated data. Thus, the method provides information about

the magnitude of possible error in using aggregated data while the results are intended to explain individual behavior. This method indirectly deals with the MAUP. However, most geographers who are knowledgeable in the MAUP are not optimistic about this method.

Recent studies also suggest identifying the geographical extent or spatial scale of homogeneous areas in order to model the scale effect. This direction very much applies geostatistical techniques, including variogram analysis and kriging. By examining the variogram, we may be able to identify the spatial extent (range in the variogram) of areas with similar values. Thus, the argument is that creating regions smaller than the spatial extent of homogeneous areas may minimize the scale effect. Because of the raster or grid nature of the analysis, this approach has raised some interests among remote sensing scientists and geoscientists. On the other hand, to better understand the pattern of spatial heterogeneity (the dual of homogeneity), it was suggested that geographically weighted regression (GWR) may have the potential to help address the MAUP problem. GWR can derive a set of parameter estimates of a regression model for each areal unit. By examining the spatial variation of these parameters, we may obtain some insights on how spatially aggregating these units may create the MAUP.

## Conclusions and Future Directions

In short, the MAUP effects are pervasive, and their magnitudes vary, depending upon different spatial variables. Many attempts have been made to handle the MAUP effects, but so far, we have limited success. It is the first step to acknowledge the fact that analysis result based upon one scale level or one zoning system is just one out of many possible outcomes. Searching for results that are stable over geographical scales or across different zoning systems is still an admirable goal. However, it is unlikely that the generic solutions will be available across different types of analysis or across disciplines. But because the nature of the problem is very much the same regardless of the analytical techniques adopted or the context of analysis, specific solutions or techniques for different contexts dealing with the MAUP have to be built upon the conceptual understanding of the MAUP as discussed here.

See *also*: Ecological Fallacy; Scale Analytical; Spatial Autocorrelation.

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# Monte Carlo Simulation

**S. Ratick**, Clark University, Worcester, MA, USA

**G. Schwarz**, Universidad Nacional de Colombia, Bogota, DC, Colombia

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## Glossary

**Central Limit Theorem** It states that the sum of a large number of independent random variables has a Gaussian distribution. For this reason, many phenomena in the natural and social sciences can be modeled using a Gaussian distribution.

**Conditional Joint Distribution** The probability distribution of a collection of random variables conditional on the (i.e., given) values of one or more related random variables.

**Correlation** The covariance between two variables normalized to have values between  $-1$  and  $1$  (similarly for spatial correlation).

**Covariance** It is a measure of the degree to which two random variables vary together: positive covariance implies that when one variable is above its mean the other variable tends to be above its mean (tends to be below its mean for negative covariance).

**Cumulative Distribution Function (CDF)** It completely describes the probability distribution of a random variable. For continuous random variables, the CDF at a particular value of the random variable is equal to the integral of the probability density function (PDF) from negative infinity to that value. The CDF is  $0$  at negative infinity and  $1$  at positive infinity.

**Gaussian or Normal Distribution** A type of PDF that is of great importance in the natural and social sciences because of the central limit theorem.

**Inferential Statistics** It uses a sample obtained from a population to make inferences about the true but unknown characteristics of that population.

**Latin Hypercube Sampling** A stratified sampling technique designed to ensure an even representation of the entire probability distribution in the sample for a Monte Carlo simulation.

**Map Interpolation** A method of calculating new map data points from a set of known map data points (usual methods involve weighted combinations of the known points).

**Probability Density Function (PDF)** It describes the relationship between the values of continuous random variables and corresponding probabilities, expressed as the area (integral) below the PDF. The integral over all values of the random variable is  $1$ .

**Probability Distribution Function** It assigns each random event (value of a discrete random variable) a

probability between  $0$  and  $1$ . The sum of all probabilities is  $1$ .

**Pseudo-Random Numbers** The random numbers generated by a software algorithm. In Monte Carlo simulations, pseudo-random numbers are used to draw samples from probability distributions.

**Random Field** Mapped values of random numbers; these can be spatially correlated suggesting that adjacent values may not differ as much as those further apart.

**Random Sample** A sampling method that ensures that each member of the population has an equal chance of becoming part of the sample.

**Sampling Distribution** The distribution of a statistic that occurs when the statistic is calculated a number of times for a given population.

**Spatial Covariance** The covariance of two random variables (or two values of the same variable) that are a specified distance apart. A related measure is the semi-variogram.

**Variance** It is a measure of the spread of a random variable about its mean.

## History of the Monte Carlo Method

The Monte Carlo method can be used to address any mathematical problem or model that is too complex, time consuming, or resource intensive to solve analytically. Instead of tackling the numerical problem directly, the Monte Carlo method allows the researcher to obtain an approximation of the solution through setting up an experiment of statistical sampling. As the name indicates, the method borrows from games of chance such as those played at the famous casinos of Monte Carlo in Monaco.

The formal development of the Monte Carlo method dates to World War II, when physicists working on the atomic bomb in the Manhattan Project needed to analyze neutron transport in fissile material. While these multi dimensional problems were too complex to solve analytically, John von Neumann and Stanislaw Ulam suggested that experiments using random samples and executed on the then newly available computers may provide sufficiently accurate approximations to the desired solutions. Of course, mathematicians in the seveneenth and eighteenth century had already developed



similar ideas by observing games of chance and repeating the corresponding experiments. In this respect, Ulam and von Neumann were formalizing a research tool based on a long standing mathematical tradition that dealt with the analysis of random events.

The spread of the Monte Carlo method was aided by two developments since the 1970s. First, theoretical work on computational complexity showed that the Monte Carlo method is not just capable of providing an approximation that is within a specified statistical accuracy of the exact solution, but that for a large class of problems this approximate result can always be obtained in less time than the exact solution. Second, the rapid development in computing power gave researchers the tools to implement more elaborate Monte Carlo simulations for models in a variety of areas that previously could not be tackled mathematically.

## Principles of the Monte Carlo Method

### Uncertainty and Probabilities

Games of chance and the applications of the Monte Carlo method in geography have one central feature in common: the outcome of the system under study is not known in advance, that is, there is uncertainty involved. At the throw of a die, for instance, the result is not known before the die comes to rest on the table. What is known, however, are the possible outcomes of this experiment, namely, the numbers one through six. Theoretically, one could attempt to measure the precise direction, angle, and speed of the throw; the material, weight, and balance of the die; the friction of the surface and the air; and many more parameters to calculate the result – but that attempt is bound to be too complicated and doomed for failure. Instead, statistical theory is employed to analyze the random experiment ‘throw of a die’ and make statements about the probabilities of its outcomes. In a similar fashion, the Monte Carlo method is used to gain knowledge about the outcomes of a wide variety of systems that involve uncertainty.

Unless the die is rigged, the probability of each of the six numbers occurring should intuitively be one sixths or 16.667%. The sum of the probability of all simple events is always 100%, since something must happen with the die. In other words, each possible event is assigned a probability value between 0 and 1, indicating the likelihood of occurrence. The mathematical function that represents this assignment is called a probability distribution function (Figure 1).

In general terms, a probability distribution function describes the relationship between the values of a random variable and the corresponding probabilities. The expected value of a random variable, also called the mean of the distribution, is the average result of the random variable after conducting the experiment an infinite

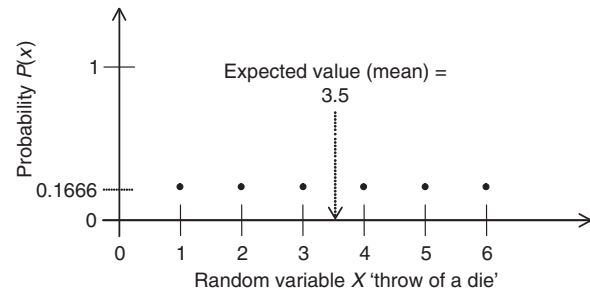


Figure 1 Probability distribution function for throw of a die.

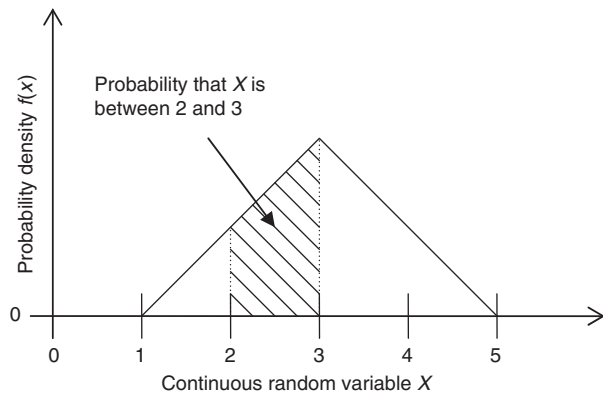


Figure 2 Probability density function for a triangular distribution.

number of times. While it is impossible to empirically conduct an experiment until infinity, throwing the die a sufficiently large number of times and calculating the average value of the results should come reasonably close to the true expected value: since all six outcomes are equally likely, the average should be 3.5.

While the experiment ‘throw of a die’ has discrete outcomes and the corresponding random variable  $X$  can only assume integer values from 1 to 6, statistical theory generally deals with continuous random variables that can assume any value. Here, the distribution function becomes a ‘probability density function’ (PDF), but the principle remains the same: a PDF maps events to probabilities, which are represented as the area below the density function (Figure 2). The sum of all probabilities over all possible simple events must be 1. Mathematically, this is equivalent to a PDF’s integral being 1.

If we graph the probabilities of the random variable taking on a value less than or equal to a specific value  $x$ ,  $P(X \leq x)$ , we obtain the ‘cumulative distribution function’ (CDF). This is equal to the integral of the PDF from negative infinity to  $x$ . The CDF completely describes the probability distribution of a random variable, and can be used to directly read off the probability of a random event (Figure 3).

A very common PDF is the ‘Gaussian’ or ‘normal distribution’ in the form of a bell curve (Figure 4). Its ubiquity in statistics stems from the ‘central limit theorem’, according to which the sum of a large number of independent random variables, no matter what their individual PDFs, is distributed according to the Gaussian distribution. On this basis, many applications of the Monte Carlo method in geography assume that the input random variables have a Gaussian probability distribution.

Depending on the precise form of the PDF, the expected value or mean can be very hard to calculate in advance. Instead, it may be more practical to simply run the experiment a sufficiently large number of times, note the values (realizations) of the random variable, and calculate their average. This average serves as an estimate for the true expected value. Estimating true values from a random sample in this fashion is the basis of inferential statistics. Applying the Monte Carlo method thus involves drawing a sample from a random variable (with a

certain PDF) and calculating the desired output, in this case the average as an estimator for the expected value. Usually, the Monte Carlo method is used to calculate output values that are much more complex than simple averages. Similarly, the method is often applied to more than one random variable and PDF as inputs. The accuracy of the estimator obtained through the Monte Carlo method depends only on the number of realizations, that is, the size of the sample. In the case of estimating the mean, for instance, the standard error of the estimate decreases with the square root of the sample size.

### Statistical Sampling

The Monte Carlo method relies on realizations (draws) from a PDF. Ideally, to correctly apply the Monte Carlo method and obtain valid results, the sampling method employed should be completely random. In a random sample, each draw must be independent of every other draw, that is, there must be no correlation between samples. Previous observations of the random variable have no bearing on future draws. The number of realizations has to be sufficiently large to accurately represent the distribution of the input variables. If the experiment involves the throw of a die, this condition is easily fulfilled by throwing the same die a large number of times. If the Monte Carlo method is to be applied to a continuous PDF that only exists as a software model in a computer, as is usually the case, it is considerably harder to obtain truly independent observations of the random variable.

Computers are inherently deterministic machines, so to apply the Monte Carlo method in the framework of a computer based simulation model is not trivial with regard to sampling. Indeed, implementing a good random number generator has been one of the main challenges of computer engineering. As true random numbers can only be implemented as physical processes, the term pseudo random numbers is used to designate random numbers that are generated by software functions. They are not completely random, since the sequence of numbers only depends on the algorithm and a seed value, and is otherwise deterministic. Several solutions exist to obtain a seed value; for instance, current processor load or computer temperature may be used. Modern computer algorithms are then able to provide pseudo random numbers that are statistically indistinguishable from a true random sample of the desired PDF. Their quality with respect to patterns and repetitions varies considerably between programming languages, however.

Another sampling technique used in the context of the Monte Carlo method is Latin hypercube sampling. This stratified sampling method is useful to reduce the size of the necessary sample, but still accurately depicts the PDF

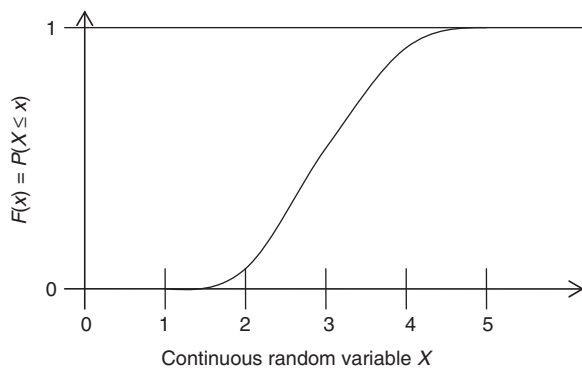


Figure 3 Cumulative distribution function for a triangular distribution.

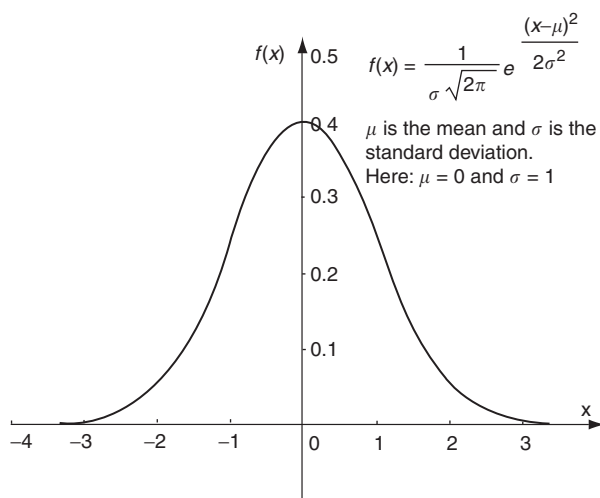


Figure 4 The Gaussian probability density function.

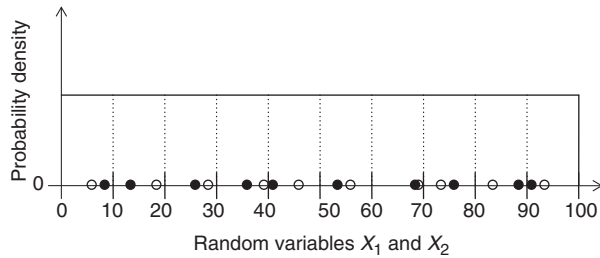
of the input random variables. To obtain a Latin hypercube sample, the range of values for each random variable is divided into a number of sections equal to the size of the sample desired. Within these intervals, one value is randomly drawn in accordance with the segment of the PDF within that interval. The process is repeated in each interval and for each input random variable (Figure 5). As a final step, the samples of each variable are randomly combined to form the set of input values for a specific realization of the Monte Carlo simulation. For instance, the first set of values might be made up of the sample of interval 1 of the first random variable  $X_1$  and of interval 8 of the second random variable  $X_2$ . In this way, a Latin hypercube sample helps to ensure that the Monte Carlo simulation takes account of the entire length of the distribution, including unlikely but extreme values in a smooth representation of the distribution.

**Applying the Monte Carlo Method: An Example**

The Monte Carlo method can be used to analyze a wide variety of phenomena in geography. Consider, for example, the gravity model, which aims to represent interactions between two cities. In analogy with Newton’s law of gravitation, the model supposes that two objects attract each other in proportion to their masses and in inverse proportion to the distance separating them. For cities, the mass is usually represented by population, while the interactions under study can include traffic or trade. Mathematically, the model looks as follows:

$$F_{ij} = kP_iP_jd_{ij}^{-a}$$

where  $i$  and  $j$  are the two cities,  $F$  the traffic between them,  $P$  their population sizes, and  $d$  the distance between them. Constants  $k$  and  $a$  are used to adjust the model to a particular situation, where parameter  $a$  determines the strength of the distance decay in the interaction. In the original gravity model,  $k$  is 1 and  $a$  is 2. Table 1 shows the parameter values used in this example, where two cities were 45 km apart and parameter  $k$  was kept constant at 1. The remaining parameters  $P$  (city size) and  $a$  were the subjects of the Monte Carlo



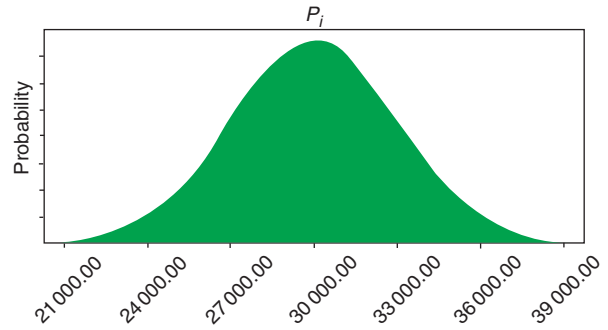
**Figure 5** Latin hypercube sampling. ○, samples for  $X_1$ ; ●, samples for  $X_2$ .

simulation, and Table 1 shows the mean values of their probability distribution.

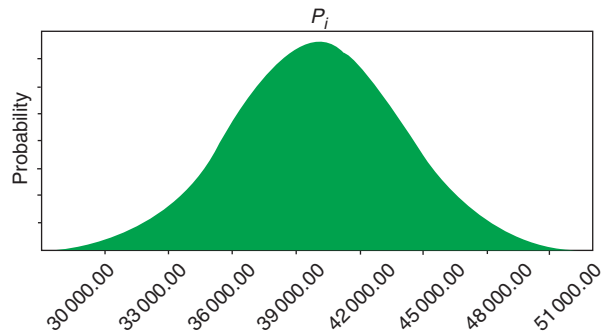
City sizes  $P_i$  and  $P_j$  had Gaussian PDFs, with standard deviations (a measure of the spread of the distribution around the mean) set to 10% of the mean, that is, 3000 for  $P_i$  and 4000 for  $P_j$  (Figures 6 and 7). The distance decay parameter ( $a$ ) had a triangular distribution with average 2; minimum 1.8 and maximum 2.2 (Figure 8).

**Table 1** Parameter values and means for the Monte Carlo simulation example

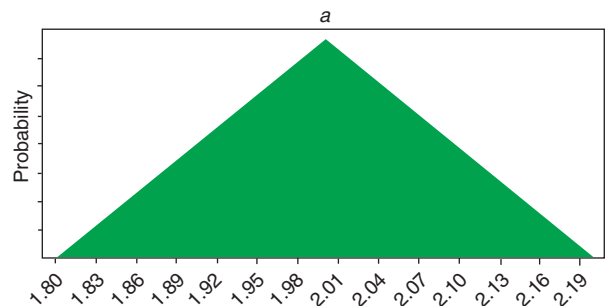
$k$	1
$d$	45
$a$	2
$P_i$	30 000
$P_j$	40 000



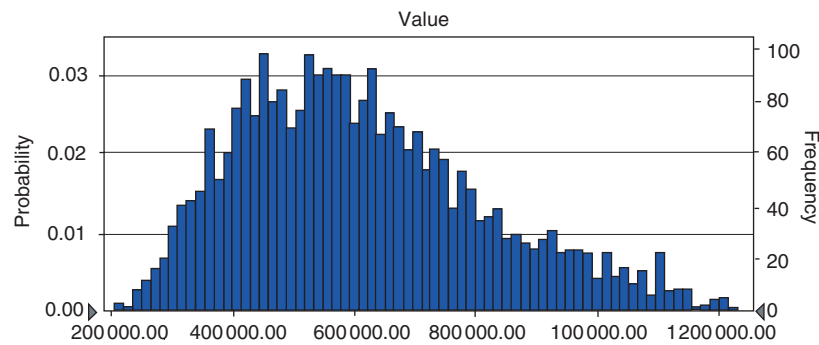
**Figure 6** Probability density function of  $P_i$ .



**Figure 7** Probability density function of  $P_j$ .



**Figure 8** Probability density function of parameter  $a$ .



**Figure 9** Distribution of interaction values  $F_{ij}$  (traffic) after 3000 Monte Carlo runs.

Having defined these three input PDFs, the Monte Carlo simulation consists in drawing a large number of random samples from each of these and calculating the output value for each sample: in this case the traffic  $F_{ij}$  between cities. **Figure 9** shows the distribution of output values that the Monte Carlo method produced after 3000 such draws, conducted on a computer using pseudo random numbers.

The mean of this distribution is 622 315.77, and its standard deviation is 216 933.48. As is apparent from **Figure 9**, the distribution is not symmetrical, so that the median value is 587 328.44, and thus differs from the mean. The minimum traffic value is 205 164.62 and the maximum 1 565 252.37, showing the considerable spread of this distribution. Two cities with populations of around 30 000 and 40 000 and a slightly varying distance decay parameter between 1.8 and 2.2 can thus show quite different levels of traffic or other interactions between them. Despite the simplicity of the gravitation model's assumptions, the Monte Carlo method shows the wide variety of interaction values that can result in practice.

The Monte Carlo method made it possible to obtain this distribution of output values with relative ease. It can be applied to models of any complexity and with any number of input random variables. In this example, the output distribution could be obtained through calculus, but with many more complex models, Monte Carlo simulation is often the only way to gain a full overview of the outcomes of a system.

## Applications of the Monte Carlo Method

There have been numerous and diverse applications of Monte Carlo methods that include, for example, science (computing multidimensional integrals and model sensitivity analysis), education (teaching and research), business (portfolio management and product life cycle analysis), environment (probabilistic risk assessment and resource allocation), health (delivery of services and epidemiology), government (project choice and standard

setting), engineering (design and project management), and energy (utility management and methods for hydrogen production). Application areas seem limited only by imagination and computing power. We focus, here, on a few specific applications to help illustrate the use of the technique in geography, and to highlight some of the issues in its implementation.

## Environmental Risks and the Use of Probabilistic Risk Assessment

Monte Carlo methods have been widely used to perform environmental probabilistic risks assessments (PRAs). This is because estimating the environmental risks to which people are exposed, and their associated consequences, often requires the mathematical combination of numerous factors and processes that may be beyond the capability to calculate in a closed form analytical solution. The complexities of these interactions, and the variability (e.g., variations in the exposure and sensitivity of populations to environmental pollutants) and uncertainty (e.g., our lack of knowledge about important models, parameters, or human behavior) inherent in the process can be addressed within the Monte Carlo framework (**Figure 10**). Both variability and uncertainty can be expressed as PDFs.

The random variables ( $V_1, V_2, \dots, V_n$ ) represent population exposure variables (e.g., body weight, the frequency, and type of exposure to environmental pollutants) that are combined in a Monte Carlo analysis to provide a measure of the distribution of risk (a PDF showing the risks to different proportions of the population). These types of risk distributions have been used to help set standards for pollution control (**Figure 11**) or to determine the need for remedial action. Decisions about response can be made with respect to the determination of what may be a reasonable exposure of the population to the risks of the site (if the 95th percentile is considered reasonable exposure, then action would be taken in case A where more people will be exposed to the risk, and not at B where fewer will).

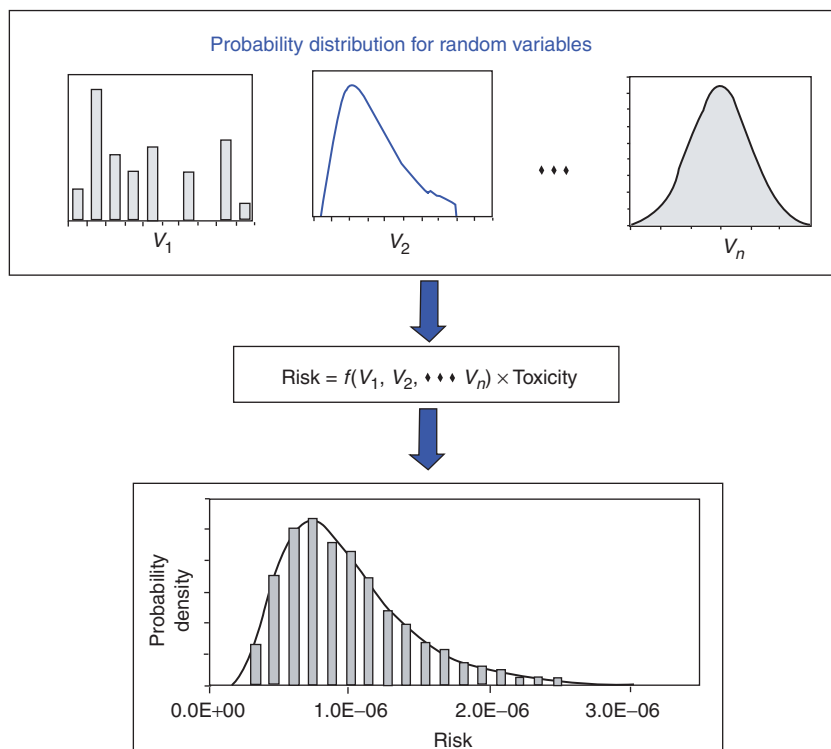


Figure 10 Schematic of a Monte Carlo analysis for probabilistic risks assessment.

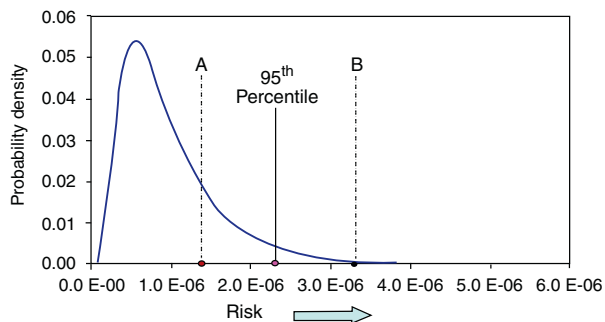


Figure 11 Using the results of a probabilistic risks assessment with Monte Carlo analysis to determine if response to the risk is warranted.

The generic application of the PRA can be used for other types of hazards: floods, fires, and acts of malice, for example. The benefits of conducting a PRA through Monte Carlo analysis have been expressed as providing more complete information about the characterization of the variability of exposure to risks, providing quantitative information about confidence levels for risk estimates (reflecting uncertainty), the ability to help determine important factors through sensitivity analysis, and the ability to assess the value of additional information to the decisions about standard setting and response to environmental risks. Concerns about the use of Monte Carlo methods in PRA include: the potential lack of transparency in the workings of the model, the

consequences of hidden assumptions about the choices of the PDFs for specific parameters, and the decision makers' lack of familiarity with the technique.

### Bootstrapping

Bootstrapping is a type of statistical resampling that employs Monte Carlo methods applied to observed data. This computer intensive method can be used to determine the sampling distribution of a summary statistic (mean, median, and standard deviation) or relationship (correlation and regression coefficient) when these sampling distributions are extremely difficult to obtain analytically. In particular, bootstrapping can, in principle, generate an estimate of both the bias and standard error for any statistical parameter of interest. In geostatistics, bootstrapping is often used as a basis to calculate statistical significance and confidence intervals for examining spatial autocorrelation and testing for spatial clustering.

There are two main ways in which the bootstrap technique can be applied. In the 'parametric' method, a knowledge of the data's distributional form (e.g., Gaussian and exponential) is required. When it is available, such distributional information contributes to greater precision. In the more common 'nonparametric' version of bootstrapping, no distributional assumption is needed.

Bootstrapping involves drawing a series of random samples from the original sample – with replacement – a very large number of times. The statistic or relationship

of interest is then calculated for each of the bootstrap samples. The resulting distribution of the calculated values then provides an estimate of the sampling distribution of the statistic or relationship of interest.

As an example, **Table 2** lists the original random sample of 20 individuals used to estimate the correlation between income levels and years of education, and the first two of 10 000 bootstrap samples drawn from the original sample. Notice that the bootstrap samples do not contain all the original observations, but do repeat some of the original data points. **Figure 12** shows a histogram of the sampling distribution for the correlation coefficient from the 10 000 bootstrap samples. From this distribution, it is possible to estimate the bias and standard error of the estimated correlation coefficient (0.627) calculated from the original sample. For example, to estimate bias we can calculate the mean value of the correlation based on the distribution of bootstrap samples (0.614), and subtract the original correlation; this results in an estimated bias of 0.013.

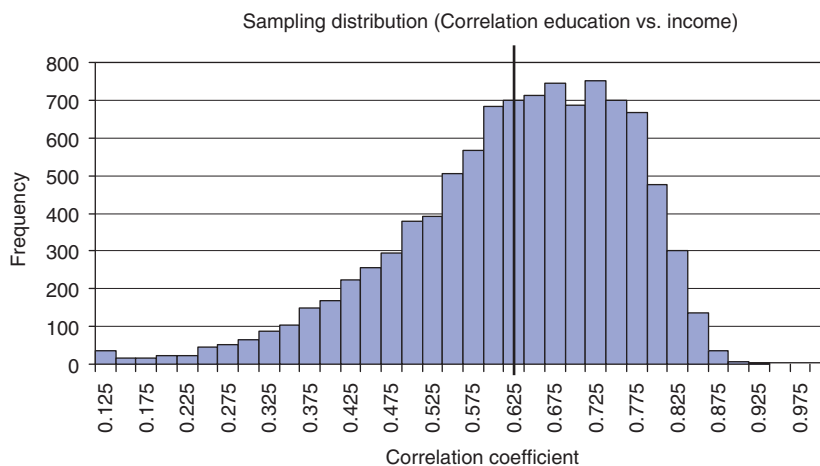
The development of powerful computing capabilities and specialized software for sampling has fostered more widespread use of bootstrapping. As a result, limitations on the number of bootstrap samples have all but disappeared, and no longer pose an obstacle to obtaining any desired level of precision. The only real limitation is the size of the original sample (e.g., 20 in our illustration). As the sample size increases, not only will the estimated parameter become more accurate, but the bootstrap empirical distribution will also better represent the true underlying distribution of the population being studied.

### Sensitivity Analysis in Managing Model Uncertainty

Many applications of computer based models rely on sensitivity analysis to determine the effects of uncertain parameters or model structures on the output of those models. The results of sensitivity analysis may be used to help calibrate or validate models, to identify parameters for which additional research and measurement should be undertaken, and to help determine how a model may be restructured. Sensitivity analysis is performed through random sampling of distributions representing the uncertainty in the model parameters. Model ‘uncertainty’ is used to describe a wide variety of issues with model construction and use such as: measurement error, variability, scaling and aggregation, and model structure (**Table 3**). The probability distributions describing uncertainties are developed either objectively (e.g., through observation and measurement) or subjectively (e.g., through the conjoined opinions of experts). In Monte Carlo sensitivity analysis, parameters may be varied singly or in combination. A value is drawn from the distribution for each parameter under study and then input into the model. The results of model runs are compared (e.g., through statistical analysis such as correlation analysis) to produce the contribution of the parameters to the obtained distribution of the model outputs (similar to the distribution results for the gravity model example above in response to the probability distribution of the input parameters).

**Table 2** Original and first two bootstrap samples

<i>Correlation 0.627</i>			<i>Correlation 0.619</i>			<i>Correlation 0.402</i>		
<i>Original sample</i>	<i>Years of education</i>	<i>Annual income (\$)</i>	<i>First bootstrap sample</i>	<i>Years of education</i>	<i>Annual income (\$)</i>	<i>Second bootstrap sample</i>	<i>Years of education</i>	<i>Annual income (\$)</i>
1	16.3	48 170	5	21.8	69 087	13	17.3	61 110
2	12.7	50 480	4	11.6	53 489	6	16.1	50 896
3	11.0	35 672	2	12.7	50 480	20	20.1	56 182
4	11.6	53 489	9	17.5	57 071	2	12.7	50 480
5	21.8	69 087	11	16.9	45 516	5	21.8	69 087
6	16.1	50 896	8	20.4	90 559	14	16.7	55 763
7	14.5	34 034	18	21.1	86 769	9	17.5	57 071
8	20.4	90 559	11	16.9	45 516	6	16.1	50 896
9	17.5	57 071	11	16.9	45 516	13	17.3	61 110
10	20.6	63 761	16	12.6	34 020	21	20.1	56 182
11	16.9	45 516	4	11.6	53 489	9	17.5	57 071
12	14.2	50 451	7	14.5	34 034	11	16.9	45 516
13	17.3	61 110	1	16.3	48 170	5	21.8	69 087
14	16.7	55 763	17	13.6	54 394	13	17.3	61 110
15	12.8	78 025	7	14.5	34 034	5	21.8	69 087
16	12.6	34 020	16	12.6	34 020	6	16.1	50 896
17	13.6	54 394	2	12.7	50 480	12	14.2	50 451
18	21.1	86 769	10	20.6	63 761	15	12.8	78 025
19	21.3	85 408	4	11.6	53 489	19	21.3	85 408
20	20.1	56 182	17	13.6	54 394	20	20.1	56 182



**Figure 12** Sampling distribution for the correlation coefficient (10 000 Bootstrap samples) line represents the correlation coefficient for the original sample.

**Table 3** Sources of uncertainty

Source	Description	Examples
Measurement error	Random error (precision), systematic error (bias)	Bias in historical measurements of speed of light, or mean density of Earth
Variability	Systematic differences (i.e., over space or over time), inherent randomness	Spatial variations in precipitation, unpredictability of weather
Model structure	Functional form of relationship (linear or nonlinear, specified predictor variables)	Crop climate model (linear or quadratic, missing climate variables)
Scaling/ aggregation	Spatial or temporal scale (or level of aggregation) of model or data	Tuning model parameters to spatial or temporal scales. Models developed at national scale are used for regional analysis

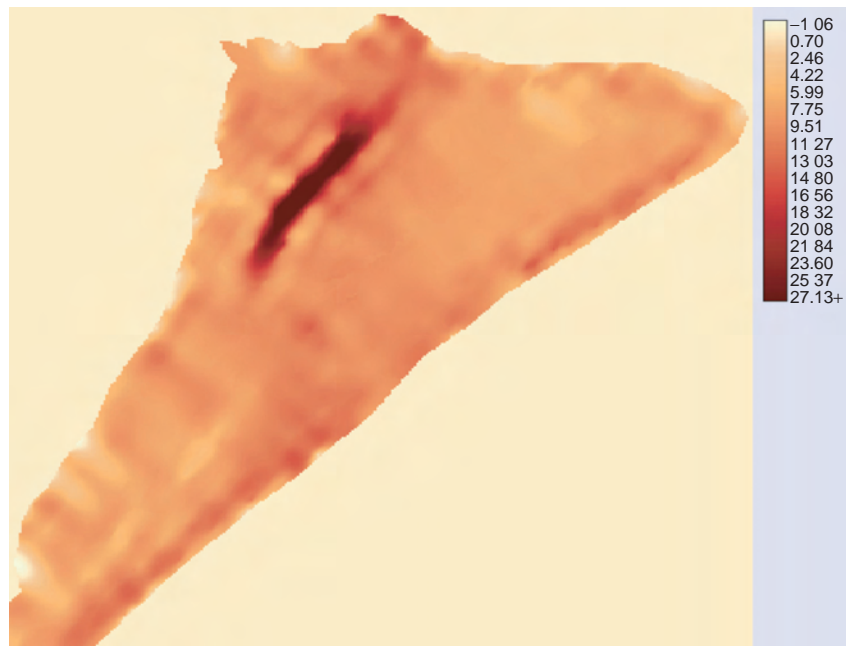
Reproduced from: Katz, R. W. (2002). Techniques for estimating uncertainty in climate change scenarios and impact studies. *Climate Research* 20, 169.

### Conditional Simulation

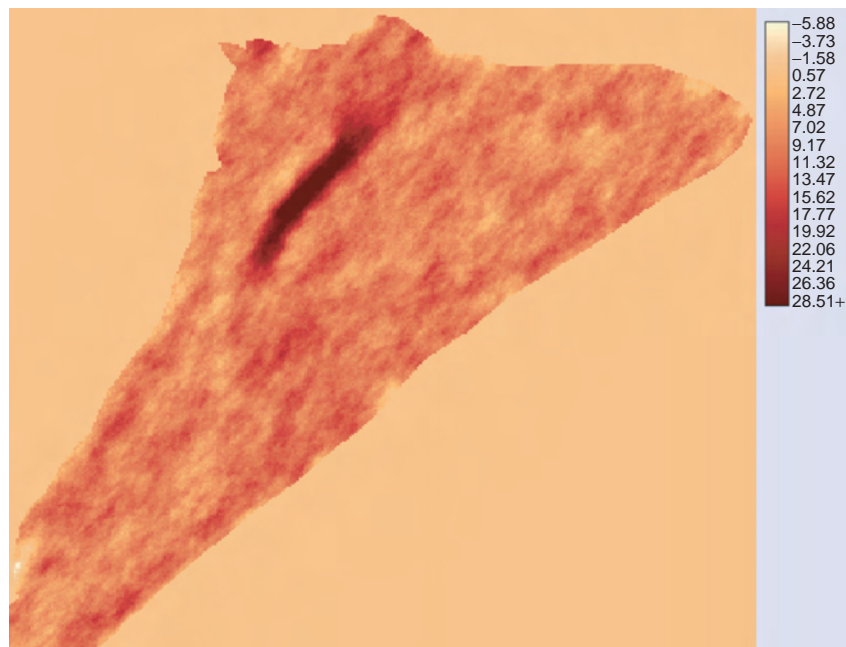
Many map interpolation techniques (e.g., nearest neighbor polygonal, triangular, inverse distance, and kriging) that are used to provide estimates for unsampled locations, produce maps whose spatial description is often different from the real map, and from the sample points used to create the estimated map. One problem with using the map of estimated values as an estimate of the

map of true values is that, because of the interpolation method, the former is often smoother than the latter. As a result of this smoothing (the degree of which depends on a number of factors, including the density of sampling), the map of estimated values will not accurately represent the magnitude or sharpness of peaks and troughs in the real map.

Conditional simulation is a method for generating spatial simulations that reproduce the spatial variability in the true map (as estimated from the observations), and that are also constrained to pass through the data (i.e., the values simulated at sample locations are equal to the observed sample values). Conditional simulation involves Monte Carlo simulation from the joint conditional distribution of values at unsampled locations (e.g., along a fine grid of locations) given the values at sample locations. The basic assumption is that the underlying random field, possibly after transformation, is Gaussian and that the mean and spatial covariance given to the corresponding estimates are based on the original data. **Figure 13** is a map of elevations kriged from 500 sample elevation data (kriging is a weighted sum interpolation technique that exploits the spatial covariance function  $C(b)$  or the semivariogram  $\gamma(b)$ , and which also produces a measure of the variance for each estimate). **Figures 14** and **15** are two realizations of the true elevations produced by conditional simulation. Notice the increased ‘roughness’ of the simulations compared to the kriged map, and that, although they exhibit the same degree of roughness, the simulated maps are different. Each realization represents an estimate of the true map that can be used, for example, to determine the effects of spatial processes (e.g., flooding or pollution deposition) that would operate over an area. Conditional simulation has also been used to determine the value of obtaining additional samples.



**Figure 13** Map of elevations obtained by kriging 500 sample points.



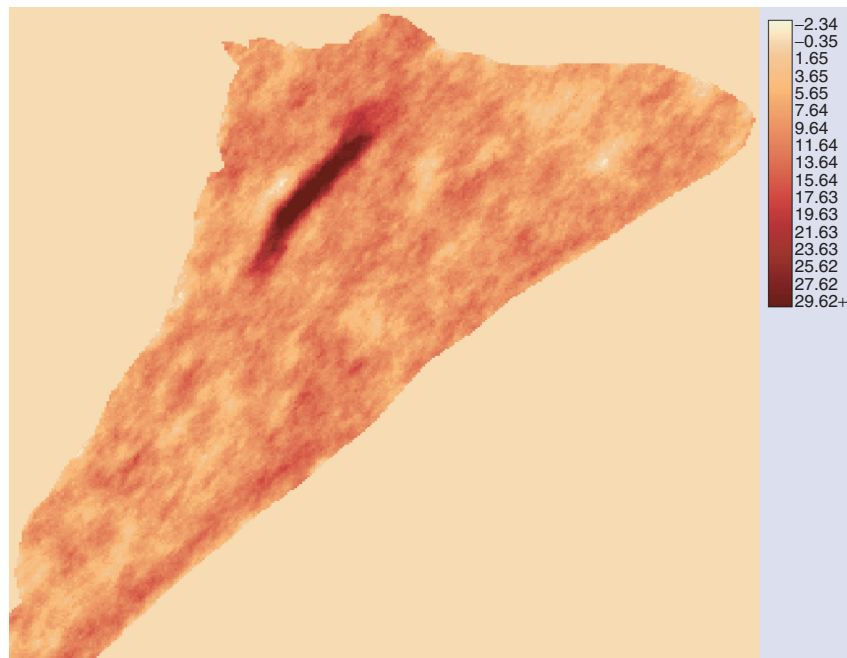
**Figure 14** One realization of elevations using conditional simulation.

**Conclusion**

The Monte Carlo method permits the analysis of a wide variety of mathematical problems relatively simply. Its main advantage is that other methods are often more costly, impracticable, or impossible to implement. With the advent of more powerful computing capabilities, the Monte Carlo method provides a simple and

effective approach to experimentally determine the outcomes of complex models and approximate solutions to intricate mathematical problems. Monte Carlo methods thus play a large role in the many subfields of geography that routinely employ mathematical models. They are especially useful in analyzing large spatial models and geographical data exhibiting high levels of complexity.





**Figure 15** Another realization of elevations using conditional simulation.

The main disadvantage of the Monte Carlo method is that it provides approximate solutions that are only as good as the input assumptions and sampling technique used. Errors in the sampling method, or a sample size that is too small, may lead to unwarranted conclusions. Furthermore, as the complexity of the problem increases and a higher accuracy of the output is desired, the size of the required sample increases exponentially. In such cases, running a Monte Carlo simulation on a desktop computer may be resource intensive and time consuming.

See also: Kriging and Variogram Models; Location Analysis; Quantitative Methodologies; Sampling; Spatial Clustering, Detection and Analysis of; Spatial Interaction Models; Spatial Interpolation; Statistics, Inferential.

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# Moral Economies

L. McDowell, University of Oxford, Oxford, UK

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## Glossary

**Absolute and Relative Poverty** Alternative ways of conceptualizing poverty. The former depends on an absolute definition such as the income needed to purchase a basket of goods or a particular income level below which people or households are poor. Common standards are, for example, falling below the average income or state benefit levels, plus 20%. Relative poverty as the term indicates is a more flexible concept. Poverty is defined in relation to what is an acceptable standard within a particular geographical area (be it nation, state, or city) at a particular moment in time. As societies become more affluent poverty lines also rise.

**Caring Labor/Ethics of Care** This term captures the distinction between work undertaken for financial remuneration and work that is about caring for others, without expectations of reciprocity or payment. It is typically employed in feminist analyses of domestic labor.

**Ethics** A system of moral values.

**Gendered Moral Rationalities** The notion that men and women operate on the basis of different moral systems; expanded in the work of geographer Simon Duncan to refer to differences 'between' women, especially mothers, in the ways in which they assess the decision to combine waged employment and unpaid caring labors.

**Normative Standards** An established standard that typically is universal, or is not dependent upon the context.

## Introduction: Definitional Contradictions

At first sight the juxtaposition of the terms moral and economy(ies) seems paradoxical, even farcical – surely morality is about relations of obligations, about mutual respect and support, about knowing right from wrong, about caring for others whether members of an immediate family or community or the distant strangers whose needs are great. Economics, on the other hand, as everyone knows, is the dismal science, based on assumptions about rational economic man, who knows the price of everything (but the value of nothing) and who, in capitalist societies, makes cold and calculating decisions based on the maximization of profits, extracting as much financial advantage as possible from transactions that occur between unknown, faceless others. Even when

defined in a less prejudicial way – making economies, being careful – there is a touch of the penny pinching, the mean and the dour, although perhaps the term moral itself embodies implications of a somewhat careful, rather joyless approach to life rather than one of casual abandon and hedonism. How appropriate then that both the originator of the science of political economy – Adam Smith – and the current prime minister in the UK – Gordon Brown – are both Scots, unable to escape the associations with a Calvinist culture of moral certitude and careful prudence in economic matters.

However, a concern with moral worth is evident more widely in Britain (and other capitalist societies) in the early twenty first century as policy debates about the appropriateness of a strong Protestant ethic centered in participation in waged work influence economic and social policy decisions. Similarly, the need to respect others is a central idea in the debate about (the problems with) British youth and 'esteem' – a very Victorian notion – is a key measure of the worth of a British academic in the latest round of a rational calculation of what each of us is worth. It is clear that strong notions of what counts as valuable, what sorts of behaviors are acceptable, how judgments are made about worth structure most arenas of life. In economic terms these judgments about value are perhaps particularly clear as, in the formal economy at least, monetary values are placed on economic activities.

## Defining Morality

Defining morality, however, even in association with the second term economies, is a task that is not easy. The older certainty of moral philosophers has been challenged by postmodern theorists who have pointed out the relative nature of key terms. Normative notions such as morality are neither uncontested nor universal; instead what is moral is context and situated, dependent on the circumstances and the actors involved. Nevertheless the centrality of the notion of what is good and just lies behind the evaluation of whether an action is moral or not. Western economic notions about the social basis of lending and borrowing, based on the regulation of interest rates – a way of repaying risk – have no purchase in economies based on Islamic beliefs, for example, and while the analysis of this article shall be restricted to capitalist Western economies, it is clear that even here there is debate about what is included within the term the economy and so as the subject material of the discipline. As many have argued, feminist scholars have challenged the very definition of what is an economy, showing how

the exclusion of unwaged work from its purview resulted in a neglect of the essential contributions of domestic and voluntary labor from the total social reproduction of economic relations in the widest sense.

Returning to definitions of morality, a distinction discussed (but actually rejected) by the geographer Andrew Sayer in his book about the moral significance of class is helpful. There he argues that in common sense terms morality is simply what kinds of behavior are regarded as good, how we should treat others, and be treated by them. In philosophy, there is a large and contested debate about normative conceptions of what is good but as Sayer suggests, in everyday life these norms are generally less coherent and explicit than philosophers typically assume. Sayer also notes that morality is sometimes distinguished from ethics, and that this distinction implies a difference between more formal norms or rules and informal everyday ideas of the good life based on experiences. Rather confusingly, though, philosophers tend to use both terms either interchangeably or even reversing the sense.

The original distinction between formal morality and everyday ethics comes from the work of Hegel who saw a difference between an abstract universal morality (*moralität*) and a more situated notion of good (*sittlichkeit*) related to individuals' position in the communities in which they live. In his work on class relations, Sayer uses the terms ethics and morality interchangeably but also notes that liberal philosophers tend to associate ethics with good and morality with right. It is preferable in some contexts to keep this Hegelian distinction; also, the term ethics is less judgmental than the term 'moral' or morality with its universalist or singular associations with a particular version of what is right. The term ethics perhaps better captures the complex, situated, and interdependent decisions that people currently make about the best way to live and to relate to others. Thus in feminist inspired work about relations of caring and how these activities are both essential to but undervalued by economic activities, the term 'ethics of care' seems preferable than the notion of 'gendered moral rationalities' that some geographers have adopted. However, Sayer and other commentators agree, that in most cases the terms are used interchangeably.

### Defining the Economy

Defining the term economy raises equally difficult issues. It has been common practice in mainstream Anglo American economics to equate economic relations with relations of production, exchange, and distribution within capitalist societies in which a cash nexus is dominant. Thus, activities studied by neoclassical economists and economic geographers typically have included all those forms of work that have a monetary value. However, as

students of peasant economies or of domestic labor undertaken in the home have long argued, all sorts of production and exchanges take place outside the cash economy, or what might more generally be defined as formal market relations. Exchanges in kind, informal employment, cooking and cleaning 'for love' within households are also part of an economy and in their own way are as structured by moral beliefs, rules, and norms as are formal market relations, regulated by institutional structures and legislative controls. Indeed, the moral basis of these forms of work and exchange is perhaps rather clearer than in the market, as they depend on affection and mutual care rather than on profit (although also on exploitation and forms of interpersonal control and domination).

All forms of economic behavior, however, have ethical implications as they are embedded within social interactions and so beliefs about the basis on which an interaction takes place, its fairness (or not), the relative position of the individuals involved and what is due to them, and a judgment of the potential outcomes. As an object of study then 'moral economy' (or economies) might 'either' be the study of the set of ethical beliefs and normative assumptions that structure any kind of economic action 'or' a subset of economics in which a particular (universal?) view of morality is the underlying principle of exchange. As an example, we might compare free market or neoliberal capitalism as practiced at present in the US and UK which is based on a set of beliefs that values free markets, competition, and free trade more highly than the achievement of a less inequitable distribution of incomes with, say, green economics which is based on a particular valuing of the long term sustainable use of resources and their preservation for future generations over immediate profits. While the latter arguments are clearly based on an identifiable version of a moral judgment, the former, despite its attempt to present itself as 'value free' is equally evidently located within a set of moral beliefs about how the world ought to work.

What is perhaps surprising is how long the notion of a value free, positivist version of economics was dominant in twentieth century Western social science, despite the self evident involvement of economics in the sense of the production, distribution, and consumption of goods and income necessary to live at a particular standard in questions of who should get what – an evidently moral question that lies at the center of political or moral philosophy. Nevertheless, one of the marked features of the sort of positivist social science that dominated mainstream geography and economics throughout all but the last quarter of the twentieth century was the apparent absence of ideas about value or morality. Positivist social science was represented as objective and factual, based on the measurement and prediction of aggregate social

behaviors. It made no claims to be 'moral' but simply to measure 'what is'. But as the critiques that developed in geography from the late 1960s onward from, among others, Marxist and feminist geographers and economists, and later postcolonial theorists, have documented in detail, this apparent objectivity disguises relations of exploitation and oppression as mere facts. Ideas about market rationality, for example, or meritocratic societies where achievement is seen as a measure of worth rather than privilege, are just as value dependent as the notions about class privilege and structured patterns of masculine domination that inform Marxist and feminist social science, respectively. Normative discourses – as Marxist and feminist scholarship are imply a difference between what is and what ought to be: an argument that positivist social scientists tended to dismiss as 'political', rather than using the less judgmental term 'normative'.

### **The Origins of the Term 'Moral Economy'**

Although the focus of this article is capitalist economies, and on the interplay between cultural beliefs, political judgments, and economic activities, the term moral economy initially was developed in the context of traditional, peasant societies, in which customs, culture, and traditions influenced the social relations of production, exchange, and waged labor. Indeed, it has been argued that economic relations based on the principles of social justice, fairness, even goodness, are only possible in such small, closely knit societies based on face to face interactions. However, work by E. P. Thompson on the development of British capitalism during the eighteenth century and by other historians and sociologists has documented the ways in which a concept of a 'moral economy' might be utilized to resist authority and to justify struggles against capitalist exploitation. In the context of contemporary capitalist economies, it is often suggested that a moral economy is one in which there is some form of balance between ethical norms and economic principles in order to achieve a degree of social justice. It is in this sense that the term is used here, documenting the ways in which moral questions about what 'ought to be' have been addressed in post war Britain. Also, a closer look has been taken at how moral arguments that lie behind demands for greater income equality and universal provision for risks have influenced economic policy. All states have to answer questions about the degree of income inequality and differences in overall standards of living that are acceptable and justifiable at different times. Who deserves what forms of support and on what moral basis?

In the development of Western industrial economies, for example, until perhaps the late 1950s, it was assumed that every able bodied man had the responsibility to engage in wage labor in order to provide for his

own needs and those of his family, whereas women and children had a claim on his income through the rights and obligations of marriage and kinship. In the second half of the twentieth century and into the new millennium these rights and responsibilities have been transformed, altering notions about gender and household obligation, as well as maternal care. New notions about the extent to which caring responsibilities are economic issues are now important, as the concept of a work/life balance enters economic discourse, in part replacing or at least complementing discussion about who should enter the labor force and for what financial rewards.

### **Moral Philosophy and Political and Moral Economy**

At the heart of economics lie questions not only about the production of goods and services but interrelated issues about who is entitled to or deserves what standard of living – that is, questions about distribution and consumption. Clearly in conditions of great scarcity and want, ethical notions about fairness may be overridden by pressures simply to survive, but in modern Western societies, more complex issues about what is a good society, what is fair and just lie at the heart of the modern capitalist economy. Indeed, these moral principles may be contested and overridden by other considerations – arguments about maximizing profit, for example, or about the need to provide incentives for the very rich to work harder (or at all), or for the unemployed to enter the labor market. What is clear, however, is that in complex societies, systems of market controls and regulations have been established in order to ensure that the moral principles that lie behind the distribution of incomes between the working and nonworking population are enacted and enforced. These sets of social regulations include the institutions and regulations both of the tax system and welfare provision (identified in the French regulations school as a key part of the control of capitalism and necessary for the maintenance of profit), as well as the banking system, private property rights, labor law and workers' organizations, and all those institutional regulations that define 'the rules of the game'. All these rules are necessarily based on moral economic norms about what is right, or perhaps rather what is acceptable. What is always contested, as the economy is based on social relations of unequal power, is the extent to which forms of intervention should 'interfere' (as free marketeers claim) with the untrammelled rules of the market, in order to alter the control of and distribution of profits, for 'the greater good' or to raise the standard of living of the least fortunate. It is in this sense that one has to examine the different moral principles that lie behind arguments about and the methods used to regulate the distribution

of incomes from participation in waged work at a number of key moments in the development of a British welfare state. These discussions tended to be corralled to a specialist sub branch of economics – welfare economics – or to be seen as the domain for social policy rather than economic issues *per se* but this division is less and less tenable.

One of the founding fathers of the discipline of economics is Adam Smith, whose *Wealth of Nations* established the basic principles of the new discipline of political economy. As Smith argued and other later nineteenth century political economists extended, one of the purposes of economics as a theoretical discipline is to establish ‘the rules of decency’ – how the economic world should work, how owners and workers should be rewarded, and how its outputs should be distributed. The establishment of rules about what is fair and just, or acceptable is a historical and contested process, the outcome of long struggles about, for example, the length of the working day, about workplace health and safety regulations, and about fair and minimum wages. Although many of these issues are still the focus of struggle – legislation introducing a basic minimum wage was not passed until 2001 in the UK, for example, – political economy and economics as disciplinary frameworks influencing policy played an important part in establishing the normalcy of economic principles – about the nature and legitimacy of profit, for example. Now a set of neo-classical principles are taken for granted: what were once matters of contestation have become normalized, as if they were basic timeless facts of the world. Thus, as Sayer noted, questions of validity have become turned into questions of behavior, although there still remains key areas of disagreement about, for example, the right to sell body parts or the ownership of genetic information and material.

In the next two sections of the article, focus is laid on questions about the distribution of income, looking back half a century or so to compare the arguments made then by the new Labour Government elected after the end of World War II with those made by the New Labour Government, initially elected in 1997, about economic inequality and the normative principles that lie behind an acceptable degree of inequality between individuals. Here the work of the political sociologist W. G. Runciman is particularly drawn upon.

### **Moral Principles Post-World War II**

Although many economic historians and social policy analysts regard the post war settlement introduced by Attlee’s Government as establishing a new moral basis for the British economy and state, according to Runciman, the reforms rather completed the processes of the

moral transformation that had begun under Lloyd George between 1915 and 1922. Whether new or a continuation of older normative beliefs and standards, however, four principles underlay the settlement which all challenged previous Conservative ideas about providing for risk and about acceptable degrees of income inequality and security. The principles transformed the moral basis of providing for the poor and less fortunate members of British society. First, the old insurance principle of contributions made by individuals against risk was to be replaced by universal, across the board provision financed by central government. Welfare provision was to be on the basis of need, regardless of ability to pay and free at the point of access. Second, progressive taxation was to be introduced, although the Labour Party stopped short of the abolition of private property. The third principle was to protect the legitimate interests of organized labor, especially the least well paid and most exploited workers, shifting the balance from the long domination of capital, and aiming to produce relatively narrow pay differentials after tax between different categories of workers and management and bosses. The final principle was one connected to wider macro level economic management and more centralized planning.

While these moral principles had huge general appeal after the deprivations of World War II, as the decades passed and the working population became more affluent, the general consensus began to evaporate, allowing not only a long period of Conservative domination during the middle decades of the twentieth century but ultimately the election of the radical right government headed by Margaret Thatcher that established a new set of moral foundations for economic and social policy. Runciman suggests that the seeds of the decline of the post war consensus lay in the changing economic circumstances of the second half of the twentieth century, illustrating the interconnections of political philosophies and economic conditions. First, all forms of social services – schools, housing, and especially the National Health Service (NHS) – were unable to meet the seemingly unlimited rising demands, the huge costs, and growing bureaucracies needed to provide and allocate the services. Second, progressive taxation of incomes became less popular as with growing affluence more manual workers found themselves paying tax and national insurance contributions. Third, trade unions lost a great deal of their moral legitimacy. Strike actions felt by the public became unpopular and more generally less affluent and less organized workers, especially women workers, felt let down by the masculinized union movement and its focus on the skilled male workers. Thus the widespread acceptance of the post war moral compact began to vanish.

In 1979 Margaret Thatcher became the prime minister with a completely different moral agenda for the

economy – she had a vehement belief in the superiority of free, competitive markets, in individualized market provision of services, in ‘rolling back’ the state, and an implacable hostility to the Trade Union Movement. Declaring there is no such thing as society, she summarized her economic aims as turning Britain back from a ‘give it to me’ to a ‘do it yourself’ society. These radically different normative beliefs have prevailed under New Labour since 1979. Despite the rediscovery of poverty in the 1960s by social policy commentators on the left, the moral beliefs of ‘old’ Labour lost their legitimacy, in large part, according to Runciman, because of the relative affluence of the British working class as a whole and the new forms of consumption and consumerism made possible by rising incomes, not withstanding the widening gap between the least and most affluent individuals and households. Redistributive arguments no longer had moral force.

The latter part of the twentieth century was marked in affluent nation states by the growing significance of consumption both as a motor of economic growth and as a marker of social position and self identity. As many commentators have noted, the UK and the US have become consumerist societies marked by desire for instant gratification. A range of goods is available – and lifestyles constructed through their purchase – that was unimaginable in the earlier post war decades when the political left was motivated by a more puritanical view of the world. The post war welfare state was based on a moralizing notion of the basic necessities of life. And although the plain living, chapel going, good doing, high thinking wing of the Labour Party was never completely dominant, it lost its legitimacy as the century progressed. As the working class began to travel, expand the range of goods in their homes, spend more money on leisure and the purchase of private pleasure, a new rhetoric based on both class condescension and a belief that the absolute difference between the highest and the lowest incomes was less important once absolute poverty had (virtually) disappeared became dominant. Indeed a moral discourse about ‘spendthrifts’ who fail to save for their old age, about ‘benefit scroungers’ who live off state benefits rather than entering the labor market, about ‘yobs’ of all ages who drunkenly threaten the decent middle class in the public spaces of British cities has become the hegemonic representation of the unacceptable fraction of the working class, who are too loud, too brash, and so undeserving. To this radical change must also be added a more complex, multicultural society in which both women and men have more opportunities, in which religion has become an important social divide, and in which at least until recently opportunities for social mobility seemed the main mechanism for self improvement rather than the state provision of a basic standard of living. Thus the moral certainties of

post war economic policy have vanished in the face of a neoliberal rhetoric about individual rights to pursue profit and income rather than to support aversion of social moral obligations. In the early years of the new millennium, however, the British economist Richard Layard has suggested that the pursuit of happiness rather than profit should be the overriding moral principle behind economic policy in the UK. Greater wealth, he has argued, is not correlated with satisfaction and happiness.

## Ethical Consumption

A strand of that ethical Puritanism that marked left wing movements in the post war period, however, has re-emerged today, fused with a growing concern about distributional issues at a global scale rather than within nation states. Thus the key moral issues of the early twenty first century are as much about the global distribution of income and resources, the location of production, the exploitation of workers, and the effects of rapid industrialization on the climate, for example, as they are about national policies and in the main are based on a moral belief in the principles of environmental sustainability. Ideas about ethical banking and socially responsible investment (SRI) in which fund managers make decisions about stock market portfolios based on social and/or environmental criteria are spreading. Another of the recent movements in the West based on normative beliefs about entitlement and distributional questions is the ethical consumer movement which takes a range of forms from boycotts of certain products and/or retailers to moves to buy locally and eat only seasonal products. Thus there is a growing number of non meat eaters in Western societies, as well as boycotts of retail chains such as Wal Mart and the fast food outlets such as the MacDonald Corporation.

These movements raise interesting ethical issues, as indeed does the wider sustainability movement. Who sets the standards? Are they equally appropriate for rich and poor consumers, for rich and poor nations? Recent work on Wal Mart is an interesting example. This is a US based and originally family owned chain of stores (that now owns ASDA in the UK) that owns thousands of stores in low income communities selling goods at rock bottom prices. This is achieved both through extremely aggressive purchasing policies and through the payment of low wages to its employees. The moral costs of these policies seem clear: suppliers, especially in the developing world, receive inadequate recompense, US and UK workers have to claim benefits to survive on poverty wages and so the state is subsidizing the chain and competition from small retailers is vanquished, wiping out the traditional main street in small town America.

Wal Mart is also anti union. However, the low prices at Wal Mart clearly are important for the poor in the US. It has been estimated, for example, that food and dry goods at Wal Mart are on average 27% cheaper than at traditional grocery stores. The poor benefit directly and all US consumers indirectly from the anti inflationary effects of low prices. It is not so simple, however, when other factors enter the moral equation and when the timescale is longer as the farming and working conditions in the developing world that enable Wal Mart to operate its low cost policy are morally and environmentally unsustainable. Action is needed at a larger scale than individual boycotts, using international bodies to insist on adequate labor conditions in Third World factories, for example. Normative standards, levels of minimum pay, and codes of conduct are no longer (if they ever were) moral issues that can be addressed within the bounds of the nation state. The new international division of labor in a globalizing world raises increasingly complex questions for moral principles on which to base economic decisions.

See also: Consumption; Gender, Historical Geographies of; McDowell, L.; Neoliberalism.

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### **Relevant Websites**

- <http://www.ifat.org>  
International Federation for Alternative Trade.
- <http://www.fairtrade.org.uk>  
The Fairtrade Foundation.

# Moral Landscapes

**G. Setten**, Norwegian University of Science and Technology, Trondheim, Norway

**K. M. Brown**, Macaulay Land Use Research Institute, Craigiebuckler, Aberdeen, UK

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## Glossary

**Landscape** Landscape is both a material fact and a representational social construct. Landscape is where substantive material forms and the unfolding social practices – including the particular ideological representation of landscape as a perspectival ‘view’ – are mutually and recursively constituted. Consequently, landscape – as form, representation, and meaning – is a site of contention and struggle. Such struggles not only shape landscapes but also involve attempts to naturalize them, making them seem inevitable, ordinary, and even necessary. This allows landscape to function as a medium through which identities are negotiated and reproduced, as well as a space in which the legitimacy and moral authority of particular people and ways of life are claimed and contested.

**Moral Geographies** The term moral geographies has come to denote the often, but not always, empirical study of how aspects of morality relate to spatial and temporal patterns and social relations. Related work has examined how moral judgments or assumptions are made about particular people, things, and modes of bodily conduct as appropriate or inappropriate, or in or out of place, in relation to particular spaces, places, and landscapes, and underlines the spatial peculiarity and geographical constitution of morally underpinned values and behaviors. A key theme of moral geographies is how we deal with the variety of potentially conflicting notions of how we ought to be in, and engage with, the world.

**Morality** Morality is commonly conceptualized as the sphere of significant normative concerns that focuses on how the world ‘ought’ to be. Morality, thus, refers to the beliefs, actions, and behaviors that reflect and underpin people’s conceptions of what is just and unjust, appropriate and inappropriate, right and good. Moral practices and beliefs, are commonly (albeit not universally) distinguished from ethics conceived as moral or normative theory. Although moral issues pervade all realms of human life and are deeply enmeshed with everyday social interactions, discourses, and practices, the extent to which we routinely engage in moral evaluation is rarely acknowledged. Indeed, many of these can be all the more powerful for any apparent lack of moral content; a veneer of objectivity and self-evidence tend to make the underlying moral judgments invisible.

The concept of moral landscapes addresses the inter relationship between landscapes and moral values and judgments; it concerns how particular symbolic and material landscapes both shape and reflect notions of ‘right/wrong’, ‘good/bad’, ‘appropriate/inappropriate’, and ‘natural/unnatural’ in relation to particular people, practices, and things. It also concerns the ways in which certain moral boundaries are naturalized in, and through, landscapes, in the interplay of their material and representational forms and related significations.

## Moral Geographies and Landscapes

Geographers’ contribution to the explicit elucidation of moral issues peaked around the turn of the century. Connecting the moral and the spatial was at the heart of works being undertaken which can broadly be identified as ‘moral geography’. A key advocate for this connection, David M. Smith, held that geographers had a key role to play in examining “the contextual thickening of moral concepts in the particular (local) circumstances of differentiated human being.” Political philosopher, Michael Walzer’s distinction between ‘thick’ and ‘thin’ morality thus offered geographers an opportunity to explore the co constitution of morality with particular spaces, places, and landscapes that philosophers have pointed to but little explored:

This dualism is, I think, an internal feature of every morality. Philosophers most often describe it in terms of a (thin) set of universal principles adapted (thickly) to these or those historical circumstances. ... Morality is [however] thick from the beginning, culturally integrated, fully resonant, and it reveals itself thinly only on special occasions, when moral language is turned to specific purposes (1994: 4).

Although the theme of moral geography is not new, the term moral geographies was first used in the late 1980s by Felix Driver to refer to the workings of moral assumptions regarding human conduct and its relationship to the environment in nineteenth century social science. Since then, numerous works have made clear that the human–environment and society–nature relationships that lie at the heart of the discipline of geography have fundamental moral underpinnings. For this reason, Philo, in *New Words, New Worlds: Reconceptualising Social and Cultural Geography*, urged geographers to:

establish the geography of everyday moralities given by the different moral assumptions and supporting



arguments that particular peoples in particular places make about 'good' and 'bad'/'right' and 'wrong'/'just' and 'unjust'/'worthy' and 'unworthy'. There can be little doubt that these assumptions and arguments do vary considerably from one nation to the next, from one community to the next, and one street to the next; and it is also evident that the lines of variation overlap in many ways with variations between people and places in terms of social class, ethnic status, religious belief and political affiliation (to name but a few possibilities) (1991: 16).

Indeed, it seems that moral issues are inescapably manifest in many key geographical concepts. For example, Philo notes that "moral assumptions and arguments often have built into their very heart thinking about space, place, environment, landscape," (Philo, 1991), and Matless points to the numerous moral assumptions that are often "taken for granted regarding space, time, place, nature, land, etc." The precise ways in which humans position themselves and others with respect to notions of land, environment, and nature are thus replete with normativity and moral assumptions. Coming from a different, but related angle, commentators such as Gregory have pointed to the morally differentiated character of geographical reality. As Smith indicates, moral values not only vary among individuals and groups, and hence from place to place, as part of our world of difference, but are not fixed or immutable, and so can also change through time.

Work on moral geographies in general, and landscape in particular draws attention to the way morality underpins the fundamental relationship people have with land; how they see it, how they engage with it, and how they allow others to engage with it, that is, how landscape is used to both prohibit and enable certain behavior. The morally loaded use of the term land use has also been highlighted, particularly in relation to planning which is founded on a normative morality concerning the 'right' or 'best' use of land, and also in relation to the practical use of land that necessarily reflects and produces moral judgments relating to the conduct of people in the environment. Notions concerning the 'use' and 'misuse' of land, and competing formulations of appropriate behavior in the landscape, reflect moral assumptions about environment and society, and are influential in shaping particular landscapes. When particular landscapes come to be associated with particular moral values, particular groups or activities are given legitimacy while others are undermined (i.e., labeled as immoral), which in turn affects the characteristics of those landscapes. Other authors have focused on moral landscapes as materializations of moral approval or condemnation of particular practices.

Not only are moral geographies expressed through different behaviors or conduct in the landscape, a moral vocabulary of landscape has emerged. Terms such as

vulgar, disorder, and alien, to name just a few have become part of a geographic language that seeks to describe processes of transgression or the breaking of codes of conducts. Any work on moral geography and landscape thus concerns the delineation of limits against which events/behavior/conduct can be judged and which are always place and time specific. It is against this background that four discernable, yet interlinked, contemporary loci of geographical thought that deal with moral landscapes can be identified.

## **Moral Landscapes as a Way of Doing Human Geography**

### **Conduct in Place**

In this approach, landscape forms the stage upon which moral judgments of people and practices are made; the moral evaluation of acceptable modes of bodily conduct or of appropriate roles and identities always takes place explicitly or implicitly with respect to particular landscapes. Consequently, particular combinations of individuals, groups, and behaviors assumed to belong to, or be in place in, one landscape may be deemed quite out of place in another.

A key exponent of this approach is David Matless. He links the construction of the 'character' of particular places, or rather how their character ought to be, to the conduct of particular groups and contested notions of what combinations of roles, identities and behaviors, and even sounds, are in keeping with that character or not. He illustrates how particular landscapes are complicit in shaping national and class identities, as well as allied assumptions about acceptable modes of conduct, with implications for who can stake a cultural claim over particular spaces. There have also been attempts to link these ideas to animal geographies, such as those uncovering some of the moralities that make certain hunting practices acceptable in some landscapes and not others, and showing that landscapes are crucial in determining who can do what, in what style, and where. Matless' approach is also echoed in discussions of how music legitimates particular landscapes, for example, as they are underlain with moralities of nationhood and citizenship.

Such work links particularly closely with research on geographies of exclusion and transgression, which demonstrates how such boundaries of acceptability relating to what or who is 'in' or 'out of place' may only become visible when transgressed. Practices and identities transgressive of a moral order can occur both purposely and unintentionally, but have radical potential in that they can denaturalize and disrupt the existing order and its taken for granted assumptions underlying who and what is included and excluded in the use of everyday space.

Thus, the allied processes of subject formation are often highly contested as attempts to assign marginal identities to particular (often marginal) spaces, consequently communicating how places are made and resisted. A key device noted by several commentators is concealing and sanitizing issues of ‘who belongs’ or ‘to whom do things belong’ by focusing on issues of ‘where things belong’ or ‘what behaviors belong’.

### Moral Practice and Landscape

This second loci of moral landscapes and geography differs from the first in that it moves beyond a staged understanding of landscape. It is an approach based on the assumption that people’s relationship to their physical surroundings is expressed through practice, and moral judgments about such practices in particular landscapes help shape landscapes themselves. Ideas of appropriate and inappropriate practice are thus moulded into the physical landscape, making landscapes and human practices a co constituted morally charged process. Emphasis is placed on how culture–nature relationships reflect and produce moral judgments, and landscapes being both a representation and a reflection of such relationships, can help us understand how the production and meaning of a lived and practiced landscape becomes a moral landscape.

Gunhild Setten has demonstrated for Jæren in Norway that what is considered appropriate or inappropriate, good or bad, practice in relation to a particular landscape differs between different groups, for example, between farmers and environmental bureaucrats. Moral values and arguments are relative not only to specific histories and geographies, but also to how one comes to share moral assumptions with others. The operation of implicitly or explicitly shared moral assumptions among a group of people concerning right and wrong in human action can be thought of as a moral order.

Ordering nature is a key component both in farming and within the public planning and regulatory bodies of the agricultural sector. Setten has thus argued that farming practices cannot be understood in isolation from the interweaving of such practices ordering nature, and from the concept of how the landscape becomes the subject of contested codes of conduct through these ordering practices. This suggests the importance of identifying how landscapes are the product of rules aimed at orienting and producing practices that ultimately are cast as natural or unnatural, moral and immoral.

Works on landscape, practice, and morality have demonstrated the need to raise questions related to whose morals, whose ideas of good or appropriate behavior, are allowed to dominate landscape discourse. These works have also demonstrated the role of landscape narratives in justifying different types of conduct.

### Landscape as Polity

One of the most cherished landscape discourses within human geography evolves around landscape’s scenic nature, that is, landscape as a visual idea. An often competing discourse defines landscape as a physical, territorial entity, as real and tangible land. Kenneth Olwig has shown that landscape is not simply territory or scenery, but also an expression of law, justice, and culture, that is, the amalgamation of community and place. Etymologically, the very term landscape was originally built around notions of morality, justice, and law, evidenced in Scandinavian and Germanic territorial history. With reference to medieval Scandinavia, Olwig demonstrates how traditions, customs, and institutions were woven into the character and conditions of a land, and that these ‘lands’, *Landschaften* (in German) or districts developed their own identity. Law, customs, and morality were central in the shaping of the land by its people; thus ‘landscape’ referred to the polity within which this took place. The early concept of *Landschaft* was consequently an expression of legal institutions and processes. Up until the nineteenth century, on the North Friesland coast of Schleswig-Holstein, one can find examples of landscape territories that formed polities with their own representative assemblies and hence a large degree of self government with local rules derived from customary law. These polities were in German referred to as *Landschaften*.

At present, employing landscape as polity represents a potent force in taking seriously what Olwig termed “the substantive nature of landscape” (Olwig, 1996). According to Olwig, a substantive understanding of landscape recognizes the importance, both historically and contemporarily, of community, culture, law, morality, and custom in the shaping of human existence. A substantive landscape thus comes to be articulated through a polity’s ideals and practices of law and justice. Consequently, a substantive landscape does not champion a scenic understanding over a physical, territorial understanding of landscape. It rather aims at bringing to the fore how landscape is always a site of contention in the intersection of physical and symbolic powers. There are strong links between what is here identified as the loci of ‘moral practice and landscape’ and ‘landscape as social justice’, respectively and a substantive understanding of landscape. Setten has used this understanding in developing ideas about landscapes of practice and landscapes as moral territories. Don Mitchell argues for the importance of substantiveness in relation to social justice and landscape.

### Landscape and Social Justice

According to Don Mitchell, landscapes are made and remade through labor, exploitation, and struggle, and are naturalized by the work that ideological landscapes do in making invisible the associated material injustices.

Consequently, the way we conceive of landscapes and our relationship to them affects the ways in which we are able to make and defend claims to them. Although rarely making explicit reference to the term 'moral', the landscape theory of Don Mitchell is infused by dimensions of morality and normativity in three distinct, but intimately linked, ways. First, notions of morality are implicated in the mechanisms through which particular constructions of landscape assert and justify particular orderings of landscape and associated social relations. For example, Mitchell elaborates how landscape is always more complex than its morphology implies because it is produced and reproduced ideologically through normative judgments and assumptions; powerful actors make and represent the landscape as they think it ought to be – such as the means by which surplus value will be extracted – and then lend their 'vision' legitimacy by imbuing it with morally saturated definitions of what is right, proper, just, or natural in particular circumstances. He emphasizes the dual mechanism of how such moralities work to enable certain values – and therefore certain groups such as immigrant workers or homeless people – to be 'written out' or made invisible in the landscape, while simultaneously naturalizing their erasure.

Second, underpinning Mitchell's work is a profound concern for the outcomes of the processes of landscape production and reproduction, particularly with regard to geographies of justice and injustice, and whose interests are ultimately served by manipulating and controlling particular people, resources, and behaviors in such ways. The material manifestation of landscapes, and their role as a concretization of social relations, means that struggles over its various forms, meanings, and representations impinge on real people's bodies and lives and the very structures and conditions of existence. Landscape's ability to conceal the labor and social relations through which it is both made and made known, allows us to easily overlook how landscapes of beauty, bounty, and privilege are only made possible by the production of landscapes of destruction, exploitation, and alienation elsewhere. Questions of landscape and justice also thus involve questions of property, in terms of shaping who can – and cannot – make legitimate claims to occupy, appropriate, or alienate land.

Third, a strong normative element permeates Mitchell's assertion that we, as landscape researchers, must take a critical stance on what to investigate and how. Our role as scholars in representing and producing landscapes should not be overlooked. He condemns the attempt of some scholars to produce 'morally neutral' landscapes, and their associated failure to acknowledge the material implications of their approach because, as he asserts in *The Lie of the Land*,

[t]he landscape will be defined by someone. The only questions are who claims a voice in doing so, and how that

voice is amplified and transmitted in all manner of discourses, popular, academic, or on the ground (1996: 199).

The moral imperative is clear in his illustration of how we can actively contribute to the production of less degenerate landscapes, and steer landscape studies explicitly in the direction of social justice. It is also evident in showing how we are in a position both to give visibility (or not) to marginalized groups, and to draw attention to multiscale linkages and geographical interdependencies that often cause one landscape to thrive at the expense of another. Furthermore, Mitchell and others assert that such integration of landscape and social justice concerns must be made with greater explicit reference to normative theory anchored in moral and political philosophy. Yet others have extended the reassertion of materiality in Mitchell's work by drawing attention to the agency of the landscape itself.

### **From Moral Landscapes to Landscapes of Justice, Ethics, and Care**

Works on moral landscapes demonstrate that in order to make the coupling of landscape and morality a relevant concern for human geography, it can be useful to address issues that go beyond the realm of the landscape itself. In fact, the attachment of moral reasoning to landscapes in debates within human geography has moved on to a more explicit and broader focus on ethics, care, and social justice. Approaches falling under the rubric of moral landscapes have consequently become but one way of doing human geographies that produce, and constitute the product of, moral concerns. In the process, the moral status of landscape seems to have been weakened, in that landscape becomes just a metaphor for other key concepts and concerns in geography, namely those of place, space, nature, and environment. Parallel to this development is that notions of morality have come to be central to a number of recent trends in human geography that are occupied with notions of justice, ethics, and care. Diverse works on space, place, nature, and environment, as seen from, for example, feminist, antiracist, and queer identified geographers, have made clear that it is no longer a question of whether geographers should concern themselves with moral and ethical issues, but in what ways must such issues be taken forward as part of human geography's agenda.

*See also:* Cultural Geography; Ethical Issues in Research; Landscape.

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# Movies and Films, Analysis of

**S. C. Aitken**, San Diego State University, San Diego, CA, USA, and National Technical University of Norway, Trondheim, Norway

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## Glossary

**Auteurism** A theory that links films primarily to the creativity of their directors.

**Deconstruction** The unpacking/taking apart of movies to suggest the complex ways in which they relate to societal values and politics.

**Discourse Analysis** The study of institutional (e.g., Hollywood) and representational (e.g., movie images) narratives as they relate to the creation of power structures in society.

**Experimental Methodologies** Post-structural methods that reject grand theories and focus on nonrepresentational ways of knowing.

**Filmic** Pertaining to film, movies, and cinematic images.

**Hermeneutics** An interpretation of texts that attempt to maintain the integrity of the authors' intent.

**Male Gaze** The active visual attention of male characters (and audiences) on passive female representations.

**Mirror Stage (Oedipal Stage)** The stage at which individuals recognize themselves as monadic beings, separate from their environments (and mothers).

**Nonrepresentational Theory** Post-structural theories that challenge the power of representation (and cognition) and focus instead on nonrepresentational ways of knowing such as embodied emotions.

**Political Unconscious** Esthetic and psychic processes that underlie larger economic and social structures.

## Introduction

The geographic study of film focuses on interpreting and explaining the ways people, places, spaces, and things are embodied and embedded in moving pictures and the ways cinematic visions influence and transform our geographic world. Geographers arrived relatively late to the study of films and movies: Study of the interrelations between filmic spaces and the politics of culture, and the use of film as a means for understanding our place in the world was largely unexplored in geography prior to the 1990s.

When systematic geographic study of film took off in the 1990s, it was colored by methods prevalent at that time. These included semiotics, hermeneutics, psychoanalysis, feminism (particularly Freudian analysis), and

Marxism. With a grab bag of borrowed methods, geographers explored the ways places and spaces were represented in films, the ways characters interacted with each other and their cinematic environments, and the ways environments took on active roles rather than providing stages or muses for central characters. Early studies were largely empirical, using specific films to elaborate person–environment relations in landscapes from deserts to ice flows to cities. Movie narratives and the roles of characters were used to elaborate larger social and cultural issues of interest to geographers, such as gender and ethnic relations. Fiction films were studied for their cultural relevance and geographic realism. Documentary films were critiqued for their authenticity, their geopolitical bite, and their use of landscapes.

The last decade witnessed a diminution of the authority of formal and relatively structured methods in favor of post structural and experimental methods. A large motivation for this move was to engage culture worlds in all their complexity and to resist the temptation of reducing them to one or two explanatory axes (e.g., the power of the phallus and the inevitability of neoliberal agendas). A further motivation was to get beyond the power of images as representations and look more closely at the ways images affected people and cultures from nonrepresentational standpoints. The study of movies underwent further significant transformation and gained increasing acceptance as a part of geography when the introduction of technologies such as the digital versatile disc (DVD) format and the Internet facilitated relatively easy access to movies, scripts, storybooks and commentaries.

Gauged by number of geographic articles and books that incorporate analysis of films and movies, it seems reasonable to suggest that the study of film within the discipline of geography has now come of age. More important than the quantity of articles and special sessions at conferences is a quality of work that results in important debates on the character of filmic representation and meaning production. This resulted in the development of both spatial ontologies of film and filmic ontologies of space, with study going beyond the postmodern idyll that there is nothing but image/representation. This theoretical sophistication offsets the narrow methodological empiricism of earlier work, dispelling notions that geographers either naively embrace certain films as tools for representing geographic concepts (landscape, space, place, and so forth) or they unabashedly borrow from film criticism

and cultural studies to help elaborate geographic questions with little methodological or theoretical concern.

## Structural Methods

Structural methods are important for answering geographic questions that presuppose the world is ordered in a certain way. Many moviemakers indulge, for example, in systems of signs as a way of communicating with audiences. A full appreciation of Robert Rodriguez's movies such as *Sin City* (2005) or, to a lesser extent, his earlier *El Mariachi* trilogy, requires an understanding of the use of space in graphic comics, the timing of narrative in pulp fiction, and the ways 1930s film noir social realism translates into twenty first century adolescent fantasy. Alternatively, it may be suggested that Rodriguez's work defies sophisticated analysis and is structured simply as entertainment, but a suggestion of this kind requires an understanding of the ways contemporary audiences read and appreciate his work. What passes for entertainment is very different today from the 1930s and so, questions may be raised about the continued popularity of gothic and noir genres. In either case, structured ways of studying films and film contexts are elaborated well methodologically through textual methods, Marxism, feminism, and psychoanalysis.

## Textual Methods: Semiotics and Hermeneutics

In the early 1970s, Paul Ricoeur suggested that social and political institutions inscribe values, meanings, and behaviors in much the same way as texts. This metaphor was quickly adopted by geographers interested in 'reading' landscapes. With the advent of film geography as a bonified part of the discipline, early researchers pointed out that this 'life as text' metaphor is applicable to social and cultural productions such as fiction and documentary movies. To aid in the reading of cinematic texts, geographers turned to linguistics and literary studies.

Semiology is intent upon uncovering the meaning of texts by dealing with what signs are and how they function. Swiss linguist Ferdinand de Saussure suggested that any sign could be divided into two components: the signifier and the signified. For example, the image of pages dropping off a calendar (the signifier) denotes the passage of time (the signified). The relationship between the signifier and the signified is arbitrary but may be fixed for a certain time by the nuances of political culture. The image of the moving calendar was widely accepted in the 1940s and 1950s, but is now seen as an over used relic, and today this semiotic technique is most likely to be used in satires or 'retro' movies. American philosopher, Charles Sanders Peirce, elaborated the triad icon-index-symbol to describe how signs are created, interact, and operate within films. For Peirce, any one film sign or

frame may be constituted as an icon, an index or a symbol to varying degrees. The sign is an icon when there is resemblance (e.g., a portrait signifies a particular person); it is an index if there is a physical, causal, or symptomatic connection (e.g., smoke signifies fire); and it is a symbol if the connection must be learnt (e.g., the color green signifies go). If Peirce's work enables an expanded, variable application of semiotics, then Umberto Eco's development of the 'open' text in his *Opera aperta* ('Open Work') provides a methodology for understanding more complex fields of meaning, rather than simple strings of meaning. From this, movies are understood as open, internally dynamic, and culturally and psychologically engaged fields. Eco's novel *The Name of the Rose* (1980, later made into a movie starring Sean Connery), for example, is about a series of murders in a medieval monastery. It ends with semiotic beauty as the main protagonist attempts to reconstruct a library and create a space for cultural meaning based on scraps of evidence and the combination of random pieces of information.

Methodological concepts used by geographers interested in semiology include intertextuality, metaphor, and metonym. Intertextuality refers to the conscious and unconscious employment of previously created texts. Robert Rodriguez, for example, consciously uses the spectacularly violent comic book texts of Frank Miller in *Sin City*, whereas the text/story line of Sophocle's *Oedipus Rex*, written around 425 BC, may be so well rehearsed in Western culture that it goes virtually unnoticed when it shows up in a variety of movies (e.g., sons killing fathers in *Bladerunner* (1982), *Star Wars Episode III* (1983), and *My Own Private Idaho* (1991)). With metaphors, the relationships between two or more things are suggested through analogy (e.g., movies are texts), whereas with metonyms they are suggested through associations between names. In *Traffic* (2000), Director Steven Soderbergh uses orange/red and blue filters to signify respectively the danger and passion of drug trafficking across the Tijuana border crossing and its consumption by bored suburban middle class teenagers in Ohio. That danger and passion are signified by orange/red and suburban boredom and drudgery are signified by blue are understood only within a specific set of cultural codes.

As a textual method, hermeneutics is based on methodological principles from literary criticism that incorporate the context of the creator of the text as well as the reader. And so, movies are read in terms of the larger social and cultural contexts of their times as well as the proclivities of screen writers, directors, producers, and actors. For hermeneuticians, the integrity of the movie must be preserved so that meaning is derived from it and not projected onto it by the researcher. Auteur theory is a particular form of hermeneutics that prescribes the authorship (auteur) of films to the vision of directors who create seeming unique, distinctive, and

recognizable movies. In theory, an auteur's films are identifiable regardless of genre. The term was first applied as a cinematic concept in François Truffaut's 1954 essay 'A certain tendency of the French cinema'. Some feminists criticize auteur theory with the suggestion that it elaborates patriarchal domination in moviemaking, because the majority of directors who are singled out for their vision are men.

### **Marxism**

Whereas semiotics and hermeneutics are mostly used to analyze visual representations and spaces already produced, Marxist methodologies are concerned with the production as well as the consumption of images and narratives. Of particular interest are questions about who owns and controls the production of movies, and who stands to gain most from their distribution. How are the directors, writers, actors, artists, and other creators of movies, and how are cinemas and the consumers of movies affected by the patterns of ownership and control of the movie industry?

In classical Marxism, there are assumptions of underlying economic structures with their own inner logics, and an understanding of these logics enables researchers to analyze everyday cultural elements. In the 1980s, concern was raised that the complexity of culture was lost to an endless recoding of property relations that are reduced to an explanation based upon class conflict. Concerned about classical Marxism's inability to interpret small variations in cultural meaning, Fredric Jameson used literature and film studies to argue that there are important underlying esthetic and psychic processes – which he called the 'political unconscious' – that are co created along with larger economic forces. This consciousness is socially produced, and is filtered through the minds of men and women to the extent that dominant ideologies – and particularly capitalism – can be contested. In *The Geopolitical Aesthetic* (1992), Jameson uses the works of French filmmaker Jean Luc Godard and Filipino filmmaker Kidlat Tahimik, among others, to argue that film analysis is one of the primary methodologies for exposing the importance of space in the construction of social and economic relations in late capitalism. Jameson's Marxist inspired approach to film reinvigorated studies of visual culture through the 1980s and 1990s, and paved the way for psychoanalytic and post structural frameworks.

### **Feminism**

Feminist analysis of movies got its first major impetus from Laura Mulvey's (1975) essay 'Visual pleasure and narrative cinema'. She famously argued that voyeurism and what she called 'the male gaze' are foundational in

Hollywood movies to the extent that the male character always actively looks and the female character is passive as the object of attention. The gaze, Mulvey argues, seeks to exercise power over its subject: as the 'maker of meaning', the male subject (either the leading man or the audience or both) gazes at the female image and marks 'her' as the 'bearer of guilt'. Fetishism, she goes on to note, involves the adoption of a female image as a spectacle that is so complete (e.g., Marilyn Monroe) that it disavows Freud's theorizing of the male castration complex. Rather than wanting to punish the female other as the 'bearer of guilt', the fetishist raises it to a spectacular object of desire. All of this positions the researcher to understand filmmakers' preoccupation with various forms of male regression – physical, psychological, and historical – that connect nostalgia for the past and childhood with male fears for the body. Two examples point out the power of this argument: male fears related to the castration complex are represented by disembowelments and other forms of mutilation in slasher horror movies; and looking at the Medusa's head wriggling with phallic snakes turns men to stone – a point discussed by Freud in a 1955 essay – and is represented by Busby Berkeley's famous 1930s musicals featuring women dancers with exotic head dresses.

Post Mulveyian thinking focuses on the paradox that although masculinity derives considerable social and sexual power from representational castration and other male fears of the body, feminist film theory has problematically equated masculinity with activity, voyeurism, sadism, and story, and femininity with passivity, exhibitionism, masochism, and spectacle. Carol Clover points to this paradox in an essay entitled 'Her body, himself: gender in the slasher film' by noting that many men accept female victim heroes – who she characterizes as 'final girl'. In examining this paradox, she argues for multiple spectator positions. Mulveyian theory constructs a monolithic male subject as universal and uncontested and, at one level, this representational convention provides a means through which the private structuring of desire can be represented in public form. But fears and desires embodied in images of disembowelments are not just about castration fears, they also reflect and refract what Kaja Silverman notes as a series of male masochistic fantasies, and these fantasies are a pleasurable point of identification for viewers irrespective of gender. If Mulvey's preoccupation is with cinema's power to gender fix its spectators in a society that is already constructed under patriarchal dominance, then Clover suggests that perhaps the reverse is also possible: cinema offers its spectators shifting and multiple positions and resistance to larger hegemonic norms. Anne Frieberg, in *Window Shopping* moves this argument further by arguing that the dark spaces of cinema enabled women to go out in public to embrace or resist spectacle. This is about a space of difference that draws heavily on postcolonial theory because,

for Clover and Friedberg, the spectator's identification is shifting, unshackled from an imperious Hollywood that contrives racial identities, ethnicities, genders, or sexual preferences. Clover's and Silverman's suggestions in combination further frustrate the persistence of a comfortable methodological dichotomy aligning masculinity with domination and femininity with submission.

## Psychoanalysis

Christian Metz was one of the first film theorists to apply psychoanalytic methodologies. He looked at the 'suspension of disbelief' enabled by film, noting that what the film viewer witnesses is not real but an 'impression of reality' that is deeply wound into the collective psyche of viewers. For example, so called social pathologies such as agoraphobia, vertigo, hysteria, and schizophrenia are embedded in the landscapes of many movies to the extent that the space created marks collective responses to what is not normal/hegemonic as defined by society (and, problematically, the discipline of psychology). What the work of fantasies and phobias in film calls into question are the assumptions of (1) a discrete individual and an external threatening object and (2) some standard around which normality and humanness are judged.

Psychoanalysis and feminism are strongly linked in film analysis that counters essentialized standard of maleness. In her seminal work, Mulvey uses Jacques Lacan's linguistic reinterpretation of Freud to argue that our lack is made good by film, which restores us to an imaginary wholeness (at least for a short while) through a simulated and constructed reality. Lacan argues that this lack is precipitated by what he calls the 'mirror stage' (Freud's Oedipal stage) when language moves us from oneness with our environment (mother) to create a self/other dichotomy. Mulvey argues that in classic Hollywood films, women are never represented as 'self', but rather as 'other', the dark forbidden continent. An important and obvious direction here is suggested by speculating that men, also, are objects of desire and mystery. Within this context, the genre of the 'buddy movie' (e.g., *Gallipoli* 1981, *Tango and Cash*, 1989; the *Leathal Weapon* Series with Mel Gibson and Danny Glover) looms large as espousing an active homosexual eroticism. In this vein, it may be argued that male hysteria is a disassociation from hegemonic masculinity, and its allegories, the buddy movie/road movie, is a spatial performance of a redoubtably disenfranchised spirit.

There is some criticism of a cine psychoanalytic focus on interiority and pathology because it detracts from larger, exterior political and economic problems. Of late, psychoanalytic, Marxist and feminist perspectives have joined forces with post structural theory to provide a methodological critique of the pervasive and problematic assumptions that contemporary visual methodologies are

powered solely by representations and how we react to them.

## Beyond Representation

In the late 1990s, concern arose that there was too much emphasis on the power of representations and images, at the cost of understanding the complex material contexts of lived experience. Some postmodern writers, for example, argued that public loss of faith in the so called authentic (the real) can be laid at the door of the visual media and, in particular, moviemakers: the copy was confused with reality. Alternatively, post structural writers emphasize that representations do not have a life of their own; instead, they are given meaning through the actions, thoughts, and material experiences of people.

Discourse analysis – based upon the writings of Michel Foucault – looks at the social consequences of representation by focusing on the ways power is constructed through representation rather than focusing on the representations themselves while at the same time not losing sight of the importance of the ways political identities are constructed. Foucault's work is often recognized with Jacques Derrida's methods of deconstruction as some of the first forays into post structural analysis. Discursive practices – the ways meanings are connected through representations and actions – are forms of disciplining and so discourses, at heart, are about power and knowledge production. Discourses produce subjects (directors, actors, and viewers), as well as images (special effects) and technologies (surround sound and DVDs).

## Digitally Versatile

Geographical discourse analysis as applied to film is about the special language of movies and how that language is practiced to elaborate spatial relations, emotions, and uneven development and the power of places. It is about how subjects and landscapes are produced through the media of film, and it is also about the production of technologies such as the Internet and DVDs.

Often, the Internet facilitates the illegal download of movies prior to their release dates. Web pages are sometimes created for particular movies that encourage exploration of wide ranging critiques and commentaries. DVDs, and particularly special collectors' editions, often include along with the main feature, special features such as director's commentaries or discussions between screen writers and actors as well as technical and special effects information. Of course, as informative as it is, this supplementary information is hugely contextualized and is often vetted by the film studio that produces and markets the DVD. Nonetheless, these added features offer researchers new insights into the larger discourses that play through a particular film.



### Moving Images and Experimental Methods

In *Engaging Film*, geographers Tim Cresswell and Debbie Dixon argue that a post structural analysis of film is about engaging mobility, which can be thought of in a broad sense as a certain attitude, at times openly radical and at times quietly critical, toward fixed notions of people and places. That is, an emphasis on mobility suggests a certain skepticism in regard to stability, rootedness, surety, and order.

Tom Conley's *Cartographic Cinema* (2007) engages movies in a provocative and quite straightforward way. By focusing specifically on the ways maps are represented in a series of movies, he goes on to suggest the need to go beyond representation by looking at what Giuliana Bruno (2001) calls tender mappings. These evoke cartographies of affect that take viewers on journeys that go beyond cinematic technologies and dominant discourses. For the geographer interested in analyzing film, these journeys are simultaneously internal and external, esthetic and political.

Geographers interested in analyzing film now use experimental methods to get at the nonrepresentational, affective, mobile components of film and cinema, with particular focus on the work of Giuliana Bruno and Gilles Deleuze. The corpus of Giuliana Bruno's work is about taking journeys and flights of fancy that elaborate the ways that certain films resist and rework patriarchal, urban structures and military fictions. To achieve these ends, her work is couched in material landscapes. While Deleuze is also characteristically post structural in his rejection of grand theories and structured methods, his response – unlike that of Derrida and Foucault – is not a painstaking, genealogical analysis and forensic criticism aimed at revealing life in all its complexity. He advocates experimental methodologies that do not try to 'represent' the world. For Deleuze, representation is a negative procedure because it distorts, judges, and ultimately destroys what it portends to reveal. Alternatively, his notion of affective disruptions and how those play out in filmic spaces highlight multiple subjectivities that resist, are one with, and are differentiated from seeming hegemonic forms. As such, they add to the world in a positive way. In *Cinema 1*, Deleuze suggests that affective methodologies present 'pre verbal intelligible content' that is not about story lines, linguistically based semiotics, a

universal language of film, or some existential or Lacanian lack in the viewer. Experimental perspectives move researchers beyond narrowly circumscribed structural arguments about cinema genres, or mechanistic notions of how images work, to a more nuanced appraisal that draws heavily from circuitous, flexible, and transformative notions of space and time. Proponents argue that it enables a liberatory connection with lived experience, both within the cinema theater and beyond it, to the images and material conditions that continuously produce and reproduce daily life. Experimental methodologies encourage tools such as emotions that enable anger against the structures that would impede freedom of expression, and joy for what comprises the best possible spatial and filmic worlds. This relates in important ways to a focus on cinema from a nonrepresentational perspective that evokes tender mappings.

See also: Discourse Analysis; Feminism/Feminist Geography; Film; Semiotics.

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# Multicultural City

**H. Hoernig**, Université de Québec à Montréal, Montréal, QC, Canada

**M. Walton-Roberts**, Wilfrid Laurier University, Waterloo, ON, Canada

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## Glossary

**Assimilation** Process of acquiring characteristics and qualities of the dominant group through behavior and/or residential settlement patterns.

**Cosmopolis** An urban region inhabited by people of different national and ethnic backgrounds; also used by Leonie Sandercock to refer to an ideal city where all people coexist respectfully and harmoniously, amidst social, cultural, and racial diversity.

**Culture** A term of many definitions, here defined as a shared and dynamic system of meaning and power through which people live out and recreate social life.

**Difference** In relation to identity, refers to a wide spectrum of key human qualities related to individual and social characteristics such as gender, race, ability, sexuality, etc.

**Ethnic Enclave** A model of ethnic settlement where dense clustering of residential settlement of a single ethnic group occurs, accompanied by economic and social activity.

**Ethnoburb** A model proposing a form of suburban multiethnic settlement formed by national and local contextual factors and global restructuring, with characteristics of both a traditional ethnic enclave and a global economic outpost, and socially stratified by inter- and intraethnic differentiation.

**Heterolocalism** A model proposing that through transportation systems and communications technology, ethnic groups maintain their identities and communities across regionally dispersed residential settlement patterns punctuated by concentrated nodes of social or commercial activity.

**Hybridity** New social and cultural products and processes which arise from the mixing, crossing, or displacing of boundaries between people, media, and materials.

**Integration** Process of incorporating newcomers into social, economic, political, and spatial spheres of society.

**Multiculturalism** Idea that cultural diversity is integral to society.

**Segregation** Exclusion of a social group from the rest of society, usually used in reference to spatial residential patterns, but can also relate to economic, social, and political spheres.

## Introduction

As urbanization processes continue to dominate regional and national development, migration and immigration trends are transforming the sociocultural composition of urban regions and introducing a growing spectrum of cultural diversity. As a result the multicultural city, as an urban demographic reality, is an increasingly common phenomenon throughout the world. For example, the major immigrant receiving metropolitan areas of London, Toronto, New York, and Dubai are each home to more than over 100 ethnic and linguistic communities. Other cities combine both national and international sources of cultural diversity such as Johannesburg, Delhi, and the city state of Singapore.

In its most basic application, the multicultural city concept denotes a city of many cultural groups. In contrast to those urban societies with more homogeneous populations, this diversity has direct consequences for the social, cultural, economic, and political life of the city. However, in its ideological sense, the multicultural city also conveys multiculturalism, that is, the idea that cultural difference in the city can be socially sanctioned and celebrated. In other words in an ideal multicultural society different cultural groups coexist and simultaneously maintain their cultural integrity and readily participate in an equitable, urban society.

## The Historical Multicultural City

Multicultural cities in a demographic sense are not new. Urban interethnic mixing has accompanied urban development throughout history. Scholars have employed various taxonomies to explore the historical evolution of cities and their associated ethnic heterogeneity, with the most effective approaches linking the political and economic context of the time to the nature of ethnic relations within the city. A general model of such cities would include four types. The first includes preindustrial or ancient cities such as Rome or Constantinople where ethnic and religious pluralism existed and the cities could be considered, by some measures, multicultural and cosmopolitan. The second general category includes colonial cities as illustrated in Furnivall's work on plural societies in the Dutch East Indies. Colonial processes initiated the movement of various groups primarily for economic purposes, and their settlement in the city was marked by a racialized hierarchy that often delimited



**Figure 1** Entry to Vancouver's inner city Chinatown. Source: Zhi Xi Zhuang.

settlement and employment patterns. Furnivall argued that these societies were characterized by power hierarchies and ethnic plurality, where ethnic groups experienced only limited social interaction. A third type can be termed industrial cities, such as Chicago, that in the early twentieth century became the focus for seminal work on ethnicity and urban form. More recent scholarship has examined the postindustrial city, shaped by globalization and transnational flows of migrants, capital, and goods. Recent work on the cities of Vancouver and Los Angeles, for example, examines the socioeconomic and political transformations that accompany rapid increased global migration, and demonstrates the specificity of associated urban change.

Historic and geographic context are also critical in understanding the changing discourses attached to ethnic difference within the city. In late nineteenth century Vancouver, Canada, for example, official and quotidian forms of discrimination contributed to the formation of an inward looking ethnically and economically segregated ethnic Chinese community. Over the past century economic, social, and political shifts, including dramatic changes in immigration and equity policies, have resulted in tremendous changes in Chinese immigrant settlement patterns and economic activities. For example, Chinese immigration to Vancouver in the early 1990s was dominated by wealthy Hong Kong and Taiwanese migrants fleeing the uncertainty of Hong Kong's 1997 repatriation to China. Settlement during this period was directed to suburban, rather than traditional inner city neighborhoods, and was accompanied by a burst in transnational economic activity, including high technology, real estate,

and professional services. These developments led to the emergence of new urban spatial forms such as the 'ethnoburb', the 'monster house', retail condominium style shopping malls, and significant inner city redevelopment characteristics of postindustrial landscapes. Over the last century there has been a transformation in the discourses associated with ethnic Chinese immigrant settlement, revealing complex intersections of ethnicity and class. Additionally, there has been a radical change in the built environment related to Chinese immigration, as **Figures 1 and 2** demonstrate.

### The Contemporary Multicultural City

The multicultural city can be divided into three broad categories based upon sources of diversity. There are those long standing multicultural cities of multiethnic states of Europe, Africa, and Asia, which continue to diversify due to national migration and urbanization. Second, there are the more recently developed cities of the settler societies of North and South America, Australia, and New Zealand; where over the past century immigration has contributed extensively to growth and development of cities in these areas. Third, there are those cities where cultural diversity includes both national ethnic groups and those from immigrant sources.

Within these three groups, there are several sources of urban cultural difference. First, there are indigenous populations, those original inhabitants of countries affected by colonialization and settlement, resulting in a majority national settler population and minority



**Figure 2** False Creek development by the Chinese diasporic entrepreneur Li Ka Shing in Vancouver, Canada. Source: Margaret Walton-Roberts.

indigenous population, for example, countries of North America and Australasia. Colonialism has also left a legacy of ethnic diversity in these countries due to forms of voluntary, enforced, and indentured labor mobility, such as Fiji, parts of the Caribbean, East Africa, and South America. Second are the national ethnic populations of those long standing multiethnic nations including India, most African and Asian countries, and some European nations, for example, Belgium, and the United Kingdom. This category would also include migrant ethnic minorities such as the Irish travelers, and the Roma (gypsies). The third category includes international ethnic populations derived from more recent waves of immigration which have taken place within a wider context of colonial and neocolonial connections.

### Understanding Urban Multiculturalism

The term multicultural has been applied widely and therefore it is important to examine the various ways in which it has been used. The concept culture itself is a complex term of numerous definitions. In this context, it can be understood to refer to a learned set of interrelated beliefs, ideas, and behaviors shared by a group of people. Although culture is shared and therefore a social phenomenon, scholars of recent decades emphasize that culture is dynamic and contested and insist that it must be contextualized and understood within broader social processes. In addition to culture, race and ethnicity are key concepts to this field of inquiry. Race (scientifically invalid but socially salient) refers to human phenotype or physical characteristics, often skin color, and ethnicity

refers to the boundaries defined between social groups on the basis of certain shared features such as language and history. The three terms are used in overlapping ways by urban residents and scholars in reference to urban multicultural issues.

The concept of the multicultural city is significant because it signals a particular understanding of the city that includes cultural difference. Many conceptualizations of the city do not explicitly recognize cultural difference. In some urban discourses cultural diversity has been merely ignored or deemed irrelevant, while in others cultural difference is assumed to be a temporary condition while cultural minorities assimilate to the majority population. The use of the term multicultural city brings cultural diversity to the forefront as a permanent condition.

Many scholars describe several levels or uses of the concept multiculturalism. These uses can be directly applied to various themes of multicultural city scholarship as illustrated in **Table 1**. First, the term multiculturalism can be used to describe a demographic condition. This description of the general characteristics of a society's population includes the statistical exercise of counting and describing 'cultural' bodies. The second use refers to the social reality of multiculturalism that is, the 'on the ground' description and analysis of the intra and intergroup relations. The third use refers to the ideological or normative sense of the concept. Here, multiculturalism is a way of thinking about how people of different cultures should be able to function in society, and how they should interact with one another. The fourth is a political use and includes the national, regional, and local politics involved in such debates, as well

**Table 1** Uses of the concept of multiculturalism as they apply to the multicultural cities

<i>Uses of the concept multiculturalism</i>	<i>Application to the multicultural city</i>
Demographic Social reality	Urban demographic; national, regional, and local residential settlement patterns Social inclusion or exclusion; social and economic integration or segregation (voluntary or involuntary); urban inter- and intraethnic relations
Normative Political	Urban normative discourse of the multicultural city, e.g., Sandercock's cosmopolis Urban policy: e.g., land-use planning, urban infrastructure and services; ethnic minority participation in urban citizenship
Critical discourse	Critique of urban ethnic and racial relations; urban social movements which challenge unequitable urban policies or management practice, e.g., housing, policing, immigrant support services, etc.

as resulting policies and statutes designed to manage cultural diversity. Finally, the fifth use of multiculturalism can be as critical discourse. Here multiculturalism as critique or debate can be seen as the means by which marginalized peoples can criticize and resist oppressive forces or structures in society. In this way, a transformative multiculturalism is a movement which draws upon cultural difference to destabilize the status quo and work toward more equitable, intercultural relations.

Another important dimension to the concept of the multicultural city is the evolution of ideas related to multiculturalism. These ideas have been examined, negotiated, translated into policy and programs, and vociferously debated in various ways over time and within different national, regional, and urban contexts. For example, in Canada, one of the few countries that has established official federal policies, legislation, and programs related to multiculturalism, scholars have noted major shifts in the ways that multiculturalism has been interpreted and implemented over the past 40 years of its official existence. While there have been several renderings of the Canadian chronology, most versions recount the ways in which the policy shifted from its somewhat superficial focus on only cultural events and programs ('song and dance' multiculturalism), to a more critical stance in which policy and programs are designed to address issues related to social exclusion, discrimination, and equity. Debates in various other immigrant receiving countries such as Australia, the UK, and European nations have also been dynamic, characterized by varying waves of support and opposition including vigorous debates concerning national and regional identity, specifically related to issues such as the freedom of religion (e.g., 'the foulard or headscarf affair' in France), the freedom of speech, and the costs and benefits of immigration.

Finally, aspects of multiculturalism can be categorized by three issues arising from cultural diversity, each with a corresponding set of implications that are summarized in **Table 2**. One set of issues relates to the recognition of cultural difference; characterized by a demand for cultural recognition that requires some type of accommodation. A second set of issues relates to discrimination

and racism under existing polity where claims are made for fair treatment and equal human rights. The third set of issues occurs at the intersection of ethnicity with one or more other dimensions of difference. In these cases, it is the combination of two or more characteristics that results in the marginalization of an individual or group.

### **The Multicultural City: Urban Structure and Function**

The relationship between multiethnic populations and urban structure and function has long been a preoccupation of urban scholars. Various models of the North American city such as those developed by the Chicago school (e.g., Burgess' concentric zone model) included residential patterns along ethnic and racial lines into their conceptualization of urban structure and change. Early models were premised upon ecological processes of invasion and succession or filtering. Scholars have criticized the Chicago school for its ecological approach, and its assumption that broad social categories of race or ethnicity are stable coherent classifications that can be uncritically mapped onto the urban landscape.

More recent work on social difference in the city has highlighted the ways in which urban political economic and sociocultural processes have contributed to the social construction of ethnic and racial identity, as well as the complex and dynamic ways in which social identities become 'fixed' in the built form. More recent scholarly approaches to human geography have also recognized that culture forms are only one of the many axes of difference (e.g., gender, class, ability, race, religion, age, etc.) that intersect to determine the tremendous dynamic social complexity of urban life. Such issues become of the greatest concern when this intersection contributes significantly to social marginalization or exclusion. Most scholarship addresses this theme directly or indirectly by examining the ways in which groups face barriers, and experience or overcome their social and economic disadvantage. A second, related theme is urban citizenship, a term which encompasses both the rights and responsibilities of urban residents, including political and social

**Table 2** Three readings of issues related to urban cultural diversity

	<i>Issue</i>	<i>Group claims</i>	<i>Urban issues</i>
Accommodation	Cultural difference	Claims to cultural recognition	Architecture and land-use planning issues (housing, places of worship, retail); heritage and memorial sites; recreation and leisure facilities; cultural celebrations (festivals, parades); language rights; freedom of religion (dress, religious practice etc.)
Equity	Discrimination/marginalization	Claims to human rights/equity	Equitable access to urban infrastructure, services, and programs; access to affordable housing; employment equity; participation in urban governance
Intersectionality	Social marginalization or exclusion due to the combination of more than one dimension of identity	Claims to equity, in recognition of the multiple or interacting barriers faced by individuals or groups	Problems experienced by specific groups, e.g., immigrant, single mothers or disabled people of an ethnic minority, usually in relation to other issues such as housing, employment, or support services

participation in urban, civil life. We explore these in more detail below.

### Spatial Patterns

One way to investigate cultural diversity has been to examine the ways in which different groups are distributed across the urban landscape, usually querying the correlations of their locations with other variables such as education or date of arrival. There are several scales at which this investigation takes place. One approach is to examine a country as a whole, and study settlement patterns across a national urban system. In most cases, settlement patterns are not uniform, but rather, reflect the influence of other economic, political, and social factors related to conditions of entry or of migration and settlement processes. Most immigrant receiving countries have one or more gateway cities, adjacent to a port of entry, hosting higher numbers of foreign born residents, for example, New York, Vancouver, and Sydney. Many multiethnic countries have greater levels of cultural diversity in those cities supporting high rates of economic activity, for example, Accra, Johannesburg, or Mumbai.

A second approach is to examine intra urban patterns of settlement. Classic North American studies of recent immigrants have examined ethnic enclaves, or areas of concentrated co ethnic residential settlement and social and economic activity (see **Figures 3** and **4**). Many human geography studies of recent immigrants have concerned the relationships between particular groups (as defined by different variables, e.g., country of origin, race, etc.), economic success or deprivation (as mediated by factors such as education and income) and intra urban residential location. Residential segregation, both voluntary and involuntary, has received particular attention in relation to its implications for urban interethnic relations.

Scholars have also examined ethnic settlement in relation to broader urban patterns of dispersal and recentralization, such as Li's ethnoburb model or Zelinsky and Lee's concept of heterolocalism. Scholarship has also addressed issues related to informal settlements, often located on peripheral sites and populated primarily by migrants and the poor. While this has been primarily a developing world issue, it has also been relevant to developed world cities where problems of homelessness and affordable housing supply are acute.

A more finely grained analysis has been used in yet a third approach. Here scholars have examined individual trajectories and the micro sites of multicultural interaction and exchange, to investigate on the ground occurrences of interethnic negotiation in specific places such as workplaces, schools, parks, and streets or in reference to particular events like a conflict or a decision making situation. These studies reveal the active and dynamic construction of both boundaries and alliances between individuals and groups upon multiple grounds. Such studies also indicate the role played by political structures and institutions in mediating, managing, and facilitating such interactions.

### Economic and Political Issues

Multicultural populations have implications for the urban economy in both its formal and informal sectors. Economic integration is often a critical concern for urban ethnic minorities and a central component to the settlement and integration process for newcomers. Many geography studies have explored various patterns of economic activity related to immigrant, migrant, or ethnic minority groups. Again these studies explore a host of factors related to economic integration. Work in the area of global cities has highlighted the social polarizing effects of globalization through the concentration



**Figure 3** Scenes from a suburban ethnoreligious residential enclave: the Ahmadiyya Peace Village in Vaughan (Ontario, Canada), a neighborhood developed by an Ahmadiyya Muslim community. Source: Heidi Hoernig.

of employment, particularly for recent immigrants, in low paying service sector jobs. Other scholarship has documented the difficulties many minorities and recent immigrants encounter upon entering the formal labor market, for a variety of reasons (e.g., language and cultural barriers, systemic racism, lack of recognition of foreign credentials, insufficient education, etc.). As a result, many pursue self employment through small business development. The economies of multicultural cities also include a range of informal economic activities including street vending, sex trade work, and begging. Scholars have explored the ways in which race, ethnicity, and culture have been significant in the participation of and outcomes for certain groups involved in these activities. Cities also draw upon cultural diversity in various ways such as in the promotion of tourism, in the portrayal of positive images for consumption (e.g., a downtown cosmopolitan lifestyle), or in strategies designed to attract additional economic development and immigration.

Singapore is a good example of a city that has diligently 'imagineered' itself as a cultural city, and cultural diversity has been one of the central tropes the city

authorities have utilized in order to compete for tourism and business investment in the city. In reshaping the city processes of heritage designation and gentrification have, however, ironically worked to displace the very segments of the population this process of urban boosterism seeks to revalorize. The example of Singapore demonstrates the tension between the cultural city as façade and the multicultural city as home.

The participation of different ethnoracial groups in urban political arenas has been another fertile area of scholarship. Scholars have also examined situations in which urban governments integrate cultural diversity into policy development, programs, and service delivery, including the use of multiple languages and the official recognition or celebration of significant cultural and religious events. Culture emerges as an important political issue in those multiethnic cities where indigenous or traditional political institutions, as well as representatives of the formal government, participate in local decision making. Urban politics are also woven into struggles for access to municipal services for immigrant, migrant, or cultural minority groups; in areas such as affordable



**Figure 4** Proposed Punjabi retail and service commercial plaza adjacent to Sri Guru Singh Sabha gurdwara on Airport Road, Malton (Mississauga, Ontario, Canada). The sign reads 'Great Punjab Business Centre: Where Business and Culture Come Together'. Source: Heidi Hoernig.

housing, social and employment services, and urban infrastructure provision.

### Social and Cultural Issues

Within the city certain groups may be disadvantaged by cultural or ethnic difference, but ethnocultural groups can also benefit from institutional completeness, where multiple co ethnic organizations create social and political capital for the group. Research has explored how intragroup differences (such as gender or age) affect resource distribution, and this line of enquiry represents an analysis that is more responsive to the intersection of identities.

Cultural issues can be viewed through specific features which transform how people experience the multicultural city. Language is a key issue expressed in various ways: through public sector channels when officially recognized or through group specific means such as through ethnic media, business (see **Figure 5**), social and cultural networks. The current tension in southern US border towns over the use of Spanish illustrates this dimension well. Religion is also often a central component to urban cultural difference. It plays out spatially through features such as residential patterns, places of worship (see **Figure 6**), religious schools and colleges,

shrines, bookstores, and retirement homes. An overlooked but omnipresent aspect of the multicultural city is time. Cultures are frequently characterized by distinct temporalities, often in association with religion. Daily cycles and calendars, often following a lunar rather than the Gregorian calendar, structure the flow of individual and group activities. Multicultural cities are therefore also multitemporal spaces, although in most cases minority groups must adapt their temporal sequence to the dominant temporal culture.

Festivals, holidays, and other cultural and religious events are a familiar expression of urban multicultural temporalities. Scholarship on multicultural festivals can range from urban boosterism and place marketing to critical examinations of what Hage terms 'cosmo multiculturalism', where ethnic difference is contained and made politically palatable for the middle class through the spectacle of food and the festival.

### Urban Planning, Development, and Management

One final important approach to the study of the multicultural city has been that of urban processes of planning, development, and management. This area includes





**Figure 5** Multilingual signage (Korean, Chinese, English, and Persian) of a multiethnic retail and service commercial strip along Yonge Street, North York (Toronto, Ontario, Canada). Source: Heidi Hoernig.



**Figure 6** Ethnoreligious pluralism along Highway No. 5 in Richmond (Canada), where 15 places of worship are located within two blocks between Blundell Road and Stevenston Highway. Five religions are represented in mandirs (Hindu), a temple (Buddhist), a gurdwara (Sikh), a mosque (Muslim), and churches (Christian). Shown above in this photo is the Gurdwara Nanak Niwas (Sikh), and the Az-Zahraa Islamic Centre (Shia). Source: Heidi Hoernig.

official public sector actors and organizations, as well as those in private and nongovernmental sectors. A body of scholarship has coalesced around issues that arise when multiethnic residents have differing beliefs and behaviors related to basic urban planning and development issues. This includes a group of works which examines conflict in multiethnic cities. A range of issues have been explored through conflicts that have erupted over development of ethnic retail, housing, places of worship, funeral homes, and heritage sites. Conflicts have been attributed to a number of causes including cultural factors, racism, and fear. While land use conflict is common to urban development, this scholarship has demonstrated some of the practical challenges of planning and managing a multiethnic community. Key issues in the area of urban governance amidst cultural diversity include the need to reexamine public interests in view of culturally diverse needs and the importance of civic structures and processes that allow urban residents access to and involvement in public decision making. Scholars have documented those few city governments which have made significant progress in developing innovative methods for addressing some of these issues.

For other multicultural cities, mostly in developing world cities, the most acute urban planning and development issues concern basic urban infrastructure and service delivery for water, waste disposal, electricity, and transportation. Here again, exclusion from these critical services has resulted from the intersection of cultural, ethnic, and racial factors with other political and economic variables.

### Key and Emerging Issues

The concept of the multicultural city is germane to urban scholarship in an increasingly globalizing and urbanizing world. Several issues identified will continue to influence the direction and scope of this work. One central question concerns the ways in which cultural, ethnic, and racial difference is conceptualized and analyzed. Social science scholars have drawn methodological and analytical attention to factors of both stasis and change, in their understanding of the multiple ways in which difference is constructed. Scholarship related to the multicultural city also faces the challenge of understanding the interplay between social and cultural processes related to identity and representation and the political economic processes addressing the distribution of power and resources.

International comparative studies provide both interesting and challenging questions about the ways in which issues related to cultural diversity emerge in different cities. Although scholarship in both the global North and South include many studies that simultaneously examine

issues of cultural difference with other concerns (e.g., housing, governance), scholarship related to the multicultural city in developed countries commands its own growing subfield. To date in many of the studies of the global South, multi and interethnic issues are largely overshadowed by the overwhelming need to address more basic issues concerning access to urban infrastructure, services, and poverty. However, there are exceptions, for example, violent clashes in Baroda, India, between Muslims and Hindus have been interpreted through the lens of the multicultural city.

Several related concepts also highlight future areas of research related to the multicultural city. One concerns the general question of how cultural difference intersects with other dimensions of difference. As discussed above, many issues related to culture, ethnicity, and race become most relevant when they coincide with other characteristics such as income or gender. This raises the question of the usefulness of the concept of multicultural city, where perhaps an open focus on difference is more conceptually and analytically effective. Another important concept is that of transnationalism, a social phenomenon which draws further complexities into our understanding of how culture plays out in various relations that take place across time and space. Third, the concept of cosmopolitanism, in its cultural variant, concerns an important characteristic of some urban residents, as well as an emerging discourse put forth by urban residents and decision makers. Finally there are some interesting lines of enquiry to be drawn between modern day and historical multicultural cities, especially with reference to the economic, political, and cultural dimensions of interethnic relations and governance practices. Scholars have also pondered the utility of examining the historical antecedents of the multicultural city and contrasting the relatively positive social and political experiences of ethnic groups in ancient multicultural cities, versus the exclusions and divisions evident in many modern metropolises today.

Globalization, immigration, and urbanization trends underscore the importance of the multicultural city in the twenty first century, not only as an ethical ideal, but increasingly as an economic imperative. Understanding and improving the human capacity to peacefully coexist in multicultural communities is crucial to future just and prosperous urban development. Scholarship that strives to understand how issues of identity and difference are socially constructed in the urban milieu are of increasing relevance both academically and politically. Past urban riots such as those throughout French cities (2005) and in Sydney (2005), Baroda (2002), Lagos (2002), Oldham (UK, 2001), Mumbai (1993), and Los Angeles (1992) are jarring reminders of the potential spiraling costs of unattended interethnic conflict and socioeconomic inequities for ethnic minorities.

See *also*: Cosmopolitanism; Ethnicity; Immigration I; Multiculturalism; Race; Religion/Spirituality/Faith; Social Geography; Transnationality.

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Metropolis: An International Forum for Research and Policy on Migration, Diversity, and Changing Cities.
- <http://portal.unesco.org>  
UNESCO International Migration and Multicultural Policies.
- <http://www.unhabitat.org>  
UN Habitat: State of the World's Cities Report.
- <http://www.urban.org>  
Urban Institute, A Nonpartisan Economic and Social Policy Research Organization.

# Multiculturalism

J. Clayton, University of Sunderland, Sunderland, UK

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## Glossary

**Assimilation** The incorporation of previously culturally distinct minority groups into the cultural majority of a nation.

**Heterogeneity** The existence of social and cultural differences within a given population.

**Identity Politics** Political action carried out on behalf of a specifically defined social or cultural group.

**Integration** The manner in which migrant and minority groups are included and treated within 'host' societies.

**Pluralism** A society which is defined in terms of an affirmation and acceptance of social and cultural diversity.

## Introduction

The term 'multiculturalism' is now commonplace within contemporary academic as well as popular discourse, being as it is at the heart of a number of contentious and passionate debates around; nationhood, belonging, community, immigration, race, ethnicity, religion, equality, and human rights. It remains a controversial concept and practice supported by many, but increasingly dismissed by those from a range of political traditions and theoretical standpoints. Multiculturalism is far from a straightforward idea and has been interpreted by geographers, other social scientists, and policymakers in a variety of respects, often dependent upon the motivations of its use and the context of its employment. As a consequence, its contours often remain ill defined and unclear.

Broadly speaking, there are two main strands of thought in geography and related disciplines of sociology, politics, and cultural studies as to what multiculturalism entails. The first of these is that multiculturalism stands for the very condition of living with social and cultural diversity within specific nations and places, that is, the social fact of the proximate coexistence of those identifying as different in a variety of racial, ethnic, and religious respects. The second strand refers to a set of formal institutional practices which juggle notions of equality, fairness, and justice while at the same time recognizing the presence and rights of racially, ethnically, and religiously defined groups, in an attempt to provide for populations with varying needs. Both of these definitions recognize social and cultural differences as significant to an understanding of the term; however, the latter stresses the normative recognition of difference and the inclusion of personal and collective cultural markers

within the public realm where they are protected, catered for, but also legitimized and reified.

## Multiculturalism as Diversity

The premise upon which multiculturalism as a political mode of integration is based is that there exists in modern nation states heterogeneous populations who do not share racial or ethnic affiliations, cultural practices, or geographical attachments. Multiculturalism therefore speaks of a condition of demographic pluralism, something which clearly defines any society in some shape or form, but focuses here upon racial, ethnic, and religious differences.

Shifting patterns of social and cultural diversity have historically been driven by prevailing patterns of internal as well as international migration. Motivations for population movements vary considerably but in general terms have been driven by opportunity, force, economic inequality, and survival as a consequence of, among other processes, urbanization, industrialization, slavery, conflict, and natural disaster. Given histories of economic and political domination and the relative instability of today's less developed countries, it is no surprise that the majority of such movements has taken place either between countries in the global south or from these countries to the global north. The most common destinations for international migrants in recent years include the United States, Canada, Australia, and countries in Western Europe, including Germany, France, and the UK. However, in terms of the destination of refugees, who have a well founded fear of persecution in their home nation, 70% currently live in less developed countries outside of North America or Europe. The complexity of today's multicultural societies across the world can be understood as a legacy of historical processes which have resulted in population movements, but also as a continuing product of accelerated globalization.

Despite the history of multiculturalism as a social fact and its spatial pervasiveness, it has only really gained currency and entered into academic and public discourse in the Western world in recent decades. This can be seen as a direct consequence of and response to growing racial, ethnic, and religious diversity in countries, including the UK, the United States, Canada, and Australia, which have been unofficially and more officially marked out as 'white' national spaces. While what we know today as the British Isles has always been a place successively settled by groups of various origins, the arrival of migrants from

the Caribbean in the 1950s and then from the Indian sub Continent in the decades that followed, signaled the beginning of the UK conceived of as a multicultural nation. In this sense multiculturalism does not just refer to the coexistence of socially and culturally distinct groups, but also the arrival and presence of those visually marked out as 'different', seen to disrupt some imagined monoculturalism. In the case of the UK, this monoculturalism has been equated with its 'whiteness'.

In the case of the UK, there is no denying that these migration patterns have had a significant impact on the face of the nation. Of a population now over 59 million, 7.9%, that is, 4 635 296, identify as belonging to 'non white' ethnic groups, mostly, but by no means entirely composed of individuals with heritages traced back to the former colonies in the Caribbean, India, Pakistan, and Bangladesh. In the context of Canada this figure is much higher at 18.9%, and in Australia nearly one quarter of the population (24.6%) now identifies as 'non white'. In recent years, the picture in each of these nations has become even more complex. For instance, restrictions placed on the movement of global economic migrants, refugees, and asylum seekers have become more stringent, and countries such as the UK have also seen the arrival of new migrant groups from an expanded European Union. While political reaction to the growth of minority ethnic groups, particularly 'non white' groups, in these countries has been hostile, particularly where far right political parties have gained ground, there is increasing acceptance that multiculturalism is now a defining feature of these societies.

### **Multicultural Cities**

Along with considerations of the impact of diversity upon nation states, the concept of multiculturalism has also been used to describe and analyze the experience of cities. As most migrant communities initially gravitate toward urban areas, attracted by the prospects of work, the availability of services, and the importance of securing support networks, cities have become the focal point of attention among geographers examining multiculturalism in action. For example, 45% of the UK's ethnic minority population now live in London. Indeed, it has been suggested that in the context of multiculturalism cities have become more important than nations in defining the identities of individuals, senses of belonging, and notions of citizenship. Cities with global connections are becoming the hubs of multicultural activity and the arenas where the challenges of living with diversity are enacted through the everyday lives of its citizens.

Geographers have focused their attention upon the relationship between multiculturalism and cities by emphasizing the spatial effects of racial, ethnic, and cultural

'difference' as played out upon the urban environment. Those working through positivist traditions have proceeded to map the residential settlement and location of minority ethnic communities through the analysis of census data and by measuring levels of ethnic isolation by using segregation indices. There has also been an emphasis on the processes through which patterns of race and residence emerge, focusing upon the political economy of residential location and the structural conditions under which these patterns develop. This work has highlighted the relation between space and 'race', particularly through an emphasis upon the residentially divided geographies of multicultural cities as a result of positions of inequality, discrimination, and 'community' formation. However, such approaches have also attracted criticism. For instance, it has been argued that ethnic concentration is often treated as an inherently problematic phenomenon and that complex identities are often reduced to cartographic patterns, neglecting more detailed personal and collective histories, relations of power and the significance of global networks, and distant places beyond the boundaries of the urban neighborhood.

On the other hand, as part of an accepted 'cultural turn' within the discipline and with reference to emerging literatures on the construction of racialized identities through social practice and globalization, geographers have placed greater attention on the experiential aspects of multicultural cities. In doing so, geography has borrowed from cultural studies, urban sociologists, and ethnographers by addressing the realities of multiculturalism as lived out. Geographers have also recognized the need to take more seriously the productive capacities of urban multicultural spaces and their role in the reproduction of diverse identities as well as the local translation of global processes as everyday situated phenomena. Other emerging avenues of research include the effects of transnational commodity cultures in creating new forms of ethnicized identities, the socio spatial construction, and negotiation of minority and 'white' ethnicities, particularly in terms of youth subcultures and cross cultural exchange and racialized representations of place through which powerful meanings ascribed to places work to reinforce specific interpretations of 'race'. In particular, these studies have been successful in opening up the importance of place and urban sites as powerful elements within processes of racialization.

### **Multiculturalism as Public Policy/Mode of Integration**

Multiculturalism can also be identified as one version of an ideological and institutional response to the perceived challenges which diversity and reactions to

diversity pose. Much of the current literature devoted to this definition of multiculturalism has emerged from political philosophy and considers in both abstract as well more empirical ways how modern nation states may and indeed do deal with the changing relationships between the individual, communities, and the nation state in the context of global and societal change. By and large, this is approached through a liberal political lens but also takes into account strands of communitarian thought and the significance of identity politics, by outlining the possibilities of accommodating the diverse needs and practices of minority groups while maintaining core democratic ideals and valuing the rights of the individual.

A significant shift from assimilationist policies in several Western nations was witnessed in the late 1960s and 1970s amidst rapid economic restructuring, a broad political and ideological struggle between right and left, and the growing influence of social movements which highlighted the marginal position of working class and minority communities. The dominance of assimilation as the prevailing mode of integration of minority ethnic groups in the period preceding this demanded that minority communities adjust their social and cultural practices, customs, and beliefs in order to fit in with those of the national majority. This was based upon a desire for some sort of level playing field through the secularization of the public realm (although the public realm itself is never entirely neutral) but was also driven by a longing to preserve an 'authentic' sense of national identity. However, given pervasive cultures of racism and the power relations involved in the integration of migrant communities, it was increasingly clear that migrant groups could not obtain fair treatment.

Not all nations in this period underwent this shift away from assimilation and for those that did their trajectories were often divergent. In France, for example, with its national culture historically rooted in republican ideals of the secularization of the public realm and the United States with its overriding notion of 'melting pot' assimilation, specific versions of integration which valued allegiance to the nation above all other forms of identification became entrenched. However, particularly in the UK, Canada, Australia, Sweden, and the Netherlands, multiculturalism as public policy began to represent the official government approach to the challenges of diversity as part of a concerted effort by those on the political left to undermine assimilationist, nationalistic, and reactionary sentiment. In effect this was a challenge both to the idea of homogenous nations and to the structural inequalities and discrimination experienced by those outside of the national majority, something which was not solely imposed, but also developed from below by those struggling to deal with the realities of unequal societies.

In the case of Australia, the adoption of multiculturalism as an official policy in the early 1970s came as a result of persistent lobbying activities on behalf of activists directly involved with and concerned for the welfare of marginalized minority ethnic groups. These activists, including welfare workers and academics, were able to impress upon the national government at the time the need to push a multicultural agenda to the forefront of public policy by attempting to involve various minority groups. It took several years for the government to become persuaded by this argument eventually bringing in a multicultural agenda firstly in their dealings with ethnic affairs policy and then into areas of education and social policy by the mid 1970s. By 1975 the federal departments of labor and immigration, social security, education, the media, and the Attorney Generals department were all under the influence of a policy of multiculturalism.

In Canada during the 1960s and 1970s, there was also a growing concern over issues of inequality which were increasingly stark, particularly highlighted by those politically aligned to the left. As a consequence, the country witnessed many changes in terms of its social policy as regards public healthcare, pension schemes, support of the unemployed, and expansion of the education sector. The introduction of multiculturalism as an official policy can be seen as part of these changes along with the increasing pressure exerted on the government by minority French speaking Canadians in their campaigns for a bilingual nation.

Within the context of the UK, academic and political debate in this period was largely concerned with the manner in which New Commonwealth immigrants could be incorporated into mainstream British society, recognizing the disadvantaged positions of minority communities and their racialized exclusion in terms of housing, employment, education, healthcare, and other social services, particularly in major urban centers. While antidiscrimination legislation in 1965, 1968, and 1976 marked the beginning of the adoption of multicultural policies by the British government, it was clear that the impetus for these changes grew out of antiracist protest and grass roots movements, a cause which was then taken up by the Labour party. It was out of these struggles that later multicultural policies emerged. The political will behind these ideas were at once emancipatory and universalist, appealing to ideas of inclusion, equality, and social justice but at the same time they endorsed a form of particularism which desired that the needs of minority groups be met and provided for within the public domain.

Despite these developments, by the 1980s a Conservative controlled national government remained opposed to the concept of multiculturalism. In defiance of this, it was local Labour controlled councils, particularly in multiethnic urban areas, who took up multiculturalism

as a guiding principle, developing in different ways municipal programs which attempted to meet the needs of minority communities. For instance, programs focused upon the incorporation of minority ethnic groups into local political processes, expansion of multicultural education, provision of language services targeted at specific minority groups, the opening of community centers, and the relaxation of planning regulations which allowed for the construction of greater numbers of places of worship.

### **The End of Multiculturalism?**

There is growing recognition by academics and commentators that this phase of multiculturalism is now largely in retreat. In current debates around minority rights and national identity in several countries, multiculturalism has come under increasing attack from those speaking from a variety of political positions and academic viewpoints.

Those who saw multiculturalism as emerging out of an antiracist struggle; a fight for the recognition, human rights, and equal treatment of minority groups have grown disillusioned with a celebratory form of multiculturalism which seems to ignore its political roots. On the other hand and in line with a return to assimilation, multiculturalism has been accused of being responsible for the development of poor community relations. In the case of the UK, this has been seen in the aftermath of urban 'riots' in the north of England in 2001. Official responses to these 'riots' identified that policies of multiculturalism and self segregation led to the establishment of parallel lives and mistrust in these divided communities which culminated in this unrest. This has been identified as part of a shift in a government agenda and a growing discontent among other leading figures such as the head of the Commission for Racial Equality who have argued that a policy of multiculturalism leads to fragmentation rather than integration. Multiculturalism is now considered as the problem and not the solution. Such criticisms have also been countered by arguments that the sources of discontent in minority communities, have not emerged from official policies of accommodation, recognition, and provision but through the persistence of racism, inequality, and successive underinvestment in the UK's urban areas.

What is seen to guide this move away from multiculturalism and toward assimilation in the case of the UK is the idea that a stronger and more coherent national identity and sense of Britishness is needed to counter the differences seen to threaten the nation. This must be seen not only in the context of the disturbances mentioned above but also in the aftermath of 9/11 and 7/7 which entrenched this fear and suspicion of difference,

particularly in religious terms, and has drastically altered the debate and the governments direction. The language of this cohesion discourse emphasizes the importance of common values, social order, solidarity, interaction, and a shared sense of belonging as key to the development of more harmonious inter ethnic relations. What alarms some scholars and activists is that the very basis of multiculturalism, as a platform for greater racial equality and social justice, is becoming undermined by increasing calls for restriction of migrants, refugees, and asylum seekers alongside increasing demands placed on minority ethnic groups to conform to some prescribed and narrow version of Britishness.

### **Multiculturalism and Identity**

Challenges to the concept of multiculturalism have not only emerged from those who believe that multicultural societies have become too separated. Questions have also been raised by those who believe that institutional practices have actually reinforced the position of minority groups through the categorization of identities as 'other'. This can particularly be seen in the context of urban entrepreneurialism and the need for locales to attract capital through the promotion of attractive cosmopolitan assets. One example of this is the employment of multiculturalism as a place marketing tool and the commercialization of particular forms of difference. This is seen in the development of ethnic quarters such as Chinatowns in many Western cities, as well as the growth of multicultural festivals, officially endorsed practices which have imposed particular versions of ethnic identities that are attractive to the majority and which are economically viable. At the same time multiculturalism has come to stand for the exoticization of ethnic difference, while simultaneously neglecting the dominant position and formation of white identities as 'the norm'.

It is also contended that the definition of minority and migrant groups on the basis of strict racial, ethnic, and cultural terms within the discourse of multiculturalism has worked to draw boundaries around individuals, fixing identities as stable with essential and unchanging characteristics. Postmodern and anti essentialist theories stress that identities are mobile, multiple and contextual, and open to change, countering communitarian philosophies of multiculturalism in that they conceal the realities of hybrid identities and multiple cultural influences as well as the dynamic possibilities of an individual's identity. The dangers of fixing identities are that they become naturalized and associated with inherent biological and cultural traits, rather than seen as products of political struggles and contestations in specific geographic contexts. The meanings and significance of

particular ethnic labels for instance vary throughout history, but also according to national context and from place to place. It is also argued that the multifaceted and multidimensional aspects of identity, cross cut by a multitude of social categorisations such as race, ethnicity, religion, social class, gender, age, and sexuality, mean that individuals cannot so easily be pigeon holed. Such critiques do not deny the importance of difference, but the idea that it can be so easily pinned down by highlighting how individuals are in states of liminality and ambiguity, on the threshold of various forms of identification which are constantly being redefined and renegotiated through their everyday lives.

While theoretical approaches, which aid an understanding of the constructed and nonessential character of racial and ethnic identities, are vital to an appreciation of the possibilities and dynamics of multiculturalism, there is a tendency to ignore the realities of lives which operate in relation to specific and identifiable racial and ethnic groups. For instance, the employment of universal and undifferentiated figures, such as the 'migrant' or 'nomad' in the celebratory language of postmodernism, neglects the structural inequalities and experiences of marginality which construct the lived realities of racialized individuals and which formed the basis for political multiculturalism in the first place.

What seems to be particularly valuable from such theorizations though is that the identities which constitute multiculturalism as a social fact and as public policy should not be taken for granted, but recognized as at once imposed, performed, and actively negotiated. Indeed, what is clear is that definitions of multiculturalism and the way in which geographers and other social scientists have attempted to outline the boundaries of this slippery concept depend largely upon the manner in which the identities of individuals and racial, ethnic, and religious groups are conceptualized.

See *also*: Belonging; Citizenship; Difference/Politics of Difference; Ethnicity; Festival and Spectacle; Globalization, Economic; Hybridity; Identity Politics; Immigration I; Local-Global; Multicultural City; Nationalism; Race; Racism and Antiracism; Segregation.

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# Multidimensional Scaling

W. M. Bowen, Cleveland State University, Cleveland, OH, USA

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## Glossary

**Attribute Space** An objective space which contains a set of stimuli object and in which the dimensions are defined by the traits or characteristics of those stimuli (contrast with 'psychological space').

**Binary Choice Judgment** The product of a judgment task in which a respondent is asked to select and commit to one of two possible alternatives.

**Dimension** The degree of gradation or quantification along one of a set of mutually exclusive traits or characteristics.

**Dissimilarity** The psychological distance between two stimuli.

**Ideal Point** An ideal level of attributes for objects of choice around which a decision-maker's utilities decrease monotonically.

**Individual Differences Models** Psychologically oriented models that represent individuals in terms that explicitly recognize that each individual is in some respects like all other individuals, in some respects like some other individuals, and in some respects like no other individuals.

**Judgment Data** The products of a formally structured process in which respondents are asked to provide their judgments of a set of stimuli and in which the judgments are rendered formally so that they are in a form appropriate for communication, interpretation, and processing.

**Liking Ratings** The products of a judgment task in which respondents are asked to order a set of stimuli by providing answers to questions such as "On a scale of 1 to 5, how much do you like stimulus  $x$ ?"

**Multidimensional Scaling** Any of a variety of methods for producing a geometrical representation of a data matrix.

**Pairwise Comparison Judgments** The products of a judgment task in which respondents are presented with all possible stimulus pairs and asked to indicate that member of the pair who in their judgment possesses more of the attribute being scaled.

**Preference-Ratio Judgments** The products of a judgment task in which respondents are presented with all possible stimulus pairs and asked to indicate the degree to which one of the stimuli is preferred to the other using ratio-scaled numerals.

**Psychological Space** A subjective space in which a set of points are identified that correspond to respondents' perceptions of or preferences for a set of stimuli. The dimensions of the psychological space may

differ from those in the corresponding attribute space (see 'attribute space').

**Unfolding Model** A model in which a space is constructed to contain a set of points for a corresponding set of respondents and another set of points for the stimulus objects that they judge, all on the assumption that the respondent's preferences are 'folded' around the location of the respondent's own position (the ideal point) in the space.

## Introduction

From walking across a room to driving a car to work to selecting a residential or industrial location, human spatial behavior is based upon hundreds of spatial choices. These choices invariably involve negotiating sets of stimuli that have both physical (objective) and perceived (subjective) attributes or dimensions. The stimuli are objective in the sense that they are presented to an individual's sensory organs as elements of his or her environment. The stimuli are subjective insofar as, in order to respond deliberately to their environments, individuals must perceive and in some degree discriminate between and interpret the stimuli they encounter in terms of their previously acquired spatial knowledge and understanding of the relevant environment. Successful spatial decision making does not necessarily require that the subjective dimensions completely and perfectly represent the objective ones. Nor does it require that individuals perceive and simultaneously consider all of the stimuli objectively present in their environments. The only necessity for individuals is to select and respond to a subset of stimuli that enables them to predict the outcomes of their choices, so that they can achieve their purposes. Geographical research that has as its aim the study of spatial behavior must thus take at least two sets of considerations into account. First, it must account for both the objective and subjective aspects of the sets of stimuli with respect to which individuals deliberate and respond in making their predictions and choices. Second, it must account for the possibility that individuals select and respond to subsets of stimuli from their environment, and that their views of their environment are not a complete and perfect representation of that environment. Multidimensional scaling aims to meet both of these requirements. In doing so, it enables powerful systematic analysis of the perceptions and preferences that underlie individuals' spatial choices and behaviors.

Multidimensional scaling (MDS) models comprise a subset of a general class of scaling models, all of which are oriented around the development of instruments for measuring or ordering stimulus objects with respect to their attributes or traits. The term ‘multidimensional scaling’ in particular refers to a family of data analytic methods used to geometrically represent dissimilarity or preference relations between elements of a set of objects or stimuli in low dimensional multidimensional space. The following sections describe the historical and conceptual foundations of MDS, give an overview of the MDS research process, and characterize four specific purposes for which MDS may be used in human geography. Examples of the wide range of application areas related to human geography include cognitive mapping, environmental planning, cartography, choice of transportation mode, migration, route learning and way finding, consumer behavior, site selection, and spatial decision making.

## Historical and Conceptual Foundations of MDS

The historical and conceptual foundations of MDS are found in late nineteenth and early twentieth century empirical discrimination experiments in psychophysics and psychometrics. The researchers conducting those experiments were interested in characterizing empirical relationships between physical magnitudes such as the amount of light in a room or the weight of an object, and the corresponding values on related sensory scales. For instance, the researchers would ask the respondents in their experiments to judge the weight, pitch, color, or brightness of physical objects (generally referred to in the MDS literature as ‘stimulus objects’). Then, they would make inferences about the relationship between the physical magnitudes and the corresponding judgments of the respondents.

The initial insight that led to the development of MDS models in particular occurred in 1938 when Richardson proposed an analogy between the psychological concept of dissimilarity and the geometric concept of distance. Richardson’s idea was that the Euclidean distance axioms suggest intuitively plausible parallels between psychological dissimilarity and geometric distance. The parallels can be seen clearly by explicit consideration of these axioms. The axioms stipulate specifically that for a mathematical function of  $d$  defined over pairs of objects ( $i, j$ ) to be a Euclidean distance function, it must satisfy the following four axioms:

$$d(i, i) = 0 \quad [1]$$

$$d(i, j) \geq 0 \quad [2]$$

$$d(i, j) = d(j, i) \quad [3]$$

$$d(i, j) + d(j, k) \geq d(i, k) \quad [4]$$

Accordingly, in terms of psychological dissimilarity, the first axiom implies that each stimulus object must be identical to itself. The second one implies that when two stimulus objects are not identical, their dissimilarity must be greater than zero. The third one implies that a stimulus object  $i$  must be exactly as dissimilar from object  $j$  as object  $j$  is from object  $i$ . All three of these are highly intuitive. While the fourth axiom is less intuitive than the others, this did not keep the overall analogy from catching on. The analogy between geometric space and psychological space became the impetus for all future MDS models.

The analogy between geometric space and psychological space suggested a distance model for dissimilarity in which a researcher might start with a respondent’s numerical reports of his or her subjective judgments of dissimilarity between pairs in a set of stimulus objects. Then, by treating the judgments as distances and imposing a requirement of geometric coherency upon them, the researcher might work backward from the judgments to infer the geometric structure of the psychological space that must have been used by the respondent in generating them. According to this model, the full set of dissimilarity judgments between stimulus objects  $i$  and stimulus objects  $j$  ( $\delta_{ij}$ ) can be represented by the standard Euclidean distance function:

$$\delta_{ij} = d_{ij} = \left( \sum_{k=1}^K (x_{ik} - x_{jk})^2 \right)^{1/2} \quad [5]$$

Here,  $\delta_{ij}$  is a datum (a reported numerical proximity judgment of the perceived dissimilarity between stimuli objects  $i$  and  $j$ ),  $d_{ij}$  is the corresponding theoretical distance between  $x_{ik}$  and  $x_{jk}$  ( $x_{ik}$  and  $x_{jk}$  are the  $k$ th coordinates of the  $i$ th and  $j$ th objects or stimuli, respectively) in the psychological space used by the respondent in generating the judgments.

While the analogy between geometric space and psychological space established the concept of the distance model, it did not stipulate an algorithm with which to solve the implied operational problem of starting with a set of distances and deriving a set of coordinates from them. Torgerson, in 1952, first stipulated the solution to this problem. Torgerson recognized that if the distances are to meaningfully represent the psychological structure of the stimuli as they are configured in the mind(s) of the respondent(s), then the stimulus coordinates must be algebraically derived from the distances. Thus, the problem he faced was in a sense the opposite of the one commonly solved by grade school students. The challenge in the commonplace problem is to start with a given set of coordinates and, from them, to derive the distances between them. But in the distance model of dissimilarity, the distances are given, not the coordinates. The problem

therefore is to start with these distances and, from nothing else but the distances and the rules of algebraic reasoning, to work backwards through the Euclidean distance formula to derive a corresponding set of stimulus coordinates that accounts for the distances. Torgerson was the first to show how to do this. Once he did so, it became possible to estimate the values of the theoretical quantities  $x_{ik} - x_{jk}$  from the judgment data, and thus to meaningfully describe aspects of the psychological space from which the judgments must logically have originated.

Significant progress in MDS theory and practice followed over the next few decades. Advancements in mathematical psychology provided a compelling psychological and theoretical rationale for MDS methods. These include a theory of data in which data are viewed as relations between points in a space. They also include the 'unfolding' model of choice according to which there is an ideal level of attributes for objects of choice, and a decision maker's utilities decrease monotonically on both sides of this 'ideal point'. Researchers working directly on the analytical basis of MDS overcame several major restrictions on the mathematical assumptions about the judgment data implicit in Torgerson's algorithms. One such advancement, known as ordinal MDS, relaxed the assumption that the judgments are proportional to the distances. Another was a procedure which relaxed the assumption that the researcher has only one data matrix of judgments. This set up the possibility of doing MDS analyses of individual differences in cognition and perception. Ways to isolate and estimate individual difference weights were discovered, enabling operational characterization of variation in judged stimulus structure across individuals, occasions, settings, or treatment conditions. A probabilistic, multi-dimensional version of Coombs' unfolding model for the scaling of spatial data was stipulated and introduced into geography. Computer programs for implementing the newly developed algorithms were developed and disseminated.

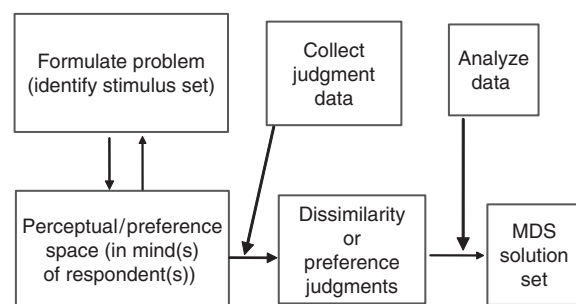
Once MDS matured in the 1970s and 1980s, research aimed toward improving upon and enhancing MDS techniques has focused largely in two areas. First is the area of confirmatory modeling, in which the objective is to compare certain properties of an estimated configuration with those of an expected configuration. Second is probabilistic MDS in which the objective is to test hypotheses about how decision makers view stimuli and make decisions, and to realistically represent the richness of individuals' cognitive processes when presented with complex stimuli. For instance, probabilistic MDS can be used to model differential uncertainty about respondents' perceptions and preferences, thus enabling a researcher to avoid the error of confounding sensory and hedonic variability, on the one hand, with actual perceptions and preferences on the other.

Today, MDS is a sophisticated set of scaling methods, most of which use dissimilarity judgments to investigate respondent perceptions of stimuli. Alternatively, some MDS analyses are based upon liking ratings, preference ratios, and binary choice judgments and are oriented toward investigating respondent evaluations of stimuli. In either case, technically nuanced MDS models and techniques are available. Many current MDS analyses represent the stimulus structure of judgments obtained from several individuals in a stimulus space shared by the group. Alternatively, many estimate individual difference parameters to characterize variation in judged stimulus structure across individuals. Most MDS analyses are deterministic in the sense that every configuration of points in the solution space is uniquely determined by the parameters in the mathematical MDS model and the judgments. But a growing number are probabilistic in the sense that they assume that randomness is present in the judgments. Rather than stipulating a configuration of stimulus points described by unique values, probabilistic MDS analyses describe the stimulus locations using probability distributions. Numerous texts and book chapters describing and explaining the rationale and details of the wide array of technical varieties, applications, and software packages for MDS are readily available.

## Overview of the MDS Research Process

The MDS research process can be divided into a number of phases, the first of which is the researcher's formulation of the research problem. At the outset of the process, the geographical concepts and problems to be investigated are specified. Next, the researcher collects judgment data from the set of respondents and uses a computer program to analyze the data. Finally, the results are interpreted and reported. **Figure 1** depicts an overview of the MDS research process.

The researcher's objective during the problem formulation phase is to identify the particular set of stimuli of interest. The idea is to identify those stimuli that comprise the relevant aspects of the perceptual/preference space in the mind of the respondent(s). This is



**Figure 1** The MDS research process.

dictated by the purpose of the research. If the research problem is about, say, how people select a residential location, then the stimuli might be pictures and descriptions of a set of eight to ten residences. If the research problem has to do with peoples' perceptions of various neighborhoods, then the stimuli might reflect salient aspects of the relevant neighborhoods. In any case, the stimuli are selected by the researcher to represent those objective aspects of the relevant environment about which the subjective construction of the stimuli on behalf of the respondents is of interest in terms of the research problem. Most often, these are the stimuli that form the sensory basis for the particular behavioral responses of interest in the research problem. Ideally, the stimuli reflect all of the important aspects of the concept under study as accurately as possible.

Once the stimulus set has been identified, the researcher is ready to collect judgment data from respondents. During this phase, the respondents are asked a series of questions. Their answers comprise the data. Specifically, for each stimulus pair they are asked to judge dissimilarity or preference on a numerical scale (e.g., a seven point Likert scale from very similar to very dissimilar). When the stimuli set contains  $n$  stimuli, this produces a matrix that contains  $(n * (n - 1))/2$  numerical pairwise comparison judgments.

In the next phase, the data are analyzed using an MDS computer program. The main objective of the computer program is to construct a model of the data designed to illustrate the relationships between judgments. The data are judgment data, specifically measures of dissimilarity or preference for the pairs  $(i, j)$  of  $n$  stimuli. The model illustrates the relationships between these judgments by geometrically representing them in geometric space. Because the judgments reflect the respondents' views of the stimuli, the relationships between judgments are implicitly also the relationships between stimuli.

During the analysis phase, the researcher faces a number of choices which, when taken together, collectively determine the particular approach to the analysis. Choices that the researcher faces include those between metric MDS, which deals with interval or ratio judgments, or nonmetric MDS, which deals with ordinal judgments. Choices must also be made between dissimilarity, liking rating, or preference analysis, group or individual analysis. Several different algorithms are feasible for several of the particular approaches. Dissimilarity judgments reflect the degree of dissimilarity between stimuli. Liking rating judgments are a species of dissimilarity judgment in which the distance in the MDS solution space is between the stimulus object and an ideal point. Preference ratio and binary choice judgments reflect the respondent's preference for one stimulus in relation to another.

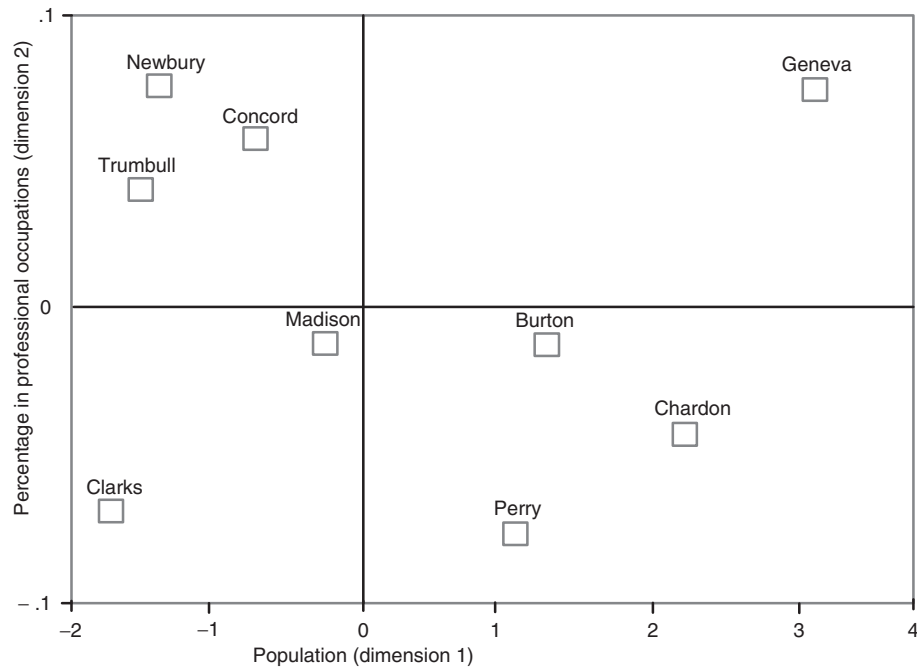
Choices also must be made in the analysis phase between exploratory or confirmatory analysis, and

deterministic or probabilistic analysis. Exploratory MDS investigates the psychological structures formed by individuals and groups in relation to the stimuli without any prior expectations about the properties of the MDS solution. Confirmatory MDS is used when more is known substantively about the stimuli or the relations between stimuli, so that the researcher can meaningfully impose additional restrictions or constraints upon the MDS model. With deterministic MDS, the analysis is restricted formally to a description of the geometric configuration of the stimuli. In probabilistic MDS the analysis becomes not only descriptive but also inferential in the sense that it allows hypothesis testing about the properties of the solution (e.g., the number of dimensions in the solution space). In each case, the appropriate alternative depends upon the purpose of the research study.

MDS programs create structural graphics of the stimuli. **Figure 2** illustrates one such graphic, produced by the ALSCAL algorithm in SPSS. The graphic plots each stimulus, in this case each neighborhood, in a two dimensional space. In this case, one dimension represents population, and the other percent in professional occupations, both of which can be measured objectively. The dimensions could just as easily have been perceptual, such as neighborhood status and ease of access. In any case, the proximity of stimuli to each other along any given dimension indicates either how similar they are or how preferred they are in relation to each other along that dimension. In this case, it can be seen that Newbury, Trumbull, Concord, and Clarks are all similar along dimension 1, with Geneva being the least similar to them. Along dimension 2, Geneva is quite similar to Newbury, Trumbull, and Concord, and least similar to Clarks and Perry. Accordingly, by examining the structural graphic, insight may be gained into the similarities and differences among stimuli. In many applications, the dimensions must be labeled by the researcher, a task which requires subjective judgment on behalf of the researcher and is often very challenging. The results must then be interpreted in terms of the research question.

### Purposes for MDS in Human Geography

One purpose for MDS in human geography is as an exploratory method for visualization of geographic data. The idea is for the analyst to look at the configuration of stimulus points to find rules that enable description of the distributions of the stimuli in the attribute space. This is of especial interest in situations in which data are not linked to an explicit theory with which to predict the magnitudes of the stimuli or patterns within them. It may also be of value when the purpose of the investigation includes documenting knowledge organization, assessing the compatibility of knowledge organization, or providing metrics for decision making.



**Figure 2** Two-dimensional MDS configuration for a set of imaginary neighborhood.

Another purpose for which MDS may be used is as an analytic technique for testing hypotheses about the structure of the relations between objects or stimuli. MDS is useful in this respect when theory predicts characteristics of the configuration of stimulus points in MDS space. For instance, a researcher investigating the acquisition of cognitive maps might hypothesize that geographical features which impede movement will lead to increased judged distance estimates between places on different sides of the barrier. Hills and trees might be expected to lead to overestimated distances, as might the numbers of turns or intersections along a route. Conversely, regularity in the layout of roads and places in flat areas devoid of features might lead to underestimated distances. In this situation, the effects of these barriers on the judged distance estimates could possibly be found in the configuration of stimulus points in the MDS solution. All else equal, those places on different sides of the barrier in geographical space would show up further apart in the MDS solution space, and those on the same side of the barrier would show up closer together. Thus, MDS can serve as an analytic technique with which to test hypotheses about the dimensions, factors, or attributes according to which the stimuli are conceptually distinguished in the theory.

A third purpose for MDS is exploring and documenting the psychological structures formed by individuals and groups in relation to various stimuli within their environments. Researchers in the fields of marketing and consumer psychology use MDS for this purpose when they investigate consumer perceptions of the

similarity between various products or brands, as well as in much of their market positioning, new product planning, pricing, and advertising research. Researchers in human geography could use MDS for this purpose in a wide range of applications including, but by no means limited to, research into the geography of personality traits, learning and acquisition of cognitive maps, individual differences in residential area evaluation, the perceptions, preferences, and attitudes of residents in neighborhoods in which an urban freeway is proposed, spatial shopping choices and behaviors, perceptions of regional economic and environmental milieu, and the use of geographical metaphors in information archiving and access. Recently developed probabilistic MDS algorithms are especially promising in this regard. Their ability to factor differential uncertainty about respondents' perceptions and preferences into the MDS solution makes a high degree of realism possible. Also by enabling hypothesis tests of aspects of the relevant psychological structures, they allow researchers to challenge their own assumptions about such factors as the degree of psychological similarity between individuals, the degree of differential familiarity with stimuli among subsets of respondents, the number of dimensions used by respondents in the psychological processes of generating dissimilarity or preference judgments, or the presence of dominant attributes in forming judgments, among others.

A fourth purpose for MDS in human geography is in application as a multi attribute model of spatial decision making. Specifically, MDS can be used in conjunction with the unfolding model to operationalize a conception

of spatial decision making in which alternatives that are closer to an individual or group's ideal point are preferred to those that are further away. Accordingly, researchers investigating the perceptions of preferences of respondents making spatial choices can use MDS in a relatively passive way as a measuring device and analytical tool. They might, for instance, use it to describe the psychological structure of the perceptions and preferences of an individual or group of people who made a choice to select, say, a particular site for a retail outlet or hazardous waste facility, or who selected a particular route for navigating through a neighborhood. Alternatively, decision makers in the process of making spatial choices can use MDS more actively as a part of a decision support system designed to help implement and manage the choice process in the face of multiple and/or complex alternatives, multiple criteria, uncertainty, and more information than can be systematically processed by the unaided human brain. In this regard, MDS serves not only as a convenient technical tool for augmenting the unaided human cognitive capacity for storing and processing information about the decision situation. It also offers a more general hypothesis about the rationale underlying spatial decision making processes. Examples of human geographical research areas in which MDS can be used as a model of spatial decision making include, but are not limited to site selection, route selection, spatial cognition, migration, and spatial learning.

Overall, there are far more potential applications of MDS in human geography than is commonly recognized. Partially, this is attributable to the fact that spatial behavior and spatial choice is only one out of a fairly large number of alternative research areas in human geography. Partially, it is attributable to the fact that a relatively small group of human geographers base much of their research upon recognition that the dimensions of human geographical systems themselves are often intellectual constructs that can take a multiplicity of forms. In this respect, the potential of MDS in human geography will be realized only once human geographers more widely recognize and take interest in the influences on spatial behavior attributable to the human mind's attribution of dimension to human geographical systems. Partially it is also attributable to the fact that MDS models and methods are not widely studied, understood, and utilized within human geography. In this respect, the

potential for MDS to enable greater effectiveness at describing, understanding, and comprehending the processes of perception, thought, and choice that underlie spatial behavior will be realized only once the constituent models and methods are more widely studied and understood within the field.

See also: Maps; Quantitative Methodologies; Scale; Spatial Science.

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Proscal tool for analysing consumer choices.



# N

## Nation

J. Penrose, University of Edinburgh, Edinburgh, UK

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### Glossary

**Category** A group of things, people, or actions that share one or more common attributes; a mechanism for ordering and representing the world.

**Nation** The largest self-defined collectivity of people whose members *believe* that they share some form of territorial association and that they are genealogically related.

**Nation-State** A geopolitical entity whose legitimacy – claims to sovereignty and political power – is based on its capacity to represent a distinctive nation.

**Nationalism** The ideology which argues that the boundaries of a state should be congruent with those of a nation.

**Power** The ability to control one's self, other people, nonhumans, space, and events.

**Primordial** Existing at the beginning of time and space.

**Romanticist** An intellectual movement that originated in late eighteenth-century Europe which was characterized by a rejection of Enlightenment ideas and norms, especially the primacy accorded to reason.

**Sovereignty** Supreme power which is usually considered to be absolute and unlimited, and usually exercised within a territory.

**Territoriality** The attempt to influence or control people, nonhumans, phenomena, and relationships by delimiting and asserting control over a geographic area called a territory.

### Introduction

Nation is one of the most used and least understood words in the English language. Ironically, a good part of the power and resilience of what are called nations stems from the ambiguity associated with the concept of nation over time and in both academic and everyday realms. Today, nation is commonly used to mean things as diverse as a people, a state, citizens of a state, and a country

– sometimes within a single newspaper or journal article. This diversity of meaning has itself become an ideological tool because it allows nation to be deployed to serve a wide range of ideological agendas and, perhaps paradoxically, to accommodate either shifts in government policy or the absence of policy altogether. For example, multiculturalism legislation frequently oscillates between viewing the nation as a homogeneous entity and a plural one. Similarly, the nation is portrayed as something that is defined by cultural group membership in some contexts and by citizenship in others. This lack of clarity, nestled comfortably in semantic confusion, can be expedient in the short term for politicians who want to avoid identifying (or alienating) their support base and making clear cut policy commitments. However, because nations are also used to justify the current distribution of global geopolitical power, and this in a world where their relevance is increasingly suspect, it is important to be clearer about what this term means (or at least, how it is used).

To advance this quest for greater clarity, this article outlines three key theoretical conceptions of nation and their relationship to geography and geographical thought. This is followed by a discussion of the political and personal significance of nations which demonstrates how nations have become linked with power on a variety of scales. These associations with power are then related to efforts to construct and maintain the nation to reinforce the world order based on nation states. In the final section, limitations of the nation and challenges to it are explored with an eye to assessing its future relevance.

### Theoretical Conceptions of Nation

The term 'nation' has been in common use in English since the latter part of the thirteenth century when it was used primarily to connote broad divisions of humanity as defined by notions of race. By the late eighteenth century, the Enlightenment along with revolutions in America and especially France had combined to produce a new



political context where popular sovereignty was introduced as a means of addressing problems ascribed to old, self-serving, dynastic, and religious empires. The ideas that government should be by and for the people – instead of an elite few – represented a monumental shift in political thought and the application of these ideas demanded clarification of just what was meant by ‘the people’. It is this process of clarification that vaulted the concept of nation into its current position of prodigious power; a position that is reinforced by its deeply embedded ambiguity.

In general, three prevailing usages of the term ‘nation’ have emerged from the Enlightenment context of the eighteenth century. In each case, the understanding of what a nation is, is often linked to ideas about when, and much less often where, nations first appeared. The first conception of nation is often referred to as primordialism and was originally associated with the Romanticists who viewed nations as very similar to *volk* groups; each of these relatively small groups constituted ‘a people’ and they were seen as the fundamental, natural, units of humanity. According to scholars like Vico (1668–1744), Fichte (1762–1814), and, especially, Herder (1744–1803), each nation would, if given the chance, devise its own means of governing itself in ways which would ensure the survival and development of the group as a distinctive entity.

Although social construction theory has discredited the idea that nations are primordial or natural, it has also revealed how and why so many people continue to see them as such (see below). Today, the understanding of nation as a fundamentally cultural entity is sometimes reflected in use of the terms ‘ethnic nation’ or ‘cultural nation’. Such nations are usually conceptualized as ancient (Walker Connor is an important exception here), and they are commonly defined as involuntary associations that can be identified by objective attributes such as language, religion, descent, and sometimes ‘race’. All of these attributes, but especially those related to kinship, are seen to produce – and be maintained by – deep emotional and psychological bonds. Their grounding in essentialized notions of culture means that these nations are also seen as respectful of cultural differences but this can be manifested in exclusivity and a regressive preoccupation with the past and artificially fixed notions of tradition. Here, it is very important to distinguish between those who believe that nations defined by these qualities actually exist as empirical realities (often proponents of particular nationalist movements), and those who see cultural nations as constructed entities that rely on individual identification with the nation, and shared imaginings of it, for its survival. Until quite recently, it was not uncommon to link cultural nations with the geographical regions of Eastern and Central Europe but this view has been challenged by current scholarship.

The second conception of nation is usually termed modernist and it uses the term to describe ‘the people’ (instead of ‘a people’), usually as the inhabitants and/or citizens of a state. This perspective is commonly seen to originate with thinkers like Rousseau (1712–78), whose preoccupation with developing a new form of state still required that he define the people who would be the bearers of his newfound notion of popular sovereignty. For Rousseau, and for his intellectual heirs, the focus is on membership in a political unit rather than a cultural one and, gradually, this understanding has come to find expression in the term ‘civic nation’.

One of the key distinctions between the modernist and the primordialist perspectives on the nation is the dating of their origins. Not surprisingly, all modernists are united in the belief that nations are exclusively modern phenomena. For scholars like Ernest Gellner and John Breuilly, nations represent a functional response to the new requirements of industrialization and capitalism – requirements that included a populace (and labor pool) that was relatively unified by a shared mass culture and a common language. These nations are conceptualized as voluntary ones that are based on civic ties and shared political principles. As this suggests, they are promoted as inclusive entities that seek to transcend cultural differences and thus, so the logic goes, they are rational and progressive groups that are modern and forward looking. The geographical association of these so called civic nations has normally been confined to Western Europe and, more recently some of its white settler colonies like Canada. Importantly, these geographical associations, like the distinction between ethnic nations and their civic counterparts, have been increasingly challenged by recent scholarship.

To some extent, the third and most recent theoretical perspective on the concept of nation is a product of unease with the growing polarization between primordialist and modernist approaches. The term ‘ethno-symbolist’ has been coined to denote scholars who reject the primordialist view that nations are essential and continuous, as well as the modernist view that they are nothing more than modern inventions. Although the term ethno-symbolist rests uneasily with its key proponents, people like John Hutchinson, John Armstrong, and, especially, Anthony D. Smith, it does reflect their preoccupation with the symbolic legacy that premodern ethnic identities – often of very long standing – hold for today’s nations. In general, ethno-symbolists view nations as social and historical phenomena (rather than natural or ‘given’), which are defined, not so much by real or even imagined ties of kinship as by lines of cultural affinity that become embodied in symbols, myths, memories, and values that are distinctive to a particular cultural group and that unite them in a sense of shared destiny. They acknowledge the power of the modern era to transform

premodern ethnics (ethnic communities) into nations, but insist that nations cannot be understood without reference to their living ethno symbolic legacy.

Each of these three approaches is quite clear about what a nation is and about when nations emerged but, from a geographical perspective, the absence of any sustained consideration of the where of nations, of their spatial and territorial qualities, is conspicuous. This lacuna is probably a product of the tendency for debates about the concept of nation to be dominated by sociologists, political scientists and, increasingly, anthropologists. However, a closer look at each of the three key perspectives reveals more that is of geographical relevance than the simple tendency to associate different kinds of nations with particular geographical regions. For primordialists, nations are products of the merging of a people and the territory that they occupy (or that they once occupied and continue to claim). Here it is the emotive power of a group's attachment to a particular piece of land that is seen to be the primary factor in the formation of a territory and in strategies to preserve it. In contrast, modernists believe that the geographical borders of a state delineate the territory of a nation. Here it is the material resources of a territory, including the symbolic significance of controlling it, that has primary influence in setting the boundaries of the state and, hence, the nation. For ethno symbolists, territory achieves its significance as a symbol of cultural continuity over time and space. Its value is primarily in what it signifies and communicates rather than in any objective reality.

The first two approaches perpetuate traditional practices of political geography by treating boundaries as naturalized lines or demarcations of the limits of sovereignty. Although they differ about how the boundaries of the nation are constructed and about which kind of boundaries (cultural or political ones), should define the borders of nation states, neither perspective actively questions the unit of the nation state *per se*. Thus, both conceptions of nation become complicit in reinforcing what John Agnew has called the territorial trap. In other words, they perpetuate the assumption that nation states are fixed units of sovereign space; that they serve as containers of society; and that there is a clear and unproblematic division between the domestic realm within the state and the foreign realm outside of it. The territorial trap stifles more flexible and liberating conceptions of the nation because it reinforces the assumption of an inalienable link between a single nation and a single territory. This view disregards the fact that the social and political processes which influence the formation and development of nations, operate on a variety of scales; it ignores the growing prevalence of multiple and transnational national identities; and it precludes the sharing of space as a solution to geopolitical conflict.

Ethno symbolism seems to offer potential for acknowledging the dynamic relations between the social world and space but this has yet to be realized fully. By viewing territory as a symbol of cultural continuity it is possible to imagine alternative relationships between people and places, ones that are not premised upon exclusive and inalienable rights to set pieces of land. For example, it becomes possible to imagine different nations sharing territory without either territory or nations losing their individual significance. Having said this, the ethno symbolist approach, like the other two, still has a largely unacknowledged tendency to reify the anthropological notion of culture as something that is ontologically real and, though complex, not problematic in its own right. As long as this is the case, notions of cultural distinctiveness will continue to inform constructions of both nations and the nation states which they legitimize. However, even if new conceptions of culture are devised, the geographical processes of defining boundaries and effecting exclusions will always remain central to the material practices, ideologies, and discourses through which social groups called nations (however defined), and the identities that they support, are constituted.

### The Significance of Nations

Nations acquired their global political significance through the spread of the ideology of nationalism and the associated rise of nation states. Nationalism, as an ideology, argues that the boundaries of the nation should be coterminous with those of the state. The application of this ideology produces nation states.

Depending on one's perspective, congruence between the boundaries of the nation and the state is desirable either because it is the best way of ensuring the survival of nations or because it is the best way of improving the efficacy of states. Where the former view held sway, it was the (putative) boundaries of nations that set the boundaries of the nation state. Sometimes the application of this process led to the merging of territories that were inhabited by groups sharing a common language and/or culture to form a single nation state (e.g., Germany and Italy). In other cases, larger (often imperial) territories that were home to numerous cultural groups, were divided into a number of smaller polities, each representing or seeking to represent a single nation (e.g., Estonia, Bulgaria, and Slovenia). In contrast, where the primary drive for nation state formation was the creation of a political context in which new political principles like popular sovereignty could be applied, the (putative) boundaries of the state defined the borders of the nation state. In these cases, the nation tended to be defined as the citizenry of the state and its function was to ensure the continuity and legitimacy of that state.

Regardless of how the nation was conceptualized and how it was integrated into the process of nation state formation the general concept attained huge political significance because it legitimized nation states. The success of the earliest nation states, along with their growing links with democracy, inspired emulation on an ever wider scale. Today, all existing states call themselves nation states and are generally recognized as such by others. It is currently impossible to lay a claim to a state without grounding this claim in the demonstrable capacity to represent a nation. Although processes of globalization have challenged the sovereignty of nation states through the formation of suprastate organizations, membership in most of these entities remains confined to nation states. Similarly, pressures which threaten to fragment nation states from within usually mount their challenges to established nation states by applying the same nationalist ideology that legitimizes the existing state. Thus, nations retain profound political significance because they constitute the sole basis for claiming formal political power and for legitimizing the nation states that form the cornerstone of the current world order.

The power that nations acquire through their global geopolitical significance is paralleled by their very personal significance. Indeed, many scholars argue that without the constant identification of individuals with their own particular nation these entities would cease to exist. Variations on this idea can be found in Renan's famous proclamation that the nation is a daily plebiscite; in Benedict Anderson's description of nations as imagined communities; and in Walker Connor's conviction that nations exist when people believe that they do. The idea that the essence of a nation is the belief in it, rather than any objective characteristics of it, has been a very important one in understanding nations and their ability to inspire and sustain nationalist movements and/or nation states.

One of the ways in which people come to believe in nations is through processes that internalize them; as the individual becomes part of the nation, the nation becomes part of the individual. When this happens, the survival of the self is seen to be contingent upon the survival of the nation and thus people will go to incredible lengths to defend their nation. All processes that strengthen personal identification with a particular nation also contribute to the reification of the general concept of nation and its validity as a means of ordering the world. Thus, there is an important, though largely invisible, symbiosis between nation as a category of personal identification and as a category of global political power. Both work together to represent the world as coherently structured, and to reinforce the centrality of the concept of nation in maintaining this structure. Nations give people a means of locating themselves in the world and of distinguishing themselves from others. In

the process, they fulfill the less salubrious function of effecting inclusions and exclusions, empowerment and disempowerment: they become a convenient and convincing way of deciding who gets what, where, and of legitimating any resulting inequalities.

## Building Nations

The fact that nations are usually perceived as natural, or at least as profoundly judicious divisions of the earth's people and territory, has been instrumental in entrenching their positions of power in the modern world. In reality, however, this perception of nations, and the nations themselves, are both more accurately viewed as what Michael Billig describes as 'invented permanencies'. They are products of elaborate and constant processes of social construction. To some extent this is necessitated by the fact none of the world's roughly 200 bounded nation states can claim that they comprise a single culture. Thus, in order to fulfill their function of legitimizing a given state, national unity (if not uniformity) must be pursued. Importantly, the nations that have come to be associated with any given state have been imagined very seldom as a composite of the state's constituent cultures; instead the unifying nation is usually a replica of the most dominant group (or nation). Ironically, members of other nations within the state have to endure the inequalities associated with downplaying their alternative group membership and assimilating with the dominant one if they hope to achieve anything like equal access to resources. This is one more manifestation of the complex power relations that actually underlie the seemingly unproblematic category of nation.

In most cases, nation state formation began by creating a national scale; something that is now largely taken for granted but which, arguably, did not exist prior to the ascendance of nation states. Nation states transformed medieval Europe's imprecise political boundaries into very exact ones and they did much the same thing with systems of communication. It was only in the age of nationalism, with its emphasis on bounding lands and peoples, that there was any reason for standardizing spelling and grammar – for creating languages – or for extending these conventions across the entire territory of the state. The application of nationalist ideology naturalized the notion of discrete languages even as it invented them and these new national tongues were deployed as both evidence that a distinctive nation existed and as a means of constructing one. Actively encouraging all of the population of a nation state to speak in the same way reinforced the emerging sense of a national scale and was instrumental in all other nation building practices.

One other very early process in creating a national scale involved reinforcing claims of sovereignty by

establishing a strong, centralized power structure, usually in the form of something called a national government. The creation of a political system that was dominated by national parties was normally paralleled by the introduction of an electoral system which also worked to reinforce the national government as the locus of political activity and power. Ultimately, the entrenchment of a centralized power structure also gave governments the institutional basis for producing legislation that could, in turn, protect the authority of the state and advance efforts to create a uniform nation within it.

Nation building practices involve both encouraging uniformity in the population of the state and inspiring personal identification with the new nation state and, consequently, loyalty to it. For example, a national army brings together conscripts from different regions, encourages them to bond with one another through shared training experiences, and indoctrinates them with an overriding allegiance to their common state which they share a duty to defend. Similarly, systems of compulsory education create a forum for standardizing language, for emphasizing national interpretations of the past, present, and future, and thereby socializing children across any given country into imagining themselves as members of the same nation. The development of national media is also a fundamental element of most nation building agendas. Through print, radio, television, and now the internet, media expose the population of the entire state to the same national events and they disseminate national perspectives on international developments. In Canada, the evening news program presented by the publicly owned Canadian Broadcasting Corporation is actually called 'The National'. Finally, the creation of national symbols is an effective mechanism for linking other nation building strategies together while also heightening their visibility and significance. For example, national anthems and flags tap into and mobilize emotive responses to the nation as a source of both community and personal identity and they figure prominently in the activities of the military and schools. Each time that a national anthem is sung or a national flag is flown, the existence of the corresponding nation is reasserted and personal connections and loyalties to it are both aroused and validated. Individuals perform the nation and it is reified.

As Billig has noted, flags, anthems, and other symbols of nations are frequently banal but, if anything, this increases their potency in effecting the ideological work of nationalism. In combination, practices of nation building reinforce belief in the existence of nations and of a national scale, and they also shore up the illusion of precise boundaries between us and them, domestic and foreign. The banality of much nationalism is paralleled by the constancy of nation building activities – they occur all the time and in an unimaginable array of forms and

contexts. This is partly because the imagining and performance of nations is a requirement of their continued existence but also because persistent internal divisions must be smoothed back into a veneer of uniformity.

In addition, states must work hard to maintain imagined permanencies in ever changing contexts. For example, nation states frequently become entrapped in the contradictions between their economic and cultural goals. For many, the immigration of 'foreigners' is essential to continued economic expansion and, consequently, to the state's fulfillment of its obligation to pursue the best interests of the nation that it represents. Yet, in fulfilling this obligation, the concomitant need for cultural uniformity is undermined. Attempts to reconcile these contradictory demands frequently involve immigration policies that privilege those migrants who are deemed most likely to assimilate with the national culture. In contrast, those who are considered just too different are, at best, granted temporary visas so that their labor and creativity can be exploited even as their membership in the country that these contributions support is denied. Where these selections and exclusions were once framed in explicitly racist terms, they are now couched in terms of the need to protect the nation (usually undefined) from inappropriate cultural practices, and so called bogus asylum seekers. In some cases, citizenship tests are being introduced to exact at least the illusion of commitment to the dominant nation, and in others, different categories of citizenship have been devised in order to confer differential rights within a single nation state. Importantly, the granting of citizenship does not preclude ostracization from membership in the nation. In all of these ways, individual nation states work hard to maintain the illusion of a homogeneous nation that legitimizes both that particular state and the global system based around nation states.

## The Future of the Nation

Despite their resilience to date, there are several reasons for some proactive reflection on the future of nation states. First, both the ideal concept of nation and its empirical manifestations are demonstrably unsound and this means that nations constitute a very dubious basis for distributing global geopolitical power. This assessment is based on the fact that neither human beings nor the territories that they occupy are easily divided into nations – either by nature or by human intervention. For a growing number of people, affinity with more than one nation is the norm and many areas of land are claimed with equal legitimacy by more than one group. Moreover, attempts to impose a coincidence between the borders of states and nations are the single most important source of conflict both within and between nation states.

Second, global acceptance of nationalist ideology, despite the manifest impossibility of effecting it in practice, means that states expend huge energies and resources on shoring up the nation in order to retain the legitimacy of the state. Thus, even as more and more states become characterized by increased pluralism their abilities to respond openly to this changing reality remain constrained by the logic of nationalism. These restrictions are reflected in things like the contortions associated with immigration policy, as described above, and also in attempts to simply redefine nation as a civic entity. This strategy is designed to circumvent the growing incongruity between nationalist ideology and the nation states it legitimizes – and this is more than the usual problem of the discrepancy between ideal types and their empirical expressions. Taking recourse in the notion that nations can be defined by political principles and shared political culture has three very important consequences. First, the privileged position of the dominant culture group is overlooked; second, the huge power that has long been associated with cultural conceptions of nation is denied; and third, the need to address directly the limitations of a world based on nationalism is avoided.

A third reason for thinking about the future of nations (both conceptually and empirically) is that, the assertion that nations exist in any concrete sense (including their imagining as such) contributes to the reification of the view that the world is ordered coherently by categories. This perpetuates processes of categorization – of drawing precise boundaries – that are deployed to effect the unequal distribution of material and symbolic resources on scales that range from the global to the personal. A focus on the national context also makes it possible to ignore those sociospatial relations that transcend geographical scales and that demand reconceptualization of the world in ways that are not contingent on ostensibly fixed categories. As a consequence, alternative and potentially liberating ways of thinking about the relationships between people, and between people and place, remain overlooked as well. Geography has an important role to play in moving the world beyond the limitations of this category based perspective and this can begin with a concerted critique of how the nation is used, both conceptually and empirically, to regulate power and identity.

*See also:* Citizenship; Colonialism, Internal; Cultural Geography; Cultural Politics; Deconstruction; Difference/Politics of Difference; Economies, Borderland; Ethnic Conflict; Ethnicity; Fatherland/Homeland; Geopolitics; Globalization and Transnational Corporations; Hegemony;

Identity Politics; Ideology; Immigration I; Immigration II; Land Rights; Migration; Migrant Workers; Modernity; Multiculturalism; National Parks; National Schools of Geography; National Spatialities; Nationalism, Historical Geography of; Nationalism; Other/Otherness; Place; Place, Politics of; Political Boundaries; Race; Racism and Antiracism; Refugees and Displacement; Representation, Politics of; Self-Other; Social Movements; Sovereignty; Space I; State; Symbolism, Iconography; Systems Theory; Territory and Territoriality; Transnational Ethnic Networks; Transnationalism; Transnationality; Urban Planning and Human Geography; World-System.

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## Relevant Websites

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- <http://www.learner.org>  
The Power of Place: Geography for the 21st Century.

# National Parks

N. Curry, Countryside and Community Research Institute, Cheltenham, UK

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## Definitions

National parks (subsequently, Parks) have been defined by the World Conservation Union (International Union for the Conservation of Nature and Natural Resources, IUCN) as one of seven types of protected area requiring a specific kind of management (see Table 1). This classification was introduced in 1992 (involving scientists from 181 countries) as a rationalization of some 140 terms found to be used globally for protected areas. Parks (IUCN Category II) are to be managed mainly for ecosystem protection and recreation. They are natural areas of land or sea (or both), designated to:

- (1) protect ecological integrity of ecosystems for present and future generations;
- (2) exclude exploitation or occupation inimical to the purposes of designation of the area; and
- (3) provide a foundation for spiritual, scientific, educational, recreational, and visitor opportunities, all of which must be environmentally and culturally compatible.

Global definitions such as this are bound to lead to exceptions. Some of the more salient are considered here. Some Parks are 'not national'. The Gaza – Kruger – Gonarezhou area between Mozambique, South Africa, and Zimbabwe, for example, in crossing international borders, is termed by the IUCN a 'trans boundary' or 'trans frontier' Park. These are important for their integrated management systems in relation to wildlife, but they require international protocols, can lead to national disagreement, and threaten international security. The IUCN also recognizes Parks for Peace, defined as: "trans boundary protected areas that are formally dedicated to the protection and maintenance of biological diversity and of natural and associated cultural resources, and to the promotion of peace and cooperation" (IUCN, 1994).

Some Parks fall into 'the wrong IUCN classification'. The English and Welsh Parks, for example, are classified

as IUCN Category V protected areas (protected landscape/seascape) because they are managed mainly for conservation and recreation and do not have a dominant ecological or ecosystem component. To complicate matters further, some Parks 'fall into more than one protected area category'. The largest national park in Poland, Biebrza, is also designated as a wetland of global significance under the Ramsar Convention. The Tatra Park (one of nine in Slovakia) is also part of a UNESCO Biospheric Reserve. The Royal Chitwan National Park in Nepal too is a World Heritage Site.

Conversely, areas 'not designated as Parks are accorded Parks status'. In the USA, National Historic Reserves (such as Ebley's Landing), National Recreation Areas (Santa Monica Mountains), and National Sea shores (Point Reyes and Canaveral) are accorded Park status. Whilst the US National Park Service (founded in 1916) manages 390 sites, only 58 of them actually carry the designation by name. In Turkey too, the 33 named Parks are supplemented by Natural Parks, Nature Reserves, and Mature Reserves that are considered in the same way in planning and management terms.

Some Parks 'prohibit or discourage recreation'. In the Sundarbans National Park, spanning both India and Bangladesh, the unique mangrove vegetation and the viable Bengal tiger population mean that visitors are not allowed in the Park. The Vanoise National Park in the Alps, the first French Park, was actually set up in 1963 to protect the area 'against' tourism development. It now has a central zone where recreation is discouraged and a peripheral zone twice the size, used to deflect visitor pressure from the former. Other Parks have been considered, effectively, to be 'nonexistent'. A proportion of the world's Parks exist in name only as there has been no active management of them at all in pursuit of Park objectives. Known as 'paper parks', these are under constant threat of damage and destruction.

The world over, therefore, what constitutes a Park is far from uniform (despite the IUCN definition): not all

**Table 1** IUCN protected area categories

Category Ia	Strict Nature Reserve: protected area managed mainly for science
Category Ib	Wilderness Area protected area managed mainly for wilderness protection
Category II	National Park: protected area managed mainly for ecosystem protection and recreation
Category III	Natural Monument: protected area managed mainly for conservation of specific natural features
Category IV	Habitat/Species Management Area: protected area managed mainly for conservation through management intervention
Category V	Protected Landscape/Seascape: protected area managed mainly for landscape/seascape conservation and recreation
Category VI	Managed Resource Protected Area: protected area managed mainly for the sustainable use of natural ecosystems

Source: IUCN (1994). *Guidelines for Protected Areas Management Categories*, 261pp. Cambridge, UK and Gland, Switzerland: IUCN.

areas that possess Park characteristics are called Parks and some areas called Parks do not possess Park characteristics. If there is any commonality across Parks in practice, it relates to conserving special places for human benefit.

## Nature and Extent

The IUCN estimates that there are more than 44 000 of their protected areas, worldwide, covering some 10.1% of the world's terrestrial surface. In 2003, the best estimate of the number of Parks within this number, given the problems of definition discussed above, is 3881, covering nearly 4.5 million km<sup>2</sup>, distributed regionally as in **Table 2** below. Over time, both the number and area of Parks is becoming a smaller proportion of all IUCN protected area classifications. Parks (IUCN protected area Category II) represented only 3.8% of the 'number' of protected areas in the IUCN seven point protected area classification in 2003, but 23.6% of their 'area', as they have been commonly established to protect larger areas at the ecosystem and landscape level.

Despite their generally large size, only two of the largest 20 IUCN protected areas are Parks: Northeast Greenland (established in 1974), which is the largest protected area of all at 972 000 km<sup>2</sup> and the Tassili N'Ajjer Park in Algeria, the nineteenth largest protected area at 72 000 km<sup>2</sup>. The most common on the 'big list' are IUCN Category VI protected areas (see **Table 1**), Managed Resource Protected Areas, where unmodified natural systems predominate (e.g., the Great Barrier Reef Marine Park in Australia and the Venezuelan Alto Orinoco Casiquiare Biosphere Reserve).

As an example of the way in which the geography of national parks is constantly changing, three new Parks were created in 2005 in the far east of Russia, to provide refuge for the Amur tiger. This was part of a program to introduce 30 000 km<sup>2</sup> of protected areas in the region of Krasnoyarsk, itself only part of a system of 21 new federal protected areas, pledged by the Russian government for the first decade of the millennium.

## History

### Early Thinkers

The notion of the 'national park' developed in a number of countries separately during the nineteenth century, but it was essentially a Western phenomenon with a diverse range of underlying values concerned with esthetics, culture, amenity, access, and science. Consistent with the views of Byron and Coleridge, Wordsworth, in his *Guide to the Lakes of 1810*, described the English Lake District as a "national property ... for every man (sic) ... who has an eye to perceive and a heart to enjoy." He was later to be concerned that the lakes would be overrun when the train came to Windermere in 1844. In a crowded country, the 'freedom to roam' value was the driver for the first legal proposal for Parks in England, with Bryce's 1884 Access to Mountains Bill. Although the Bill failed, it marked the start of an active campaign for Parks for recreation purposes. By 1936, the Standing Committee on National Parks had been formed as a voluntary body, to argue, in government, the case for Parks.

The painter George Catlin, in his travels through the American West, wrote in 1832 that the Native Americans

**Table 2** National parks: their significance in different world regions

<i>Region</i>	<i>% of the land area of the region that is covered by an IUCN protected area<sup>a</sup></i>	<i>National parks as a % of the number all IUCN protected areas in the region</i>	<i>% of all IUCN protected areas in the region that are national parks, by area</i>
Antarctic	0.5	2.4	0.2
Australia and New Zealand	14.8	7.3	24.8
Caribbean	29.6	11.5	39.0
Central America	27.9	11.5	19.7
East Asia	8.8	4.7	10.4
Eastern & Southern Africa	17.2	4.5	25.7
Europe	14.6	0.6	13.1
North Africa & Middle East	9.9	6.4	17.0
North America	20.8	10.2	36.7
North Eurasia	8.2	1.1	19.8
Pacific	3.7	6.2	27.0
South America & Brazil	22.2	14.3	17.5
South Asia	6.9	9.4	22.3
South east Asia	16.4	9.6	28.1
West and Central Africa	8.7	3.6	31.8

<sup>a</sup>These figures do not include marine protected areas because they are not part of the land surface.

Source: IUCN/UNEP (2003). *2003 United Nations List of Protected Areas*, pp 37–44. Cambridge, UK and Gland, Switzerland: IUCN; Cambridge, UK: UNEP World Conservation Monitoring Centre.

in the United States might be preserved “by some great protecting policy of government ... in a magnificent park ... a nation’s park, containing man and beast, in all the wild and freshness of their nature’s beauty!” Culture, amenity, and ecosystems were to be the originating values in this ‘uncrowded’ land. Similar ideas for preserving nature were expressed in Sweden by Baron Adolf Erik Nordenskiöld in 1880 and the Scottish American naturalist, John Muir, was also to prove inspirational in developing the Parks on both sides of the Atlantic, being an early advocate of conservation, environmentalism, and the animal rights movement.

### New Parks for Diverse Reasons

Yosemite was designated in 1864 (advocated by Olmstead and signed through an Act of American Congress by President Lincoln), principally “for the benefit and enjoyment of the people.” Yellowstone followed in 1872. Because of its remoteness, its management had become the responsibility of the American Federal Government (rather than an individual state) by 1890. It had the support of conservationists and politicians, but also business. The Northern Pacific Railroad was keen to exploit the tourism potential of the Park. In the same year, Sequoia Park was established as a wilderness sanctuary to protect groves of giant sequoia trees that were being destroyed by logging. The Everglades, in contrast, were designated for their abundance and variety of wildlife, rather than for scenic or historic values.

The ‘Western’ motivations of public enjoyment prevailed in other early Parks. The Australian Royal National Park was designated south of Sydney in 1879, laid to parkland, recreating the soft English countryside: the ‘home’ counties for many a new migrant. Its purpose was recreation: the ‘lungs’ of Sydney. The Banff National Park, too, was introduced in Canada in 1885 built around the tourism potential of the hot springs rather than, at that time, its conservation value.

Public access motivations were combined with wilderness and cultural reasons for designation in New Zealand. Tongariro was designated in 1887, driven by its important Maori cultural and spiritual associations (and gifted by Maori to the nation) as well as its volcanic features. More recently, Whanganu River and Paparora National Parks, designated in the 1980s, and the transition of Northwest Nelson Forest Park into the Kahurangi National Park in 1996, brought the current land based Parks in New Zealand to 13. Ten are in mountainous regions not considered suitable for settlement; this facilitates their maintenance and management as wilderness areas.

Other designations were made before World War I in both the Northern and Southern hemispheres, but it has been suggested that many of these were more to do with

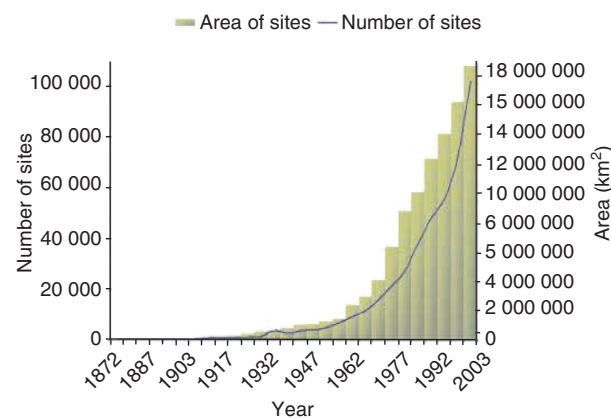
national prestige, or ‘monumentalism’ on the part of governments, than with any deep desire to conserve nature.

The ‘wilderness’ and ‘enjoyment’ motivations were echoed in Europe. The first nine of Europe’s 359 Parks were set up as a system in Sweden in 1909 embracing mountain lands, virgin forest, deciduous forest, swamps, archipelago, and old agricultural landscapes. In England and Wales, the National Parks and Access to the Countryside Act of 1949 led the first Parks to be designated in 1951 (Peak District, Lake District, Snowdonia, and Dartmoor), very much in pursuit of access and amenity. Recent British additions in 2002 (Loch Lomond and the Trossachs), 2003 (Cairngorms), and 2005 (the New Forest) bring the total in Britain to 14.

Preserving game reserves was a driver in South Africa, with the introduction of the first Park in 1926 between the Sabie and Olifants rivers. Today, South African National Parks is responsible for nearly 400 000 km<sup>2</sup> of protected land in 20 Parks, with purposes now embracing tourism development consonant with conservation objectives. **Figure 1** below illustrates the growth in Park designations from these early developments. **Table 3** provides examples of the diversity of principal motivations for designating Parks at other times. These suggest that the origins of national parks do not reflect the IUCN’s attempt to provide a global definition of national parks.

### Organization and Planning

The World Conservation Union, more properly known as the IUCN, was set up in 1948 and imposes some global norms on the development of Parks through its 140 member countries. Membership is patchy, however, and is particularly low in the Pacific region. Its Policy,



**Figure 1** Cumulative growth in protected areas by 5-year increment, 1872–2003. Reproduced from PAGE 26, IUCN/UNEP (2003). *2003 United Nations List of Protected Areas*. Cambridge, UK and Gland, Switzerland; Cambridge, UK: IUCN; UNEP World Conservation Monitoring Centre, with permission from IUCN.



**Table 3** Examples of principal motivations for designating Parks, by timeline

<i>Country</i>	<i>Timeline</i>	<i>Original motivation</i>
Canada	First Park in 1885, 42 today	To protect ecosystems and manage them for visitors to appreciate, understand and enjoy.
Uganda	First Park in 1938	To strengthen the conservation status of the ecosystem.
Finland	First 3 Parks in 1956, 35 today	To safeguard diversity of nature and sites of Finnish history.
Turkey	First Park in 1958, 35 today	To protect archaeological and historical features.
Costa Rica	First Parks Santa Rosa and the Poas Volcano, in 1971	To control deforestation.
Alaska	First 10 Parks in 1980, 17 today	To protect representative natural, cultural and historic features.
Scotland	First Park in 2003, 3 today	To protect culture, heritage, beauty and amenity, open air recreation and sustain local communities.

Source: Author, culled from national web sites.

Biodiversity and International Agreements Unit was established in 2002 to orchestrate policy delivery for Parks. The United Nations Environment Programme World Conservation Monitoring Centre (UNEP WCMC) also advocates biodiversity through policy, data analysis, and support.

The IUCN holds a World Park Congress every 10 years, to bring together protected area specialists, managers, and experts. It acts as the focus for determining new action and policy. The inaugural World Park Congress, the “First World Conference on National Parks” was held in Seattle from 30 June to 7 July 1962. The purpose of this conference was to establish a more effective international understanding of Parks and to encourage further development of the Park movement on a worldwide scale. Issues discussed included the effects of humans on wildlife, species extinction, the religious significance and esthetic meaning of certain parks and wilderness, international supervision of boundary parks, the economic benefits of tourism, the role of national parks in scientific studies, and the practical problems of park management.

The fifth IUCN World Parks Congress (WPC) was held in Durban, South Africa in September 2003. With close to 3000 participants from 160 countries, it was the largest and most diverse gathering of protected area experts in history. The challenge before the 2003 Congress was to demonstrate how protected areas are relevant to the broader economic, social, and environmental agenda for humankind in the twenty first century. The congress called for stronger and more innovative management for biodiversity and sustainable development, with a renewed emphasis on locality and indigenous peoples. The involvement of young people in park protection was to be developed alongside a stronger financial basis for management.

### Regional Action

Those signing up to the IUCN Parks processes are unevenly distributed throughout the world, seemingly based more on historical accident than the values of

particular resources. But this imbalance is gradually being redressed. The Pacific Island states, for example, produced National Biodiversity Strategies and Action Plans (NBSAPs) as required under the Convention on Biological Diversity. These define the biodiversity needs of each country and identify a number of priority areas where IUCN expertise could assist. In particular, a transfer of expertise is encouraged from Australia and New Zealand, whom the IUCN considers to be world leaders in best practice for environmental management. Both countries also have active environmental non governmental organization (NGO) communities that provide strong advocacy and a generally high level of expertise.

In contrast to the Pacific, Europe in general has a well developed system of Parks, and a range of European legislation and multilateral agreements for their protection. The effectiveness of this protection is not uniform, however, and the main thrust of the IUCN European Programme (2005–08) is to move toward improving this protection in the weakest areas.

### Support Groups and Networks

In addition to global bodies and national agencies with a responsibility for the administration and management of Parks, there is a range of networks and foundations that provide support. Globally, for example, the networks of Marine Protected Areas and World Heritage Sites (sponsored by UNESCO) and the World Network of Biosphere Reserves both are active in orchestrating planning and management expertise and experience.

A number of countries have their own Parks ‘foundations’, independent of government, to ensure the pursuit of Park objectives. Thus, the New Zealand National Parks and Conservation Foundation seeks to broaden the base of stakeholders in Park management and the American National Parks Foundation creates partnerships and has a fundraising role. The Australian Foundation raises funds for specific Park projects and the African Parks Foundation (established in Holland) seeks

to match effective management with sensitive economic development.

In the UK too, the Council for National Parks (and its Scottish equivalent) seeks to protect, enhance, and promote the understanding of the nation's Parks and acts as an umbrella for over 40 amenity groups. The Association of National Parks is a federation of the 14 UK Parks, working collectively. At the European level, the PAN Parks Foundation brings all the protected area stakeholders together for information sharing and good practice. EUROPARC, the umbrella organization for all authorities who manage Europe's protected areas (national parks, regional parks, nature parks, and biosphere reserves) in 38 countries, has the common aim of protecting Europe's unique variety of wildlife, habitats, and landscapes.

## Landownership

The IUCN suggests that the ownership and management of Parks should be with the "highest competent authority of the nation". Despite this implied 'public authority' preference for ownership, patterns are diverse. There is much private ownership. Small farmers own most of the Narew Park and over half of the Biefrza Park in Poland, and in England and Wales, private ownership dominates but is not exclusive, as **Figure 2** indicates. Leasing from the state is a dominant tenure in the Biscayne Park in Florida for privately owned settlements used for weekend recreation. In the Richtersveld Park in South Africa, all of the land is owned by people living within the Park, and is leased 'to' South African National Parks with considerable economic benefit.

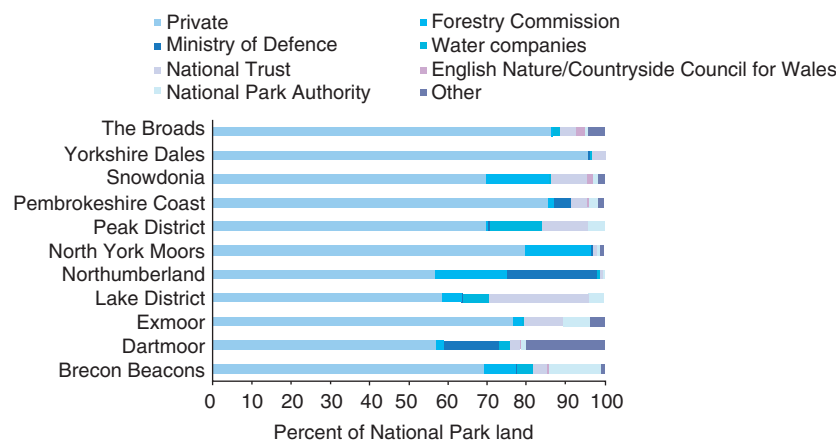
In the Asian regions, much Parkland is in communal ownership amongst kinship groups and clans, who have a historic right to the resources on that land. This is a common traditional form of ownership that still prevails

in many Park areas. In some Parks the ownership is determined according to land use. Thus in the Cat Tien National Park in Vietnam, agricultural land is under private ownership but forest land remains with the state, and ownership changes with change in use. In the Bent'al National Park, established in the 1940s as Lebanon's first Park, a cooperation was formed amongst landowners, villagers, and government over the mutual ownership of the Park. But in many areas, such as in the Pacific, it is not clear who actually owns Parkland, as much of it is not titled at all.

The dynamics of ownership are equally complicated. Many African Parks were established under colonial regimes, where the forced removal of local communities was common practice. This has led to the more recent reassertion of land claims in Parks such as Augrabies Falls, Kruger, Vaalbos, and Dongolo, similar to the restitution of some Parks in New Zealand, to Maori, under the Treaty of Wanganui. Alongside forced removal, the state has actively purchased land for Park purposes, as in the Pieniny National Park in Slovakia, and independent charities have also purchased land and then ceded it to the state as has occurred in Costa Rica.

In fact, the ownership of 'rights' in Parks is as critical as the ownership of the land itself. The state can curtail rights without actually owning the land. In African Parks, for example, state control over hunting and resource exploitation shapes the appearance and condition of Parks, often with problematic economic consequences as in the Kisite Marine National Park in Kenya. In England, state control over development is stringent. Dispossession and restitution have also occurred in relation to rights as well as to land.

In the Parks of Australia, for example, Aboriginal people have been dispossessed of customary rights (hunting, fishing, the taking of traditional foods, etc.) and in a number of cases in land restitution, many of the rights over land remain with the state as, for example, in the



**Figure 2** Landownership in the national parks of England and Wales.

2006 repatriation of Biamanga and Gulaga, two coastal Parks. In some of the trans boundary Parks in southern Africa, for example, repatriated land may not be used for farming or mining or contain permanent settlements. It may be used for religious and cultural purposes, however. Rights are also bought and sold. In Costa Rica and many European countries, state payments are made for environmental services from private landholders.

## Management Issues

At the global level, the largest tension in the management of Parks is that between conservation and development. Because three quarters of the IUCN's protected areas are in the developing world, they represent a particular commitment for governments who face challenges relating to developmental issues and priorities. In the region bounded by Sudan, Eritrea, Djibouti, Ethiopia, Kenya, Uganda, and Somalia, for example, an Inter governmental Authority for Development has constantly to balance the needs of a poor population with the needs of conservation.

In the Pacific priority region, the challenge is to get protected areas in general onto the political agenda. Political instability in the region has weakened the ability to balance development demands and the conservation of resources and ecosystems. Many Pacific countries do not have the resources to implement international conservation agreements, and aid funding does not make this a priority over economic development and health. The Pacific Islands Round Table on nature conservation, formed in 1998, is the only body in the region with a specific conservation remit.

Sometimes, local opposition to protected areas can contribute to their lack of management. In other cases governments themselves can ignore protected area status when they contain valuable resources. In yet others, such as in the Zapata National Park in Cuba, economic livelihoods (hunting, tree felling, and agricultural intensification) can damage the ecological value of Parks.

One of the more successful approaches to ameliorating this tension between conservation and development has been to place emphasis on 'community based approaches' in pursuit of the sustainable husbandry of natural resources. At Mt. Elgon, Uganda, for example, there has been a shift from traditional protectionist approaches (which had not been effective) to sustainable development ones through collaborative schemes, involving local people in resource management and conservation. This has been successful at stimulating cultural and economic values in tandem.

Khunjerab National Park in Pakistan is one of the highest Parks in the world and has developed community based conservation to increase the population of snow

leopards and Marco Polo sheep. In Kisite Marine National Park and Mpunguti Marine Nature Reserve in Kenya, the balance between resource exploitation (particularly fishing and tourism), social infrastructure (particularly health and education), and conservation is being constantly adjusted in response to community requirements.

Similar schemes can be found in the Langtang National Park in Nepal where traditional land use practices are sustained within the local community as a means of preserving the natural environment. Community management is also active in the Bundala and Udawalawe National Parks in Lanka. The Darwin Initiative (funded by the British Government), too, has led to the establishment of botanical gardens in Tam Do National Park in Vietnam, through a community involvement scheme.

In a number of cases, community involvement has been combined with processes of visitor control. In some cases, this has involved using entry fee charging to keep visitor numbers down. In Kenya, Park entry fees and day trip charges have been used since 1975 both to control visitor use but also to raise revenues for a number of community projects. Entry fees are payable at all Parks in Nepal including the Mount Sagarmatha (Everest) National Park to control visitor use and to generate local revenues. In further deference to community values, in some Nepalese parks, things such as smoking, chewing tobacco, and consuming alcohol are not allowed, for religious reasons. Visitor numbers are also rationed in other ways. Special permits are required, for example, in Yala (Ruhuna) National Park in Sri Lanka for this purpose.

In contrast, some parks have a tradition of more intensive recreation activity of benefit to the local community. The Tatra National Park in Slovakia, for example, has a range of preexisting spa centers, including sanatoria, health centers, cure houses, and spa hotels. Here, a commercial return is a central feature of the Park, as a means of stimulating the vibrancy of the local community.

Other significant management issues include the development of sustainable ecosystems that, in some way, can also manage other resources to good effect. In the Cat Tien National Park in Vietnam, for example, management regimes are designed both to improve ecosystems and also to have an active role in the control of flooding and the protection of water resources.

Finally, bio security and disease control are critical issues in some Parks, particularly where, as in Africa, there are large migratory animals. Bio security can also be threatened by unplanned colonization and oil exploration as in the Yasuni National Park in Ecuador. There are also specific ethnobotany programs in place in the Ayubia National Park, for example, in the Himalayas to protect biodiversity in the Himalayan moist temperate forest.

See also: Ecology; Ecotourism; Nation.

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# National Schools of Geography

P. Claval, Université de Paris-Sorbonne, Paris, France

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A few years ago, Derek Gregory summed up the history of modern geography in the following way:

In the eighteenth century, geography is supposedly a 'European science'; in the nineteenth century distinctive schools of geography are identified with particular national traditions ('the French school' and the 'German school'); and in the twentieth century particular places are often used as markers of the intellectual landscape ('the Chicago school', 'the Berkeley school', and 'the Los Angeles school'). But the global circulation of information [...] has made many of these parochialisms unusually problematic. No doubt we have retained some of them [...], but there is nevertheless an important sense in which our 'local knowledge' simply isn't local any more. (Gregory, 1994: 8–9).

Gregory's view of the evolution of our discipline was oversimplified, but he was right when opposing a time when geography was a European common endeavor, a time when national schools were active, and a time when parochialisms were progressively rubbed out. Such an evolution raised important problems: why did the geographic tradition become fragmented into national schools sometime in the nineteenth century? How did these national schools evolve in the twentieth century? Why did they recede during the last generation?

Other questions may be asked concerning the national schools: Did all the nations have a 'national school'? Were they all built along the same principles? What was the role of national intellectual traditions and institutional context in their genesis? What was the effect of the political history of nations and their periods of war, dictatorships, and foreign occupation? In the way geography was conceived, what favored fragmentation?

## Geography before Its Fragmentation into National Schools

Until the mid nineteenth century, geography developed in a context utterly different from the contemporary one. From the Renaissance, the main task of the discipline had been to build an increasingly accurate view of the world. As reminded by Anne Godlewski, geography was mainly molded by this cartographic imperative. During the sixteenth and seventeenth centuries, it was impossible to get direct and accurate measures of longitudes. As a result, geographers kept busy in analyzing travel books in order

to evaluate distances and indirectly longitudes. They spent most of their time in libraries and ignored fieldwork.

The improvement of astronomical methods of longitude determination and John Harrison's invention of the marine chronometer caused a deep crisis in geography: new aims had to be developed. Because of the new facilities offered for mapping and the possibility to have natural scientists aboard, Western states developed maritime explorations: the travels of Cook in Britain, Bougainville in France, and Behring in Russia were the most famous. These national expeditions were conceived along parallel lines: there were close relations between the academies that were in charge of their scientific programs. Out of the description of the Earth's surface provided by the natural scientists involved in these explorations, a new form of geography developed, best exemplified at the beginning of the nineteenth century by Alexander von Humboldt. The geography he practiced knew no boundaries: a Prussian subject, trained in different German universities, he explored Spanish America and settled in Paris for 25 years for editing the material he and Aimé Bonpland had gathered. He was instrumental in the creation of a new form of scientific institution, which played an important role in the development of explorations and the expansion of European nations during the nineteenth century: the society of geography.

The popularity of geography during the eighteenth and early nineteenth centuries did not come from its content. It resulted from the comparisons between the landscapes, mores, institutions, or economic activities it allowed: hence, the strong interest in geography of many philosophers, Montesquieu, Rousseau, or Turgot in France, and Kant in Germany. Another role for geography was also explored at that time: for Herder, progress was a reality, but the paths followed by the different peoples were not similar; every one had to invent his or her own way through their ability in mobilizing the environment in which it lived. The national dimension of geography was in this way stressed, but Herder's ideas did not prevent the discipline to preserve its 'European' character until mid nineteenth century, as shown in the work of his followers, Carl Ritter, for instance.

## The Emergence of National Schools: The Institutional Context

National schools of geography appeared in the second half of the nineteenth century – two of them, at least, the

German one from the 1860s or 1870s and the French one in the 1880s and 1890s. There were several reasons for such an evolution.

The early rise of a German school of geography was the result of the leading role of two geographers in the building of the modern form of the discipline: Alexander von Humboldt and Carl Ritter had created an intellectual tradition, which was missing elsewhere. The founders of the new discipline in Western countries were often former students of Ritter or Humboldt in the University of Berlin: Louis Agassiz and Arnold Guyot for the United States, or Elisée Reclus for France. Trained as a historian, Paul Vidal de la Blache became a geographer when discovering the volume of Ritter's *Allgemein ver gleichende Geographie* on Asia Minor.

German geographers were well ahead of the others, but by 1850, there was still nothing as a German school. The creation of national schools resulted from the new forms of institutionalization undergone by the discipline at the time when nation states were becoming the main form of political organization.

Some of the components of the new institutional setting predated mid nineteenth century. Societies of geography had appeared in the 1820s, but their number mainly jumped after 1870. Their recruitment changed: instead of grouping mainly explorers, missionaries, topographical officers of armies and navies, and independent scholars, they attracted a growing number of businessmen, interested in the economic opening of the world and the expansion of European direct or indirect rule over 'backward' countries. The transformation of the economic conception of international life gave in this way a new significance to the modern nation states of the West – but the lines developed by the societies of geography were too similar to induce a fragmentation of geographical knowledge into national schools.

What was much more important was the transformation of geography into an academic discipline. Here again, Germany played a decisive role, thanks to the reform of Prussian Universities conceived by Wilhelm von Humboldt in 1808. For the first time, universities were mainly conceived as research institutions. Each science had to be given the means to organize its own development. The potential of such a reform on scientific achievements in geography became evident after 1871, when Prussia transformed Germany into an Empire: within a few years, departments of geography were founded all over the country. The professors who were recruited for the new chairs had different backgrounds, but they shared common goals: to give the new generations of German people a clear idea of what was Germany and to help to the creation of a colonial empire and the building of a strong German navy.

Since the unity of Germany was built on the defeat of France at the end of the Franco Prussian war of 1870–71,

France experienced a similar rise of national militancy. The development of new institutions took a few years. By the 1880s and 1890s, French government was busy in modernizing French Universities – partly along the German line – and multiplying chairs of geography. Most of the new professors had been trained as historians, but they were motivated by the desire to build a stronger France through its colonial expansion and industrial development. They were as much involved in the reconstruction of French territorial integrity (which meant the restitution of Alsace and Lorraine, annexed by Germany in 1871) as their German colleagues in the fulfillment of German territorial unity.

In a way, these institutional transformations explained the early development of a strong nucleus of academic geographers in both Germany and France during the last decades of the nineteenth century. Did it mean that it was already possible to speak of a German and a French school of geography by 1880? No: French geographers relied mainly on German sources. They were working for the defense of French interests, but relied on the same intellectual tools as their German colleagues.

The dynamics of academic life was, however, conducive to the development of particularisms. Professors were free to choose their research field and use the sources and methods they preferred. Since travel was still expansive and time consuming, most scholars had few possibilities to visit faraway countries and to meet regularly foreign colleagues. International congresses of geography were still attracting more generals, admirals, or diplomats than university teachers. It was often easier to visit the colonial empire of one's own country than to travel really abroad.

At the national scale, there were forces that countered the fragmentation of the scientific enterprise. Since professors were generally selected by commissions, which included colleagues coming from other universities, academic careers were judged according to national rules. In France, the selection of secondary school teachers in geography (and history) was based on a competitive national examination: it forced all the university teachers in geography to work along the same lines and to cover the same basic program.

From 1905, a French national interuniversity field trip was organized every year for graduate students and university teachers coming from all over the country: it was conducive to a national codification of fieldwork.

Between the 1850s and 1880s, there was only one scientific journal in geography: the *Pettermanns' Mitteilungen*. It was published in Gotha, a small city in central Germany and written in German. The quality of the maps and data it published was such that it really enjoyed an international audience.

At the end of the nineteenth century, the situation became to change. Scientific national geographic journals

were launched in most industrialized countries: *Annales de Géographie* in France in 1891, *Geographische Zeitschrift* in Germany in 1895, and the *Annals of the Association of American Geographers* and *The Geographical Review* in the United States in 1910. The main orientations of these journals were given by national authors.

Because of the way academic life was built, a mechanism of national differentiation began to operate from the 1870s and was reinforced during the last decades of the nineteenth century and early twentieth century in most Western countries. Academic geography was increasingly rehearsed on national scenes. The national intellectual life influenced it strongly. It was difficult for a Spanish geographer to escape the philosophy of nature developed in Germany by Krause: imported in Spain in the 1850s, it had become the official philosophy taught in Spanish Universities. This explained the weight given to the management of nature by the Spanish intelligentsia of the time.

The institutional dynamics was not, however, the only factor responsible for the development of national schools.

### **The Emergence of National Schools: The Role of Human Geography in Germany and France**

Human geography appeared in the 1880s and 1890s. Ratzel coined the term 'anthropogeographie' in 1882. French geographers began to speak of *la géographie humaine* from 1895.

Human distributions were studied by geographers since a long time. Thanks to the progress of ethnography and folklore studies, the knowledge of the diversity of tools, know hows, techniques, and human settlements had much progressed from the beginning of the nineteenth century. Ritter's position analysis did not stress only the role of atmospheric and oceanic currents in the shaping of the diversity of the Earth, it focused also on the significance of 'circulation' and the role of steamships in contracting the Earth's surface.

What motivated the birth of human geography as a semiautonomous field of enquiry within geography was, however, Darwin's interpretation of evolution. Human geography was born as a kind of ecology of human groups in their relations to environments. The main aim of the new discipline was to answer a fundamental question: up to what point were human beings and human activities a reflection of environmental conditions? Human geography was born from a deterministic interpretation of man/milieu relationships.

It soon appeared that the influence of milieus on human groups could not be described as a one way process. Ratzel, who had created human geography in an

environmentalist perspective, held in fact an ambiguous position. In many cases, he stressed the strong control the physical constraints exercised on peoples, especially nature peoples. He had learned from Ritter, however, the role of exchange in escaping local conditions: cultured peoples freed themselves from the tyranny of nature, thanks to their sense of space, their *Raumsinn*, and the institution which allowed for mastering distance: the state.

The evolution in France was different, but the result was similar: the environmentalist perspective which had given human geography its *raison d'être* was transformed. In order to analyze the relations, human beings developed with their environment. Vidal de la Blache had introduced in the 1880s the idea of *genre de vie*, that is, the way people exploited the local resources. It was a tool not only for exploring ecological constraints but also for appreciating their limits: ways of life traveled with the groups who had developed them, and applied to environments for which they had not been devised; technical innovation allowed the introduction of new technologies and new links with the local environment. Last but not least, and as for Ratzel, trade allowed local people to find elsewhere what they were unable to produce locally. Because of the Lamarckian interpretation of evolutionism, which was very popular in the French geography in the 1890s, the idea of adaptation to local conditions seemed more significant than that of natural selection.

In Germany as well as in France, human geography lost almost immediately the scientific ambition out of which it was born: when doing field work, scholars discovered the wide variety of solutions different groups gave to similar environmental conditions. The interest of geography stemmed from the detailed views it offered on man/milieu relationships, their variety, their stability for long periods, their crises, etc. Because of the introduction of such a possibilist perspective, human geography had ceased to be a nomothetic discipline. It was transformed into an idiographic one.

In such a context, the study of human geography could be built on three paradigms since the environmentalist one has ceased to be exclusive: (1) it could be conceived in Kantian terms as a science of the regional differentiation of the Earth's surface; (2) it could be presented in an evolutionist perspective as the analysis of man/milieu relationships; and (3) since many geographers disagreed with the breakdown of geography into human and physical parts, a new interest developed in landscapes.

These three conceptions could be combined. In Germany, emphasis was mainly put on the regional approach, according to Hettner's views, and landscape studies along the lines developed by Schlüter. The Ratzelian legacy was lighter, except in political geography. In France, geography mainly combined the regional

approach with the man/milieu perspective: the starting point of research was not the landscape, but density maps, since they showed in a simplified way how the environment was used by human groups.

There was another possibility to combine the three main approaches in human geography, but it did not develop in the 1890s or early 1900s. Its success came later and elsewhere, in North America. For Carl Sauer, the aim of human geography was mainly to focus on man/milieu relationships and to analyze them through landscape expertise. It meant that geographers were as much interested in the transformation of the 'natural' components of landscapes by men as in the influence of environment on human behavior.

The strength of the German and French schools of geography came from the fact that they expressed two ways of combining the paradigms of human geography when environmental determinism ceased to appear as the only entry to the discipline. The Berkeley school had a status similar to the German and the French ones, even if it was not a national school.

### National Schools of Geography Elsewhere

The development of national schools resulted from the collapse of the environmentalist conceptions as developed in the 1880s and 1890s: human geography could no more be defined by its capacity to answer one central question – the influence of milieus on human beings and human behaviors. Three perspectives competed in the new discipline. They could be – and were – combined in three main ways; hence, the emphasis given to the French and German schools – which were genuine national schools – and the Berkeley one, which was not a national school.

Geographers who were responsible for the development of the discipline in the last decade of the nineteenth century and the beginning of the twentieth chose as models either the German or the French school, or tried to combine them. Their conceptions were also influenced by the earlier geographical traditions existing in their countries and the *Weltanschauung* of their elites.

The influence of the French school was strong in Belgium, the Netherlands, Britain, Spain, Portugal, Latin America, and Rumania. The influence of the German school was prominent in Austria and the former countries of the Austro-Hungarian Empire, Russia, the Baltic States, Scandinavia, and Japan. There were also countries that looked at both France and Germany. In Italy, intellectual contacts were traditionally stronger with France, but the geographers of Trentino and Trieste (regions which were under Austrian rule until World War I) were trained in Vienna and introduced German views. In

Scandinavia and the Baltic States, French geography played a complementary role to the German one.

Britain had played a pioneering role in the great explorations of the eighteenth and nineteenth centuries. The London Missionary Society had been partly responsible for the creation of the Royal Geographical Society. British geography was in this way closely associated with imperial expansion. There was not a trauma similar to that of the Franco-Prussian war of 1870 for accelerating the institutionalization of the discipline. It was only in the 1880s that a new interest developed in the teaching of geography as a tool for strengthening the British and imperial identities.

The nineteenth century tradition of exploration kept a more important role in Britain than elsewhere. Most of the ideas used by early British academic geographers were imported from France. Patrick Geddes served as middleman between the two countries: he was closer to Elisée Reclus, on one hand, and Le Playan sociologists on the other, than to the Vidalian school. Hence the emphasis given to field work – through the influence of Le Play house, in London. The French regional approach was also imported and at the same time, reinterpreted. Out of these foundations, British geography soon developed original orientations. In the inter-war period, historical geography began to be one of its main originalities, thanks to Darby. From the time of Patrick Geddes, the interest for planning was strong. It was strengthened in the 1930s by the preparation of a land use survey organized by Dudley Stamp. During World War II, it appeared as an invaluable tool for the British Air Force in charge of locating hundreds of new military airports, and for the government, which had to develop the production of cereals for feeding the British population.

It was certainly more difficult to define the British school of geography than the German or French ones, but its specificities kept consolidating during the first half of twentieth century.

Spain provides another example of the formation of national schools in the first half of the twentieth century. The enthusiasm for geography resulted, in the second half of the nineteenth century, from the success of the Krausian philosophy of nature. The main problem for Spanish people was to break with the spiral of decline, which had started in the seventeenth century and had been accelerated by the Napoleonic invasion. The problem was not, as in Germany or France, a problem of boundaries. It was a problem of development. In order to transform their countries into a modern one, Spanish elites were convinced that Spanish people had to become more aware of the severe constraints created by Spanish climate and the low rainfall of a large part of the country. Hence the emphasis on *excursionismo* – field trips organized for a wide middle class public – and geographical education.



Spanish intellectuals knew that in order to avoid too strong an influence of France, it was good for them to look toward Germany. Many German textbooks were in this way translated into Spanish in the 1920s and early 1930s. Geographical proximity and the widespread knowledge of the French language gave, however, to the French school its dominant influence.

The impact of the Civil War was important in this respect. Many Spanish intellectuals (and geographers) were killed or had to leave their countries – most of them settled in France, Mexico, and other Latin American countries. In the early 1940s, Franco's regime launched a policy of scientific research, where geography played an important role – was it not necessary to remind the country of its past, its former empire? Was it not useful to teach Spanish people the best way to develop their resources? As a result, the regional approach appeared as a conception which could be shared at the same time by Franquist and non Franquist geographers. Unfortunately, it was also a time when regional geography started to decline in France and elsewhere.

Japan provides another fascinating example of the shaping of a national school. As shown by Keiichi Takeuchi, there was an old geographic tradition in the country, which did not disappear completely with the Meiji revolution. As early as 1872, geography was introduced, however, in the Japanese school curricula. Japanese people were eager to mobilize all the Western forms of knowledge. They translated many Western books. Bunjiro Koto (1856–1935) had been sent to Germany to study geology in the early 1880s. Back to Japan, he was appointed as a professor of the new National University of Tokyo. He participated in the launching of the *Chigaku Zasshi (Journal of Geography)* in 1889 and in the foundation of the Geographical Society of Tokyo in 1891. He introduced Ratzel's anthropogeography in Japan. Two of his former students, Naomasa Yamasaki and Takuji Ozawa, headed the two main departments of geography in Japan before World War II.

The filiation between German and Japanese geographies was evident, but as shown by Takeuchi, other influences played. For instance, Japanese scholars discovered earlier than in the West the significance of von Thünen's analysis of agricultural location. Japanese geographers looked also toward America.

Japanese geography developed in an increasingly imperialist atmosphere: it hampered the development of the discipline in the 1930s.

In a way, geography was a successful discipline in the United States from the start: Thomas Jefferson's *Notes on the State of Virginia* and Samuel Morse's textbooks testified of the fact. Geography did not play, however, the same role as in European countries: American consciousness was not built on a shared feeling of territorial belonging, but on the democratic experience of founding a new

nation: hence the reduced place given to geography both at the elementary and secondary schools level.

During the nineteenth century, geography played an important role in the East Coast universities, thanks to the immigration of a few scholars, Louis Agassiz and Arnold Guyot. Both were Swiss born, both had been trained in Berlin. They did not succeed in initiating a national school on the German model. At the end of the nineteenth century, American geography was mainly personified by William Morris Davies: it was centered on geomorphology. After World War I, interest shifted toward human and economic geography. It was really the time when something like a national school appeared in the United States. In the Middle West Universities, where geography flourished at that time, the main problem was a methodological one: how to codify field work, to use cartographic evidence, and to develop enquiries? Hence the shaping, from the early 1920, of a Middle West school of geography, which differed from the European ones by the emphasis it puts on methods rather than on content. Hartshorne tried to graft it on the Hettnerian tradition of regional studies, but American studies did not conform to this German model.

At the same time, Carl Sauer developed an interpretation of human geography, which combined two of the three main paradigms of the geography of that time: man/milieu relationships and landscape analysis. Since the Berkeley school was based on a deeper reflection on the nature of geography, it had more influence abroad than the Middle West school.

### Changing Conditions and the Disparition of National Schools

After World War II, it became increasingly difficult to speak of geography in terms of national schools. There were several reasons for that.

The conditions of mobility within the academic sphere changed. Travel costs dropped and thanks to airplane, the time needed to visit a faraway country was much reduced. In their international relations, geographers relied increasingly on only one language, English, instead of several – German, French, and English. Since the countries of the former British Empire and the United States needed geographers, an international market of geographical expertise appeared: it concerned first North America, Britain, the Southern Hemisphere dominions, and countries of Northern Europe like the Netherlands and Sweden. It is now increasingly a world market.

The conceptions of geography evolved rapidly. The 'new geography' of the 1960s broke with the plurality of coexisting paradigms that characterized the first half of the twentieth century and proposed a unified theoretical spatial view of the discipline. Humanist and radical

approaches criticized the idea of geography as a spatial science but did not restore the plurality of paradigms on which the national schools had prospered. For humanist as well as for radical geographers, the ambition is to open a new perspective on the discipline. The idea that it could be based on a mixture of different paradigms does not appear as a serious one.

Up to what point are the geographers born in Anglophone countries provided with a serious advantage in a world where the English language is the only one to enjoy a global use? Since the academic capital they build is more widely recognized than that achieved by colleagues using other languages, is there not a threat of intellectual imperialism? The danger is a real one: new ideas formulated in other languages are often ignored for some time in the English speaking world and their authorship is sometimes attributed to Anglophone scholars: concerning the role of Marshallian districts and clusters in contemporary economic geography, Porter's study of 1990 is more widely quoted than the previous studies of Italian scholars like Bagnasco or Becattini. Thanks to Paasi's study, many Anglophone geographers are now conscious of the problem. It is particularly serious at a time when geography is experiencing a cultural turn. Even if scientific research and economic international relations are increasingly expressed in English, and if modern media are responsible for the universal diffusions of novels, movies, or TV series using the English language, the cultural diversity of the world has not disappeared. Would it not be easier to take it into account if more consideration was given to the languages ordinary people – and many scholars – use in their daily life?

It is increasingly difficult to defend the idea of a plurality of scientific approaches within geography. In order to become conscious of new problems and launch new orientations, some places offer more opportunities than others. It is the conviction shared by some of the geographers who work in Los Angeles: they believe that the center of world history has moved West and is now located in southern California; they enjoy the privilege to be in the best place to build an 'avant garde' view of the discipline. It is the reason for which some people speak of a Los Angeles school of geography. The reality behind such a school is much different from that existed in the first half of the twentieth century. There are no similarities between the Berkeley school of the 1930s and the Los Angeles school of the 1990s.

See also: Geography, History of; Landscape; Nationalism.

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# National Spatialities

T. Edensor, Manchester Metropolitan University, Manchester, UK

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## Introduction

To conceive the nation in spatial terms is a complex matter that brings together a number of processes and theoretical approaches. For the relationship between space and national identity is variegated and multiscaled, producing a complex geography that is constituted by borders, symbolic areas and sites, serialities, constellations, pathways, dwelling places, and everyday fixtures. The national is evident not only in widely recognized grand landscapes and famous sites, but also in the mundane spaces of everyday life. This article discusses a range of different national spatializing processes that interweave with each other to consolidate a strong cognitive, sensual, habitual, and affective sense of national identity, and provide a common sense spatial matrix which draws people and places together in spectacular and banal ways; and accordingly, discusses spatial boundaries, preferred ideological landscapes, iconic sites, serial spaces, everyday realms of national habit, the notion of 'home', and media representations of national space.

## The Nation as Bounded Space

The nation continues to be the preeminent spatial construct in a world in which space is divided up into national portions. The nation is spatially distinguished as a bounded entity, possessing borders which mark it as separate from other nations. Borders ostensibly enclose a definable population subject to a hegemonic administration in the form of a discrete political system holding sway over the whole of this space but which, in a world of nations, is expected to respect the sovereignty of other nations. These borders are also imagined to enclose a particular and separate culture, a notion that is informed by hegemonic ways of differentiating and classifying cultural differences that are subordinate to the nation, and conceived as part of national cultural variety.

The nation masquerades as a historical entity, its borders providing a common sense existence that locates the imagined community in time and space. Yet despite the appearance of fixity, nations continually change: they fragment, emerge, conjoin with each other, lose parts and expand, as any glance at a historical sequence of political maps throughout the twentieth century demonstrates. For the nation state may be threatened by large, supra national federations which organize around trade, social legislation, and law (for instance, as with the European

Community) promoting widespread fears about the demise of national political autonomy and culture; by autonomy seeking regions contained within its borders (such as Scotland, the Basque Country, and Kashmir); and by globalization, which produces global flows of goods, information, images, and people from elsewhere, a proliferation of extranational diasporic identities, virtual spaces such as 'cyberspace', and the development of planetary consciousness or global awareness, prompted by greater knowledge of challenges and threats to the world as a whole.

Although we continue to live in world of nations, defensive forms of national identity and rigidly guarded borders are increasingly threatened, since nations now need to have more permeable borders from the financial, informational, commodity, and cultural flows which circulate the globe. Despite these undoubtedly powerful processes, claims that the nation as space of primary belonging is in decline are exaggerated. For national identity can be reconstituted in diaspora, can forge new cultural constructions of difference out of the confrontation with otherness, and can morph into innumerable spatial forms. Accordingly, at a practical and imaginary level, national geographies continue to predominate over other political entities.

## Ideological National Landscapes

It is difficult to imagine a nation without conjuring up a particular rural landscape. Ireland has become synonymous with its 'West Coast', the USA with its 'Wild West' and Norway with its 'fjords'. Argentina is inevitably linked with images of the pampas, with gauchos riding across the grasslands, but the deserts, swamps, and mountains of Argentina tend to be overlooked. These specific landscapes are loaded with selective symbolic values and mooted national virtues, and often stand as symbols of historic continuity. Stamped with the modern construction of separate urban and rural realms, wherein the *gesellschaft* of the city is contrasted with a highly romanticized rural *gemeinschaft*, such 'national landscape ideologies' symbolize the *genius loci* of the nation, and is understood as the realm of forebears who typically tamed, the land and were nurtured here.

These iconic, privileged landscapes continually circulate through popular culture: in tourist campaigns, films, advertisements, and painting. Yet they are highly selective. For instance, the rural scenes that are held to

epitomize Englishness, containing a reliable mix of churches, thatched or half timbered cottages, rose laden gardens, village greens, games of cricket, country pubs, hedgerows, golden fields of grain, plough and horses, and hunting scenes, tend to be geographically confined to the South of the country. Lowenthal identifies four esteemed attributes which are encoded in the national landscape ideology encoded in these representations, namely, 'insularity', 'domestication', 'stability', and a 'sense of order'. In suggesting a historical fixity, such ideologies purify space and act to stabilize a sense of national identity in times of rapid change and ignore rural developments in agribusiness, commuter communities, and the rise of tourism, which have decentered this notion of rural idyll.

### Iconic Sites

As with the selectivity of ideologically loaded landscapes, nations also contain particularly iconic sites which symbolize particular values. Such sites often commemorate historical events or processes (monuments such as the Statue of Liberty, Arc de Triomphe, and Nelson's Column), or provide evidence of a national 'golden age' (such as Stonehenge, the Great Pyramids, and the Taj Mahal), or conversely, celebrate the modernity and progress of the nation (such as the Empire State Building, Petronas Towers, and Sydney Opera House). In addition, there are a host of sites which symbolize official power: the royal palaces, halls of justice, military edifices, presidents' houses, parliamentary buildings, and so on, which provide the materialized spaces of national rule.

These spatial attractors often occur in an ensemble of related sites, to constitute ceremonial points of reference or 'memoryscapes' around which circuits of memory are organized. For instance, a tourist trip to Paris involves gazing upon a number of emblematic places, including the Eiffel Tower, the Place de Concord, Notre Dame Cathedral, the Arc de Triomphe, the Champs Elysees, and the Louvre. These are noteworthy both as signifiers of France for outsiders and as ideological statements about Frenchness and the republic within France. However, the meaning and power of such sites may become obsolete, as with the statues in Eastern European nations which no longer reflect national sentiment following the fall of communism. Despite the desires of the powerful to imprint particular ideological constructions of national identity upon space, such aims may be thwarted by changing notions of belonging and style. This is particularly apparent in stone statues of military heroes, philanthropists, and statesmen which have been critiqued by feminists as a highly gendered form of spatial representation. Alternatively, monuments and memorials may be interpreted from a number of different perspectives, and yet in these cases, such symbolic sites can be widely

shared as a cultural resource although the values which they represent can be contested.

In addition to these iconic sites, other symbolic places of popular assembly such as squares, beaches, commons, parks, and thoroughfares serve as venue for communal endeavors such as festivals, demonstrations, tourism, and informal gathering. Such sites can be places of proximity, where people go to look at and meet other co-nationals. Certain spaces of assembly associated with national identity, such as Times Square in New York City, Trafalgar Square in London, the Djma el Fna in Marrakesh, Gateway of India in Bombay, and the Zocalo in Mexico City, are venues for seething motion and a multiplicity of activities, identities and sights, and are places where collective rituals (such as New Year's Eve celebrations) are carried out. In contrast to the rather purified, single purpose spaces of state power, they are more inclusive realms which allow the play of cultural diversity, providing a space in which tourists and inhabitants mingle, people picnic and protest, gaze, and perform music or magic, sell goods and services, and simply 'hang out'.

Other popular highly symbolic national sites include sports stadia (Wembley, the Maracana, Madison Square Gardens, and the Stadio Olimpico), theaters, museums, and historic districts. In the case of the former, it might be argued that since sport is increasingly powerful as a focus for national identity and prestige, they have become particularly significant in recent years. All such sites, however, tend to be nonexclusive in the social mixing of co-nationals they allow, and the values they symbolize are rarely passed down by a cultural elite but emerge from familiar interaction with such spaces in conditions of co-presence with fellow nationals.

### Serial Landscapes

Most accounts of the relationship between space and national identity have focused on the kinds of symbolic landscapes and sites discussed above. However, few depictions explore the more mundane spatial features of everyday experience which are equally important in constructing and sustaining national identity. For irrespective of the effects of globalization, most of us live in recognizable worlds, distinguished by distinct material structures, and the predictable distribution of objects and institutional arrangements. Within these inhabited realms, surrounded by familiar things, routes and fixtures, we make our home by the accretion of habitual enactions, by our familiar engagement with the space in which we live. While these more intimate spaces may be considered as the agglomeration of regional or ethnic synchronicity, shared understandings and collective rituals, familiarities also extend across a larger scale, stitching the local and

the national together through their serial reproduction across national space.

The semiotic imprint of familiar features constitutes a sense of being in place in most locations within the nation, and this is facilitated by vastly enhanced mobility which has enabled people to travel across national space. However, these fixtures are not only read as signs, but are also felt and sensed in unreflexive fashion. There is a plethora of everyday, mundane signifiers which are noticeably not present when we travel outside the familiar national space and into other national spaces. These recurring institutions, vernacular features, and everyday fixtures are embedded in local contexts but persist throughout the nation as serial features. For instance, the British landscape contains a host of unremarkable but predictable elements. The institutional matrix of everyday life is signified by familiar commercial and bureaucratic notices which indicate where services can be procured or commodities purchased. Likewise, service provision is marked by (red) telephone boxes and post boxes, distinctly designed equipment for conveying flows of power and water – including grids, fire hydrants, street lighting, guttering, telegraph poles and pylons, identifiable road signs and artifacts, styles of domestic architecture, garden ornamentation, and home décor which tend to fall within a recognizable vernacular range. Such elements rarely confound expectations of how space will appear and feel, and when this occurs, unfamiliar features stand out in relief against this normative spatial context. Particular fixtures are occasionally more overtly celebrated as quotidian features of national identity and also may be sought out by foreign tourists in search of signs of otherness, of unfamiliar national identity. Here we can identify mundane features such as British pubs, French cafes, and Italian churches.

These mundane signifiers are also accompanied by the recognizable forms of flora and fauna which recur throughout most environments. The circling black kites throughout urban parts of India are unremarkable, and a host of other unspectacular animals and plants are also part of everyday landscapes in most national spaces, rarely commented upon except when they are no longer so common. In addition to these living elements, serial landscapes produce distinct soundscapes, sonic geographies that provide a backdrop to everyday life, so that the distinctive sounds of traffic, muezzins or church bells, birdsong, and music also install a national sense of being and belonging.

While such serial features provide anchors for spatial identity, they should not be imagined as testifying to a static landscape. As the production of space goes through dynamic cycles, inhabitants must also accommodate themselves to new developments. The awareness of change and growing familiarity with the new creates a complex spatial network. But as people adapt to

transformation, they are apt to domesticate changes so that they are incorporated into familiar national spatial contexts.

### **National ‘Taskscapes’**

Above, the emphasis is on the routine experience of space, the ways in which particular actions recreate space, and the modes of habituation which render it familiar. After all, the most common spatial experience inheres in everyday, familiar space, that realm which forms an unquestioned backdrop to daily tasks, pleasures, and routine movement. The street, neighborhood, and local institutions and facilities form the terrain on which quotidian practices are unreflexively carried out. Such mundane space is structured and organized to enable continuity and stability, and equally, the meaning and functions of such stable environments are reproduced at a daily level by the repetitive, collective, sensual, practical, and unreflexive performances of its inhabitants. To emphasize, for much of the time we unreflexively perform embodied habits in accordance with the affordances of place, with the constraints and opportunities of space, and such enactments become embedded over time.

At one level, regular individual time–space paths are marked upon familiar space and these intersect with spatial and temporal patterns of collective routine practice at sites such as local shops, bars, cafes, and garages. Such routines become sedimented both in the landscape and in the habit body to provide geographies of continuity constituted by paths, constellations of co presence, fixtures, meeting points, and intersections. Linked by the roads down which people drive and the pavements that they walk along, venues for shopping, services, relaxation, and entertainment are spaces of circulation in which people coordinate and synchronize activities, stabilizing social relations in time–space. The concept of the ‘taskscape’ captures the space within which these unreflexive modes of being in the world take place, for it is a space in which a practical, multisensory knowing facilitates spatial practice and coordinates collective activity. The development of an everyday practical orientation means that mundane practices are not static but allow for the adaptation of habits from the past as part of the ongoing process through which space is (re)produced.

Crucially though, when these practices are contested by others who do not do things the way we do them, or space becomes defamiliarized by redevelopment or the intrusion of ‘foreign’ elements, there is the potential to become confused and threatened. When enduring fixtures, familiar pathways, characteristic features, and landscapes are removed or radically altered, a sense of disorientation can result. For instance, the removal of red

telephone boxes along the streets of British towns and cities caused fear that the mundane environment was under threat. Likewise, the perceived differences in household décor, eating habits, musical preferences, religious practices, and clothing conventions may appear strikingly different when they appear in landscapes of habit in which esthetic, functional, and practical norms have become embedded and they may be experienced as practices that defamiliarize the local.

In addition to the perceived threats to stability by the intrusion of these unfamiliar elements, taskscapes provide stages for the enactment of functional know how. For instance, shared practical knowledge ensures that locally we know how to take a bus, join a library, buy a favorite brand of chocolate bar, go for an alcoholic drink, park a car and drive it at an appropriate speed. This form of spatial knowledge, largely learned in the familiar local world, extends to the national level, since certain templates of spatial organization and the serialities mentioned above extend across the nation (in retail outlets, public transport systems, entertainment venues, car driving, service infrastructures, and provision) so it is likely that most of the shared, learned, and rehearsed, practical competencies that are required for the performance of a host of mundane practices can be reproduced in other national locations with little need for reflection or concentration. However, when traveling to unfamiliar, foreign spaces for the first time, the practical knowledge that is so integral to reproducing an awareness of identity, a sense of place and its actual characteristics may well be irrelevant. It now becomes difficult to get things done because the familiar fixtures in the landscape are nowhere to be seen, the functions of shops and other services are baffling, the movement across space by public transport is confusing, social practices appear obscure, and one's own performances in space are neither practical nor understood. Even carrying out the most ordinarily automatic, mundane endeavors – such as buying a chocolate bar or driving – may present a considerable challenge, in which case habitual unreflexivity may be replaced by intense concentration or uncomfortable self-consciousness. These underacknowledged spatial and performative dimensions are rarely the subject of academic analysis yet they highlight how national identity devolves to the level of the local, and is extended throughout national space in everyday settings.

### Homely Space

The multiscalar dimension of national identity is well illustrated by the host of spatialities which surround the notion of 'home', which can variously refer to house, neighborhood, village, city region, or nation and is thus a term which links differently scaled affective spaces. For

instance, 'good housekeeping' can be applied to both the family finances and the policies of national government, and the national football team plays 'at home' and 'away'. Yet constructions of home are integral to the boundaries of space making, notably in distinguishing the national from the space of the 'other'.

Perhaps most saliently, home is usually conceived of as a place of comfort where we are most relaxed and unselfconscious, the place where we 'make ourselves at home' in the world according to social and aesthetic conventions about conviviality, domesticity, and furnishing and decorating space, all practices which demarcate domestic territorial boundaries. Homemaking is able to domesticate elements from elsewhere, establishing conditional and contained connections with other places where the home remains the hub of such relations. Again, domestic practices produce taskscapes where we develop bodily habits and routines around everyday fixtures in an organized space, and a practical competence, for instance, in understanding how electric appliances work. Once more, these unreflexive routines only become apparent when we enter domestic spaces in which different codes inhere.

Besides practical knowledge though, the sense of comfort and affective belonging that emerges from the home is particularly founded upon the ways in which it is sensually experienced and embedded in memory. The 'felicitous' areas of childhood play within domestic space, such as bedrooms, attics and parlors, with textures and micro atmosphere absorbed in childhood are complemented by the those of the immediate locality, the bus shelters, dens, woods, back streets, parks and fields, and other sites of childish adventure and adult experience to provide a rich source of often involuntary memory. Thus, the texture of the world, the feel of familiar spaces underfoot, the barely perceptible subtleties of climate, vegetation, and built environment are part of a sense of place which extends from home and garden to the wider locality and beyond.

As with other spaces, the home must be continually reproduced by domestic work and by social and cultural activities, and it is always liable to be threatened by the presence of otherness. Defensive operations debar the unwelcome from entering the 'homeland' at state level, and they are also mobilized at a smaller scale where cultural, ethnic, and 'racial' difference is marked in discriminatory housing markets, employment, and social services. Those perceived as 'outsiders' are often situated in marginal places where their difference can be contained (and desired). These defensive responses indicate that although the home is often conceived as an idealized refuge, it can be a site of both oppression and liberty, and it can restore and stifle.

Increasingly, a sense of homeliness may not only be achieved by a situatedness in particular physical space but

may also be reached via homely networks of people and information. Yet while it is progressively more common for people to identify several 'homes' as social and cultural networks become more complex, familiar spatial reference points are still sought. The importance of feeling comfortably 'at home' in space, and in understanding home as the site from which national tastes, rituals, good habits, and modes of comportment should be learned and reproduced is particularly evident in expatriate and migrant communities. Accordingly, such communities are apt to forge networks with the 'homeland', whether virtual or material, and reproduce cooking, decorating, convivial, and esthetic national conventions in the realm of the 'other'. Home and its national(ist) manifestation can, therefore, be simultaneously grounded and mobile, not merely present in national space, but exported and reestablished.

### Media Representations of National Space

Having discussed the symbolic, social, and lived dimensions of inhabiting and reproducing national space, it is vital to consider a further dimension, namely, the representation of national space, for all the characteristics identified above also loom large in the representations articulated in popular and 'high' cultural forms. In a mediatized age, the proliferation of images and verbiage also include representations of national space, ranging from the stereotypical and archetypal, to the incidental and everyday. Certain iconic sites are represented both in paintings and photography, and in tourist marketing and popular films, continually underlining their symbolic value. More typically, national landscape ideologies feature in mythic cinematic portrayals, such as the grand American landscapes featured in Western films that are further loaded with cultural values concerning ruggedness, the wild and yet a land that can be conquered, and provide the setting for equally symbolic acts of heroic individualism. Less obviously, but equally importantly, the imagined community of the nation is reproduced in the plethora of everyday television programs, advertisements, and films which indiscriminately feature mundane scenes of daily life. For instance, popular British soap operas all feature a central pub, domestic interiors, corner shops, and cafes which can consolidate a sense of belonging to the normative spaces of British life. Such recurrent images are part of the production of the imaginary geographies of the nation, and produce intertextuality, or an interspatiality, in that they conjure up spaces that are familiar to the national viewer. A familiarity with the seriality of national space is thus further consolidated by its reproduction via representations across the media. Moreover, in this case, the television links home and domesticity in that such images are consumed in the domestic, mundane context of the home.

### Conclusion

National spatialities are multiscalar and complex, folding into each other to reproduce the resonance of national identity. The nation is domesticated, replicated in local contexts, and practiced in everyday spaces. It is present in iconic sites, esteemed national landscapes, serial spaces, and in the unreflexive reproduction and sensual experience of familiar space, all of which are further entrenched as national by their portrayal in popular media representations. Modern nation building has entailed the incorporation of all internal differences, so that whatever regional and ethnic differences may predate the nation's formation, they all become subservient to, and part of, the greater national entity. Region, city, village all remain tied to the nation as a larger ontological and practical framework, and are absorbed into this code (and hierarchy) of larger significance. Enhanced mobility and mediatization means that such scenes are commonly witnessed by co nationals, and this extends to foster a global international recognition.

In recent years, there have been several accounts that point to the increasing placelessness wrought by globalization. Through global processes, it is asserted, the national, regional, and local specificities of place are erased in the production of homogeneity and 'serial monotony' to produce 'nonplaces'. However, while these assignments appear to characterize certain spaces such as international airports and shopping malls, it must be contended that global processes are typically contextualized within localities, where rather than overwhelming local space, they are domesticated, adopted via codes of spatial ordering. Other arguments point to the disembedding of local practices and the redistribution of identities away from the nation and into localisms, groups with a global membership, virtual communities and lifestyle gatherings. However, while the nation has undoubtedly been challenged as the primary space of loyalty and identity, it retains its power through the institutionalized repetition of everyday spatial practice and the seriality of landscape, as well as it continued hold on popular geographic imagination through flows of media. Moreover, in the face of volatile and proliferating global flows of all kinds, the nation remains a point of anchorage, a space which promises epistemological and ontological security amidst conditions of ceaseless flow.

See also: Globalization, Economic; Nationalism; Scale.

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# Nationalism

D. H. Kaplan, Kent State University, Kent, OH, USA

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## Glossary

**Banal Nationalism** The everyday manner in which nationalism and national identity are expressed and permeate the lives of the citizens of a nation.

**Decolonization** National independence of colonies from an empire.

**Diaspora** Originally applied to the Jewish population, it has been used to refer to all national groups that reside, often in a dispersed fashion, away from their original homeland.

**Discursive Landscape** A combination of textual and visual landscape elements including narratives, images of the landscape, and various symbols of national identity that are found on the land.

**Irredentist Nationalism** Effort to secede from an existing state in order to join with a neighboring state.

**Nation** In its modern usage, a territorially based community of people tied together by cultural similarity (whether ancestral or created), a shared historical legacy, and a sense of commonality. All nations either possess or seek to possess a political state.

**State** Territorially based political entity that contains a government, a permanent resident population, sovereignty, and clearly delimited boundaries.

**Substate Nationalism** Effort to create a sovereign state from a culturally distinct region.

**Supranational** Referring to an international organization that includes several political states. Member states retain their sovereignty, but must abide by some of the decisions of the supranational organization, often made by majority vote.

Is it possible to conceive of nationalism without geography? Nationalism is a political ideology that is based on trying to transform national identity into some form of a political state. It is a territorial strategy because any political state requires some type of sovereign space that it can control and within which it can exercise legitimate force. Without territory a political state would be boundless, spaceless, and placeless – it would lose its rationale.

Some common definitions of nationalism and national identity do not explicitly include the ideas of space, territory, or geography. One of the most succinct definitions of the nationalist doctrine holds that

community is naturally divided into nations, that nations are known by certain characteristics which can be

ascertained, and that the only legitimate type of government is natural self government. (Kedourie, 1960)

The role of territory in this definition is undetermined. Medieval references to ‘nations’ were more likely to evoke ethnic groups, culturally distinct but not territorially based. Yet other definitions have clearly included the importance of territory or space in their ideas of nationalism. Sir Henry Maine in the nineteenth century argued that territory, along with kinship, undergirded political unions from the ancient or modern era, a reference to what might today be considered a ‘nation state’. A modern scholar of nationalism, Anthony Smith, has argued that nationalist desires are based on the possession of land and any national cohesion requires the possession of territory. Geographers have long maintained that the nationalist project is fundamentally an ideology that seeks to construct a national space out of social space.

The primary debates about nationalism have to do with the constitution of the nation itself. The key fissure is between those who see the nation as something of long duration and based on a longstanding ethnic identity – these are termed primordialists or perennialists. Those who see nations as socially constructed and of relatively recent duration are termed social constructivists. In fact, the distinction is one of emphasis since all but the most radical primordialists would agree that nations are not ‘essential’ human attributes and most social constructivists admit that national identity is a most durable identity that is normally based around some core elements. National construction can stem from things such as economic modernization, print capitalism, political instrumentalism, and other things. National identity is something that has to be continually maintained, and one of the goals of nationalism is to keep the flames of nationhood alive. Institutions facilitate this process. The national media can help to create a sense of unity and of difference with outsiders. Similarly literature can be a very important force for national unity as well. The educational system can help to inculcate young children in a common national history and national identity, and throughout this of course we can discuss how significant is language in creating a commonality as well.

Geographic discussions of nationalism generally assume that it is a spatially implicit ideology and that territory is a vehicle which supports nationalist conceptions and nationalist actions. When you consider the language that nationalists use to describe their nation, the

vitality of space is evident. Terms such as homeland, territory, motherland, fatherland, even land itself – these are all geographically based. Even those nationalist groups who do not happen to occupy the same territory – for instance, diaspora groups dispersed far from their ancestral lands – are anchored to the prospect of some sort of territorial consolidation in the future. Perhaps the best known example of this would be the Zionist movement formulated by Jews, most of who lived well beyond the territory that they sought to occupy and control. A strong territorial imperative imbues most and perhaps all nationalist movements. It is difficult to think of an exception. Nationalism can be examined based on a variety of geographic concepts. The purpose of this article is to show how certain geographic themes such as those of space, place, centrality and peripherality, landscape, and scale fit into geographic expressions of nationalism.

### Nationalism and Spatial Identities

There exist a variety of different nationalisms. One common form of nationalism, termed substate nationalism, relates to efforts to create a whole state out of a particular culturally distinct region. Another form of nationalism, termed irredentist nationalism, seeks secession from an existing state in order to join with a neighboring state. The efforts of colonies to gain independence from a mother country or a larger empire is termed decolonization. Yet another form may be to rework the national character of the state itself; in other words attempt to recreate the national identity and constitution of the state. This nationalism *in situ* can be a very powerful force in creating new types of politiconational identities. An example of this from recent times would be the nature of the Iranian revolution in which Iran went from a state with more modernist and pro Western inclinations to a state that was essentially theocratic.

One thing that binds these different nationalist movements together is the intrinsic importance of territory. In most cases, nationalist movements arise from groups that already occupy (but perhaps do not control) a particular chunk of territory. One example would be the Basque movement found within northeastern Spain and southwestern France. While Basques occupy this area, they do not enjoy as much control as they might wish. Yet the definition of a Basque homeland is up for debate. Their task lies in choosing which territorial conception forms the basis of a new Basque nation state and the focus of their political goals. There are no obvious physical demarcations such as on an island nation. Quite the opposite since the Basque nation straddles a significant physical border in the Pyrénées Mountains, as well as an existing international border between France and Spain. Here the Basque spatial imagination has a lot to do with

various narratives, rhetoric, symbols, and practicality. So the conceived territorial extent of the Basque nation has shifted from the former Kingdom of Navarre – a large entity that includes the Basque heartland, as well as much territory where Basques are not in the majority – to Euskal Herria, a limited territory with a more substantive Basque population. Euskal Herria has been institutionalized as well, since it includes territory demarcated by past administrative boundaries, including six historical Spanish *fueros* and three historical Basque provinces in France. The international boundary further complicates how Basques conceive of their own nationalist goals. Spanish Basques have been radicalized by the excesses of the Franco regime and by the strength of the dominant Basque political party. French Basques view their situation differently as part of a centralized French state.

Different segments of a single nation carry strikingly different ideas of what a nationalist project should entail. Within Israel, so called neo Zionists see the West Bank territories now occupied by Israel as an essential part of the Israeli spatial identity. In fact, some of these settlers would consider any pullback from such territory as tantamount to a national dismemberment. For other Israelis, the vast majority, this territory is liable to negotiation. These post Zionists are concerned with the integrity of the Israeli state and see the state and nation as coterminous, but they are willing to concede some territory in order to secure greater degrees of security and peace. Does this mean that they espouse a nationalism that is not territorial? Not really, but they do offer a view of national territorial identity that is more permeable, and more flexible. The core identities placed in Israel proper are more important here than those identities forged at the borderland.

### Boundaries of National Identity

In geography, there is a long legacy of research that looks into borderlands and of how borderlands can be constructed. Geographers were involved in Southeastern Europe after World War I carving a network of boundaries that would best reflect the nature of the region's ethnic geography. More recently geographers have focused on how boundaries can operate at a number of different levels. For example, we might think about boundaries as something that clearly distinguishes between those who are part of the nation and all outsiders. In that sense, boundaries become something of a wall. However, we also need to think about how these walls are built and how they are perceived. Boundaries are things that become a big part of what has been described as 'a discursive landscape'.

Consider boundary crossings. In some situations a crossing can be a major event, involving the presentation

of official documents and perhaps even a series of back ground checks. In other situations, a boundary crossing may go unnoticed. The Schengen Agreement replaced a series of European border crossings with nothing more than signs, making travel between signatory states completely effortless. At the same time, the elimination of physical boundary crossings between various European states augmented the significance of the boundary surrounding the European Union itself. Geopolitical circumstances have quite clearly changed the meaning of boundaries in this respect. A good example of how this might work at a more meso scale would be to consider the boundary between Finland and what now is Russia. This boundary straddles an area known as Karelia, found on both sides of the present day boundary and which contains a distinct regional group. When Finland was a part of the Russian Empire during most of the nineteenth century this boundary was fairly open. In 1939, the boundary was moved sharply west, forcing the inhabitants to evacuate behind the new Finnish–Soviet line. For the next several decades, it became highly militarized and difficult to cross. According to Paasi, Finnish Karelia was a boundary region loaded with nostalgia for past unity and the utopianism of a lost future. Now, changing geopolitical circumstances have enabled the boundary to open up again to cooperative endeavors and to increased border crossings, and have enabled former residents to visit their ancestral towns and villages on the Russian side. Yet the boundary here now carries another meaning as it also represents the increased divisions marking off the relatively wealthy European Union from the much poorer countries on the outside.

Many nationalist goals focus around the boundary because this is the line that demarcates one state from another. However, it is more than simply a separation of political entities. It reflects the level to which nationalists have aspired to possess a certain extent of land. It also shows how nationalists seek to heighten the differences between their nation and those of others who live outside the boundary. This can take several different effects. Nationalists may attempt to enforce cultural homogeneity within the boundaries of areas that they control. So, for example, Mussolini inherited a larger Italian state after World War I – including areas that were not culturally Italian – but he worked aggressively to nationalize the entire territory by forcing a series of name changes, language changes, place name changes, or even outright evictions in order to promote national uniformity.

Minority groups fight back by offering rival versions of the boundary. Irredentism, covered in another article in this encyclopedia, seeks to move the international boundary to allow minorities in one state to join up with their brethren in the state next door. Of course boundaries can also be places of accommodation and even cooperation. These are areas which reflect a kind of

common cause between different national communities as demonstrated in the promotion of cross border crossings, institutions, and symbols of mutual interest. Within Europe a series of Regios or Euroregions have been established around state borders which legitimize this level of cooperation. Outside of Europe, we see more informal aspects of cross border community. The border between the United States and Mexico, for example, has long been an area where the two national cultures seem to blend together. Evidence of Mexican culture is particularly evident in those areas along the Rio Grande River, which play host to American born Latinos (some who have occupied the area for generations), new Mexican immigrants, and the Anglo population. This ‘MexAmerican’ region blends ethnicity, culture, and even national identity (see **Figure 1**).

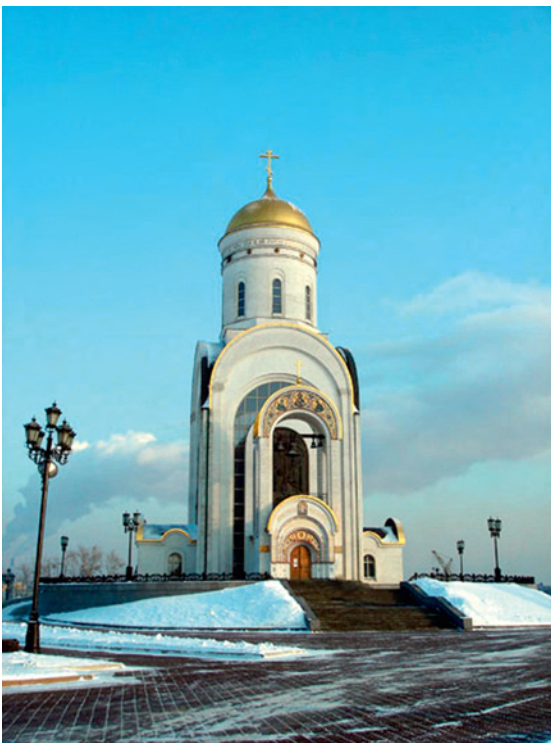
## Landscape and Nationalism

Within core regions, nationalism shines most vividly through the presence of distinctive landscape types. Such landscape elements reflect the changing nature of nationalism over time and the contested nature of particular nationalist symbols. Political geographers are always interested in how various attitudes, ideologies, thought processes are manifested spatially and tangibly. For instance, Edensor has produced an exhaustive list of different national elements as present in British everyday life. Along with such grand structures such as London’s Big Ben and the Tower Bridge, there are also elements like canals, fish and chip shops, hedgerows, and other elements that communicate Britishness in different and often changing ways.

A fascinating study of nationalist monuments in Moscow asks how nationalist monuments constructed in one political era are dealt with in subsequent political eras. How does post Soviet Russia handle monuments that were constructed during the Soviet period, and which in many cases were intended to legitimize and glorify a different and even derogated society? There are clear distinctions made between those monuments. Some glorify an aspect of nationalism that can be shared by all regardless of ideology. This would include many monuments to World War II heroes (see **Figure 2**) and to the ‘Great Patriotic War’ that transcends ideological dissonance. There are other monuments which have been disavowed, particularly those that speak to the glory of the Soviet economic system. And then there are those monuments which are contested: some groups, for example, still honor Nikolai Lenin whereas he symbolizes a discredited system to others. A similar level of ambivalence surrounds Japanese wartime monuments, especially the Yasukuni Shrine in Tokyo. Some Japanese still seek to glorify Japan’s imperial past and to honor the soldiers



**Figure 1** Charro Days, held annually in Brownsville, Texas has been held since 1938 and is intended to highlight the Mexican culture of the region. From <http://www.pbbase.com/lahuasteca/image/75245072>.

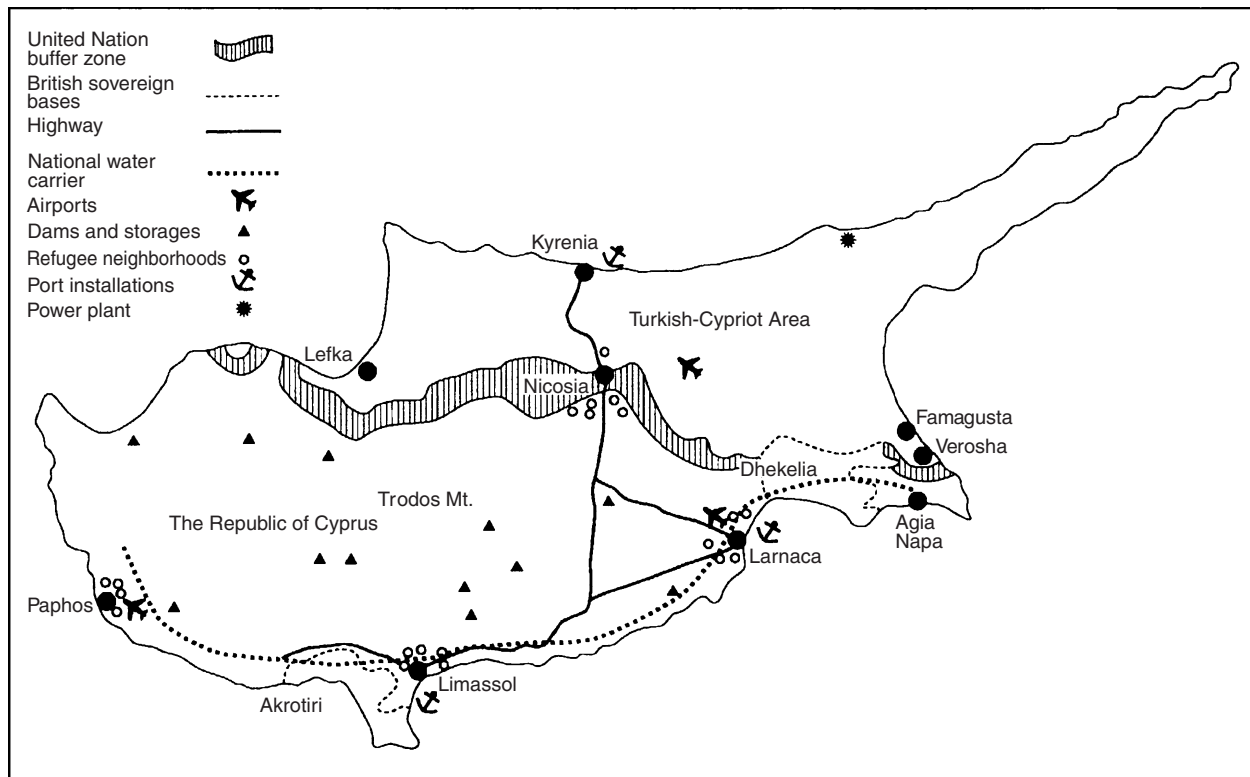


**Figure 2** A photograph of the Victory Park monument in Moscow. Shows a monument to the Soviet effort in World War II that has been co-opted by the Russian and Moscow governments. From <http://www.nterra.ru/index.php?page=1&lang=eng&path=mosid&id=46>.

who fought during World War II. Others see the shrine as an example of rampant militarism that has no place in the ideology of modern Japan.

Landscape elements show up clearly between nationally distinct portions of a particular state. Many countries in the world, while appearing in some respects as singular entities, are in fact divided between different national groups and the territories they possess. When this occurs, these divisions are manifested by differences in the landscape, and often these differences have a lot to do with the particular goals and aspirations of national groups.

The island country of Cyprus shows how this might work on the ground. While Cyprus has long been divided between Greek and Turkish speaking Cypriots, the separation before 1974 was more localized. In 1974, Cyprus was invaded by Turkey who carved out a distinct territory on the northern third of the island (see **Figure 3**). Greek Cypriots were forced to leave this territory, whereas Turkish Cypriots who lived south of the new partition line were enticed to move into much of the land vacated by the Greek Cypriot population in the northern third. Today the differences between these two areas are stark. For one thing, each section has been required to replicate institutions that at one point were shared by the entire country. Airports, roads, seaports, and other facilities are duplicated on both halves of the island. At the same time, landscape elements reflect separate nationalist objectives of Turkish and Greek Cypriots. For the Greek Cypriots their national goal is simply a reunification of the island dominated by the Greek speaking population. They have not altered many



**Figure 3** Map of the Cyprus partition from Kliot, N. and Mansfield, Y. (1997). The political landscape of partition: The case of Cyprus. *Political Geography* 16, 495–521.

aspects of the Turkish landscape, instead choosing to retain place names, monuments, and other types of elements that profess Cyprus's continued biculturalism. Within the Turkish half of the island however, all Greek evidence has been eradicated. The notion is that here we have a new society, a Turkish Cypriot society, that is ethnically homogeneous in every way. And the landscape reflects that.

### Nationalism and Scale

Geographic scale is particularly relevant to the phenomenon of national identity. National identities are nested to a considerable extent, such that a smaller identity may be contained within a larger identity and that identity may in turn be contained within a yet larger identity. This violates the political agenda of nationalism which demands absolute loyalty to a single national entity at a single geographic scale. However, political geographers have come to recognize that identity and loyalty operate in more complicated ways.

Identities and loyalties at several spatial scales may operate harmoniously, but quite often they create tension and potential conflict. They may also be asymmetrical in the sense that the identity of one group may be at a different spatial scale than the identity of another group. The situation of Cyprus, mentioned above, is one

example. Another example would be the 'double vision' in the spatial identities of East and West Germans at the height of the Cold War. Just as East Germany was seeking to reconstitute itself as a new, distinct nation, West Germany continued to adhere to an identity that included the East German territory, as well as once German lands given over to Poland and the Soviet Union. This was not a case of aggression – eventual German unification was a peaceful process and all claims further east had ceased to be represented – but it does show the extent to which parts of a separated or partitioned country can evince starkly different spatial views.

We can also see this happening in the case of many substate nationalisms that emerge in the world. It is estimated that there are some 5000 putative nations. Yet, there are only 200 or so states. That means that there are many potential national movements that have not been successful. One result of this can be a national separatist movement, in which a substate national group predominates within a particular territory and seeks to form their own state. In the case of Québec, this distinction in identities and in nationalist agendas is clearly apparent. Within the last 40–50 years, the French Canadian population has become vested in the province of Québec itself. Before that, identity was much more fixed on religion and to some extent, language. Today, the province of Québec has assumed many of the functions of a

sovereign state. However, outright separatism has been stymied by the presence of several groups who would rather see Québec continue as part of Canada. Along with the ever diminishing Anglophone population and the substantial immigrant population, this includes populations of indigenous peoples. Ironically, these indigenous peoples have argued that, should Québec secede from Canada, they would secede from Québec.

Such cases reflect challenges to nationalism emerging from a lower spatial scale. Then what of challenges that come from above? Globalization, for example, has led some scholars to describe the end of the nation state. In light of the recurring importance of nationalism in people's lives, this claim seems overblown. However, it is possible to conceive of how certain supranational entities that – while they may not supersede the significance of the nation state – have the capacity to fundamentally transform it. Certainly, empires played that role in past ages, but these prevailed mostly in a prenationalist era. The best example of this within the modern world would be the development of the European Union. The idea of Europe includes national and local loyalties, but also promotes an overarching sense of European identity. While the European Union continues to grow and to assume more authority, it is still true that a majority of people in most member states feel far more identity with their country than with Europe as a whole. Yet the idea of Europe will continue to present at least a friendly challenge to the national identities and nationalisms contained within it. It may even facilitate the expression of a variety of substate nationalisms, which can flourish in a time when national sovereignty is weakened and when the European Union as a whole provides a protective umbrella for all manner of small nation regions.

Currency is a good way to reflect national sentiments, since it often presents the types of icons and symbols that the entire nation can feel proud of. Money puts a country in its best light. It is also part of what has been described as 'banal nationalism'. So what of the euro, a symbol of nations agreeing to sublimate their monetary symbol to a higher organization? While the euro became the primary currency for most members of the European Union in 1999, it was only in 2002 that the euro entered everyday life in physical coins and bills. All members of the European Monetary Union exchange the same currency. However, the insignia on the individual coins and notes is customized for individual countries. While all euro coins and notes are able to circulate among all member states of the European Monetary Union, within each country most of the currency tends to bear the national insignia. In this way, the balance between supranational European identity and individual national identities are neatly manifested in a very common everyday object.

## Conclusion

Discussions of nationalism often involve debates regarding the nature of nationalism. Questions relate to defining nations and nationalism and whether nationalism emerged long before the present age or is a relatively new phenomenon. Categorizations of nationalism, from questions of a civic nationalism, to an ethnic nationalism, to the more pernicious forms of nationalism representing some of the worst excesses of our era, are also explored. An additional issue involves whether nationalism is a peculiarly 'Western' phenomenon that arose in Europe and which was then imposed on the rest of the world, or whether indigenous forms of nationalism outside of the West may be identified.

These debates must be understood by geographers seeking to investigate nationalism and the websites listed below should help provide a good start to this broader investigation. This article focuses more on the particular contributions and concerns of political geographers – and these tend to revolve around how nationalism conceives of and manipulates space.

Space is a vital aspect of nationalism, but is also quite problematic. This contrasts with the spatial nature of a political state. Political states are fixed, at least at a particular moment in time. A boundary is neatly marked and crossing is made difficult or easy depending on the political relations between the adjoining countries. There is usually a designated capital where the state apparatus is contained.

In the case of nationalism there is no clear delimitation. National conceptions may be coterminous with the extent of the state – and nationalists may act as if the matter is settled – but nations are usually surrounded by much messier boundaries and contain land that is subject to a variety of different interpretations. The role of narratives, landscape elements, and such banal items as currency reflect these different conceptions. In fact, they are often introduced as a way to cement a preferred version of nationalism. Other symbols may be evoke a rival conception of nationalism, perhaps that of an unfulfilled national group. But because nationalism is something that stems ultimately inside peoples minds, its definition will always be fairly fluid. It has been the task of geography within the last 20 years or so to make sense of that fluidity and how it creates the national spaces we all must share.

*See also:* Borderlands; Critical Geopolitics; Diaspora; Fatherland/Homeland; Geopolitics; Governmentality; Irredentism; Landscape Iconography; Nation; National Spatialities; Political Boundaries; Scale; Sovereignty; Territory and Territoriality.

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## Relevant Websites

- <http://www.fordham.edu>  
Internet Modern History Sourcebook: Nationalism, Fordham University (some good links and references).
- <http://en.wikipedia.org>  
Nationalism, Wikipedia (a comprehensive definition).
- <http://www.tamilnation.org>  
Tamil Nation and Beyond (for an interesting justification of how nationalism applies to this one group).
- <http://www.nationalismproject.org>  
The Nationalism project (the primary website on the topic).
- <http://www.aag.org>  
The Online Center for Global Geography Education, Association of American Geographers (course module on nationalism).

# Nationalism, Historical Geography of

M. A. Busteed, University of Manchester, Manchester, UK

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## Glossary

**Cultural Hegemony** Interrelated set of ideas and values generally accepted as being 'normal' and 'natural' in society.

**Essentialism** Belief that a group is defined by possession of exclusive immutable characteristics.

**Hybridity** Cultural milieu produced by interaction and reciprocal borrowing between contending groups.

**Liminality** Sense of being propelled into ethereal sensory group events above and beyond daily routine.

**Othering** Process of designating a group as characterized by totally negative characteristics.

**Postcolonialism** Impact of former colonial rule on culture and society of ex-colony.

**Public Space** Routes and places in urban areas open to use for both everyday purposes and ritual occasions.

**Resistance** Opposition to hegemonic discourse.

**Social Construction** Flexible self-definition devised by group at particular stage in development.

**Subaltern** Originally lower-ranking officer in armed services, appropriated for use in cultural studies to designate group rejecting hegemonic project.

## Introduction

A nation may be defined as a group of people who believe they share a common past, certain cultural characteristics, a sense of differentiation from other groups, and a deep rooted attachment to a territory which they regard as exclusively theirs. Nationalism is the shared sense of belonging together. It is usually accompanied by a belief in the right of self determination, involving the control of the nation's territory and the apparatus of the state and the right to infuse state institutions with the values of the controlling national group, creating a nation state.

## Approaches

Nationalism has probably been the most potent force in the making and remaking of the political map of the globe over the past 250 years. Some of the long established states of Western Europe were characterized by largely xenophobic forms of low level proto nationalism from late medieval times, but in its modern form nationalism originated in late eighteenth and early nineteenth century Western Europe as part of the

Romantic Movement. The literature on nationalism is vast, derived from a great range of disciplines and shows no sign of diminishing. For a long time, discussion and analysis accepted the phenomenon in the terms adopted by nationalistic advocates. These argued their nation had possessed their distinctive identity and territory from earliest times, had survived through tribulation and triumph, sometimes experiencing a 'golden age' of cultural and political achievement, at others surviving great tribulation through implied providential intervention. Particular characteristics of the nation were highlighted as exclusive defining qualities. Sometimes these were aspects of 'national character', but quite often they were cultural features such as a distinctive language or religion, with dress, food, and folklore as supplementary defining features. This essentialist approach was notable in the political geography texts of the mid twentieth century, which frequently mapped language and religion and, comparing these spatial patterns with the territory occupied by the nation state, treated any mismatch as the root cause of territorial disputes, thereby implicitly accepting essentialist assumptions and arguments.

However, from the 'cultural turn' in so many of the humanities and social sciences in the 1980s and 1990s, there came a more flexible approach better able to accommodate the notably varied and dynamic nature of nations. Nations were now conceptualized as 'imagined communities' whose imagining is a social construction born out of the circumstances of time and place and capable of renewal and reinvention in response to societal change. This line of analysis meant that a historical approach was particularly appropriate and fruitful and it was used to deconstruct almost every aspect of nationalist projects. It is argued that a nation's history, so often presented as objective telling of factual events, was in fact a deliberately crafted nationalistic narrative transmitted to subsequent generations via the school system. These narratives were revealed as acts of creative self justification seeking to legitimize the nation by selectively constructing an historic, distinctive, and territorially rooted identity. Continuity with the past was used to imply legitimacy for the contemporary nation, its aspirations, and its current regime. To bolster the aura of historical respectability, authorities indulged in what is termed the 'invention of tradition' whereby public ceremonies were crafted to mark significant occasions. Events were devised utilizing allegedly ancient ritual, liturgy, motifs, and insignia, when in fact analysis revealed they were often based on relatively recent happenings. Thus, in the United Kingdom, the



installation of the Prince of Wales in 1969 was supposedly based on an event of 1301, when in fact the model was the investiture of 1911.

### Constructing the National Hegemony

This approach is well illustrated in the deconstruction of attitudes to those defined out of the nation. A xenophobic element is common to all nationalisms, possibly because national groups seem particularly sure of what characteristics they do not possess. This process of 'othering' helps with self identification as people differentiate themselves from their neighbors and are particularly vociferous in pointing up the contrasts with those they regard as historic enemies. Every possible vice of character, culture, and behavior is assigned to the great 'other', especially in wartime propaganda, and the consequent stereotyping enters deep and lingers long in popular culture. Nonetheless, it is argued that such contrasts are merely policy instruments appropriate to the current national interest. As interests alter, so also do the definitions of the 'other', and earlier enemies become friends and even allies. English and later British popular nationalism had long been defined around the alleged qualities flowing from Protestantism, particularly individual responsibility and freedom of judgment, speech and worship. This construct was presented as the antithesis of Roman Catholicism, which was designated as foreign, dictatorial, clerically dominated, and subversive of native British rights and freedoms. An accompanying narrative drew attention to long struggles against European Catholic powers, especially Spain, occasionally Austria, but particularly France and to the traitorous subversive intentions of native and nearby Catholics, as demonstrated by the Gunpowder Plot of 1605 and successive Irish Catholic rebellions, especially 1641. Commemorative annual celebrations, bonfires, and sermons and popular song and folklore reiterated the theme. But, by the late nineteenth century Catholics had been redefined into Britishness because the national interest had altered. Not only was France now evolving into an ally, but the argument goes on, there was now a project to present the growing British Empire as an inclusive institution under whose benign tutelage peoples from a vast range of ethnic, cultural, and religious backgrounds could find respectful protection and guidance and share the benefits of white, Christian British civilization and technology.

### Challenging and Buttressing Hegemony

It is perhaps in analysis of the colonial and postcolonial situations that deconstruction of nationalist projects has proven most fruitful, particularly in the analysis of the

role of cultural panic and the rise of reactive cultural nationalism. The impact of modernization following the imposition of colonial rule not only seriously disrupted indigenous patterns of economic, social and cultural geography, but also stimulated the growth of native middle class intelligentsia. Finding their upward mobility blocked by the prejudices and power structures of the occupying power, they frequently set about the creation of alternative structures based on indigenous features and values. In particular, they focused on those cultural features which they regarded as least contaminated by colonial rule and around them they constructed an alternative world outlook. The features in question were often characteristics of the oral popular culture of remote rural regions relatively untouched by urban commercial development but in danger of extinction. These were rescued, recorded in written form, often for the first time, popularized through voluntary grassroots organizations, and presented as the true cultural traditions of the people. It has been pointed out that in reality they had often been archaic features on the point of being abandoned and in many cases languages in particular such as Greek under the Ottoman Empire and Irish under the British administration in Ireland had to be modernized and standardized in grammar, vocabulary, and pronunciation in order to become usable. Many in such movements found cultural nationalism alone was not enough and made the transition into politics where they often provided the vanguard of political nationalist movements and the first generation of leaders in the newly independent nation state. They made their project of nationalistic cultural revival a defining feature of the new state, the policies of Irish governments after independence in 1922 in placing language revival and the preservation of the surviving Irish speaking districts being notable examples.

The establishment and defense of cultural hegemony are presented as a central project of all nation states, old and new. A key element is the creation and perpetuation of the myth of cultural homogeneity. In reality, all societies are characterized by internal cleavages based not only on cultural differences such as language and religion, but on age, gender, sexuality, region, and class. Anxiety about the potential for state disintegration, reinforced by administrative convenience, has led national governments not only to the definition and vigorous defense of 'national' characteristics, but constant efforts to imprint them on all the population, sometimes by explicitly banning alternative cultural motifs. In addition to a national education system, governments have also utilized national cartographic surveys to alter local place names, deliberately excising minority languages or sometimes accidentally bowdlerizing them as surveyors with little or no knowledge of the local language have misheard pronunciation of local nomenclature. Such a

process occurred in the nineteenth century with the work of the British Ordnance Survey in the Scottish Highlands and the Gaelic speaking districts of Western Ireland. Study has also revealed the ways in which governments have also gone to great lengths to devise and display a range of national iconography, such as national flags, anthems, mottoes, slogans, and colors, as well as coins, currency notes, postage stamps, and official documentation bearing the images of rulers, heroes, and significant landscape scenes. Constant daily encounters with the display and circulation of such elements of what has been described as 'banal nationalism', nevertheless, renders their message 'normal', a triumph of mute but powerful symbolism.

### **Performance and Monument in Public Space**

It is argued national governments do not rely on such subliminal messages alone. From the earliest days of nationalism the significance of public space and landscapes for transmission of the nation's message was realized. The central areas of large cities, particularly capitals, were laid out or refashioned in the grand style. Buildings housing the head of state or government, the legislature, judiciary, and significant ministries were laid out in grandiose and visually imposing fashion. The spaces and roadways thus created are utilized to present and perform selected aspects of national life. From quite early in human history, processions have been used to express group identity and sentiment. Originally probably religious in motivation, they were quickly adapted for secular nationalist purposes, with participants assembling at selected points, often dressed and adorned in distinctive fashion and carrying emblems of membership or office, moving along distinctive routes and converging on significant sites where carefully crafted ceremonies were performed. The constant use of the same points of assembly, routeways, and ceremony consecrated them into sacred sites and spaces, the repeated reenactment of the ceremony elevated it into sacred secular ritual and the constant repetition of wording transformed it into liturgy. The carefully structured sequence of movements and stillness, speech, music, and silences created a sense of liminality, but such events were held in the open air to engage public, if passive, participation, a process enormously boosted by the advent of national radio and television. A realization of the multisensory appeal of such occasions, it is claimed, explains why governments stage events deliberately designed to attract and hold attention by spectacle, the choreographed combination of color, movement, and sound, involving units of the armed forces and their equipment together with carefully selected 'representative' civilian elements, often acting out

significant events in 'the national story' in tableau form, all calculated to stimulate anticipation, excitement, involvement, and national pride.

Studies have also demonstrated how governments adorn the landscape of public space with static monuments deliberately calculated to transmit nationalistic messages to generations of passersby, some of which also act as markers and rallying points for public ceremonial. Several dimensions of these artefacts have been analyzed. They can take a variety of forms based on mythical individuals, past rulers or heroes, anonymous representative individuals or groups, or they can be fashioned as plinths embellished with iconic symbols. They may be placed on or near significant routeways or in specially reserved spaces. They are constructed of enduring materials, often bronze or marble, designed not merely to withstand erosion by weather or traffic, but also to express the eternal character of the nation. Size and design are calculated to express the importance of the event or individual and to make them a visible center of attention not only to casual passersby but for the crowds during ceremonial occasions. The stance portrayed when sculpting individuals is literally larger than life to enhance visibility and the emotion conveyed varies from sorrow and suffering through dignified declamation or endurance to aggression or triumph. In colonial situations, architecture and statuary have emphasized the massive resources, military might, and technological superiority of the conqueror, and by implication the cultural, moral, and technological inferiority of the native population, points driven home by the publications of the burgeoning nineteenth century geographical societies in the metropolitan centers.

### **Subaltern Resistance**

Study has emphasized how such celebratory artefacts and events rarely go unchallenged. Running parallel to almost every effort to establish and consolidate a cultural hegemony, there is a narrative of resistance mounted by subaltern groups presenting an alternative scenario which may be constructed around their particular nationalist outlook or issues of gender, class, sexuality, age, or the environment. Consequently, in many ways resistance has been presented as the obverse of the hegemonic social construction. Location is seen as a key dimension to resistance. In light of the powers of policing and surveillance exercised by the state, some subaltern groups choose to perform acts of resistance in peripheral spaces where state power is weakest. However, given the significance attached to public space by the hegemonic power, resistant groups frequently choose to express their alternative outlook in these same venues on the grounds that this will be a very public subversion of hegemonic

pretensions, likely to attract maximum attention. These acts can take many forms. On occasion they can involve disruption of official ceremony as in the newly independent Irish Free State in the 1920s when the republicans who had lost the civil war of 1921–22 over the treaty with Britain disrupted Armistice Day commemorations by the Irish who had served in the British forces in World War I. Such tactics invite forcible suppression, though this in turn can generate useful propaganda. The tactic of a mocking alternative aiming to subvert official events by ridicule and laughter has a long history. It has the advantage that the use of force in suppression can seem gross overreaction. Authorities traditionally responded by allowing such alternative events to proceed, treating them as useful and harmless ventilation of pressure, to the point where they became incorporated into the official events as carnival.

However, it has been argued, subaltern groups also respond by staging much more serious happenings which in organization, structure, and discipline and choice of date and venue are deliberately calculated as very public alternatives contesting the hegemonic calendar and narrative and official use of public space. Thus in Dublin the main thoroughfare, Sackville Street (named after an eighteenth century Lord Lieutenant, the British royal representative in the country) saw the erection of a statue to the British naval hero Admiral Lord Nelson in 1809. Subsequently in 1864, the foundation stone for a monument to the Irish nationalist leader Daniel O'Connell was laid in the same street and eventually unveiled in 1882 after a vast procession which wound its way around various locations in the city associated with O'Connell's political career. By the early twentieth century the street was adorned with monuments to a range of nationalist and Catholic personalities. In other cases, the subaltern group may choose to trace out and adorn a totally contrasting alternative field of public spaces and sacred sites specific to their narrative. In South Africa the highly theatrical Afrikaaner reenactment of the Great Trek in the centenary year of 1937 culminated in the laying of the foundation stone of the massive Voortrekker Monument, finally unveiled in 1949, the year after the first Nationalist Party election victory.

### **Regime Change**

It is perhaps in situations of regime change or shifts in ideology that radical changes in the national narrative are most notable. This may be signified by changes in the educational curricula, official iconography, the commemorative calendar, and public statuary. Monuments left over from the previous regime may be neglected, removed from prominent positions to obscure locations, or even destroyed, either by popular assault or official

decision. These alterations to the monumental landscape are a notable feature of the postcolonial situation. In independent Ireland after 1922, statues to British monarchs and military men were vandalized and eventually removed quite quickly, though Nelson's pillar lingered in central Dublin until blown up by a reviving Irish Republican Army (IRA) in 1966. The new regimes also proceeded to make their narrative central to the curriculum, install their distinctive commemorative calendar, and embellish the commemorative landscape with their monuments and statuary. Particular emphasis is given to the ideologists, events, and heroes of the struggle for independence. However, it has also been pointed out how even within the new dispensation there can be dissident groups who contest the discourse and mount their own events. Commemorations at the grave of the eighteenth century Irish republican hero Wolfe Tone are held each year though at different times, by groups from the Irish government, Sinn Fein and, latterly, dissident republicans disillusioned by the compromises flowing from the Northern Ireland peace process. In the late 1980s and early 1990s, there were notable examples of the replacement of communist inspired events and icons by the iconography of the newly installed national governments of Central and Eastern Europe. There was also a notable trend to rename public thoroughfares in honor of events and personalities significant in the national rather than the communist narrative.

### **Changing Worlds**

The late twentieth and early twenty first centuries also brought challenges to some of the long established nation states around the North Atlantic. Research has revealed how they sought to respond to the challenges mounted by regional groups and sections of their citizenry long unhappy with their political status and the ways in which their narrative had been excised from official versions. In the United States moves toward the gradual incorporation of the Afro American population into full citizenship led to moves to create memorials to the process of emancipation in the form of museums, statues, and the renaming of streets. The process provoked dissent and resistance within the black population itself, centered on the need to recognize the role of women in the civil rights movement and the extent to which the focus on race had obscured class issues.

On the other side of the North Atlantic several developments sparked rethinking on national identities. Former imperial powers had to cope with the fact that they had lost their imperial territories to nationalist insurgency and often did so by rewriting the historical narrative. The results could take diametrically opposite trajectories. In the case of Britain the transition from

empire to commonwealth was presented as a painless process of calculated tutoring on democratic government, with the military campaigns against nationalist movements excised. In Portugal by contrast the emphasis was on the gallantry displayed in the army's valiant struggle to retain the colonies, with little mention of the African role in either the Portuguese or the African nationalist forces. The indigenous peoples in North America and other territories long settled by Europeans also began to challenge hegemonic identity constructions.

In addition, the development of the European Union, the impact of economic and cultural globalization, and contrasts in regional material well being led to varying degrees of regional devolution in all the major powers of Western Europe. This in turn provoked questions about the nature of the regional identities in question and brought to the surface tensions within regional movements which had previously been subsumed. In Northern Ireland after the partition of the island in 1920 the Unionist Party regime dominated public life until its collapse in 1972. For 50 years the official commemorations and icons of the province were those of the almost exclusively Protestant and vehemently pro British Unionist majority, while those of the largely Catholic Irish nationalist minority were marginalized and in some cases declared illegal. As the province struggled toward a political settlement in the 1990s, increasing efforts were made to accommodate both cultural traditions. Among other things this involved finding more space for the Irish language and the nationalist narrative. This in turn involved some restriction on the use of public space by Unionists, who found the adjustments hard to accept. Their sense of loss of authority, imminent threat from the Irish Republic and armed republican groups, and betrayal by British governments who did not appreciate their outlook led some of the more hardline loyalist elements to cast around for alternative constructions of identity involving a *mélange* of Ulster regional and local identities, class conflict, fragments of Celtic mythology, the Ulster role in the battles of World War I, and the language of the early seventeenth century Protestant settlers.

### Toward Hybridity

A recurring debate on the nature of nationalist constructs concerned the extent to which a truly subaltern voice could be heard. One school of thought argues the strength of the state power of cultural imposition and oppression and surveillance is so great that any acts of resistance are fleeting, minor, and of no long term consequence. Alongside this it has been argued that the asymmetry in the power relationship between the hegemonic and the subaltern is so great that any act of

resistance has to be expressed in ways that compromise the true message of the subaltern. Alternatively it can be argued that the asymmetry is more apparent than real, that panopticism is an illusion and that in every regime there are spaces for resistance which can be exploited by individuals and groups knowledgeable about local places and traditions. The result is interaction between the hegemonic and the subaltern which subtly alters both. The subaltern group is compelled to fashion its resistance in accordance with rules laid down by the hegemonic, and the hegemonic regime has been successfully challenged to accommodate resistance. It is asserted this process reveals that, like all constructs, both the hegemonic regime and the alternatives are hybrid, constantly interacting and impacting on each other, renewing and redefining themselves as they adjust to political, social, and cultural changes. This argument, the obverse of essentialism, states that hybridity is inherent in all social constructions, despite their perpetual efforts to present themselves as eternal and immutable. It proved particularly fruitful in study of diasporic identities, crafted from a blend of elements from their country of origin and their new homeland.

### Reflection

The shift of emphasis in studies of nationalism has certainly produced a much more flexible conceptual framework, better suited to the great variety found among nations, the inherently dynamic nature of human society, their heterogeneity, and the perpetual interaction between human groups. It has clearly underlined the key role of change and thus the importance of the historical approach to the understanding of a sentiment which has moved large numbers to superhuman effort and ultimate sacrifice and repeatedly refashioned the political map of the globe.

*See also:* Ethnicity and Resistance, Historical Geographies of; Heritage and Culture; Heritage and Identity; National Spatialities; Nationalism.

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<http://www.nationalismproject.org>  
The Nationalism Project.

# Natural Resources

G. Bridge, University of Manchester, Manchester, UK

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## Glossary

**Adaptive Management** A process of decision making in the face of uncertainty, characterized by the monitoring, evaluation, and adjustment of management actions to take account of feedback. Increasingly applied to flow resources such as fisheries and game species.

**Ambient Resource** A class of flow resource for which resource use degrades neither the amount nor quality of the resource (e.g., solar radiation or wave action). Nonexhaustible by definition.

**Critical Zone Resource** A class of flow resource for which use can exceed the regenerative capacity of the resource (e.g., groundwater or fish populations). The 'critical zone' refers to the threshold beyond which further use undermines the capacity of the resource to regenerate. Renewable but potentially exhaustible.

**Flow Resource** Also known as a renewable resource, refers to a component of the natural world that serves a socially valuable function and which has the capacity for regeneration. Current use need not diminish future availability. Subdivided into 'ambient' and 'critical zone' resources, based on the impact of use on regenerative capacity.

**Resource Governance** In general, the sociopolitical processes – administrative fiat, public participation, interest-group politics, and stakeholder consultation – through which decisions about natural resources are made. More specifically, the exercise of political–economic power in society through decisions about the design, manipulation, and control of natural resource systems.

**Resource Imaginary** A hegemonic discursive formation – combining social constructions of nature and various cultural norms around value – through which the natural world is viewed primarily in instrumental terms and appraised as a set of discrete, dissociable parts whose value is determined by society's wants. Frequently interpreted uncritically as a 'common-sense' view of nature and its relation to society, the particularity of this imaginary is seen by comparison with alternative ways of valuing the nonhuman world, such as those articulated by animals' rights associations, proponents of deep ecology, and some indigenous societies.

**Stock Resource** Also known as a nonrenewable resource, refers to a component of the natural world that serves a socially valuable function and which for all practical purposes has a finite supply. Current use

diminishes future availability. Stock resources are exhaustible by definition.

## Introduction

Natural resources is a deceptively peaceable term that finds widespread application within human geography. It describes products of biological, ecological, or geological processes that satisfy human wants. Examples include game species, soils, mineral ores, timber, and water. Classical political economy describes the raw materials and productive energies of the nonhuman world as gifts of nature, and contemporary accounts draw a strong distinction between resources and manufactured goods. Natural resources are not restricted to direct material inputs to economic life. They include a vast range of ecosystem services that are not directly consumed by use, but which are necessary for economic production and/or the maintenance of life (such as carbon sequestration, flood attenuation, and the maintenance of biodiversity). Many of these services provide important 'sink' functions by assimilating wastes produced during the use of environmental goods. In addition, there are other non-extractive ways in which physical environments and species can be considered to provide forms of utility for society (or parts thereof): recreational amenity, esthetic appreciation, and spiritual inspiration imply the attribution to the natural world of a complex range of value systems. Natural resources, then, is an inclusive category reflecting the different – and potentially conflicting – ways in which societies appraise the utility of the biophysical world.

Natural resources straddle two distinct epistemological traditions within geography. An extensive body of applied research on environmental evaluation and the management of water resources, rangelands, forests, and fisheries exemplifies geography's contributions to a tradition of producing instrumental forms of knowledge (such as those associated with regional planning). The primary purpose of knowledge in this managerial tradition is to understand environmental systems in ways that facilitate their management to deliver socially desirable goals. However, geography also has a robust tradition of critical inquiry which examines how ideas about nature are integral to the production of social differentiation and domination. And for this critical tradition, the notion of natural resources is problematic. The distinctions and differentiations enabled by the category 'resources' – between productive, valued

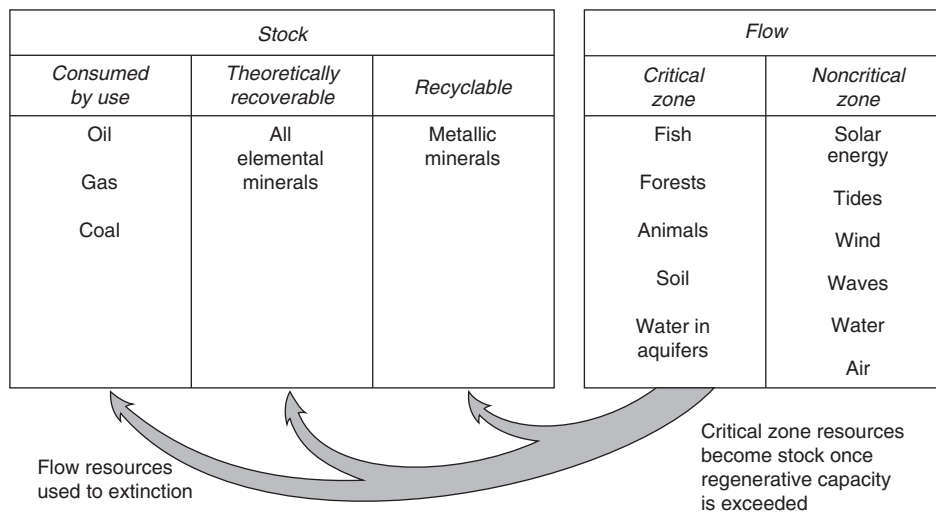
assets, and unproductive ‘wastes,’ for example – play a key role in the organization of contemporary society and have their origins in the revolution of socionatural relations associated with the emergence of capitalism. From a critical perspective, the designation ‘natural’ obscures the significant ideological, political, and economic work that must be done to transform nature into a resource: as Hudson quipped “natural resources are not naturally resources.” Geographical research, then, frequently illustrates how the capacity to claim nature as a resource is structured by access to technology, wealth, and social power.

**Classification**

A distinctive vocabulary is available for differentiating the qualities and properties of a vast range of natural resources. An elementary classification distinguishes between biotic (living) and abiotic (nonliving) resources: the former includes an enormous diversity of faunal and floral species capable of biological forms of reproduction; the latter includes an array of productive (water, minerals) and ambient resources (solar radiation), some of which – groundwater, beach gravels – have the capacity for regeneration by virtue of the physical systems of which they are part. Soil – the most extensive terrestrial resource – is a mixture of biotic and abiotic components. An equally basic classificatory scheme centers on the spatial extent of the resource: atmospheric nitrogen and oxygen, for example, occur everywhere on Earth and, accordingly, are considered ubiquities. Most other resources are constrained in their geographical range and frequency of occurrence and are localized to some degree. Localization

is often a function of wide variations in resource quality: while aluminium is the second most abundant metallic element and occurs in clays the world over, it is found in commercial concentrations only in a small number of locations. Another popular axis of classification centers on the mobility of the resource and its ease of ‘capture’. Land, water power sites, and coal deposits are examples of fixed resources. Groundwater, oil, game birds, and whales, by contrast, are fugitive resources whose mobilities resist conventional practices of enclosure and make it difficult to enforce exclusive ownership.

The distinction most commonly drawn, however, is between stock (nonrenewable) and flow (renewable) resources based on the rates at which biophysical materials regenerate (**Figure 1**). Stock resources exist in finite supply: since removing these resources diminishes the physical stock available for future use, all nonrenewable resources are exhaustible by definition. Stock resources are subdivided into those consumed by use (such as fuels) and those which, once extracted from the environment, may be recycled (most applications of metals). Resources that possess significant regenerative capacity are classified as flow resources or renewables. These may be subdivided according to whether or not the renewable resource is exhaustible. For so called ambient resources – such as solar radiation, wind, or waves – use of the resource degrades neither the amount of the resource nor its quality: this class of renewable resources is, therefore, non-exhaustible. Most flow resources, however, can be exhausted if consumption exceeds the rate of regeneration. This category of exhaustible renewables includes groundwater, fish, game species, and soil resources, all of which can be ‘mined’ to depletion/extinction if the rate of harvesting exceeds biophysical regeneration. Because a



**Figure 1** A basic classification of resources: Stock vs. flow. Source: Rees, J. (1991). *Natural Resources: Allocation, Economics and Policy*. London: Routledge.

threshold exists beyond which further consumption exceeds the capacity of the resource to regenerate, exhaustible renewables are also known as ‘critical zone’ resources. Many contemporary environmental challenges relate to the failure to manage critical zone resources effectively, and to maintain rates of extraction and use within the boundaries of the biophysical system.

In practice the distinction between renewable/non-renewable is a matter of the timescale one uses to evaluate the regenerative capacities of biological and/or physical systems. Fossil fuel accumulations are currently being laid down in depositional settings around the world, yet oil and gas are considered stock resources because their generation occurs over extremely long timescales (millions of years) and is massively exceeded by the rate at which the resource is used. Timber, water, soils, and even some construction materials (sand and gravel) are capable of renewing themselves over more meaningful timescales, say 10–1000 years. For many biotic and abiotic resources, the question of their renewability is dependent not only on natural regeneration times but on levels of social investment. Studies of traditional agriculture, for example, show human labor playing a vital role in maintaining soil fertility, and contemporary agroindustrial practices invest large energy and financial resources (in the form of synthetic fertilizers, or pumping for irrigation or drainage) to maintain the utility of the soil resource and offset the effects of nutrient depletion, soil erosion, and soil degradation. Similarly, development of an extensive infrastructure for collecting and recycling aluminium would enable society to treat this metal more like a flow resource than a stock. For this reason, analysts prefer to think of a resource continuum which stretches from those nonrenewable stock resources which are consumed by use (such as fossil fuels) to the infinitely renewable ambient resources of solar energy, tidal power, and wind.

### Cultural Appraisals

A geographical approach to resources recognizes resources as ‘cultural appraisals’ of the nonhuman world. This idea, which can be traced in the writings of nineteenth century political economists such as Ricardo and Mill, is articulated most clearly in American resource geographer Erich Zimmerman’s phrase “resources are not; they become” (Zimmermann, 1933). Zimmerman argued against the vernacular view of resources as unchanging physical substances, and proposed instead that nature acquired the status of a resource only when society recognized it to have some functional value. Resources, then, are a dynamic social category. Components of the nonhuman world slip into (uranium, coltan, hydrogen) and out of (osiers, esparto grass, guano, sperm

whales) this category over time and space. The remarkable history of natural gas (methane), for example, demonstrates how a single substance can be considered as variously hazardous waste, neutral stuff, or a valuable natural resource depending on knowledge, price, social norms and expectations (regarding pollution), and the availability of alternatives.

Resources occupy an uneasy – although analytically very productive – boundary zone between the conventional human and physical branches of geography. Like their close cousins natural hazards (negative resources), natural resources are hybrid forms which exist only at the interface between physical and social systems. Simultaneously social and physical, resources are socionatures that can just as easily be described by the terminologies and metrics of physical science as of social science: urban drinking water, for example, can be subject to chemical, physical, epidemiological, or sociological analysis. By understanding natural resources as cultural appraisals, and undertaking empirical research into the lived experiences of resource users, human geography has made significant contributions to three specific areas of analysis: resource scarcity, resource access, and knowledge.

### Scarcity

Dependent on natural resources for food, materials, and fuel, all societies face the prospect of shortages or ‘running out’ from time to time. Regional, national, and planetary resource inventories have been the stock in trade of applied resource geography since the birth of the discipline. Despite the discipline’s historic roots in environmental determinism, modern human geography has sought repeatedly to identify how demand for natural resources is related to the ways in which a society is organized. From Zimmerman to Harvey to Howitt, critical human geographers have adopted a relational approach to natural resources, illustrating how what comes to be considered as a resource is at least as much a matter of social, political, and economic conditions as it is any intrinsic or inherent properties. As a consequence, geographical research on the availability of food, minerals, and other resources has often taken issue with the neo-Malthusian assumption that scarcity is an external physical condition setting the bounds of human possibility.

A relational approach to resource availability comes in ‘weak’ and ‘strong’ versions. The weak version highlights how resource availability rarely takes the form of an absolute physical limit, but is typically experienced as an economic constraint. The most meaningful measure of resource scarcity/availability, therefore, emerges as a function of knowledge and price. This relationship is captured for mineral resources by the McKelvy Box (developed by the United States Geological Survey).



The box's two axes frame a space – the resource base – characterized by an increasing uncertainty of geological knowledge in one direction and, in the other, a decreasing feasibility of economic recovery (see **Figure 2**). Mineral deposits for which there is a high degree of geological certainty and which are economically recoverable (those in the top left corner of the box) are distinguished from the remainder of the resource base by their designation as reserves. Technological or social changes that decrease the costs of recovery and/or that increase the certainty of geological knowledge can lead to resources being reappraised as reserves, effectively increasing availability. Crude oil reserves, for example, wax and wane over time depending on the price of oil and the prevalence of different production and consumption technologies. Sustained high oil prices create incentives for new exploration and production (which, all other things being equal, drives an increase in reserves) and also create incentives for demand reduction. Resource availability, then, has a dynamic quality that emerges from a society's capacity for technological innovation, behavioral change, and collective action. The weak version is common to the market response model which characterizes many so called Cornucopian refutations of physical resource constraints (such as those popularized by Lomborg). It explains the apparent paradox of 'increased' physical reserves for most mineral resources over the last century in the face of prodigious rises in mineral production and consumption.

The strong variant of a relational approach to resources also accepts that scarcity is an economic rather than a physical condition. Unlike the weak version, however, it examines the ways in which social inequality – that is, the internal differentiation of societies around, for example, household income or access to decision making – influences resource availability/scarcity. Time and again experience shows that rarely do the rich and powerful starve, go without fuel for cooking or heating, or

have only limited access to clean water. Drawing on such observations and often working in the tradition of structural political economy, geographers have sought to de-naturalize resource scarcity by examining how resource availability is mediated by wealth and power. The experience of drought in an industrialized, intensively water managed landscape, for example, is shown to be the result not of geographic or temporal variability in rainfall or even spectacular mismanagement, but as the outcome of (economic) priorities adopted by the companies and agencies charged with water supply. By locating the limits to resource availability internal to the economy (although not exclusively so), geographical research on resources is able to pry open a political space in which to discuss how apparent shortages might be resolved not by locating additional supply, but by changing the way resources are allocated within society, the uses to which they are put, and the social groups who influence critical resource decisions.

### Access

Access to natural resources is a foundation for human welfare. Unprecedented economic growth and extensive social improvement experienced in many societies since the mid 1800s rest on a vast mobilization of materials and energy. For many people, lack of access to food, water, and basic materials remains a stubbornly brute fact, and one not restricted to the developing world (e.g., fuel poverty – where households spend over 10% of their income on heating – is a significant social issue in Europe). A focus on social access – as opposed to inventorying resource availability – highlights the social mechanisms that enable and constrain the ability of nations, groups, or individuals to derive benefit from resources. The significance of access is made particularly clear in settings like the Niger Delta where poverty coincides with spectacular resource abundance.

Cumulative production	Identified resources			Undiscovered resources	
	Demonstrated		Inferred	Probability range	
	Measured	Indicated		Hypothetical	Speculative
Economic	Reserves	Inferred reserves			
Marginally economic	Marginal reserves	Inferred marginal reserves			
Subeconomic	Demonstrated subeconomic reserves	Inferred subeconomic reserves			
Other resources	Includes nonconventional and low-grade materials				

**Figure 2** The McKelvy box: Reserves vs. resources. Source: United States Geological Survey.

Resource access may be analyzed at several different spatial scales. Access and control can be considered primarily an issue of national resource security and geopolitical power. For example, from the end of the nineteenth century the growing commercial might of the US rested, in part, on its ability to negotiate favorable terms of access for US companies to the biological and mineral wealth of the Caribbean, Pacific, and South America (subsequently transformed into croplands, plantations, mines, and pastures). Interstate competition has ensured that national resource security remains a core component of international realpolitik, notably around access to oil and gas reserves, in negotiations between upstream and downstream riparian states, and in the challenges to 'environmental security' resulting from ecological degradation and social displacement.

Human geography, however, has made only modest contributions to research on interstate resource conflicts and the construction of international resource regimes. While acknowledging the importance of state policies to the administration of resources, geographical research focuses on the multiple spatialities and temporalities of resource conflicts that extend beyond those of the state, exploring a range of ways in which natural resources can become objects of political struggle. Contributions by Peluso and Watts to political ecology, for example, explicitly reject the reduction of resource and environmental security questions to issues of interstate competition. Through research on the lived experience of households and communities dependent on agricultural, forest, or water resources, geographical scholarship on resource access explores the social institutions through which people come to use resources and the implications of institutional change for livelihood security. Institutions of property feature strongly in this work because of the important role these formal and customary structures play in governing rights of ownership, access, and exclusion. Research by geographers, environmental anthropologists, and institutional economists has documented the diversity of property arrangements – private, state, open access and common property – through which renewable resources such as forests, fisheries, and grasslands are managed.

A common focal point for research on resource access institutions is Garrett Hardin's 'tragedy of the commons', a highly influential metaphor which has been used to assert that collective resource management will inevitably fail and that, as a consequence, private or state control of resources is preferable. Research by geographers and others challenges this assertion, and demonstrates that collective resource management regimes are widespread, are not restricted to developing countries, and can be resilient in the face of economic and environmental change. In practice the commons are not the open access, free for all regimes assumed by the

tragedy of the commons: rather what distinguishes common property from open access regimes are the customs, rule systems, and enforcement mechanisms that condition individual access to and use of the resource. The past decade has seen renewed interest in the negotiated rule systems, indigenous environmental knowledges, and adaptive capacities that can characterize common property management regimes. Given the failure of many 'top down' development and conservation initiatives, the relative success of common property resource regimes has provided the intellectual justification for community based natural resource management, and for hybrid management arrangements involving state and local groups. Such co management regimes are now ubiquitous, their uptake driven partly by evidence of successful self management at small scales, the failures and exclusions of state management, and the problematic nature of local management when environmental systems and social drivers occupy translocal scales.

## Knowledge

Although conflicts over natural resources frequently concern the politics of access and allocation, in many of the most intractable social struggles it is the practices through which lands and other socio-natures come to be defined 'as resources' that are at stake. While chimpanzees (laboratory experimentation), exposed uplands (wind power sites), and tropical agro diversity (germplasm) are strikingly heterogeneous, what they share in common is that their status 'as resources' (noted in parentheses) is something achieved through cultural, economic, and political work. The apparent objectivity and universality of the 'resource imaginary' disguises its ethnocentric particularity, and its silencing of alternative conceptualizations of the nonhuman world. The definition of ancestral lands as a commercial mineral resource, for example, overlooks the preexisting land uses and land ownership that must be undone to establish mines and realize the exchange value of the ore. It is for this reason that a number of authors refer to the 'violence' of the resource imaginary, documenting the practices through which environments and resources are made intelligible to states and/or firms and ultimately are made subject to manipulation and control.

Located at the nexus of knowledge, practice, and authority, resources are a focal point for human geography's encounter with post colonialism. Research on knowledge, power, and resources has taken two slightly different paths in human geography. A significant body of work follows a Foucauldian route, tracing the moments through which knowledge of the biophysical world becomes the means for expanding administrative power. Another strand maps the stunning diversity of rationalities and cultural knowledge systems in which landscapes

and species are enmeshed. This work indicates the range of attachments and meanings invested in natural resources, the significant roles these attachments can play in the creation of cultural identities and subjectivities, and how the social value of socionatural systems can massively exceed that captured by utilitarian and instrumental modes of valuation. The implication of this work is that social struggles over resources are not always over a stable, shared category (e.g., in disputes over resource distribution or allocation) but often arise because components of the biophysical world are embedded in multiple knowledge systems.

## **Resource Governance**

Social concerns regarding the use and management of natural resources have varied over time and space. Four major governance problematics – exploitation, conservation, sustainability, and adaptive management – can be identified over the last 100 years. These are not mutually exclusive and contemporary resource management practices often seek to address several problematics simultaneously.

### **From Exploitation to Conservation**

The acquisition and exploitation of natural resources is a problematic common to all societies. Historically resource exploitation is closely associated with practices of state formation (e.g., the centrality of oil exploitation to the growth of the Venezuelan state from the 1930s onward) or the extension of state control (e.g., Khrushchev's 'Virgin Lands' campaign to plow up the northern steppes of Kazakhstan during the 1950s). Indeed, until the late nineteenth century the state's interest in resources lay almost exclusively in securing the supply of raw materials to the domestic economy through territorial means. State actions assisted primitive accumulation and extended monopoly control by defining and defending private and public property rights, subsidizing the costs of resource exploration by privateers, and deploying legal, political, and sometimes military means to deny access to competing nations to critical or strategic resources. Territorial development policies from the Russian Far East to the Indonesian archipelago continue to regard resource endowments as natural advantages to be exploited in the pursuit of growth and the reduction of regional disparities. Policymakers in poor countries and economically deprived regions frequently describe investment in their agricultural, forestry, or mineral resource sectors as a key that will unlock national/regional potential and set in motion the virtuous cycle of socioeconomic change promised by post war modernization theory. Increased recognition of the challenges associated with resource

based development – a complex set of arguments often reductively articulated as the 'resource curse thesis' – and vigorous critiques of modernization theory have not dimmed the enthusiasm for resource exploitation as a cornerstone of national development policy in much of the developing world.

In the early twentieth century the state's interest in natural resources expanded from exploitation and territorial control to include a concern for orderly flow of resources into the economy over time. Marking this shift is the growth of scientific approaches toward the conservation of resource stocks and the vesting of these new capacities for conservation in the administrative state. In much of Europe, the European colonial territories, and the United States this shift began to occur toward the end of the nineteenth century as a response to the massive appropriation of natural resources associated with industrialization and colonial trade. The emergence of resource management as an administrative responsibility of the state marks an important historical point in the ecological modernization of the state. It acknowledges that resource scarcity or abundance are, at least in part, the outcome of social organization, and the beginning of efforts by the state to promote the production – via practices of husbandry, stewardship, and conservation – of environmental goods and services that hitherto had been taken as free inputs (such as the fertility of soil, seed stocks, or game species). The elevation of resource management to a specialized branch of knowledge – what historian Samuel Hays terms an 'applied science of possibilities' – has multiple origins in the experiences of estate and colonial administrators struggling to work with the spatial and temporal variability of ecological systems. It is most clearly exemplified, however, by emergence of the Conservation Movement in the United States in the early twentieth century, a movement personified by Gifford Pinchot, the first professionally trained forester in the United States and first Chief of the US Forest Service. Conservation came to dominate thinking about resources during the twentieth century. Its emergence at the end of the nineteenth century coincided with the transition from an 'empty' world of expanding frontiers to a much fuller world in which there were limited possibilities for further territorial expansion via the acquisition of lands and resources occupied by non Western peoples.

### **From Sustainability to Adaptive Management**

Much academic and policy work on renewable and nonrenewable resources works within the conservation paradigm. However, the collective experience of communities around the world with conservation has shown that the future oriented time preferences of conservation often conflict with more immediate time preferences of resource users. Prioritizing resource conservation can

impact present patterns and rates of resource use to the point that, in some settings, livelihoods and life chances of groups dependent on access to the conserved resource are seriously compromised. Conflicts over implementing conservation raise questions of social justice (who) and equity (how much) that complicate conservation's primary concern with futurity and the time preferences of use (when). Such conflicts raise important democratic questions about for whom resources are being conserved and which social groups have a right to be consulted – or stronger yet, have rights which require their consent – on how resources should be used.

Conflicts over resource and environmental conservation are experienced at a range of geographical scales, but it has been in the context of international development that the call for an alternative agenda of conservation with development – later to become sustainable development – has been most forcefully expressed. Facing calls from industrialized countries to reduce tropical deforestation and modify resource and pollution intensive patterns of industrialization, developing countries sought to vigorously protect their access to national and international resources against charges of green imperialism. Popularized by the Brundtland Report of 1989 and the Earth Summit of 1992 (although formulated in a series of publications that followed the Brandt Report on global inequality in 1980), sustainable development has provided a new set of concepts, metrics, and institutions through which resource governance is now imagined. Although the meaning of sustainable development has been somewhat debased through overuse, in its original form it modifies the objectives of resource governance in three significant ways. First, it rejects postmaterial forms of environmentalism by insisting that for many of the world's poor the primary development challenge is not reducing resource use but expanding resource availability (clean water, food, cooking and heating fuel). Second, it imagines resource management responsibilities at geographical scales that range from the local community to the planetary (a geographical consciousness institutionalized, for example, in the Agenda 21 planning framework). And third, because of its recognition of multiple scales of action, sustainable development introduces a new cast of potential actors that extend both above and below those of the administrative state. Because of the way sustainable development diversifies actors and scales – encompassing community groups, multinational corporations, and supranational regulatory authorities alike – it has become a dominant problematic for thinking about resource governance in the contemporary period.

Developments in ecology over the past two decades have driven a reappraisal of many ecological models underpinning practices of conservation and sustainable development. Research on several commercial resources,

most notably fish and game species, has demonstrated sharp fluctuations in population size that cannot be satisfactorily explained by equilibrium based theories of conventional systems ecology. By showing the prevalence of disturbance events in ecological systems and the capacity of these systems for 'surprise', this work throws into question many of the assumptions of spatial and temporal regularity within conventional conservation and resource management models (such as those associated with management of predator-prey relationships, carrying capacity, or the assessment of biodiversity-stability relationships). New research emphasizing the importance of change, risk, and uncertainty in the management of resources has given rise to adaptive resource management as an alternative framework for the governance of natural resources. Adaptive management explicitly recognizes uncertainty and seeks to optimize decision making around natural resources via an iterative process of intervention, monitoring, evaluation, and adaptation in the light of new information. Recent research on the governance of a range of resources – from fisheries to global climate – emphasizes the possibilities for improving resilience and reducing vulnerability by designing responsive and flexible social mechanisms that allow adaptation as new information becomes available.

### **Critical Resource Geography: An Economic Geography Research Agenda**

Anglophone economic geography has addressed a wide range of concerns in the post war period but has avoided a sustained engagement with natural resource questions. An earlier period of geographical inquiry had no such aversion: it inventoried, cataloged, and speculated about resources with an unswerving instrumentalism. The paradoxical legacies of this earlier period are a richly detailed set of resource descriptions, assessments, and maps that can provide a fascinating account of the evolution of a global resource economy; and a heterodox tradition of critical inquiry – located on the margins of economic geography – which considers how 'resource geographies' are structured by economic, political, and social processes and, therefore, owe a debt to more than nature alone. These legacies provide the foundation for a 'critical resource geography' which engages questions of knowledge, scarcity, governance, and sustainability that are at the heart of modern human geography. Critical resource geography (1) accounts for the political, economic, and cultural processes by which particular components of the natural world become produced as resources, and subsequently proliferate through the economy in the form of commodities; and (2) examines how the biophysical and material properties of resources influence the social organization of their production.

Substantive changes are currently taking place in the scale, rate, and pattern of resource production and consumption. From palm oil and tar sands to fisheries and carbon offsets, these changes raise important social, ecological, and political issues and call out for the attention of a socially engaged economic geography. Understanding the geographies and histories of specific resources can be a productive place from which to start. Shifts in the scale and direction of resource flows, for example, can reveal the extent to which established regional and global economic geographies are being remade. Similarly, analyses of energy, water, and food distribution at a range of scales can show how resource availability has less to do with the raw productivity of 'natural' systems and much more to do with the ways in which commodity systems are socially organized. Critical resource geography takes up the challenge of producing empirically grounded, theoretically informed accounts of emergent resource geographies and their social, economic, and ecological implications. In doing so, it problematizes the treatment of 'nature' within modern economic geography, a field which has largely defined itself by bracketing out nature as an object of inquiry.

See *also*: Biodiversity; Conservation and Ecology; Environmental Hazards; Environmental Security; National Parks; Nature; Natures, Postcolonial; Political Ecology; Sustainable Development; Water Management.

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- <http://www.worldwatch.org>  
World Watch Institute.

# Naturalistic Testing

R. D. Jacobson, University of Calgary, Calgary, AB, Canada

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## Glossary

**Case Study** An approach where the researcher explores a single entity, 'the case', which is bounded in time and activity. Examples are an event, a process, or a particular social group. Detailed information is collected over a sustained period of time about the case using a variety of qualitative data collection procedures.

**External Validity** It refers to the generalizability of the research findings. To what degree are the conclusions from one study that are based on a specific population, context, settings, and variables extendable to different contexts, and to additional populations? To what extent can the results obtained from studies be expanded beyond the studies' boundaries?

**Grounded Theory** A theoretical and methodological research approach, which places a central emphasis upon the data; the construction of any theory is grounded upon the data from which it is derived. In this context any knowledge is generated through inductive reasoning.

**Ideographic** Research concerned with the unique and the particular, such as the study of a single individual case, or more broadly, a series of case studies.

**Internal Validity** It is the extent to which variations in an outcome (dependent) variable can be attributed to controlled variation in an independent variable. A causal connection between independent and dependent variables is usually assumed.

**Methodological Pluralism** The incorporation of multiple methodological approaches to provide a form of data triangulation from diverse methods. These methods may have different ontological implications and foundations; however, by their integrated use they offer a more legitimate, reliable, and valid approach to research.

**Natural Experiment** Research undertaken in as close to a natural or undisturbed setting, without intervention from the researcher in a scenario uncontrolled by the researcher, but believed to be sufficiently powerful as to reveal the causal relationships between the researched event and changes in outcomes associated with the event.

**Phenomenological Studies** A qualitative method of research involving the examination of human experience through the detailed description of the people being studied. The methods involve studying a small number of individuals through extensive human interaction to develop patterns and relationships of meaning. As the research seeks to understand human experiences, the

approach produces a descriptive synthesis narrative of the phenomena under study.

**Reliability** It is the consistency of a set of measurements; reliability does not necessarily imply validity. In experimental settings, it is the extent to which the measurements of a test remain consistent over repeated tests of the same subject under identical conditions.

**Thick Description** A term referring to interpretation, that is based upon the researcher being immersed into the setting to uncover the different meanings, and then being able to ascribe the interpretations and interactions of these meanings into a rich, constructive, and layered manner.

## Introduction

Naturalistic inquiry or testing aims to leverage the benefits of conducting research in a natural setting in order to provide a rigorous contextual evaluation of the problem or phenomena under research scrutiny. It therefore is a predominantly qualitative research methodology. This is in contrast with controlled experiment inquiry in which the researcher manipulates the independent variables with some explicit control over other factors in order to observe the effects on the dependent variables.

As the meaning derived from research is closely related to the research methods and context, naturalistic testing occurs in a 'natural setting', that demands that the research be mediated or undertaken by a researcher that is flexible and adaptable to the indeterminate nature of the research. In this manner the researcher is working 'on the fly' building upon their tacit knowledge through a wide range of qualitative techniques. These would include the wide range of qualitative analysis techniques available to a human geographer. A sample list in the broadest sense would include, but is not limited to, interviews, observations, fieldwork, ethnography, case studies, content and document analysis, and so forth. In the most classic and pure scenario of naturalistic inquiry the phenomena under investigation are sampled in a purposeful manner, in order to negotiate the problems of random sampling; the data collected are then analyzed in an inductive manner, leading to the development of a grounded theory. From this, a projection of the next steps in the research is proposed in an emergent design. The sampling, analysis, grounded theory, and emergent design

process loop are then repeated through several iterations, until a theory becomes stable, and a degree of redundancy is achieved. Clearly this process is bounded by the practical resource constraints imposed upon the research, such as time. The outcomes of the research are negotiated through a series of checks with respondents who have acted as sources of information. Different patterns emerging from the data are reconciled through this process. In the classic naturalistic model the information is then gathered to provide a case study report. The results are therefore primarily an interpretation of the idiographic information. These results may be tentatively applied or extended beyond the specifics of the case study through a careful consideration of credibility, transferability, dependability, and confirmability. These terms are the naturalistic analogs to the more conventional criteria of internal and external validity, reliability, and objectivity.

## **Context**

Naturalistic inquiry emerged as an alternative approach to the very controlled characteristics of empirical positivist based methodologies. Naturalistic testing could be considered at one end of a continuum, where the other end is a highly controlled clinical style experiment. The rise of naturalistic inquiry has been considered by some researchers as a significant paradigm shift from positivist based quantitative inquiry. In modern positivist, logical, and other similar systems of inquiry, experience is taken to be objective, testable, and independent of theoretical explanation. Serious artificial constructions lead to models that yield explanation in the sense of logic. In natural science this assumes that the objects and the investigator are external, and not related. In other words, the language that is used within these studies is exact, universal, and generalizable. Little meaning is ascribed to local anomalies as these may only generate problems, when the application of universal categories is applied to a specific or particular circumstance. By contrast, naturalistic inquiry seeks to focus on how and why, within the context where, the data are gathered from within the setting rather than as an external controlled set of research events.

## **Philosophy of Naturalistic Inquiry**

The philosophy underpinning naturalistic inquiry is one of moving away from positivist natural science methodologies to axioms that better fit the phenomenon of sociobehavioral research. Although the 'naturalist paradigm' emerged from educational and sociological researchers, it has analogous properties to postmodern and post structuralist advances in geographic theory.

The nature of reality (ontology) is assumed that there are many multiple constructed realities, multiple truths, and perspectives that can only be studied holistically in an effort to seek out understanding or to make enquiries about this reality, or these multiple realities as outcomes will inevitably diverge. In other words, each inquiry potentially can raise more questions than it is able to answer, although a level of understanding is achieved. The predictability and control of these realities are difficult. This departs from a traditional positivist view that there is a tangible reality 'out there', and that this singular reality can be subdivided into independent variables and processes. These fragments of reality can be studied independently of each other, and that inquiry can converge toward this reality.

Within positivist epistemology, the relationship of the knower to the known, the researcher, and the object of inquiry are independent. However, the naturalistic framework has the implicit assumption that the enquirer and the object of the inquiry interact to influence one another. In this way there is a relationship, they are inseparable, and there is not the discreet dualism implicit in controlled studies.

The aim of inquiry is to develop a geographic body of knowledge. In the naturalistic mode this is done in order to develop an idiographic body of knowledge that form and inform a series of working hypotheses that describe a specific context. This is the key issue and problem with naturalistic research: while there is meaning and understanding gained at the individual level, the generalization, applicability, and transferability of this research to a more general population or wider context is problematic. By contrast in positivistic inquiry, the aim is to generate a nomothetic body of knowledge, that are highly generalizable, and that are independent of time and context. In a controlled experiment the generalizability is implied by the controls established. However, the data gathered are often artificial, and cannot be reinserted into the holistic environment from which it was isolated.

Within naturalistic research the cause and effect are not always discretely separable as there are mutual interactions between the researcher and their study.

Within the inquiry, both the research and those being researched are in a state of mutual collaboration and simultaneous shaping and reshaping so it becomes impossible and complicated to distinguish and isolate causes from their effects.

Inquiry is not viewed as value free. Its axiology is considered to be value bound in at least four ways: (1) the nature of the inquiry is influenced by the researchers' values, such as through the choice of the subject matter; (2) research is clearly influenced by the choice of framework and paradigm that guides the investigation into the problem; (3) the research is influenced by the choice of any background or substantive theory utilized

to collect the data and then subsequently analyze the data and later interpret the findings; and (4) the content, methods, and context of the inquiry are all value laden. Any research is influenced by the values and experiences of the researcher, and particularly how these are examined in the context of the research setting.

### Components of Naturalistic Inquiry

Outlined below are the key components of naturalist inquiry as proposed by Lincoln and Guba. The justification of these components is based upon both their coherence and interdependence and also their logical dependence upon the axioms outlined in the philosophy section above.

The natural setting is a prerequisite for the researchers' experimental methodology. This is necessary because the naturalistic ontology suggests that wholes cannot be understood in isolation from their context and that they can't be separated to be studied in their constituent parts, because the whole is more than the sum of the parts. There is also the belief that the act of observing and/or recording of data involve interacting with the subject under investigation and have an effect on the data being collected. Undertaking research in this context means that it is important for determining the fullest understanding of the entity. But this also has a limitation as to the transferability of this finding to other contexts.

The researcher is acknowledged as an active participant in gathering knowledge and experimental data. The use of the qualitative instrument is necessary because the human is capable of grasping and evaluating the meanings of mutually shaping subtlety that can be only appreciated by an individual. In other words, the individual interactions are value based, and only an individual can take account of these values and the resultant biases.

The use of tacit knowledge, that which is intuitive and felt, as well as propositional knowledge in the form of language is assumed. Because much of the interaction between the investigator and the respondent, participant, subject, or object of inquiry happens at this level, the nuances of multiple realities can only be appreciated through this method and tacit knowledge also acknowledges the mirroring and the mimicking of the patterns of the investigator.

Qualitative methods are often used because of their ability to deal with multiple realities. However, multiple methodologies including triangulation are encouraged where approaches using combinations of qualitative and quantitative methodologies are a mechanism of reinforcing and shaping the validity of any methodology.

Purposeful sampling used as representational or random sampling may exclude more deviant or outlying cases. By using purposeful sampling, a greater array of

overall realities may be uncovered. In addition, grounded theory can be developed that takes adequate account of specific experiments on local conditions. The context and the values thus improve the options for transferability, as local conditions have been acknowledged.

By using inductive data analysis, the investigator respondent or object relationship interaction becomes explicit, recognizable, and accountable, and the values of these interactions can become an explicit part of the analytical structure, as biases can be explicitly acknowledged, and negotiated.

Grounded theory is the guiding theory because it is grounded in the data; it provides the best fit with the data under investigation. In other words, there is no primary theory that could possibly encompass all of the potential multiple realities. The experimenter enters the situation as neutrally as possible, and drives his/her theory from close analysis of his/her data and emergent patterns.

The design of the research is expected to emerge, in other words, to flow and cascade rather than to be artificially constructed ahead of time. It is assumed that it would be inconceivable for the experimenter to know ahead of time, all of the values and scenarios that would be encountered and to be able to foresee the mutual shaping, and to see from the subject to what may happen throughout the experiments and the subsequent outcomes.

The outcomes of the research are intended to be 'negotiated'. In other words, it is the human subject constructions of reality that the enquirer seeks to reconstruct. Thus, the validity and the outcome of the inquiry depend on the nature of the quality of the interaction between the known and unknown, in the meaning and construction of the data. The tenet here is that the working hypotheses that might apply in a specific given context, are best to be verified and confirmed by the people who exist and live in that context.

The case study reporting mode is often used using thick description, as it provides a basis for individual naturalistic generalizations. This allows for a holistic picture of the values and positions, and the relationships of the investigator. The substantive theory of the naturalistic methodological paradigm has to acknowledge the local contextual values.

Data are generally interpreted ideographically, that is, in terms of the particulars of the situation rather than nomothetically, in terms of law like generalizations, as the interpretations of the data depend upon the local context for their validity. Applications beyond the specific contexts of the study are likely to be only tentative, due to the mixture of mutually shaping influences and differences from location to location, different value systems, and different site specific information. As a result, the boundaries of the research are usually set in some mediated way between the investigator and the focus of the research.



Alternatives to the traditional measures of validity are sought; these include credibility, transferability, dependability, and confirmability. Trustworthiness seeks to address issues of truth, applicability, consistency, and neutrality. Overall the research conducted within a naturalistic framework aims to provide an emergent paradigm whereby understanding, interaction, and analyses move from simple to complex, from a causality that is linear to mutual, and from objective to perspective.

### **Conducting Naturalistic Inquiry**

The process of designing a naturalistic inquiry, as with any research design involves planning the structure and strategy of the investigation, structured in a certain way as to obtain answers to the relevant research questions and to minimize and control variables. This is a multi stage process involving the conception and overall plan of the study, the hypotheses that will be investigated, the variables to be included, the relationships expected to be found among those variables – this is equivalent to formally setting hypotheses – the methods and instruments of data collection, and the modes and mechanisms for data analysis. The researchers operating under this framework often prepare contingency and alternative plans to try and anticipate any emergent problems within the research design.

An example of naturalistic inquiry is in a multimethod approach to investigating the understanding of geographic space by people without the use of vision. In this context, data were gathered using a mixture of qualitative and quantitative methodologies in both artificial and natural(istic) settings. As the overall aim of the research was to develop a broad understanding of how people without sight can navigate through space in their everyday environments, it made conceptual and methodological sense to investigate how individuals were able to negotiate traveling through their environment, by conducting research in the urban setting through which people routinely travel. The research would provide a more realistic and complete picture as to the salient problems, issues, and abilities of the individuals concerned. However, the transferability and replicability of these findings are limited by the context, and data collection methods. Questions would arise: How representative of the whole population was the sample used? Were the problems experienced by this group representative of problems in other areas, or were they specific to this particular locale? In terms of measuring people's ability to learn a route through using multiple methodologies involving several trials, working in natural and experimental settings, including, observing peoples ability to renavigate the route, to provide distance estimation and to point to locations along the route, to construct maps and models of the

route, and to provide descriptions of the route of these results, a very comprehensive dataset was collected. However, the data collection could be critiqued by its very collection, that is, was compromised, or contaminated by a lack of control in the natural setting. For example, the participants were able to augment their navigation skills with additional information such as passing traffic, wind, and so on, that may vary from one user to another. The strength of using this method was not to isolate in an artificial environment, but to obtain a realistic and holistic picture of the abilities of people to undertake these navigation and related tasks in a natural environment. Clearly, blind and visually impaired people need to navigate to points of employment, education, and other locations for shopping and social activities, rather than between points in a highly controlled laboratory setting up. The information gained from the highly controlled laboratory setting, such as an open space like a gymnasium whereby individuals are studied in great detail, including reaction times and accuracy in navigating between points, provides a different level of information that is also valuable and this information is at the other end of the continuum from naturalistic testing.

One of the strengths of a naturalistic method is in the acknowledgement of these different positions and the interactions between the investigator and the participants. This is not viewed as an intrusion, or a weakness, but leading to more of an opportunity that can be explored and exploited to further explore the contextual reality of any given experimental situation.

### **Critiques**

The most significant critique of a naturalistic testing appears through its use of inductive reasoning, relating to how realistic and reliable are the inferences made. Even if researchers can't validate knowledge in an *a priori* matter, it is however nontrivial and significant that it can be validated at all by any methodology.

There are a set of theoretical and practical problems that have been identified with induction and inductive reasoning that occur at a philosophical and at a methodological level.

Classic problems with induction arise with seeking data that support and will confirm a hypothesis. Universal statements, such as 'all crows are black', could never be conclusively verified. However, with the discovery of one nonblack crow it could be conclusively refuted. Thus, falsification has been introduced as a mechanism for avoiding the problems with induction. However, when dealing with research hypotheses they are not treated in isolation from a background theory, their social, political, and contextual settings.

Researchers employing naturalistic inquiry have to demonstrate the rigor of their analysis and their data collection methods. However, in response to these criticisms, they frequently contend that the widely used hypothesis testing in conventional scientific method is not itself free from criticism and has problems as no hypothesis is tested in isolation. There are other matters undergoing investigation besides the hypothesis itself, for example, the reliability of the testing, whether the hypothesis has been derived in a valid manner from the relevant theory, and whether the assumptions of the theory themselves were valid. Therefore, the falsification of a hypothesis may not be due to the weakness of the hypothesis that it uses, but due to other matters. In addition scholars seldom seek to test hypotheses with the sole intention of falsifying them. If that were so, if the failure to confirm a hypothesis were grounds for rejecting it, then nearly all theories in science would be rejected because at some point, they can be falsified by some observational data. Therefore, in practice, researchers tend to accept the theory that has the greatest explanatory potential, in combination with the fewest problems.

Scholars studying the history and philosophy of science have commented that scientists may not choose paradigms on the basis of data alone. There is a significant contribution from the underlying social and political forces, the context and historical analysis that lead to these changes in an ecological analysis of the relationship between theories and evidence.

## Place of Naturalistic Testing in Human Geography

Frequently, human geographers have commented that falsification in this abstract hypotheses testing is more suited to the physical sciences, because of the nature of quantitative observations, measurements, data, and methods available to them. Naturalistic testing provides the human geographer with a paradigm and context within which to conduct research in natural settings involving complex interactions between humans, society, and their environment. It fits within the recent debates about how geography is practiced, the ethics of doing research, and a framework for establishing and clarifying who the research is on, by, for, or with. For example, it provides, some resolutions to the problems associated with ethnography and participant observation as they relate to a colonial anthropological legacy, and the issues around the power and gaze of the researcher, by providing a mechanism for the acknowledgement of this power, and methodology for giving voice to the focus of the research. As naturalistic testing relies heavily on the natural environment and the acknowledgement of the context research, there is a clear

effort to understand the relationship between the observer and the observed on how these are overlapped and intertwined. This is highly relevant to debates in modern social theory and social philosophy in geographic methods. The issues revolve around power, space, and subjectivity, and the power–knowledge epistemology put forward by Foucault. Naturalist methodologies contribute to the idea that all knowledge is to a degree situated. Further refinement and sensitivity to context suggests that all theories are to a degree limited and partial, and have emerged from their own context and circumstances from which they respond and are researched. Naturalistic methodologies have a way to deal with negotiating admissible knowledge, providing opportunities for improving the coherence of data, and integrating the political and methodological by avoiding the search for natural laws through the acknowledgement of the subjectivity of the research. Stringent efforts are made to complete the research in a rigorous manner as possible through multiple and redundant mechanisms for validating and triangulating, approaches, data, and analyses.

*See also:* Content Analysis; Cross-Cultural Research; Diaries (Video, Audio or Written); Discourse Analysis; Ethical Issues in Research; Ethnography; Experimental Design; Fieldwork; Focus Groups; Grounded Theory; Hypothesis Testing; Mixed and Multiple Methods; Participant Observation; Participatory Action Research; Questionnaire Survey; Situated Knowledge, Reflexivity; Subjectivity.

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### **Relevant Websites**

<http://www.geog.buffalo.edu>

Department of Geography, University at Buffalo: Association of American Geographers, Qualitative Research Specialty Group.

<http://www.nova.edu>

Nova Southeastern University: *The Qualitative Report*, journal dedicated to qualitative research along with comprehensive web resources.

<http://www.uofaweb.ualberta.ca>

University of Alberta: International Institute for Qualitative Methodology.

<http://www.ualberta.ca>

University of Alberta: *International Journal of Qualitative Methods*.

# Nature

K. R. Olwig, Swedish University of Agricultural Sciences, Alnarp, Sweden

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## Glossary

**Cosmography, Cosmology** Historically, the geographer as cosmographer tried to synthesize all kinds of information about the Earth and its place in the universe in order to create a total picture of the cosmos as an orderly system. Cosmography seeks to describe the universe whereas cosmology sought to understand and explain the nature of the universe, which has been described. It might thus be said that cosmography creates a picture of the universe, whereas cosmology is concerned with our perspective upon that picture – our world picture (*Weltanschauung*) or ‘world view’.

**Enlightenment** An eighteenth-century Western European intellectual movement emphasizing the ‘light’ of reason, rationality, and science in the understanding of human culture and the natural world and in encouraging its progress. Proponents of the Enlightenment were thus critical of Europe’s *ancien régimes* as dominated by the aristocracy and justified by ideologies rooted in metaphysics and religion.

**Renaissance** It is usually seen to stretch from the time of its origination in Italy in the fourteen hundreds to the time when it gradually penetrated Northern Europe and England in the fifteen and early sixteen hundreds. Renaissance means rebirth and even though the term was not used at the time, it is appropriate because the people of the time saw themselves as giving a new birth to the classical antiquity of ancient Greece and Rome – the period which ended with the decline of the Roman empire a millennium before the Renaissance.

**Sensorium** At Newton’s time sensorium meant, according to the dictionary, “the brain or a part of the brain regarded as the seat of the mind,” which in modern terms refer to “the parts of the brain that are concerned with the reception and interpretation of sensory stimuli.” For Newton, who was fascinated by optics, space was the ‘sensorium’ of God who in turn was the architect of nature.

The concept of nature is notorious for its complexity, and for this reason most attempts to explicate the meaning of the term end up with a confusing catalog of its many, seemingly disjointed, meanings. To avoid this problem this article focuses on the rationale by which meanings of nature have been created over time. Particular attention will be paid to the role played by geographers in generating these differing senses of nature, and the role they

have, in turn, played in shaping geography. It is useful, in this context, to think of nature as a metaconcept and to think of geography in metageographical terms.

The prefix meta indicates that the concept is, as the dictionary puts it, of “a higher logical type,” and when it is attached to the name of a discipline it designates an approach that “can deal critically with the nature, structure, or behavior” of the discipline to which the prefix is attached, as in ‘metalanguage’, ‘metatheory’ or, as in this case, metageography. Note the dictionary uses ‘nature’ virtually synonymously with ‘meta’, suggesting that metageography is concerned with the ‘nature’ of geography. Geography itself, however, might be called a metascience because it creates an overarching world picture, or *weltanschauung*, as the Germans call it. This is why geography is not just a university discipline, but a school subject intended to mold the minds of school children. In times past, as shall be seen, geography was sometimes called ‘cosmography’, because it was, as the dictionary puts it, “a science that deals with the constitution of the whole order of nature or the figure, disposition, and relation of all of its various parts.” Cosmography, in turn, is foundational to the branch of philosophy called ‘cosmology’ that deals with the processes of nature and the relation of its parts. The nature of geography is thus more than mountains, rivers, and plants; it can also be the metanature by which people understand the character of their universe.

This article seeks to make it easier to understand both the nature of geography and the nature in geography (which is to say the geomorphology, the meteorology, the landscape, etc.), by showing how geographers’ use of the concept of nature continually flip flops between this metanature and more familiar physical meanings of nature.

## The Metanature of Nature and Geography

One of the characteristics of the concept of nature as a metaconcept that makes it both so difficult to define, and so engaging, is its dichotomous cum dialectical character. A dichotomy is characterized, as the dictionary defines it, by “division into two parts, classes, or groups especially into two groups mutually exclusive or opposed by contradiction,” whereas a dialectic in its basic (original Greek) sense meant, according to the dictionary, “the theory and practice of weighing and reconciling juxtaposed or contradictory arguments for the purpose of arriving at truth especially through discussion and debate.” Nature, thus, is commonly opposed to culture, so

that to understand nature you need to understand how it might be understood as the converse of culture (a concept which rivals nature in its complexity). This dichotomy might be understood as a static dualism, so that culture is the negative of nature, but it can also be understood in a more relational and dialectical sense in which the notion of difference is fundamental. When nature is thought of in such dialectical terms the use of oppositions is primarily a device with which to think, as Plato demonstrated, but when it is dichotomized it is frozen (or reified) into fixed dualistic relations.

The most fundamental and volatile division within geography is arguably that between physical geography as a natural science concerned with natural phenomena, and human geography, which is a social and cultural science. The word 'physical' derives ultimately from the Greek word for nature *physis*, "the source of growth or change inherent in or construed as nature: something that grows or becomes," as the dictionary defines it. Physical is, in practice, usually synonymous with nature, and in some languages, such as those of Scandinavia, physical geography is thus called *naturgeografi*, 'nature geography'. Some geography departments are divided into physical and human geographical sections, and some geographical journals have separate series for physical and human geography. For some geographers this division is taken to mean a rigid dichotomy, to the point that they may even reject the relevance of the one form of geography to the other. Others, however, may see precisely the society/nature dialectic as key to the discipline. The issue, furthermore, is not simply philosophical. Dissension between physical and human geographers has ripped apart geography departments, and arguably caused some to close or become divided as separate departments, or to become divided as subdivisions of other departments, such as geology and sociology.

### The Nature of Landscape as Nature

The apprehension of landscape as scenic space is arguably foundational to modern geography's dichotomous notion of nature in practice and in theory. The word apprehension is used here deliberately to mean "a perception that is comparatively simple, direct, and immediate and has as its object something considered to be directly and nondiscursively understandable," as defined by the dictionary. Practice has likewise been deliberately placed prior to theory. Many people in geography and related fields (such as landscape architecture and planning) are, in fact, practitioners who master, for example, forms of representation such as cartography, geographic information system (GIS), or draftsmanship, and then apply these tools to the research, planning, and management of the geographical environment. Other

geographers are employed at universities to teach these skills. But even though there is a theoretical foundation for these endeavors, it is not a foundation that requires an elevated philosophical understanding of the idea of nature or space. For people basing their practice upon maps, GIS, or landscape diagrams, nature is made up of the objects apprehended via these representations, and space is the space of the map or the landscape diagram. This article will thus be concerned both with the practice of geographers, including representational practices, and the apprehension of nature to which they give rise, as well as with more theoretical and nonrepresentational understandings of the nature of, and in, geography.

The forms of representation that have subsequently guided the history of geography's engagement with the concept of nature derive largely from the Renaissance. If one wants to understand why contemporary geography, for example, is divided into physical and human geography, or questions of essentialism, sexism, or nationalist ideology, it is therefore necessary to know how these issues were built into geographical representations of nature that date way back in the Renaissance, when modern geography, and the idea of the modern itself, began to take shape. For this reason this article devotes important space to the Renaissance.

The term landscape in the Germanic languages, including English, originally referred to a region, or place, and its polity, and when the Renaissance Dutch, in particular, developed a genre of painting devoted to the representation of such places, this genre became known as 'landscape painting', much as the genre involving painting people became known as 'portrait painting'. In Samuel Johnson's (1709–84) classic English dictionary from 1755 the first definition of landscape was thus given as: "A region; the prospect of a country." The term, however, is also applied to a genre of painting that developed at about the same time (in the fifteenth and sixteenth centuries) in Italy and which used the newly developed technique of central point perspective to depict what were usually idealized scenes, rather than the landscapes of particular places or regions. Since these scenes could contain the same elements as the Dutch paintings, for example, hills, valleys, rivers, it is easy to confuse the two types of painting. This second type of landscape is covered by the second definition for landscape in Johnson's dictionary: "A picture, representing an extent of space, with the various objects in it." This second type of landscape thus begins its existence as a form of representation that generates a space within which objects can be located, whereas the first type of landscape began as a place called a landscape, which only thereafter became represented in prospects. Landscape in the second sense, that which grew out of Italian Renaissance art, created a pictorial space that was by no means limited to the frames of oil paintings, but which

also played an important role in providing the background and surroundings for a new form of theater in which scenery, painted to illude the perspective of a spatial depth disappearing into infinity, frames the action. The scenes depicted in these representations were typically those of an idealized nature, as inspired by the literary classics and the Bible, but it is important to note that the form of spatial representation itself was also seen to be an expression of nature. This second, spatial, sense of landscape will first be focused upon here because it played a key role in the development of modern geography. At the end of this article the sense of landscape as region, place and people will be returned to as a means to understanding the alternative, nonmodern ideas of nature that emerged at the end of the twentieth century.

The representation of the world in terms of landscape scenery creates an image that is characteristic of the modern perception of nature, complete with the dichotomies that have been seen to characterize modern geography. What we typically see in a representation of landscape as spatial scenery, as in the theater, is a layered structure in which the stage floor provides the scenic surface of the Earth with a characteristic geomorphology of hills, valleys, etc. Upon this surface is a layer of flora, and within and upon this flora live differing species of fauna. This is the layer of 'natural' landscape that one typically finds described as the bottom, foundational layer of the landscape in theoretical works on landscape geography, as well as in geography textbooks in the schools. Part and parcel of this foundational natural landscape is a superior layer of atmosphere with a climate that is characteristic of the scene's particular location on the globe (a heath may thus have dark clouds and a tropical scene bright sunshine). Sandwiched between the terrestrial natural landscape and its atmospheric and celestial counterpart is the layer of the cultural landscape, and it is on this scenic stage that the geography of human existence is spatially located, or 'blocked' to use the theatrical term, and plays out its history.

In the theater the scenery often sets the stage for the action, signaling, for example, that the human relations depicted will be stormy, and there is likewise a long standing geographical tradition that sees the natural landscape as providing the foundation for, and thereby determining, the cultural landscape – so that stormy places might be seen to produce stormy peoples. This same scenic structure, however, also allows both dramatists and geographers alike to conceptualize the layer of culture as being unaffected by, or in opposition to, nature. And, finally, it allows for a more dialectical understanding of the relation between the layers of nature and culture where nature influences people, and people modify nature, so that a stormy heath might be transformed into a peaceful farming landscape. The same layered structure can thus be interpreted in different ways. What is

characteristic of the apprehension of such scenes is that they can seem obvious because they are based on a perception that is comparatively simple, direct, and immediate and has as its object something considered to be directly and nondiscursively understandable. This idea of landscape as scenery, and nature as landscape scenery, is so easy to take for granted that it seems 'natural'. This understanding of nature, however, is absolutely the most modern definition (number 15 in this case) to be found in a modern standard dictionary: "15 c: the aspect of out of doors (as a landscape): natural scenery." It was only in the late seventeenth century, in fact, that people really begin to use the word nature synonymously with landscape.

If we look to the oldest senses of nature to be found in a standard dictionary we find meanings such as:

2 a: the essential character or constitution of something,  
or

4: a creative and controlling agent, force, or principle operating in something and determining wholly or chiefly its constitution, development, and well being: a : such a force or agency in the universe acting as a creative guiding intelligence : a set of principles held to be established for the regulation of the universe or observed in its operation. (Merriam Webster, 1968)

Nature in these senses is not the things located in the space of the landscape, the flora, the fauna, the clouds, etc., but the abstract forces, principles, and laws which create the world and give its essential character. When people speak of the nature of something in the meta sense, they may be implying that it gets its character from the operation of these principles – for example, the nature of a river is to flow downhill – and the implication may be highly normative – for example, it is the nature of women to nurture children. Nature may be the most normative word in the language because what is natural is normal and what is unnatural is abnormal. The word nature is thus highly ideologically loaded, if often only implicitly.

### The 'Birth' of Nature

The power of the abstract meta notions of nature listed above is hidden in the Latin root of nature, *nat*, which we also find in words like natal and nativity, but also in nation, the native born. The philosopher John Passmore reminds us that:

The word 'nature' derives, it should be remembered, from the Latin *nascere*, with such meanings as 'to be born,' to 'come into being'. Its etymology suggests, that is, the embryonic, the potential rather than the actual. (John Passmore, 1974)

Today people think of nature in terms of actual things, like plants, so that the natural science of botany studies

plants, but in its original sense the study of the nature of plants was the study of the natural principles that bring potential plants into being. Today people think of these principles as natural laws, so in this way the older sense of nature is still very much alive, except that people today are more likely to think of the plants, rather than the abstract principles that create material phenomena, such as the plants, as the primary nature. When nature is thought of in terms of principles we tend to be concerned with the laws governing, as the dictionary puts it, “the essential character or constitution of something,” and hence with norms. The essential nature of something might thus be termed its inborn natal character that determines its growth and being.

In landscape apprehended as scenic space, the natural things in the picture – the geology, the plants, the animals, etc. – are those physical things which nature has generated. What is easy to overlook is that these things are represented within ‘an extent of space’ which also exemplifies a form of nature. As was the case with the laws and principles of nature, we do not tend to see the invisible space that has organized the natural elements in the picture. Thus, when we look at a typical landscape diagram in a physical geography or landscape ecology textbook we tend to focus on the objects depicted, such as the hills, the rivers, etc. The arrows in the picture, however, may help us to see, for example, the relationships between the geomorphologic processes governing the erosion of mountains into hills, the sedimentary soil in the valleys, the biogeography of the plants and animals, and the potentiality to grow differing types of crops on the river’s flood plain. The spatial arrangement of the different elements in such landscape diagrams can imply, without our being necessarily conscious of this, that there is a natural causality between, in this case, the soil quality and the crops grown. This is because such diagrams are usually concerned with the vertical relationship between the natural foundation of the landscape in the soil and the other elements in the landscape, such as flora, fauna, climate, and crops. What can be easily overlooked, however, is the more horizontal spatial relationships between, for example, the farm economy and the demands of a distant market, which may, in fact, have an important determining effect on what is grown. The image thus appears to give a neutral objective picture of the relations between the physical and cultural phenomena depicted, but the spatial juxtaposition of the different things in the picture may, in fact, give a biased impression of what is determining the character of the landscape. The bias reflects the interests and intentions of the people behind the image, be they natural scientists, cultural historians, environmentalists, economists or, particularly in the nineteenth and early twentieth centuries, nationalist ideologists, intent on convincing people that their nation naturally sprang from the native soil. It is thus important

to examine the way that space expresses nature, even when it is not visible nature.

### Nature as Cosmological Intercourse

The fact that the root of nature means birth suggests the metaphor of mother nature (or the goddess *Natura*) as the female figure who gives birth to the world. But since it takes a male and a female to create offspring, there must also be a father nature. One of the oldest themes in cosmology is the idea of a celestial male figure that gives birth to the world through intercourse with an earthly female figure. This idea was given artistic form by the Roman poet Virgil (70 BC–19 BC), who may well be the single most important influence upon Western artistic representations of nature, including those in the Renaissance Italian landscape paintings. One of the earliest recorded uses of the word nature synonymously with landscape was thus a late seventeenth century English translation by John Dryden of Virgil’s *Georgics*, which is essentially a poetic handbook on the arts of agriculture. In the *Georgics* Virgil gives the following poetic form to the natural intercourse between earth and sky which gives birth to the world in the spring when:

... the swelling earth  
Demands the seed of life. Then Father Air  
With fruitful rains omnipotent descends  
Upon the bosom of his smiling bride,  
And ... greatly feeds  
Her teeming womb. ...;  
The gentle moisture freely flows. ...  
Thus dawned, I trow, the birthday of the world. (II, 380  
420)

Ancient philosophers and poets drew upon myth to explain the cosmological principles behind what we would now call science. Virgil’s ‘birthday of the world’ thus recalls, the cosmogony of Hesiod (*c.* 700 BC), where the world is born of the intercourse between a male sky god, Ouranos, and a female Earth goddess, Gaia, as well as the ‘big bang’ theories of modern cosmology, not to mention the ‘Gaia hypothesis’ of James Lovelock.

A poem such as Virgil’s gives both flesh and blood and spatial perspective to the philosophical distinction between *natura naturans* and *natura naturata*. Northrop Frye, a literary scholar with an eye for cultural archetypes, has explicated the difference between the two Latin notions of nature in terms of looking down as opposed to looking up. Hunters and gatherers, or farmers, when looking downward would see how the richness of game or plant growth depended upon complex terrestrial factors such as moisture, soil, elevation, etc. Looking up, however, they would see that the Earth’s fertility, and even that of female

beings, correlated with the regular lawful movement of the heavenly bodies. This looking down and up eventually leads, according to Frye, to the distinction made in Latin between *natura naturans* and *natura naturata*. In the sexual creation myths, like that recounted by Virgil, the Earth mother might be regarded as a symbolic representation of *natura naturans*, nature as a bursting forth of life and energy, its divine personalities the animating spirits of trees, mountains, rivers, and stones. Looking up, however, one sees a cycle of the Sun and the moon that implies a fixed lawful nature that never changes. This regularity, according to Frye, suggests the intelligent creation of an ideal nature in which becoming is subordinated to the being of a stabilizing power that controls and plans according to the laws of *natura naturata*. In Renaissance geography, following Frye, *natura naturata* would be represented by space, and *natura naturans* by the things located within that space.

## Geography's Nature

The word geography combines the Greek *geo*, meaning Earth, with *graphy* meaning writing or representation. Geography traditionally has combined writing with other forms of representation, such as maps and pictures, in order to convey an image of the Earth. The Earth is a planet, and for this reason geographers have been concerned with depicting not only the Earth, but also the relationship between the Earth and the heavenly bodies with which the Earth shares the space of the cosmos. The diurnal movement of the Sun, the change in the relationship to the Sun that takes place through the seasons, and the importance of the relationship between a particular location on the Earth and the Sun (e.g., a location on the equator) are of importance to the geography of a location. The relationship to the Moon is also important, particularly with regard to the tides. The relationship between the Earth and other heavenly bodies is less obvious, but we must not forget that astrology, which is concerned with the interrelations between a multitude of heavenly bodies, was regarded as a high science for many centuries. Finally, it should be noted that one of geography's most ubiquitous tools, the map, is usually based on the plotting in of coordinates on a grid according to celestial bearings. The nature of geography as a discipline is thus very much concerned with not just the Earth, but the Earth in relation to the cosmos.

A key event establishing the birth of the modern world picture in the Renaissance was the rediscovery in the early fourteenth century of an ancient classic text called *The Geography* by the second century Alexandrian Greek geographer, astronomer and astrologer, Claudius Ptolemy. According to Joan Gadol, a scholar of the Italian Renaissance:

The systematic origins of Renaissance art and of the Copernican astronomy can be found in a movement of thought which may be properly called a "Ptolemaic renaissance" even though Ptolemy was to be deprived of his authority because of it. We have seen how Alberti established the rules of artistic representation by modifying Ptolemy's principles of projection. When scientific "pictures" of the world came to be constructed according to these same principles, modern astronomy and geography began their rise. (Joan Gadol, 1969)

With the rediscovery of Ptolemy's geography came the techniques from which modern mapping has evolved, which is basically the use of a graticule made of lines of latitude and longitude superimposed upon the surface of the globe, or a flattened section of the globe, to create a gridded surface upon which the location of points on the Earth can be plotted according to celestial coordinates. If these locations are along the coast of a body of land, and if they are connected by a line, what one then gets is a map with the outline of this coast. Ptolemaic cartography thus involved the making of maps of both the heavens and the Earth, and they were therefore very much representations of the relationship between the *natura naturata* of the heavens, with their unchanging lawful motion, and the *natura naturans* of the terrestrial world in which nature is undergoing a constant process of becoming. In the Renaissance Ptolemy's geography was termed a cosmography because it was considered to be a general description of the world or of the universe and an expression of what the dictionary calls "the science that deals with the constitution of the whole order of nature or the figure, disposition, and relation of all of its various parts."

For Ptolemy geography looks at the position rather than the quality, noting the relation of distances everywhere, and mathematics was thus an important part of geography, dealing with conditions on Earth that were correlated to those in the cosmos:

For geography must first consider the form of the whole earth as well as its size and its position with reference to the heavens, so that it may be able to tell the size and nature of the known portion of the earth and under what parallel circles of the celestial sphere each place lies. From this it will be possible to learn the length of nights and days, the fixed stars that are overhead and those that at all times are above or below the horizons, as well as all other information that we include in an account of habitable regions. (Ptolemy, 1948)

The importance of Ptolemy's geography for the establishment of the modern scientific 'picture' of the world, referred to above, lies in the creation of perspective techniques through the modification, by



Renaissance polymaths like Leon Battista Alberti (1404–72), of the Ptolemaic map's top down projection to a more oblique angle. Ptolemy's map could be termed a (geo)graphic representation of an extent of space, with the objects within it, and the same applies to the use of the modified cartographic techniques used to represent landscape as scenery.

### **The Nature of and in Landscape**

A Renaissance proponent of the new science of perspective painting was Leonardo da Vinci (1452–1519), an artist cum natural scientist. By using the underlying laws of geometry to impart a cosmic order to the organic terrestrial world, the science of perspective was, for da Vinci (as quoted by Richard Turner), both an expression and a representation of nature:

If you despise painting, which is the sole imitator of all viable works of nature, you certainly will be despising a subtle invention which brings philosophy and subtle speculation to bear on the nature of all forms – sea and land, plants and animals, grasses and flowers – which are enveloped in light and shade. Truly painting is a science, the true born child of nature. For painting is born of nature; to be more correct we should call it the grand child of nature, since all visible things were brought forth by nature and these, her children, gave birth to painting. Therefore we may justly speak of it as the grandchild of nature and as related to God. (Turner, 1966: 25–26)

This view of painting explains why da Vinci regarded the science of perspective, which he helped develop, to “be preferred to all the discourses and systems of human learning.” This can be seen in his painting of the popular artistic theme of the event known as the ‘Annunciation’, which took place when the archangel Gabriel made a birth announcement (on 25 March 1 BC, nine months before Christmas) to the Virgin Mary, informing her that she is to give birth to the child of God. Prior to the development of perspective, painters usually showed a scene reminiscent of Virgil's poetic description of cosmic coitus between celestial and terrestrial nature in the spring. What we see thus is a scene in which the beclouded figure of the heavenly father sends forth golden beams that descend upon the body of Mary. In the perspectival versions of this same scene, by contrast, God in the heavens above has disappeared, and instead the eye is transported out to the horizon into an infinite point in space by lines of perspective that frame and infuse the landscape scene upon which Gabriel and Mary act, as if in a theater. In the perspectival representation, the natural principle represented by the seminal light rays of God is replaced by the geometrical laws of an invisible spatial framework that prestructures the visible world.

Perspectival representation thus made it possible to abandon the ancient conception of a dualistic nature, polarized between an eternal heavenly nature and a temporal Earthly nature, and to rethink these relations in terms of a corporal Earthly realm that is infused and penetrated by celestial geometrical principles (previously reserved for the heavens).

The significance of the transition in the representation of nature in painting exemplified by the transformation of the Annunciation was, as Godal stated, that “when scientific ‘pictures’ of the world came to be constructed according to these same principles, modern astronomy and geography began their rise.” Through to the Middle Ages people thought that the laws governing the ‘perfect’ movements of the heavenly bodies, circling around the Earth, were different from those that applied to the ‘imperfect’ realm of the Earth. The lines of perspective of da Vinci's perspectival space, however, connect Mary and her Earthly surroundings to the infinite space of the heavens, thus breaking the barrier between the Earthly and the heavenly. This same abstract space, working behind the scenes, to link heaven and Earth, can be seen during the Enlightenment in the work of Isaac Newton (1642–1727), a proponent of both modern astronomy and geography. For Newton, the same laws of motion through absolute geometric space applied both to the cosmic space of the heavens and to the space of terrestrial phenomena on Earth. Newton thus thought of space as the ‘sensorium’ of God because geometric space provided the lens like framework through which the underlying laws of nature, as established by God, were apprehended.

Newton was a strong supporter of modern geographical science – to the point that he supervised the translation and publication of the Ptolemy inspired geography of the Netherlands geographer, Bernhardus Varenius (1622–50). By following the precepts laid down by Ptolemy, Varenius came to provide an important model for the rise of modern scientific geography. Mapping and the optics of perspective, be it in geography or art, functioned as a kind of spatial sensorium through which a particular central, singular, and unified picture of the nature of the world could be formed. This framing of phenomena facilitates their treatment in terms of measurable spatial relationships governed by natural laws, such as those of physics and geometry.

### **Nature, Landscape and the Birth of Modern Academic Geography**

It was largely through the efforts of Alexander v. Humboldt (1769–1859), one of the most famous scientists of the early nineteenth century, that geography was established as a university discipline with strong roots in the natural sciences. The fact that he chose to call his piece

de resistance *The Cosmos* harks back to the cosmographic character of Ptolemy's geography. Humboldt's geography represented a colossal synthesis of the interactions between the layered elements of the landscape from the soil to plants, to hydrography, and so on, and in producing this synthesis he made an important contribution to the subsiences encompassed by this cosmic world picture.

From the time of v. Humboldt to the mid twentieth century, geography was thought of as a discipline bridging the natural and human sciences. Landscape was a key term in this geography. It was particularly in Germany, however, that landscape geography was formalized as a science closely following the layered structure of landscape represented as an area of space with the objects in it. This tradition lives on particularly in Germany (and in nations within its cultural sphere), but also more generally in physical geography, as well as in ancillary subdisciplines such as landscape ecology. In these forms of geography nature is understood primarily in terms of physical things, the geomorphology of mountains, valleys, soil, flora and fauna, etc. It is characteristic of this tradition that its practitioners tend to focus upon the things represented within the landscape framework, but pay relatively little attention to the space that enframes their idea of landscape and acts as a sensorium through which the natural relations within it are apprehended. Humboldtian geography, however, embodied a more complex conceptualization of nature than is reflected in these relatively mechanical forms of landscape geography.

### Nature and Difference in Geography

Humboldt's approach was clearly inspired by landscape art that literally formed, for him, a 'scientific picture' of the world. 'Science', as Humboldt (1849–58) put in the *Cosmos*, "is the labour of the mind applied to nature, but the external world has not real existence for us beyond the image reflected within ourselves through the medium of the senses," and by this he largely meant the pictorial image. The medium of the senses, however, is very much influenced by the imagination. He thus praises views hidden by clouds "knowing that his half transparent vapoury veil imparts to the scene a certain charm from the power exercised by the imagination over the domain of the senses." For Humboldt (1849–58), "the character of the landscape, and of every imposing scene in nature, depends ... materially upon the mutual relation of the ideas and sentiments simultaneously excited in the mind of the observer."

The scenic landscape structure used by v. Humboldt worked to reframe ancient questions concerning the relationship between nature and culture, by focusing attention on the interaction between the physical and

cultural elements of the landscape. This helped raise the question of whether society was shaped by God's and nature's teleological plan, as Carl Ritter (1779–1859) argued, or whether it was society that actively shaped its natural environment and its destiny. The American geographer George Perkins Marsh (1801–82) in his classic 1864 *Man and Nature: Or, Physical Geography as Modified by Human Action*, praised the 'more philosophical' and 'imaginative' character of Humboldt's and Ritter's, 'new school' of geography. Thus he noted that "the most interesting field of speculation, thrown open by the new school to the cultivators of this attractive study," was inquiry into "how far external physical conditions ... have influenced the social life and progress of man." For Marsh (1864) the answer was that, whereas others "think that the earth made man, man in fact made the earth." By this he meant that man has "reacted upon organized and inorganic nature, and thereby modified, if not determined, the material structure of his earthly home" (George Perkins Marsh, 1864). For Marsh, as for Humboldt, this issue was not simply one of physical relations, but a question requiring an appreciation of 'the relations between mind and matter' as they changed through time – also into the future. Marsh is credited with having had an important influence on the subsequent development of the conservation movement, which, of course, required not just that people be made aware of physical facts, but also that their philosophical and esthetic understanding of the relationship between society and nature undergo a transformation. As Marsh put it, echoing Humboldt:

To the natural philosopher, the descriptive poet, the painter, and the sculptor, as well as to the common observer, the power most important to cultivate, and, at the same time, hardest to acquire, is that of seeing what is before him. Sight is a faculty; seeing, an art. (George Perkins Marsh, 1864)

This might seem *altmodisch* a century and a half later, but the same basic techniques of cartographic and landscape representation as those developed by Humboldt, combined with rhetoric in the vein of Marsh, helped gain Al Gore the 2007 Nobel prize for his work on global warming.

The society/nature issue became a key 'problematic' in nineteenth and early twentieth century geography that encompassed geographers such as Friedrich Ratzel (1844–1904), Ellen Churchill Semple (1863–1932), and Ellsworth Huntington (1876–1947), who favored environmental determinism, as well as geographers such as Elisée Reclus (1830–1905), Joachim Frederik Schouw (1789–1852), and Vidal de la Blache (1845–1918), who, like Marsh, preferred to emphasize the active role of society in transforming nature, for better or worse. Environmental determinism played an important role in

naturalizing nationalistic ideological claims of an essential blood and soil bond between the people of the nation and the environment encompassed by the state. After the nationalistic excesses of World War II this tended to give landscape geography of this kind a bad name. The critical tradition embodied in the work of Marsh, however, played an important role in the twentieth century revival of the concept of landscape by the so called 'Berkeley School' of cultural and historical geography founded by Carl Sauer (1889–1975). From the perspective of America the question of perception became particularly vital because of the highly diverse ways the natural environment of the 'New World' was perceived through time by settlers from different cultural backgrounds, and the ways that these perceptions, in turn, differed from those of the native populations for whom this world was hardly 'new'. A pivotal moment for this tradition occurred with the publication of the massive 1956 conference compendium, *Man's Role in Changing the Face of the Earth* that provided an important point of departure for key contributions to the society/nature discourse ranging from Clarence Glacken's 1967 classic study, *Traces on the Rhodian Shore: Nature and Culture in Western Thought* – to David Lowenthal's studies of the work of George Perkins Marsh and environmental perception, to the philosophical approach to nature in relation to place and landscape made by Yi Fu Tuan. By mid twentieth century, however, geography understood as the study of landscape was being eclipsed within mainstream geography by a redefinition of geography as the science of space.

## The Nature of Space

Space was key to landscape geography, but not its focus. The focus of geography changed dramatically in the mid twentieth century with geography's 'spatial revolution'. To understand this shift it helps to return to the time of Humboldt, and the work of a contemporary philosopher who also taught geography, Immanuel Kant (1724–1804).

Kant became involved in geography's re-visioning as a spatial discipline through the influence of Richard Hartshorne (1889–1992), the leading theoretician of mid twentieth century Anglo American geography. Hartshorne essentially proposed that geography abandon the concept of landscape and, with it, the concern with the historical process of society/nature interaction, and replace it with a notion of geography as 'spatial science'. Hartshorne found the precedence for his approach in the geography of Kant, who he felt had based his philosophy on an epistemology that separated space from time as the overarching categories through which people perceived and structured their world. Put simply, this implied that geography should be concerned with space, and time could then be left to the

historians. In Hartshorne's view Kant's ideas influenced the ideas of Humboldt, as well as an extensive pantheon of largely German geographical authorities. Though Hartshorne's comprehension of Kant, and his influence on geography, can be questioned, it is nevertheless notable that Kant framework for understanding space resembles the classical tradition descended from Ptolemy.

For Kant the cartographic preconception of the world acted as a 'systematic' (or structural, to use the equivalent modern term) *Vorbegriff*. With Kant, as with his Renaissance predecessors, the map provided the basis for a conception of the world as landscape scene, as in a theater. According to Kant:

The world is the substratum and the stage [Schauplatz] on which the play [Spiel] of our abilities takes place. It is the foundation upon which our modes of knowledge [Erkenntnisse] are acquired and used ... . In addition we must get to know the objects of our experience as a whole, so that our modes of knowledge do not constitute an aggregate but a system [structure]. Because in the system [structure] the whole precedes the parts; in the aggregate, however, the parts precede [the whole]. ... The whole is here the world, the scene upon which all our experiences are placed. (Immanuel Kant, 1802)

Through knowledge of the geography of this landscape scene, Kant (1802) argued, "we anticipate our future experience, which we will later encounter in the world" and, in this way, gain "a pre conceptualization of everything .... [T]he perception of the world requires more than merely seeing the world." The idea of the whole as *Vorbegriff* is, for Kant, "architectural; it creates the sciences" (quoted by Paul Richards). As Kant phrased it:

Space is not something objective and real, nor is it a substance or an accident, or a relation, but it is subjective and ideal and proceeds from the nature of the mind by an unchanging law, as a schema for co-ordinating with each other absolutely all things externally sensed. (Immanuel Kant as cited in Paul Richards, 1974)

This statement brings to mind Newton's spatial sensorium, except that the sensorium no longer belongs to God or to nature, but to the nature of the mind.

## The Nature of Post-Hartshornian Space

By focusing on space Hartshorne appeared to liberate geography from landscape, and hence questions of nature/society relations. Once thus liberated the way was open for a latter generation of geographers to drop Hartshorne's concern with the study of the areal distribution of geographical phenomena (including natural

phenomena), and concentrate on spatial analysis. Though the movement to redefine geography as a quantitative spatial science was cast as a 'revolution', it would be more correct to term it a focusing (as appropriate to an era that called itself 'the space age') on the spatial notion of nature that was at the heart of Ptolemy's geography and landscape conceptualized as scenic space. Space became the 'sensorium' of late mid twentieth century geography and it was very much the absolute space of Newton, the map, and landscape scenery.

By the early 1970s theoretically oriented geographers began to question the idea of absolute space as inherited from Newton, but that did not mean geography had freed itself from Kant. Kant's concept of space combined elements of Isaac Newton's pre-given absolute space and the German notion of Raum (which is closer to the English notion of room), as formulated by the German mathematician and philosopher, and chief critic of Newton, Gottfried Wilhelm Leibniz (1646–1716). Kant phrased the relationship between the two conceptions of space this way:

Most Germans, following Leibniz, hold that space is nothing but a relation between existing things, vanishing if the things vanish. Most geometricians, following the English, conceive it as a boundless receptacle of possible things. The receptacle theory is an empty figment. The first opinion comes into conflict with geometry. (Immanuel Kant, 1802)

Put simply, Kant solved the contradiction by treating space, in the 'English' sense, as a transcendent concept, rooted in intuition. It helps order and give meaning to knowledge gained through the senses, but it cannot predetermine the knowledge of concrete things gained through the senses. When Kant writes of 'differentiating' the regions of space he therefore notes that our general, rational, knowledge of this space is nevertheless of use only when we are able to comprehend it in terms of the relational space of the front back, left right, organization of our bodies.

The most influential critic of the spatial science of the quantitative geographers was David Harvey who argued for the substitution for Newton's absolute space of a Leibniz inspired conception of 'relational space'. The connection between space and the idea of nature and landscape was not lost, however, on geographers working within the Marxist tradition that Harvey helped generate. Neil Smith, a student of Harvey, played a particularly central role in elucidating the connection between uneven social and economic development, nature as a socially mediated phenomenon, and the creation of relational space. Important Marxist oriented geographers who are concerned with both space and nature are Don Mitchell, Margaret Fitzsimmons, and Noel Castree. Geography has subsequently seen a proliferation of spaces, too many to

number here, but a salient feature of most of them, that links them back to space as the sensorium of God and nature, is the tendency to write of space in the singular, just as God and nature are written of in the singular. The end result of the spatialization of geography, however, is not a geographic discipline in which one of its spaces reigned supreme, but rather a geographic discourse in which, for example, the relational space of capital accumulation is counterposed to the absolute space of the globe.

## 'Nonmodern' Natures

This article has hitherto focused upon notions of nature that are explicable in terms of a cosmology that can be traced back to Ptolemy (1948), and which became apprehensible through the representational medium of the map and the landscape as "a picture, representing an extent of space, with the various objects in it," to use Johnson's definition. The 'postmodern' era of the late twentieth and early twenty first century, however, has seen a critique of the foundations of this notion of landscape. This critique has forced geographers to re-think their relationship to a modernity that arguably began in the Renaissance when, as Gadol (1969) put it: "scientific 'pictures' of the world came to be constructed according to these same [Ptolemaic] principles, [and] modern astronomy and geography began their rise." The critique of this 'modern' notion of nature came initially from a number of quarters, among them feminists, environmentalists, and science studies.

An early manifestation of the critique of geography's nature was the questioning by feminist geographers, and others, of the implied gendering of nature in phrases such as 'man and nature', 'man's role in changing the face of the Earth', etc. This critique is not entirely fair, since the word 'man' can be regarded simply as a shortening of 'human' that is not necessarily gendered male (the Swedish equivalent is gendered female). The implication that those using the term 'man', or found gazing at a landscape scene, are necessarily sexist and politically incorrect is unfortunate. The gendered cosmology of nature discussed above suggests, nevertheless, that there is an underlying mindset that is likely to interpret the expression 'man and nature' as a relationship in which man is viewed as active and cerebral, whereas nature is regarded as gendered passive, feminine, sensual, and corporal. These ideas, feminists have argued, continue to permeate geographical discourse, imbedded as they are in terms such as virgin nature, the penetrating gaze, etc. This gendered use of nature is not only dualistic, it is essentialistic and normative, and hence ideologically loaded. It implies, for example, that women, by nature, should be passive sensual creatures whose body naturally should be devoted to procreation.

Environmentalists, many of whom share the feminist critique, have been opposed to the polarization between society and nature that has attended the emphasis upon preserving virgin, untrammled wilderness as the epitome of nature. Environmentalists have also been concerned with the polarized relationship between the natural and human sciences, and this has drawn some of them to the discipline known as 'science studies', in which the French anthropologist Bruno Latour is a leading figure. Latour has argued that modernism, as it emerged from the Renaissance and Enlightenment, made the promise that science, by isolating nature as an object of study, would be able to transform and control that nature to the benefit of society. The contemporary environmental crisis, however, suggests to Latour that this separation and objectification of nature, which thereby generates a nature/society dualism, may be a source of environmental problems, and this has led him to look for nonmodern alternatives to modernity. Within geography Sarah Whatmore's replacement of the society/nature dualism with a notion of a hybrid nature, incorporating society, is the most important example of this approach. The critique of modernity is in itself a critique of dualistic thinking because modernity posits itself as the progressive half of the dualism, modern/traditional. Just as 'man' is often posited as the active driving force that cultivates and makes fruitful a passive, feminine nature, so urban modernity has been posited as the driving force bringing progress to societies dominated by traditional rural, and hence natural, values.

Much of the critique of geography's concept of nature has focused on the role of representation. When landscape is conceptualized as a spatial representation of nature, the viewer apprehending the landscape is automatically placed outside of, and alienated from, this landscape and nature, which becomes objectified as scenery. Such a structure both obfuscates the role of the viewer within landscape and nature and implies the ability to manipulate such an objectified nature as so much spatial scenery. Part of the problem, when critiquing this model of nature, is its very success. This model of nature, as noted, essentially underlies Al Gore's slide show that won him the 2007 Nobel Peace Prize. The problem is not that this approach is not effective or scientifically useful, but that it is limited by the fact that the people who view such representations tend to be left, as it were, standing outside the picture as observers, when people are, in fact, an integral part of a nature that is not a picture at all, but a complex network of practices, including human practices. An approach that places people outside the picture will inevitably have difficulty explaining the myriad of ways that social practices are implicated in the processes, including the representative practices that produce both global warming and the science that studies it.

## Nonrepresentational Nature

One solution to the way forms of representation, such as the landscape scene and the map, limit the understanding of nature, is to try think outside the box (or grid) of representation. If the 'graphy' in geography is defined as meaning "writing or representation," geography, by definition, cannot be nonrepresentational. This does not mean, however, that geography has not long grappled with the issue of phenomena that were not amenable to geographical representation. This is an issue that has been of particular concern with regard to the geographical concept of *choros*, which meant "land," among other things (such as place), in ancient Greek. This is the notion of land or region that was at the root of Johnson's first definition of landscape as region, and hence as something which can be represented, but which preexists representation. Landscape defined as a representation of space, on the other hand, is in origin a form of representation.

The heart of chorography, *choros*, appears to defy representation (though not artistic 'presentation'). One way of explaining the concept of *choros* (which is also often spelled *chora*) is to liken it to the cipher zero because it is a 'nothing that is'. Zero is a cipher that holds a place, even though it is nothing in and of itself, making it, from a representational point of view, an absent presence. A land, understood as *choros/chora*, thus holds a place where things can take place, grow, and become, much in the way that *physis* or *natura naturans* grows and becomes. This is very different from the way things are located in a frozen state of being as objects located in a spatial grid in the space of a map or a landscape scene. Geography has thus long contained discourses and concepts that have run against the grain of its use of graphic representation to comprehend the world, and thus, when present day geographers begin to take an interest in concepts such as *choros/chora* or *natura naturans*, they are engaging with issues that are not foreign to geography.

Inspired by the thinking of people such as Bruno Latour, Jacques Derrida, Baruch Spinoza (1632–37), and Giles Deleuze, for whom concepts like *choros/chora*, and *natura naturans* are vital, there is today an increasing interest in nonmodern, nondualistic, and nonrepresentational conceptions of nature among geographers. The geography that most geographers practice, however, is one that is still rooted in forms of representation like the map and landscape scene. These are representations that have shaped the nature of, and in, modern geography. The question of what the nature of the geography of the future will be is now being debated, but unless the ideas of its critics manage to inform the practice of geographical practitioners, the nature of, and in, geography will remain much as it has since the Renaissance, and the dichotomies that divide geography and its apprehension of nature will persist.

See *also*: Ideology; Landscape; Marxism/Marxist Geography I; Marxism/Marxist Geography II; Nationalism; Non-Representational Theory/Non-Representational Geographies; Quantitative Revolution.

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# Nature, Historical Geographies of

P. Holland and A. Wearing, University of Otago, Dunedin, New Zealand

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## Glossary

**Archipelago** A cluster of oceanic islands.

**Biodiversity** It is commonly represented by the number of taxonomically distinct species in an area.

**Biota** The living things, plants as well as animals native to an area.

**Carrying Capacity** The number of individuals of a particular species that an area can support without additional resources.

**Cataloger** One who makes lists of the valuable, useful, and interesting things found in an area.

**Chronicler** One who lists key events in a society's history.

**Ecological Footprint** A measure of human dependency on environmental resources, often expressed as the area of productive land required to support a resident's lifestyle.

**Ecological Services** The economic value of the services that nature provides the residents of an area: for example, reduction in potential flood damage through natural control of runoff in a forested catchment after heavy rain.

**Ecosystem** The functional web of living things in an area, together with the physical resources and flows of energy that support them.

**Eden** The Garden of Eden as described in the First Book of Genesis of the Bible, and the home of Adam and Eve before their fall from grace.

**Macro-Environment** A large, environmentally distinctive area: for example, a belt of coastal sand dunes.

**Systematics** Scientific methods for naming and classifying living things.

on Earth. This belief has often entailed making lists of the natural features of different places, usually before extracting, using, or relocating them: Strabo's account of the Roman world two millennia ago, the Doomsday Book for England late in the eleventh century, and the writings of Marco Polo about Central and Eastern Asia during the late thirteenth and early fourteenth centuries are early examples of this approach.

With the resurgence of mathematics and physics during the seventeenth century, particularly through the investigations of Robert Boyle, Galileo, Johannes Kepler, and Isaac Newton, European scholars like Georges Buffon began to feel that just as the orbit of a celestial body and the timing of an eclipse can be predicted with the aid of scientific axioms, analytical tools, and theories, so can nature be understood and explained without reference to the First Book of Genesis. In effect, they were drawing upon and extending the ideas of Greek scholars in the Mediterranean basin 1500 to 2000 years earlier. This revitalized current of thinking about nature ramified during the Enlightenment and afterwards, with Alexander von Humboldt a major influence. He pointed to fruitful new ways to investigate nature, including reciprocal relationships between nature and people. His books were widely read, and his scientific work was admired by Charles Darwin. When the latter's *The Origin of Species* was published in 1859 it catalyzed probing analyses of nature and fostered widespread debate about the Eden story, special creation, and catastrophic change. Across the whole of science, logical positivism – with its philosophical roots in deduction – came to be held in higher regard than the inductive or pattern seeking approaches that had dominated scholarship for centuries.

In 1911 the American geographer, Ellen Churchill Semple, wrote that "Man has been so noisy about the way he has 'conquered Nature', and Nature has been so silent in her persistent influence over man" (p 2). Like many authorities before her, but few since then, Semple saw nature as gendered. A decade later the social geographer Jean Brunhes described the European tradition of natural geography as an amalgam of the atmospheric sciences, biogeography, geomorphology, and hydrology, bringing it close to what is now termed physical geography. He saw wind and water as the prime natural forces acting on people, warned against expecting natural geography to explain much about individual actions, and argued strenuously against a determining role for nature on society. In 1930 the American geographers, C. A. Huntington and F. A. Carlson, declared that humans are

## Nature across the Centuries

The meanings that people have ascribed to 'nature' and the significance of nature to people have shifted back and forth over the centuries, but the belief that nature is a divine gift can be traced back to Mesopotamian and Egyptian creation mythologies and still remains central to many of the world's great religions. A complementary belief holds that nature is the stage given by the deity for people to transform and improve during their lifetime: by wholly or partially transforming native ecosystems, importing plants and animals for productive, esthetic, or recreational purposes, and recreating the Garden of Eden

**Table 1** Thinking about nature persistent currents in Western and other traditions

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Wilderness, where nature is sublime
A place for spiritual growth
A mythical site of stories and traditions
A place of delight and surprise worthy of exploration and depiction in words and images
A dynamic and responsive 'land organism', sometimes termed Gaia, subject to ecological principles
A field of care requiring protection for and rehabilitation of native species and environments
An arena of diverse opportunities and risks for people
An esthetically pleasing and functional landscape where selected native and introduced species have been deployed in an environment modified by people
A wild domain for people to subdue

---

subject to the same forces as plants and animals, and that the human environment comprises five elements: the locational, climatic, physiographic, biological, and social.

The years since 1945 have been a time of extraordinary pluralism in how environmentalists, including geographers, have viewed nature (see **Table 1**) but three influential publications stand out: *A Sand County Almanac* by Aldo Leopold, *Man's Role in Changing the Face of the Earth* edited by William Thomas, and *Silent Spring* by Rachael Carson. Earlier writers had shown how people have persistently. Misunderstood and misrepresented nature. Among the most influential of them were two Americans, John Muir and George Perkins Marsh. In *Man and Nature*, the latter declared ... that their activities can cause. Their impact was, however, greater during ... the revolution in environmental thinking of the 1960s and 1970s.

In recent times, what people understand about nature has been enriched by other's beliefs and traditions. To F. S. C. Northrop, who was impressed by Hindu culture and religious thought, nature "is a vast, spread out, going onness, vague and indeterminate at its outer fringes, ablaze with diverse colors, and issuing forth manifest sounds, fragrances, and flavors" (p 1055). A half century later the American poet and environmentalist, Gary Snyder wrote that "nature means everything. The agricultural, the urban, the wild mountains and the forests and the many stars in the sky ... Nature is our reality" (pp 15–16).

## Methods and Materials

An historical account of nature can tell the modern reader as much about the writer's practical concerns and intellectual position as about nature itself. How we see the world is influenced by our knowledge and experience, the availability of terminology that captures the functions and origins of things observed in the landscape, access to recording and measuring devices, and the reasons

for reporting what we sense. Over the centuries, as knowledge of the world grew more detailed so people asked progressively more probing questions about their surroundings. An early concern was to locate sources of useful items for exchange or trade. Later, scholars grew interested in differences between people and territories across the globe, and this inspired deeper questions about alliances, beliefs, and our place in the cosmos. The Enlightenment crystallized approaches to surveys of nature, and the published accounts that followed were as much concerned with the origins, functions, and interrelations of the components of nature as with their appearances, names, and distributions. It is inevitable that there will be gaps in early accounts of nature but they are what we perceive, and not necessarily what the original observers regarded, as silences in the historical record.

A useful approach, and one that has long been employed by historical geographers, is for researchers to imagine that they are living in the area during the time of interest and to seek answers to the following questions. What did people know about nature and how did they obtain that information? What were their decision making and governance structures? How did livelihood and nature intersect and interact? What were people's belief systems and what effect did they have on their activities? When supplemented with information from oral history and folk traditions, answers to those questions may ensure a deeper understanding of nature and our place in it.

Until Alexander von Humboldt's pioneering research in South America was published, most accounts of nature were partial in their thematic and areal coverage. It may be possible for contemporary historical geographers to recast, extend, and amplify such accounts with information from other sources: for example, travelers' tales, diaries and letters, newspapers and magazines, financial and other records, paintings and sketches, photographs and maps. What must, however, be kept in mind is that these sources tell us only what struck the observer as noteworthy at the time. For example, an old newspaper might refer to a major snowstorm on a certain day and at a particular place, but without formal weather observations from a network of stations we cannot know if it was confined to that place or unique to that year. Paradoxically, of all the information we need for a reasonably comprehensive historical geography of nature what was not recorded may be of greatest potential value. The further back the period of interest, the greater the challenge to the historical geographer to fill any perceived gaps.

## Nature, Islands, and Historical Geography

Jean Brunhes was interested in the 'natural entities' of human geography and regarded islands as instances of them. In his thinking, islands are similar to 'habitat islands'



in the Equilibrium Island Biogeography model of Robert MacArthur and Edward Wilson: in other words, large or small areas surrounded by profoundly different environments, whether young or geologically old, and at various distances from potential sources of living things. Many oceanic islands have good documentary and fossil records that cover an often short period of human settlement. They also show the impact of human settlers who directly or indirectly altered environmental conditions to support their beliefs and ways of life, as Paul Bahn and John Flenley showed in *Easter Island, Earth Island*.

In the following sections, changing representations of nature are illustrated with particular reference to three clusters of low latitude, oceanic islands: the Maldives, the Society Islands, and the Seychelles. All have a relatively short history of human settlement: long enough for residents to leave their mark, but not long enough for people directly or indirectly to have erased most traces of the natural environment. An early account of the Maldives, an archipelago in the Indian Ocean, was written by the North African geographer, Ibn Battuta who traversed the Islamic world during the fourteenth century. A few European mariners had previously visited the Society Islands in the central Pacific, but the journal of the British naturalist, Joseph Banks is a much fuller account of indigenous nature and society during the second half of the eighteenth century. The third example comes from the American biogeographer, Jonathan Sauer's study of people and plants in the Seychelles, a cluster of high and low islands in the western Indian Ocean. All three accounts were written after comparably short periods of residence. They differ, however, in the ideas, experiences, and approaches of the three authors.

## A Representation of Nature in the Islamic World

The index volume for Ibn Battuta's account of his travels from North Africa to China, and from Sri Lanka to Central Asia, contains 4450 entries of which only about 9% concern nature. The latter include topographic features, macro environments, minerals, weather and hydrology, disease and health, pests, domesticated and wild animals, cultivated and native plants (see **Table 2**). The remaining entries are names of important people, kingdoms and administrative divisions, political alliances, and the like. Ibn Battuta was a careful observer and his description of the Islamic world during the fourteenth century hints at its vast longitudinal spread, chief macro environments, economic minerals, environmental, biological, and ethnic diversity, and large native vertebrates.

Ibn Battuta left a particularly detailed account of the Maldives and their profoundly transformed environments where coconut palms provided food, fiber, building

**Table 2** Relative numbers of references to elements of nature as recorded by Ibn Battuta (the Islamic world and the Maldives) and Joseph Banks (the Society Islands)

Feature	The Islamic world	The Maldives	The Society Islands
<i>Location and geology</i>			
Geographical features	4%	3%	9%
Minerals	7	3	2
<i>Physiography</i>			
Macro-environments	3	-	8
<i>Weather, climate, and hydrology</i>			
Weather and hydrology	10	-	13
<i>Biology</i>			
Plants and plant products	46	69	49
Animals and animal products	26	22	16
Pests and diseases	4	3	3

Sources: Bivar, A. D. H. (2000). *The Travels of Ibn Battuta A.D. 1325-1354, Index to Volumes I-IV*. London: The Hakluyt Society and Beaglehole, J. G. (ed.) (1963). *The Endeavour Journal of Joseph Banks*, (2nd edn.). Sydney, NSW: Public Library of New South Wales and Angus and Robertson.

materials, and shelter, where the only significant agricultural crop was millet, and where survival depended upon access to the resources of land and sea. He described the archipelago of almost 2000 large and small islands as "one of the wonders of the world" (p 822), and was impressed by the fertility of the soil; branches thrust into the ground quickly took root and sent out new shoots. Unlike Muluk, which he described as "one of the finest of the islands in greenness and fertility" (p 846), many parts of the archipelago were sparsely vegetated, including one small island with only a few coconut palms, some bananas, and two crows. Imported musk, ambergris, and rose water were used for personal adornment, and most of the fruit trees were native to other parts of the Asian Tropics. Of the lanes between houses, he wrote that "to walk in them is like walking in an orchard" (p 826). Exports of coconut fiber, cowry shells, and textiles covered the cost of imported pottery and brass household goods, gold, and silver ornaments, and food items that could not be raised locally. He described one feast that included imported rice, clarified butter, and salt meat, as well as local fish, chickens, bananas, and coconut honey. For another feast, which Ibn Battuta gave important visitors from Sri Lanka, the Wazir provided five sheep that had been imported from India. After eating, his guests were served imported areca nut and betel, before a plate of Macassar sandalwood shavings was carried round for them to rub on their hands.

To a twenty first century reader, Ibn Battuta's account of the Maldives is like looking at the world through a piece of coarsely woven cloth. Some important elements of nature are clear, others are blurred, and many are not evident, but as an account of the social and political structures of his times it is informative. Ibn Battuta, like Strabo 13 centuries earlier, was a servant of princes, a cataloger, and a chronicler. His geographical account of society and nature in the Islamic world during the fourteenth century was written in the spirit of how he viewed his responsibilities to his political masters.

## A Glimpse of Eden

By August 1768, when Captain James Cook set out on from England on his first voyage of discovery into the Southern Hemisphere, science, technology, and philosophy had greatly progressed since Ibn Battuta's time four centuries earlier. Jean Jacques Rousseau was investigating the effects of climate and soil on human society, while Carl Linnaeus and his students were undertaking expeditions to distant places to collect plants for formal naming and scientific study. There was great interest among European gardeners in propagating the rare and beautiful plants collected by botanical explorers from distant places, and the foundations were being established for the great European botanical gardens and private estates. Nature was increasingly viewed by scholars as the proper realm for painstaking, scientific inquiry. There was, however, a growing tension between those who accepted the biblical representation of nature as the deity's gift to people and those to whom nature was a unified suite of diverse but interconnected phenomena subject to the laws of science. Banks was aware of those intellectual positions and was later to become a key figure in the Royal Society of London. His account of the Society Islands is remarkable for its detailed representation of a human society and an environment that had developed in virtual isolation from Asia and the Americas but which were on the threshold of a long period of catastrophic change. Banks wrote about human mores, governance, and culture, made frequent reference to plants and animals, and described the islands' macro environments. He also commented on the form, construction, and spatial arrangements of houses, and noted that although many paths wound through the settled lowlands only a few penetrated the forested hill country. He even followed one river valley into the mountainous interior in the hope of finding inland settlements, but was not successful.

Banks has left us an account of Edenic nature in part of Polynesia, and he employed artists to depict the transformed and wild landscapes visited by the *Endeavour*. Several of their sketches and paintings of Tahitian

landscapes have been reproduced in Banks' published journal but they do not convey the sense of exuberant nature that is so evident in his journal or in the paintings of William Hodges a decade later. On 13 April 1769, his first day in Tahiti, he encountered groves of breadfruit and coconut and wrote in his journal that "the scene we saw was the truest picture of an arcadia of which we were going to be kings that the imagination can form" (Beaglehole, 1963: 252), a place where "benevolent nature has not only supplied them [the Tahitians] with necessaries but with abundance of superfluities" (Beaglehole, 1963: 342).

No country can boast such delightful walks as this, the whole plains where the people live are covered with groves of Breadfruit and cocoa nut trees without underwood; these are intersected in all directions by the paths which go from one house to the other, so the whole country is a shade than which nothing can be more grateful in a climate where the sun has so powerful an influence. (Beaglehole, 1963: 340)

He even calculated that ten mature breadfruit trees would satisfy a Tahitian family's annual needs.

Although members of Cook's party were usually able to obtain sufficient fresh food, there were times when the islanders had none or only a little to spare, notably when breadfruit was out of season. Banks seems not to have appreciated that even in Arcadia there are seasonal limits to plant growth and a finite environmental carrying capacity. His account contains many references to reefs and the challenges they posed to people in large and small boats, and is a good source of information about environmental conditions and their spatial variability. He had brought vegetable seeds from Rio de Janeiro to Tahiti and, showing a scientist's experimental thinking, planted them "in as many varieties of soil as I could choose" (p 308). He also found that residents had planted breadfruit trees on the less fertile lower hill slopes to ensure a supply of food when plantations on the coastal strip failed during drought or after a severe storm, but he estimated that these reserves would not be sufficient to cover a major emergency.

Banks, like Ibn Battuta before him, was writing about transplanted and transformed nature (see **Table 2**) and he, too, recognized the diverse uses to which people may put a small number of plants specially introduced for the purpose: for example, ropes and threads, building materials, clothing, and mats were made from breadfruit, coconut, fig, hibiscus, nettle, and paper mulberry plants. Ocean and lagoon were the main indigenous sources of animal protein and they were supplemented by domestic chickens and dogs, both originally from Southeast Asia. Unlike Ibn Battuta's account, however, Banks' writing reveals a scientist fully engaged with what he saw and collected. With

the exception of coral, he observed that stones carried the “visible marks of fire” and concluded that Tahiti “owes its original to a volcano which now no longer burns” (p 308). He was struck by the economic importance of introduced food, fiber, and decorative plants, the many species of fish – more than in the seas around Great Britain – and the very few native land plant and animal species. Banks was one of the earliest European biologists to collect in a tropical oceanic archipelago, with its characteristically small and specialized native biota of a dozen or so cosmopolitan or wide ranging species, and a small number of endemic species, and so his observations do not come as a surprise to readers 250 years later. On Huahine, Banks and Daniel Solander, the latter a student of Linnaeus, found only “10 or 12 new plants, a few insects indeed and a species of scorpions which we did not see at Otahite” (p 317). On Ulhietea the two were “very agreeably entertained by the reception we have met with from the people, tho we were not fortunate enough to meet with one new plant” (p 323). On another island their walk “did not turn out very profitable as we found only two plants that we had not seen before” (p 326), and a seine net cast into the lagoon yielded few fish for them to preserve and describe.

### **Plants, People, and Nature in the Seychelles**

Our third example comes from the findings of Jonathan Sauer, who investigated relations between plants and people on the Seychelles’ coast during the 1960s. The archipelago had been settled by early in the eighteenth century, and after 1770 was successively colonized by France and Great Britain. The islands owe their historically recent occupation to distance from the lands that flank the Indian Ocean and isolation from the main trade routes between India, the Middle East, and Africa. The two dozen larger islands have an often rugged terrain on a granite base, and some coral. The climate is maritime equatorial, dominated by latitudinal shifts in the trade winds, and subject to relatively few storms. Unlike the sea that surrounds the archipelago, land areas have only a modest biodiversity relative to their size and environmental heterogeneity: 80 native species of fern, 170 species of flowering plants, a dozen endemic land birds, a bat, several large reptiles, numerous insects, and other invertebrates.

A unique aboriginal vegetation did develop in the mountains and interior lowlands of the larger islands: magnificent rain forests, palm groves, and screw pine thickets. These were composed mainly of endemic species, presumably derived from waif immigrants arriving by means of unlikely and seldom reported dispersals. Considering the mountainous, humid, equatorial environment, the inland communities were extraordinarily

poor floristically. They proved highly vulnerable to human disturbance and few relics survive today. (Sauer, 1967: 93)

Sauer (1967) concluded that differences in geological substrate and varying exposure to the prevailing weather systems accounted for many observed differences in vegetation structure and composition. He did, however, comment on the transformational activities of successive groups of settlers: “The Seychelles coast thus had acquired a rich natural assemblage of over fifty cosmopolitan species, forming a resilient vegetation which was to be reshaped but by no means ruined by human intervention” (p 94). Over the period of human settlement, successful plant introductions had virtually doubled the size of the islands’ flora. Sauer noted 62 introduced plant species, many of which had entered as stock raised at the Mauritius Botanical Garden. They included cinnamon and other spices, coffee, cotton, patchouli, sweet potato, tobacco, maize, and the vanilla orchid. As in other Indian Ocean and Pacific Basin islands, the small and versatile flora of native and introduced species was used for boat building, as well as for cordage, tanning, dye stuffs, fish poison, medicinal, and ceremonial purposes.

With the aid of words and statistics, maps and diagrams that depict the results of field studies on transects running inland from the coast, Sauer presents a richly detailed, culturally aware, and scientifically informed representation of a transformed and transplanted landscape, and a pleasingly full account of wild nature on the Seychelles.

### **Historical Geographies of Nature: Problems and Progression**

For many centuries the metaphor of the garden has permeated thinking about nature and settled landscapes. In traditional Japanese culture, gardens are idealized and profoundly controlled representations of individuals living in harmonious relations with nature. In contrast, a formal European garden laid out in close conformity with Euclidean geometry epitomizes human dominion over nature. During the nineteenth century in early colonial New Zealand, wild nature lay beyond the fence that surrounded the orderly arrangements of homesteads and out buildings, lawns and vegetable gardens, orchards and shelter plantings. Over time, settlers’ highly managed and economically functional environments spread across their properties and through the rural landscape. Recently, rural people have shown interest in a more diversified realm where closely managed agricultural systems and modified native ecosystems form an esthetically pleasing and environmentally sustainable mosaic (see **Figure 1**) such as can be found today in parts



**Figure 1** Edging toward a biologically more diversified and structurally more complex landscape in the Catlins region of southern New Zealand. Native shrubs and bracken fern persist on the hill crests, intact or only lightly cut-over native forest predominates on upper slopes, successional communities replace the former forest cover on mid-slopes, and intensively farmed land occupies the lowest slopes and valley floors. Unlike the steeper hill country, the lowlands have been almost completely transformed by people, plants, and animals, and little remains there of the native ecosystems that prevailed in the late nineteenth century. Source: A. Wearing.

of the New England states of the USA, the British Isles, and Western Europe. The vector of change may be turning away from human dominion over nature toward coexistence with natural forces and elements.

A historical geography of nature is inevitably a close reflection of successive residents' belief systems and the writer's intellectual position. While people view nature as a stage given to them to transform they will show little abstract interest in its components, let alone functions and interactions. Developments in the scientific disciplines of systematics, ecology, and environmental studies, supported and extended by the publications of humanists like Simon Sharma and Gary Snyder, have helped change that stance and are fostering an expanded and more nuanced appreciation of nature. One recent current in thinking involves a return to the notion of value, typically expressed as the financial worth of ecological services provided by plants, animals, and ecosystems. Several national analyses have been completed and most show that the value of such services exceeds the gross economic product.

A historical geography of nature needs to be sensitive to the dynamic relations between living things and their environments. It should refer to the area's weather systems and climates, describe those terrain features and principal landforms that affect the distributions of plants and animals, show how the soil cover may vary in its capacity to support plant growth, account for the origins and vulnerability of the native biota and ecosystems, and evaluate the transformational capacity of introduced species and alien technologies. Comparisons should be drawn with situations elsewhere, and attempts made to

explain the findings by reference to bodies of theory in the humanities as well as in the biological, Earth, environmental, and social sciences. The investigator should also take note of annual and less frequent environmental challenges – such as extremes in temperature, changing water availability, and strong winds – and identify the key features of wild and transformed systems. As most such observations were first made in the middle of the nineteenth century, it is inevitable that any account of nature written before then will be partial.

A recurrent theme in the historical geographic literature is that while nature may be silent it is also responsive. James Lovelock, who proposed the Gaia model, has argued that human societies will continue to face the prospect of a system inimical to their survival until they learn how to strike the balance between off take and what the ecosystem can supply. By knowing how successive societies have interacted with nature we could be better placed to respond to the societal and environmental challenges of the twenty first century.

See also: Environment, Historical Geography of; Exploration; Imperialistic Geographies; Nature, History of; von Humboldt, A.

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# Nature, History of

M. Tanskanen, University of Joensuu, Joensuu, Finland

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## Glossary

**Berkeley Geography Graduate School** It refers to the loose association of like-minded geographers associated with Carl O. Sauer (1889–1975) and his viewpoints and predilections. Sauer had a long career in the Department of Geography at the University of California, Berkeley and he fostered a distinctive school of geography grounded in biophysical, cultural, and historical approaches.

**Cultural Ecology** It studies the adaptive processes by which the nature of society and an unpredictable number of features of culture are affected by the basic adjustment through which human beings utilize a given environment.

**Environmental Determinism** The doctrine that individual human actions, beliefs, and values are controlled or determined by the ambient environment. According to environmental determinism, societies, cultures, and civilizations are also products of their environments.

**Environmental History** It is the study of humans and nature and their past interrelationships. Environmental historians base their understanding of human and nature relations primarily on historical methodology, but often borrow from the work of scientists and scholars in fields outside of history.

## Introduction

The most traditional way of approaching history of nature is to define it concretely as a continuance of natural phenomena from the perspective of the natural sciences, for example, periods of climate, hydrology, and other natural systems. Especially as the climate change is recognized as one of the greatest environmental, social, and economic threats facing the planet, an interest in history of nature has awoken in many sectors. The academic world is trying to discover what is happening in nature and how the climatic processes have changed.

It is obvious that human actions have caused the climate change. Therefore, one of the most important questions concerning the habitable Earth and human beings' relationship to it is in what manner humanity has changed the Earth from its hypothetically pristine condition. Instead of through nature's systems, history of nature can be approached also from the standpoint of humanity. Climate change is a common topic in everyday

conversations. It is easy to find a person who has made a connection between exceptional weather phenomena and climate change and, at the same time, given thought to history of nature and to the timescales of nature. In academic interest, it is essential to ask how people perceive the living world and environment around them. An important additional question is which time tied attitudes to nature have influenced human action at different times.

Geography deals with all these questions and it is the strength of the discipline. In regard to climate change, a holistic geographical analysis of the questions insists on exact measurements, mathematical calculations, and different models and also studies of how human beings' attitudes to nature have transformed over time. Scales of nature and scales of human beings have to be observed.

The aim of the text is to focus on the ways in which human geographers have paid attention to history of nature, how it has been defined in human geography, and what its role is in the present human geographical research. First, the concept of nature is briefly introduced. It is done for the purpose of clarifying what geographers mean when talking about nature. The topic of the article is then approached from the angle of historical geography, a subfield of human geography. History of nature is a vast theme and there is no sense in trying to summarize the whole field in one article, therefore historical geography has been selected to exemplify the topic. The text focuses on the ways how nature and history of nature have become a part of research in historical geography.

## Concept of Nature

Nature as a concept is elusive, complex, promiscuous, and also familiar. In the broadest sense, nature can be drawn parallel to the natural world or physical universe. Nature refers to the phenomena of the physical world and also to life in general. In many contexts, it precludes manufactured objects and human interaction but it has also been linked to human beings and attempts to describe the complexity of human life (e.g., human nature).

Nature has often been called one of the most complicated words in the English language. It is a strongly dualistic concept that is close to the concept of culture. On the one hand, nature is external, nonhuman reality, somehow pure and God given but, on the other hand, it is an abstraction that incorporates human, as well as non human spheres of reality.

The complexity of nature has led to its division into first, second, and third natures. First, nature refers to a

given, pristine nature of biophysical processes and forms, to genuine and original nature untouched by humans. Society has evolved from that nature and the impact of humanity has been so pervasive that first nature has been replaced with second nature which contains both culture and environment. Second, nature is partly biophysical and partly social. Third, nature comprises the information flows and representational signs, symbols, and discourses of nature and it also symbolizes human domination over nature. It materializes, for example, in the symbolic and tamed nature of urban parks and gardens. In addition to first, second, and third natures there have been definitions of fourth nature which refers to the situation where the passed over nature takes back its place and the boundaries between human space and wilderness are blurred.

One can argue that nature and culture are contiguous and the major subfields and the key concepts of human geography are focusing on the intersections between them. Traditionally, one of geographers' main questions is whether people are separate from nature or subject to the rules of nature. The relationship between humanity and nature (or humanity and environment) is an eternal question from which huge amounts of geographical researches have arisen. Predominantly, geographers have been more sensitive to the complexity of nature and less willing to see it as a dualistic concept. In a theoretical sense, the emphasis has mainly been on the interpretations of the relationship between the concepts of nature and culture.

Some human geographers have even suggested that nature is socially constructed and nature does not have an existence separate from culture. The basis of this idea is that all knowledge of nature is contextual and socially constituted and people can understand nature only through their own culturally constructed definitions of it. Especially geographers influenced by the so called new ecology are apt to talk about nature–society hybrids rather than about two interacting domains. At the same time, an idea of understanding nature and culture as gendered has emerged, with nature given a passive feminine character and culture a masculine empowered one.

### **History of Nature in Historical Geography**

Historical geography seeks to understand geographies of the past and also how the past impinges on the present. Historical geography derives theoretical viewpoints, subject matters, and methodological tools from both geography and history and it works at the boundary of these academic disciplines. It is a hybrid approach that examines land use, landscapes, environments, human–environment relations, spaces and places historically, and the geographies that have changed over time. The aim here is to exemplify how history of nature has been

present in historical geography research. Historical geography as a theme is approached through introducing some authoritative geographers and their classics from the viewpoint of how nature and history of nature have developed as a part of research. The topic is also examined through the discursive question of the invisibility (or even loss) of nature in human geographical studies. The end of this section illustrates the role that history of nature has in the culturally and socially oriented study of the Finnish mire landscape. Finnish mire landscape is a good example for underlining the differences between the timescales of nature and humanity and also for emphasizing the notion of the four natures.

### **Roots of Nature-Oriented Historical Geography**

Historical geography has developed from several approaches in a succession of overlapping periods of innovation. The idea of nature oriented historical geography has its European roots, for example, in the literary productions of German geographers Alexander von Humboldt and Carl Ritter, and the American roots in the works of lawyer George Perkins Marsh and historian Frederick Jackson Turner.

In *American history and its geographic conditions* (1903) Ellen Churchill Semple described the ways in which the natural environment of the United States had conditioned the course of American history from the seventeenth to the nineteenth centuries. The book reviewed developments in American history, including the settlement of the Atlantic seaboard colonies, the development of cities, and the expansion of road and rail systems. Semple argued that each of these developments had been structured by the natural features of the land. The idea of environmental determinism, a view that the physical environment, rather than social conditions, determines culture, was strongly present, and the connection between geography and history was indisputable. Semple's research was subject to a great deal of critique but she has, nevertheless, been raised to a pioneer status in the study of human–environment interaction. She was among the first to detail the ways the natural environment has impacted the course of human history.

In historical landscape geography, Carl Ortwin Sauer in his well known publication *The morphology of landscape* (1925) was concerned with the way human culture has fashioned and modified natural landscapes to produce cultural landscapes. Sauer was critical of environmental determinism and proposed an approach called landscape morphology or cultural history. That approach involved inductive gathering of facts on human impact on landscape over time. Sauer had a firm idea of how a landscape could be presented not only as a region but also as a chronological space processed by both natural forces and

cultural impacts. According to him, the aim of landscape research was to trace the process in which a pristine natural landscape changed into a human occupied cultural landscape.

Sauer believed history is as important to geography as physical terrain and that there is such a thing as a humane use of land. He contemplated the Earth in all its vast physical and cultural variety and its changes through both geological and historical time. Sauer specialized in studying causal relationships between the elements of the natural environment and the activities or creations of human beings, and after his retirement the so called Berkeley geography graduate school developed the research into cultural ecology. Sauer was one of the first landscape geographers who did not only want to observe and outline the physical landscape but also to understand the background connections of landscape elements and the variety of interrelations within a landscape. He was also ahead of his time when his thoughts included a burgeoning anxiety about the impoverishment of biodiversity caused by human action.

When examining the interplay of the human-environment relationship through the classics of empirical studies, one has to call to mind Henry Clifford Darby's cross section method as one of the best known methods in historical geography. It was introduced in *Domesday England* (1977) and is dualistic by nature. During the first stage, a researcher tries to reconstruct historical cross section points from an exact geographical area. Depending on the area, materials can consist of, for example, old maps, aerial photos, and modern geographic information system (GIS) generated maps. The second stage consists of analyzing processes of change by writing vertical themes, or narratives, in which the idea is to explain the change in landscape by paying attention to the context in which the change has happened.

During the second stage of the cross section method, one needs to observe both natural and socioeconomic processes. It is also essential to pay attention to timescales because the scales of nature are different from the scales of humanity. Furthermore, it is necessary to remember that it is impossible to trace the present exclusively from the past. In certain cases, the present includes several alternatives and only one is going to be realized. However, the past is contiguous with the present, defining it and also diminishing the number of existing possibilities. Both history of nature and history of humanity include information that supervises the future of the units to which it is related.

The idea of nature and knowledge of the place of humans in nature clarify in Clarence J. Glacken's monumental work *Traces on the Rhodian shore* (1967). He rightly insisted that it is impossible to understand nature without integration with an understanding of history. According to him, nature and history become empty

ideas if isolated from each other. He related social and natural phenomena to the imagined dichotomy of humanity and nature. His main thesis on how nature influences culture and vice versa has later become groundwork for many geographical, philosophical, historical, and environmental studies.

### Cryptic Role of Nature in Geography

The impact of the above mentioned authoritative geographers and classics of historical geography has been remarkable. For example, from their perceptions, the concept of nature and the history of the idea of nature have arisen as an inseparable part of studies of historical geography. It can also be argued that geographical research has often been strongly directed by history of nature.

Nature as a resource for human life has traditionally been one of the main themes in geography. Research themes concerning with mineral wealth, use of fossil fuels, loggings of rain forests, use of boreal forest belt, and exploitation of sea areas have been largely examined by several disciplines and especially in geography they have been subjects of numerous studies. In physical geography, viewpoints have varied from positivism oriented geological, climatologic, and ecological approaches to predominantly statistical and nowadays GIS based examinations of the exploitation of natural resources.

In human geographical research, viewpoints have varied from structuralism based local community studies to constructive value and attitude studies and further to methodologically humanistic examinations concerning individual experiences and feelings connected to the use of natural resources. In human geographical studies, the focus has been on humanity, on an individual, or on a certain group of people, but the knowledge of nature as an inherent element of research is fundamental. The problem is that the role of nature and history of nature as a supervisor of studies has not necessarily been spelled out in research reports, and it is easy to arrive at the impression that nature has been ignored.

The invisibility of nature in human geographical research has also resulted in critique. From the 1980s, especially environmental historians have criticized historical geographers for reducing the physical environment to nothing more than a passive stage on which socioeconomic forces battle through a series of conflicts.

Nature has been conceptualized to an obscure abstraction and that has led to a situation where the role of history of nature is almost impossible to outline. In many studies it is easy to detect the influence of history of nature as merely a supervisor without special emphasis. The focus of studies can be, for example, on the transformation processes of cultural landscape but often



human action is outlined in reflection to nature and history of nature.

Geography, contrary to most disciplines, has not fully compartmentalized society and nature and maybe this causes an illusion that geographers have lost nature *per se* from their studies concerning the relationship between humanity and nature. Raymond William's (1980) dictum "the idea of nature contains, though often unnoticed, an extraordinary amount of human history" has been espoused by geographers and this is a part reason for emphasizing human history more than history of nature in human geographical research. Under pressure of criticism from environmental historians and sociologists, geographers can defend themselves by revealing the character of the concept of nature which, having been conceptualized into an abstraction, is not easy to understand without familiarity with it.

The vitality of nature expresses in many present studies and publications by human geographers. For example, Noel Castree's *Nature* (2005) examines critically the role that geography has played in developing societal understandings of the concept of nature and highlights the diverse aspects of the nature that geographers examine within a common frame of analysis. One of Castree's main arguments is that nature often appears in geographical discourse through collateral concepts where it figures as a real but ghostly presence.

### **Finnish Mire Landscape as Example**

The exploitation of boreal forest lands has been a fascinating geographical question, especially from the Northern European perspective. After World War II, the intensive use of forests and mires has produced many local and spatial conflicts, and questions of politics of nature, regulations of using forests and mires, and issues of social and environmental justice have arisen into the core of human geographical research. When focusing on these questions, wide knowledge of both natural and social contexts is needed even if nature in itself (forests and mires) seems to be reduced to only a passive forum of conversation.

When studying the changes in Finnish mire landscapes drained for forestry, one needs sufficient knowledge of the natural history and morphological features of mires. When analyzing the cultural character of present mire landscape, it is not enough to gather statistics of its drainage for forestry and try to find the socioeconomic context from archival sources. It insists also the knowledge of mire formation and rate of peat accumulation and the understanding of the role of time in all those processes. The present mire landscape is both a reflection of human action during the last few centuries and also an expression of natural processes that have been taking place for thousands of years.

Finnish mires are postglacial formations and many natural processes have transformed them into the physical shape which has, in many ways, been usable for human beings. When people first came to the north, mire nature was in its pristine condition untouched by humans and the use of mires adapted to the circumstances of nature.

The impact of humanity increased from the eighteenth century and first nature replaced with second nature which contains both the Finnish society and the natural processes of boreal forest area. Especially technical development in the second part of the twentieth century has made extensive exploitation of mires possible. Mires have become an economically valuable resource that is utilized in many ways, for example, in forestry, agriculture, and peat harvesting. In the process of building an affluent Finnish society, the purpose to increase productive forest land led to a situation where almost 60% of over 10 million Finnish mire hectares were drained for forestry and the change in mire landscape was huge. In that extremely intensive project from the early 1950s to the mid 1990s, the natural characteristics of mires were ignored.

After the drainage period, the forest certification has not allowed new drainage at all and that has led to a situation where nature has started to change more natural like. The productivity of mire forests is almost like in forests with mineral soils and many old mire areas are looking like boreal forests. In many areas, very intensively used and the passed over mire nature is taking back its natural character even if it can never reach its pristine nature. At the same time, it is more difficult to recognize the boundaries between human and natural mire space.

### **Conclusion**

Nature is one of the main concepts in geography and the question of the idea of nature – and the history of the idea of nature – exists in the core of human geography. History of nature is not an established course of study in human geographical studies and human geographers have hardly anything to contribute if the field is understood as a concrete continuance of natural phenomena. History of nature, as exemplified by historical geography, directs human geography which is mainly based on the dualism of humanity and nature and in which human beings' relationship to nature is one of the most important research themes.

With the present environmental problems, such as the extensive issue of climate change, the question of the relationship between humanity and nature has come to the fore and the need for holistic research of environmental subjects has grown. There is also a need for interdisciplinary research that is founded on specialization and on capability to cooperate. For example,

human geography concentrates on conceptualizing the terms of nature and humanity instead of focusing on exact natural sciences, such as geology, climatology, and ecology, which are capable of creating new information concerning the systems and rules of existing nature. Through dialog, it is possible to reach a better understanding of problems that cannot be solved by one discipline alone. It is important to remember that the recognition and definition of seemingly nature based environmental problems always take place in social processes.

See *also*: Culture; Culture/Natures; Historical Geography; Landscape; Nature; Nature, Historical Geographies of.

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# Nature, Performing

S. Fullagar, Griffith University, Nathan, QLD, Australia

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## Glossary

**Binary Opposition** Refers to the dualistic structure of western thought that makes one term (nature) inferior to and dependent on the other (culture).

**Discourse** Circumscribes the performance of meaning through language within particular power–knowledge relations.

**Embodiment** Acknowledges the biological and cultural dimensions of human subjectivity and knowledge of the world.

**Hybridity** Is the mixing of differences, the impure identity and space in-between.

**Ontology** Refers to assumptions about the nature of being.

## Introduction

Through the influence of postmodern and post structural thinking over the last 20 years human geography has contributed to key debates about nature–society relations. The concept of performance has been central to the line of questioning that has critiqued the foundational ideas about nature as the opposite of human identity and culture. By exposing the ontological assumptions that have informed ideas about nature, geography has opened up different ways of thinking ‘through’ nature–culture relations within the spaces of everyday life, global networks, and knowledge practices (mapping, categorizing, research). As a result nature can no longer be naively thought of as an essentially given organic or inorganic sphere that resides beyond the reach of cultural meaning, representations, and activities that individuals ‘do’ to create their identities as human beings of various kinds. Performance, or more specifically performativity, following the seminal influence of Judith Butler’s 1990 book, *Gender Trouble*, describes how individual identities are enacted and thus constituted through the discourses, normative practices, and embodied relations of everyday life. We exist by ‘doing,’ and hence meaning about our selves and others is performed within the historical context of the present that preexists us as individual agents. For example, our gender as women, men, trans gender, or other variations of identity is not simply as signed by an inherent meaning in our biology, but rather is performed through social norms and scripts that we engage with and live through, but do not necessarily ‘choose’ freely. By extension, our notions of ‘human

nature’ are performatively constituted in relation to the otherness and difference of nonhuman nature with whom we interact (forests, animals, climate). Performance signifies a break with the assumptions that have informed both positivist/scientific and humanist traditions of thought about human subjects and the natural world.

The notion of performance has enabled geographers to theorize the tensions informing how human and nature/nonhuman identities and relations are ‘made up’ through cultural processes and power relations involving language (discourses, narratives, metaphors) and bodies (emotion/affect, unconscious, senses). In this way, arguments move beyond conventional positions that (1) as some nature is different and given by a presupposed natural order (the essentialist argument about nature’s purity that humans have degraded), and (2) that nature and our relations to it are determined by the social order (a political economy argument that nature is primarily a resource for global capitalism that we have become alienated from). Both of these perspectives assume that the ‘truth’ of nature can be ‘represented’ as objective knowledge that embraces a version of either scientific or constructionist thinking. In the search for geographical truth there is a desire for self certainty in knowledge of nature as a thing, an object to be measured and rationally assessed. The performative turn in geography counters this rationalist tradition by acknowledging the profound uncertainty of ‘knowing’ and the potential for developing new ways of understanding and engaging with nature, and human identity within it.

Performance also moves geographical thinking beyond a reliance upon the intentional subject or agent by understanding identity formation as produced through the use of language and historically specific discourses of nature–culture relations. In this way, to perform humanness through a relation with nature is not simply the expression of a voluntaristic conscious choice although it does clearly involve decisions of value, ethics, and social distinction (e.g., walking in the forest, eating meat, or creating pollution). We perform a range of identities that are marked by social spatial location (e.g., gender, class, sexuality, disability, ethnicity) within a myriad of images and experiences of different kinds of nature (the inorganic environment, plant and animal life, visceral bodies). In order to understand how our identities are constituted as individuals, geographers used the concept of performance in different ways to explore how identity formation occurs through embodied actions and cultural locations. For example, researchers have examined how

the 'green identities' of environmentalists have been performed through particular scripts, codes of conduct, and spatial networks that characterize individual choices within this middle class social movement. Other researchers, use performance to signify how the experience of nature is negotiated through feeling and ideas, as well as a staged event aimed at revealing the performativity of nature in context. The English allotment garden has been explored in relation to how everyday gardeners from different social backgrounds engaged with the cultivation of nature and through this embodied practice their own, and each others, identities. Some analyses also include artistic performances of nature and culture to unsettle ideas about how nature is practiced and recreated through senses. In this way the allotment garden figures within geography a site where knowledge is performed through different registers (theory making, artistic creation, gardening practice) and brings a range of senses (taste, feel, hearing) into play that counter the dominance of vision that has historically framed nature as landscape. These examples demonstrate how the notion of performance itself is not fixed within one theoretical perspective, and that geographers have crossed disciplinary boundaries to make nature 'thinkable' in new ways. This shift has also elicited critique and protestations about the limitations of performativity for understanding how nature is exploited, degraded, and regulated within global capitalism. Questions have also been raised by those working with ideas of performance about the problems of 'uncritically' applying them to geography, performance is often used by geographers in a way that privileges a humanist subject because the tensions between the subjects' ability to exercise agency and the discourses that regulate these very actions are not resolved in Butler's own work. Feminist writing has significantly contributed to the exploration of these ideas within geography.

### The Cultural Turn toward Performance

Historically nature has been both the object (physical) and subject (human) of geographical knowledge. Radical and post structural theories have informed ongoing debates over nature and environment as highly contested concepts. Performativity has emerged as part of the cultural turn in geography, which has been influenced by broader post structural and feminist theories. The work of Foucault and Nietzsche, along with linguistic theorists such as Austin, has contributed to investigations of identity as an effect of performance. In this sense identity is reiterated through performative speech acts that normalize how we act in relation to nature, and ourselves as we articulate our position within and beyond it. Thus ideas of performativity offer a radical critique of any originary notion of interiority (essential human nature)

and by extension open up questions about the cultural production of nonhuman nature as we have come to know it. This is not to deny the materiality of nature (that plants and animals exist beyond language) but rather to point out the effects of dominant discourses on relations between nature and identity (e.g., romanticism, economic rationalism, conservation). In this sense discourses constitute what and how we 'know' nature, rather than language naively being seen in terms of the representation of unmediated reality or truth. However, the emphasis on language has been subject to much critique by non-representational theorists who argue that the materiality of nature and embodiment needs to be understood as having an intelligibility that exceeds capture in language. Nonrepresentational theory is further discussed below in relation to embodying performance.

### Performative Resistance

Ecologists and philosophers have argued that within western nations the performance of human identity has been structured by a binary opposition of culture/nature. Within this relation nature is positioned as an inferiorized, feminized otherness – a background to the unfolding drama of human mastery, as can be seen in Val Plumwood's 1993 book *Feminism and the Mastery of Nature*. Anthropocentrism is an extension of this way of thinking about nature as a reflection of human identified qualities and use values. Geographers have explored of how culture/nature relations and processes of othering also map across marginalized human others (e.g., indigenous peoples) who are positioned as closer to nature, the body, and the feminine. Hence, human and nonhuman natures are performed through an intersecting web of discourses and sociospatial materialities that constitute identities through particular and universal relations. Nature may be performed through local practices (e.g., consumption and place making) but is also mediated through the networks of globalization, postcolonial histories, and the market logic of advanced capitalism.

Understanding human identity as performative also brings into question the ways in which nature is constituted through everyday interactions that can unsettle or reinforce such oppositions. Extending this line of thinking geographical knowledge has explored how human-nature relations and identities are performed through particular spatial practices, classification activities, and symbols (e.g., travel, conservation, mapping etc.). Understanding the performance of human and nonhuman natures involves recognizing the repetitive iterations of sameness, as well as the subversive possibilities of different engagements, affects, and transformations of the present. In this way emphasis is placed on the resistances, spaces, and practices that subvert human centered

thinking and actions that imply denying exploitative or nostalgic relations with nature. Performing nature in this sense involves paying attention to the generative possibilities and relations with nature that move us beyond the logics of degeneration and destruction. For example, the idea of the ‘performativity of life’ has been used to shift thinking beyond either a total socialization or demise of nature thesis. This involves considering how thinking differently about invasive species that cross global borders (ferals) poses new questions about how to understand disruption and change within human and nonhuman ecosystems without recourse to an ontological distinction between nature and culture or fixed borders that define belonging or exclusion.

Along with the notion of generative possibilities is performative resistance as a means through which counter practices and identities can be produced via different political mobilizations organized around threats to nature. Environmental protests on local and global levels embody the performative impulse that disturbs normalized explanations of problems and solutions. Other forms of engagement work through the desire to perform alternative modes that recreate everyday life for ecocitizens, individually and collectively (e.g., community gardens, bushland preservation groups, alter native power generation, and cycleway lobby groups). Exploring the performative also enables a critical, and subversive, analysis of the various permutations of nature based discourses that inform ecotourism ventures, environmentally friendly consumption, nuclear energy as a ‘clean’ option, and the environmental performance bottom line. Rather than emulate a romanticized notion of resistance with its humanist subject at heart (often embraced in studies of marginalized groups), a performative approach considers how power is exercised in multiple ways to reinforce dominant norms as well as to disrupt and open up other possibilities for living differently. Performativity seeks out the multiple, explores diversity, and questions any singular representation of the claims of social groups or nonhuman nature.

### **Embodying Performance**

By exploring how identity is performed in relation to nature, theorists also employ the concept of embodiment. The body figures as a key site through which nature and culture, biology and sociality contribute to the formation of identity. It is also through our bodies that we come to experience and know the natural world, both through the senses (vision, touch, hearing) and the mediated images of culture (nature documentaries, magazines, blogs, websites). Hence, the lived, feeling body is also a site through which ethical relations to nature have been explored through the notion of becoming. Identity is

performed through the body, which can be thought of as composed of multiple experiences, relations, and thus modes of becoming human. Nonrepresentational theorists have shifted the focus from the body as object to the performance of body practices of becoming, as in Nigel Thrift’s 1996 book, *Spatial Formations*. Everyday practices that connect self and nature, such as rambling, riding, dancing, rock climbing, eating, etc. are performative embodied knowledges that offer the opportunity to think about what embodied experience brings to understanding. They are practices that enable the human–nonhuman relation to be explored in its specificity. For example, the desire to rock climb evokes questions about whether the climber is becoming part of the rock face or is the rock face appropriated by the climber in the quest for a masterful identity. These different modalities involve different ethical relations, self, and other identifications, and practices of care or use in relation to nature (e.g., using natural or artificial holds, navigating pristine bushland). The act of rock climbing is also performed within a broader assemblage of networks, land ownership, flows of information, and commodity exchange. Nonrepresentational approaches draw upon the philosophical work of Deleuze and Guattari, relational insights from actor network theory, sociologies of emotion and affect, as well as a focus on the productive nature of power in the work of Foucault, Benjamin, and de Certeau. This is a move away from traditions that emphasize the representation and capture of meaning where geographical knowledge seeks to fix truth and reiterate its own authority. By attending to the performative presentations, manifestations, and interconnecting experiences, nature–culture relations can be understood as continually in process. Embodied knowledge of nature can be explored in ways that seek to make apparent the taken for granted ways in which we know the world.

In extending this line of thinking Sarah Whatmore in her 2002 book, *Hybrid Geographies*, also employs post colonial theory to explore notions of identity that move beyond oppositional relations with nature and embrace hybridity. Performing hybrid identities involves an acknowledgement of the diffuse, multiple forces that compose the self as both natural and cultural. Deleuze and Guattari’s notion of becoming nature or becoming animal has been used to explore how the other is conjured up through networks and spatial practices (e.g., the global trade in nonhuman animals). Emphasis is given to the assemblages of desires, multiple relations, and embodied intensities or flows that connect human and nonhuman nature. This approach contrasts with political economy perspectives that presume that power works in largely repressive rather than generative ways and human/nonhuman actors move with knowable intention. Such a shift away from understanding the becoming subject (human and nonhuman nature) as an intentional

agent has been crucial to opening up ways of understanding the otherness of nonhuman nature. While discursive frames may limit how nature is imagined there are possibilities for engaging with, and being moved by, the specificity and difference of animals, plants, and ecosystems in ways that escape capture in systems of representation. These relations of multiplicity can give rise to new alliances that move human relations with nature into new kinds of ethical possibilities for recognizing difference in the other and within the self. These moments of becoming nature may not be intentional or desired, for example, experiences of being attacked by crocodiles, sharks, or bears when engaged in ecotourism activities. They may, however, work to disrupt the positioning of animals as objects of the tourist gaze and bring into play the shared materiality and embodied vulnerability evoked by the near death experience.

### Performing Ethical Relations

The question of how to perform different ethical relations has become central to a geographical reimagining of nature–society, human–nonhuman identities. Such a shift toward ethics also involves a critique of universalized moral codes that emphasize individualized rights or normalized practice over the more fluid, relational, and sociospatial contexts. In a move away from simply adopting a position of moral authority, a focus on the possibilities of transformative understanding and practices relating to nature has been identified within cultural geographies of hope. For example, researchers have considered the embodied emotion or affect of particular tree places in performing a more mindful relation with nature in everyday life. In contrast to much work that has explored animal geographies, reflection on the affects of trees on human nature moves debates beyond the realm of sentient beings to consider the subtle interplay between living surfaces and textures. The ethical relation can connect through the desire to care for, with, and through the experience of nature as an otherness that is both of and distinct from human identity. Such geographical mediations move beyond the binary opposition between nature and culture but do not abandon notions of specificity and connection. Instead these approaches offer different ways to consider how the boundaries between the human and nonhuman are figured and refigured within the spatial practices and flows of everyday life.

### Conclusion

Performance has been central to the critique of ideas about nature as the opposite of human identity and

society. By exposing the ontological assumptions that have informed ideas about nature, geographers have opened up different ways of thinking ‘through’ nature–culture relations within the spaces of everyday life, global networks, and knowledge related to both research and practice. Critical questions have been posed by performative approaches that ask, ‘how do we understand human identity formation in relation to existing and emerging knowledges about nature as distinct and yet also connected (genetically modified food, climate change)?’ What might be the effects of thinking about nature–culture relations, beyond binary oppositions, for the creation of different kinds of resistances, interventions, and hybridities? How are certain kinds of becoming nature, becoming animal practices evoked by embodied affects and emotions that move the self beyond normalized responses? These questions identify a tension that exists for many theorists in this area, between acknowledging the discursive mediations of performance and exploring the generative potential of embodied experience as it exceeds closure within language. For critics of performative ideas there remain questions about how power and domination are accounted for within globalized networks of capital that treats nature as a resource or externality. There are also concerns relating to the capacities of individual and collective subjects to bring about change that has structural effects on inequalities and exploitation of the marginalized, both human and nonhuman. What these debates have offered human geography as a discipline area is the opportunity to refigure its own borders and engage with a range of ideas about performing nature. This new discursive space promises no neat solutions to increasingly complex environmental and social problems, but it does generate possibilities for other ways of thinking through geographies of hope and critical awareness.

See also: Hybridity.

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# Nature, Social

N. Argent, University of New England, Armidale, NSW, Australia

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## Glossary

**Deconstruction** Method central to post-structuralist thought. Seeks to destabilize so-called objective claims to knowledge and truth by revealing how multiple meanings can be made of texts advancing such claims, and also by identifying hidden ideological assumptions by authors within texts.

**Epistemology** Body of thought concerned with the development of knowledge, including the means and methods for judging 'facts'.

**Hybridity** Body of thought that emphasizes the co-mixing and co-constitution of so-called natural and social phenomena in, for example, networks of food production and consumption and also the physical composition of human bodies after transplants of animal tissue or prostheses.

**Ontology** Theory of what exists and what meaningful statements we can make about existing entities.

**Post-Structuralism** It refers to the work of French thinkers such as Derrida and Foucault. Against structuralist theories of society in rejecting totalizing, all-encompassing explanations of social and economic behavior, instead asserting that meaning circulates in uncertain and unstable ways via texts and images.

## Introduction

The body of thought labeled 'social nature' emerged in the 1990s, posing fundamental challenges to the philosophy and practice of human geography, and of geography more broadly. The social nature literature highlighted the ways in which a trenchant and pervasive philosophical dualism originating in Kantian and Baconian thought had maintained its grip of geography – a discipline whose *raison d'être* supposedly lay in the integration of the natural and social sciences – through its various paradigm shifts throughout the twentieth century. Dualist conceptions of nature and society as materially and logically separate entities of the world could be seen in the environmental determinism of early twentieth century geography; the later cultural geography school led by Carl Sauer; and the spatial science of the post World War II quantitative revolution. These anthropocentric and technocentric worldviews were challenged by the counter revolution of Marxian influenced political economy during the 1970s. Here, nature was brought back into human geography as a product of

waves of capitalist accumulation. Nonetheless, this political economy stance drew criticisms that it retained an implicit dualist conception of nature and society (i.e., nature as something produced, and impacted upon, by society and economy).

At the heart of the social nature, literature was an ethical project aimed at discrediting philosophical dualism. This dualism was seen to contain the origins of many of the major environmental dilemmas facing current and future generations. Drawing upon an earlier body of sociological thought on 'social construction', writers such as Noel Castree and David Demeritt insisted upon seeing nature as socially constructed and, more importantly the social and the natural as essentially interpenetrated by each other. That is, it is impossible to completely understand human society without an appreciation of the many ways in which it depends upon, interacts with, and defines the natural world. Similarly, social nature theorists insist that we cannot make sense of the biophysical world and its many component entities and processes without an understanding of how these have been defined by and incorporated into social, cultural, and economic systems. In order to develop a reasonable understanding of this deeply philosophical body of thought, it is vital to be clear about what we mean by the term 'social nature'. What does 'social construction' mean in this context, and what 'nature' – given that the word is a homonym with many subtly different meanings – is being socially constructed?

Social construction is a form of critique first developed by sociologists in the late 1960s and early 1970s. Challenging the dominant structuralist/functionalist approach to identifying and discussing social problems in contemporary sociology, social constructionists argued that perceived social pathologies such as domestic violence, graffiti, public loitering, and the like were widely considered as aberrant behaviors at least in part due to the claims made about these acts by third parties, for example, those affected by the vandalism or academics studying the causes and incidence of criminal behavior. For instance, the act of vandalism did not automatically register in the broader public's consciousness as a social problem; it became one via 'knowledge claims' made about vandalism by concerned groups within society (e.g., local government, business owners).

The social constructionist approach is today perhaps more popularly associated with feminist scholarship. Second wave feminists have focused on, *inter alia*, the social construction (by patriarchy) of sex and gender and have critiqued the persistent and taken for granted direct



correspondence between sex (e.g., female) and gender (e.g., woman) that forms a key structuring principle of societies the world over. Post structuralist feminists, such as Judith Butler, draw attention to the many mundane, day to day acts performed by women – modes of dress, public participation and comportment, domestic roles and the like – that help create, conform to, and therefore reproduce an ideal of womanhood. Further, these forms of behavior and thinking cannot be traced back to differences in chromosomal make up, hormones, or genital assignment. Rather, they must be traced back to the expression of unequal social powers.

A gendered body can be seen to be a complex amalgam of the social and physical (or natural) in space, rather than just a biological organism, or an individual woman or man. It is this determined antidualist perspective, with its emphasis on hybridity – a co mixing of the natural and the social – that has been adopted, adapted, and imported into the literature on ‘social nature’.

In what ways was this critical perspective brought to bear on nature? ‘Nature’ has a number of alternative meanings and it is important to clarify which definition we are arguing is socially constructed. Three primary definitions can be recognized: (1) external, (2) intrinsic, and (3) universal (see **Table 1**). The external, material realm of nature is the version of nature that we are perhaps most familiar with. In Marxian thought, this is sometimes known as ‘first nature’, the primordial world prior to the emergence of humans and the material resource base of their sustenance. This is contrasted with ‘second nature’, which incorporates human beings and the products of their labor processes, including cities, farm, transport networks, and the like into ‘first nature’.

The second definition comes to us from the process of abstraction where the natural (as in definition 1 above) and the social worlds are conceptualized as being constituted by a small number of key structural factors or principles. These are considered indispensable elements of a phenomenon’s existence and can be contrasted with a larger number of nonessential or contingent factors that

may or not be found depending upon the circumstances. For example, if we were interested to find out what the nature of the capitalist rental market we would isolate in thought those factors and entities that are considered as having causal powers essential to the operation of the process under investigation (see **Figure 1**). Here, ‘nature’ refers to an essential quality of something.

The third and final definition of ‘nature’ refers to the largely inbuilt forces which drive the natural and social worlds. This definition is bound up in the oft heard statement, ‘It’s only human nature’ or ‘It is only natural (that something should happen in the way that it has)’ or, conversely, that some behavior or outcome is ‘unnatural’. Which definition of nature has the socially constructed nature literature been most concerned with? The short answer is ‘all’ but in the following we will consider examples of the approach applied to each of the three types of nature just outlined.

There are two main philosophical ‘camps’ in the social nature literature. Both approaches hone in on positivist, naïve, realist accounts of supposedly natural processes, laws, and relations, seeking to de naturalize taken for granted arguments and supposedly ‘iron laws’ regarding nature and its intersections with human society. However, each school of thought entails quite strongly contrasting ontological beliefs and epistemological commitments.

### Social Construction-as-Refutation

The first school of thought has been labeled by David Demeritt as ‘social construction as refutation’. This focuses on the deconstruction of taken for granted concepts and bodies of thought in a fashion akin to the feminist example considered above. Perhaps the earliest sustained contributions in this field emanate from Marxian scholarship in which rural and urban environments were argued to be the effective production of capitalism.

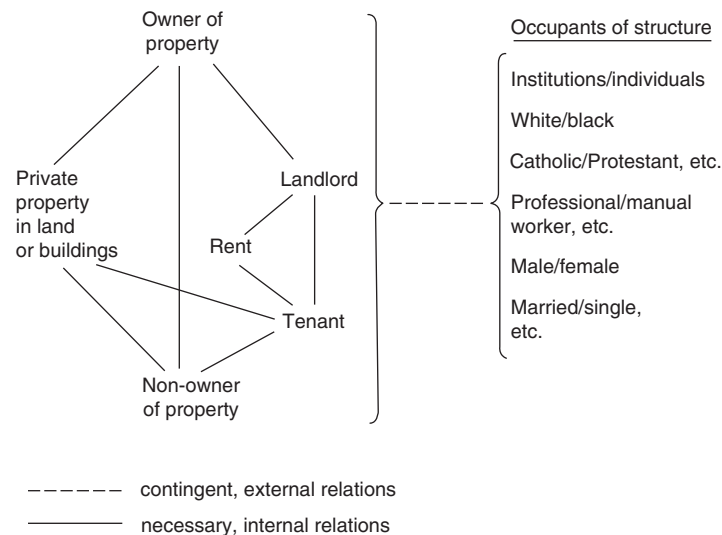
An instructive piece of research that falls within this field is Goodman, Sorj, and Wilkinson’s analysis of the evolving industrialization of Western developed nation agriculture. Goodman *et al.*’s historical analysis of the industrialization of developed world agriculture regarded the application of industrial production techniques to farming as following two major trajectories: ‘appropriationism’ and ‘substitutionism’. Both strategies aimed at overcoming the barriers posed to capitalist accumulation by nature: the spatial fixity of land and the seasonal nature of land based production.

Appropriationism refers to the various industrial techniques applied to farming which have come to displace either human labor (e.g., mechanical harvesting displacing the labor intensive chain of reaping, threshing, bagging, and sowing) or the biophysical production process of the

**Table 1** Alternative definitions of ‘nature’

i	<i>External nature</i> : the biophysical realm, constituted by humans and nonhuman flora and fauna and nonbiological matter.
ii	<i>Intrinsic nature</i> : the causal powers, or essences, that make ‘things’ what they are, and not something else.
iii	<i>Universal nature</i> : as in ii but refers more generally to the bundle of largely instinctive capacities or reflexes that act as driving forces, e.g., ‘It’s only human nature for someone to abhor torture’, or ‘I didn’t really think about rescuing him from the fire it was just second nature’.

From Castree, N. and Braun, B. (eds.) (2001). *Social Nature: Theory, Practice, and Politics*. Malden, MA: Blackwell; Demeritt, D. (2002). What is the ‘social construction of nature?’ A typology and sympathetic critique. *Progress in Human Geography* 26(6), 767–790.



**Figure 1** Nature ii: Causal factors in the structure of a capitalist rental market. From Sayer, A. (1992). *Method in social science: A realist approach*. London: Routledge.

agricultural commodity itself (e.g., the introduction of chemical fertilizers replacing farm animal manure).

By contrast, substitutionism involves the effective rendering down of agriculture to little more than a provider of inputs to the industrial production of food and fiber. Margarine production in the late 1800s was an early precursor of substitutionism, with plant oils and other compounds combined in various ways to produce a relatively cheap (for consumers) and cost efficient (for manufacturers) alternative to butter at a time when animal fats were expensive. In the contemporary era, more advanced scientific techniques have permitted the manufacture of surrogate foods (e.g., meat analogs) via the use of single cell proteins and soya isolates. However, it is the more recent revolution in biotechnology – particularly genetic engineering – that offers a further quantum leap in the full capital penetration of farm production and the undermining of land based agricultural production. These methods open up promising opportunities for even more efficient production, and for custom grown foods that better meet human and animal nutritional needs.

### Construction-as-Philosophical Critique

The second major approach – construction as philosophical critique – is associated with more postmodernist and post structuralist stances, and concentrates upon the role of language and discourse in framing the interpretations of the ‘real world’ by scientists and how these interpretations become regarded as truths. Unlike more philosophically materialist work, though, scholarship in this category tends to emphasize the discursive creation of supposedly natural phenomena

and causal processes. Also, this type of critique is also generally more forthright in its advocacy of nondualist modes of thought.

Four distinct versions of critique in this category can be distinguished, though the differences between each type are, in many cases, actually very subtle. For simplicity’s sake, this article only deals with three of these: the sociology of scientific knowledge, actor network theory, and post structuralism.

### Sociology of Scientific Knowledge and Actor-Network Theory

The sociology of scientific knowledge (SSK) and actor network theory (ANT) literatures are closely related yet distinct, sharing an interest in revealing the human toil involved in the creation of scientific knowledge. Given that many aspects of the natural world, such as magnetic fields, changes to the ozone layer, and genetics are essentially unobservable and hence unknowable except through their humanly perceived effects, SSK theorists are concerned with the actual labor involved in discovering these truths. Researchers in this field also focus on revealing the power relations that become entangled in contested claims within cognate areas of science, and how these struggles influence the practice of scientific discovery. Borrowing from the pioneering work of Donna Haraway, writers in this field insist upon the historical specificity, social situatedness, and partial character of scientific knowledge.

A useful illustration of the research foci and approach used in SSK is Kay Anderson’s studies of race, though this is not to say that Anderson would consider herself an adherent to this school. Much of Anderson’s work since

the 1990s has been concerned with exploring the role of science and scientists in drawing, and maintaining, the boundaries between the natural and the social (and cultural). Arguing against a stable, universal conception of nature, she criticizes the supposedly scientific basis of the common sense notion that human races are substantially different from each other (e.g., as *Homo erectus* is deemed to be different from modern *Homo sapiens*). Further, though, in wanting to take scholarship in this field beyond all dualistic conceptions of, for example, human/animal, or society/nature, Anderson aims to denaturalize 'race' and shed light on the scientific notion that humans are different and also superior to animals.

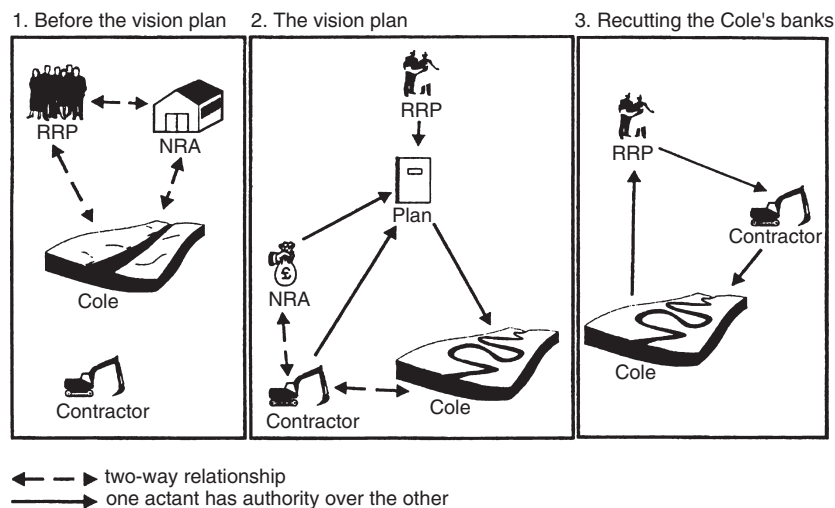
The closely related field of study, ANT, shares the same ontological and epistemological beliefs as SSK but is perhaps better known for studies which 'flesh out' and map in concrete terms the complex co mingling of 'actants' (i.e., the many and various human and nonhuman constituents included in an actor network) in everyday life. One of the central philosophical, and ethical, stances of ANT is its agnosticism toward the possession and execution of power (and, hence, agency) in such networks: human agency is not privileged in this research. There are three distinctive elements of ANT. The first, 'hybridity', refers to the heterogeneous composition of networks (humans and nonhuman biological beings and inorganic artefacts) as well as the conception of power relations which does not, *a priori*, privilege human subjectivity. The second element, 'collectivity', relates to the essentially collective and relational nature of network activity: for the network to be sustained through time and space each actant to some degree depends upon all of the others. Third and finally, 'durability' covers the relative internal strength and resilience of network relationships, especially where these are stretched across vast distances and

contrasting cultural contexts. In all of these senses, then, ANT is almost inherently a part of the socially constructing nature body of knowledge.

An instructive example of the ANT approach, and one in which these three elements are clearly evident, is a study of a river restoration project in southern England by Sally Eden and colleagues. This study focused upon attempts by a group of concerned academics (the River Restoration Project (RPP) team) to renovate the River Cole such that its hydrology and ecology more closely resembled its pre industrial era state. The authors present their study as a staged production in which each of the actors (see **Figure 2**) – the RPP team; engineers; consultants; local 'stakeholders'; the National Trust; the National Rivers Authority; relevant maps, plans, and computer models; the riverine flora and fauna; and, of course, the River Cole itself. These entities are necessarily drawn in, or enrolled into, the network by dint of their internal attributes and capacities (their 'natures' as in definition 1 above) and by the way in which the restoration project evolved. The network therefore became inherently 'hybrid'.

Although the authors are careful not to judge the success or otherwise of the restoration effort – to do so would be logically incompatible with ANT – they do nonetheless show how potential problems and conflicts between the many actants bound together in the network are negotiated through and mediated. Through an iterative process of stating, clarifying, and re negotiating its aims, the RPP – as the organizational center of the network – helped to ensure the 'durability' of the network, at least until the new stream channels were built and scientifically and esthetically evaluated.

The nonhierarchical presentation of the network as a collectivity accentuates the ANT perspective on the



**Figure 2** The actor-network of the River Cole's restoration. From Castree, N. and Braun, B. (eds.) (2001). *Social Nature: Theory, Practice, and Politics*. Malden, MA: Blackwell.

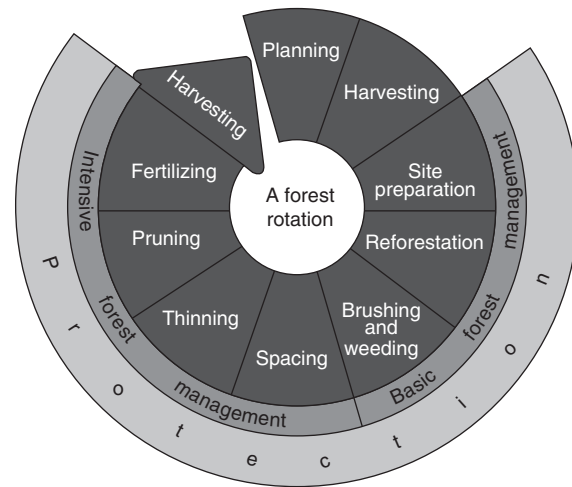
ontological equivalence of actants regardless of the humanness or nonhumanness. But it also shows how some of the key human actants in the network almost subconsciously conceive of agency and power as an attribute that is definitely not restricted to human subjects. In a revealing passage, the RRP General Manager discusses the need for ongoing monitoring and possible engineering works after the initial river channel works and ascribes agency and autonomy to the river:

... we knew what we would have to do would be to react in the following spring after construction to what the river told us. We knew the river would tell us an awful lot in the first winters of flooding, we weren't [to] play God, we could go so far into giving the river the sort of shape and regime that we felt it would be happy with.

The final approach considered in this subsection is that of post structuralism. As already noted above, post structuralist 'takes' on nature (definitions 1, 2, and 3), in contrast to the Marxian standpoint, insist upon seeing society/nature relationships through the lens of a relational and discursive ontology in which the existence of, and our ability to 'see', entities is dependent upon the existence of other entities, like that of the maps and computer models developed by the RRP and consultants in the discussion of ANT just considered. In other words, post structuralist 'social nature' writers insist that understandings of nature (and of society nature interrelationships) are the product of socially, culturally and historically situated discourses. Importantly, different social groups will produce distinctive and often competing discourses because of their members' backgrounds and characteristics (e.g., ethnicity, birthplace, class affiliation). This entails that meanings of 'nature' are rarely stable and always relational. Again, perhaps the best way to gain an appreciation of the major knowledge claims of a post structuralist stance is to briefly review work done in this vein.

Bruce Braun and Joel Wainwright explore constructions of nature in the coastal forests of British Columbia (BC), Canada as the effects of social and political power. In particular, they reveal how a new ideology and practice of forestry management of 'sustained yield' emerged after World War II and thus shaped a new vision of the forests. However, rather than critique the doctrine of 'sustained yield' contained within the landmark 1945 Sloan Report on the basis of its long term impact on the ecology of the forests, or on its position regarding the merits of private versus public ownership of forests, the authors focus on the key operating principle contained within 'sustained yield' – the 'working circle' (see Figure 3).

Within the pages of the Sloan Report the expert knowledges of cartography, statistics, biogeography, and



**Figure 3** The 'working circles' model of 'sustained yield' forestry management in British Columbia forests.

accounting were implicated in rendering visible the BC forests as little more than a resource. However, the apparent widespread influence of the report was also dependent upon a receptive colonial capitalist mindset; itself preconditioned by generations of landscape and resource evaluation, together with the demarcation and forceful occupation of lands in which the intertwined physical and cultural geographies of First Nations peoples were either obliterated or overlain by European settlement.

Drawing upon Derrida's notion of (hau)ntologies, the cultural geographies of First Nations peoples could be seen to form a constitutive outside – an alternative ontology which is marginalized but nevertheless provides a definitional standpoint against which a dominant ontology (e.g., 'sustained yield') draws its power and meaning – to the instrumentalist rationality contained within Sloan's report. This alternative ontology came to broader public awareness from the 1970s as a loose grouping of environmentalists, local First Nations people, and other local residents voiced their protests against the orthodoxy of 'sustained yield' across numerous sites in BC, culminating in the successful campaign of the Tla o qui aht during the mid 1980s.

### Critiques of the Social Nature Literature

Two broad types of criticism of the social nature literature and approach can be identified: one of a political/realist nature, the other more purely philosophical/logical.

The first set of criticisms tackles 'head on' the anti essentialist and anti foundationalist claims of social nature writers. Here, writers have attacked what they regard as the dangerous political and ethical relativism of such

research. For them, the deconstruction of scientific research findings confirming, *inter alia*, ongoing biodiversity decline, or enhanced global warming simply risks the continued exploitation of the environment by industry, and actively undermines organized political efforts to advance new, less exploitative modes of development. In other words, according to this view, social nature theorists risk playing into the strategic hands of corporate capital, who advance a 'business as usual' approach to these potential global dilemmas. It is important to note, though, that the majority of social nature writers generally eschew a radically idealist ontological stance regarding nature and society. Although most would argue that what we regard as nature is not only heavily imprinted by human society (as in the Marxist 'production of nature' thesis), and that our ways of perceiving and speaking about society and nature are also social constructions in the sense of being concept dependent and culturally influenced, very few would hold that there is no independent material entity such as biophysical nature.

The second deeper philosophical criticism to be made of social nature goes to the core of its ontological and epistemological standpoints. The two are obviously tightly articulated in that epistemological arguments depend fundamentally upon what is agreed to exist. As already noted, social constructionists are generally forced to navigate a philosophical knife edge in arguing that supposedly objective truths about nature are partial, situated knowledge while simultaneously holding to the notion that a material nature cannot exist outside of our impressions of it.

An example of this delicate balancing act can be seen in 'natural' disasters research. Some have claimed that such disasters are really social constructs, for without the presence of people in the affected regions, no disaster would exist. For critical realists this is a logically flawed argument. To be sure, a powerful combination of, *inter alia*, poverty, international debt, inadequate housing and public infrastructure, and national and regional dependences upon land based production all help to explain why people come to be concentrated in environmental settings which are both predisposed to extreme environmental conditions (e.g., monsoons) and poorly equipped to deal with the human dimensions of a 'natural' hazard. Laudable as the political and ethical claims of social constructionism are, in this respect they commit an epistemic fallacy. This involves confusing ontological with epistemological issues. That is, what is thought to exist is an ontological matter but judgments about what are causal factors, and what are merely contingent factors, in existing things are concerns of epistemology. Critics argue that social constructionists who confuse these two dimensions therefore inadequately conceptualize the objects of their research and thereby are likely to make mistaken claims about cause, effect, and contingency.

## Conclusion: Toward Hybridity?

By the early years of a new millennium, the social nature school appeared to have become bogged down by the, at times, torturous philosophical arguments just considered, together with the almost inescapable problem of how to write about society and nature in a nondualistic fashion without starting with the two as separate entities which then have to be rethought as interpenetrated by each other. Some of its chief protagonists acknowledged that while social nature studies had generated a vibrant and insightful set of research initiatives, the philosophical limits of its major tenets had been reached. With the array of problems attending binary conceptualizations and dualist ontologies now firmly laid out, for some the way forward and past the philosophical impasse that characterized debates between realists (of whatever stripe) and social constructionists lies in the not dissimilar study of hybridity. Heavily influenced by SSK and ANT, as well as the writing of Donna Haraway on the cyborg, hybridity presupposes the ever present mingling of the human and the natural, explicitly acknowledging the agency of humans and nonhuman flora and fauna in their interminglings within, for instance, food chains, colonization processes, transplant surgery, and zoo management.

*See also:* Actor-Network Theory/Network Geographies; Feminism/Feminist Geography; Nature-Culture; Natures, Postcolonial; Philosophy and Human Geography; Physical Geography and Human Geography.

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# Nature-Culture

O. Jones, Countryside and Community Research Institute CCRI, Cheltenham, UK

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## Glossary

**Actants** Entities that have effects upon other entities through combination effects. Thus a person and hammer combining in the act of the human hammering other objects comprise an actant. The point is that the entities that 'act' in the world are not solely restricted to the human, or indeed to the animate, living being, but are now enlarged to include many other nonhuman 'things' enrolled into actions.

**Actor-Network Theory** An approach often associated with the work of Bruno Latour and John Law which sees any and all worldly formations as produced by integrated networks of differing actors, or rather actants, which include humans and nonhumans. It makes no ontological distinction between nature, humans, and technology.

**Affect** Systems of the body such as emotion, balance, senses, which underpin life and allow interaction.

**Agency** The capacity to act creatively.

**Dialectics** An approach to philosophy and critical thought which takes contradicting ideas about a matter in hand and seeks to synthesize a new understanding from the examination of the opposing positions.

**Dwelling** A theory about life-in-environment and time which foregrounds a sense of being among the world. Drawing from phenomenology and especially Heidegger, it emphasizes the co-constitution of subject and object, self and environment. It suggests the condition of being human is one of being in and among the world – rather than one of a separate thinking self.

**First and Second Nature** The idea of first nature is that of pure nature before any human interference. Second nature is that which emerges as humans make changes to the environment.

**New Dialectics** A version of Marxist dialectics pioneered chiefly by the geographer David Harvey.

### Social Constructivism, Social

**Constructionism** Approaches that argue: first, that societies shape the world in which they act; and second, that we (humans) can have no direct access to reality independent of society, so our understanding of the world is in fact shaped and created by our social structures.

**Theoretical Hybridity** An attack on dualistic, pure categories, instead suggesting that most bodies or systems are derived from heterogeneous sources. It is a deliberate reappropriation of a biological term to invoke

the fusing, or in more charged terms the miscegenation, of categories previously held apart.

## Introduction

'Nature culture': we have 'nature', we have a hyphen, and then we have 'culture'. The job of the hyphen is to unite these two realms. They have been crudely and violently divided by modern knowledge which might be written as 'nature/culture'; two realms separated by a slash which represents a whole range of ways in which they have been forced apart. Reuniting them is a very big task for such a small symbol, for the division has been, and largely remains, a ubiquitous foundation of modern knowledge. This dualism's brutalist architecture is clearly visible in a number of forms; for example, in the division of the social and natural sciences, the denial of agency in nature, and the exclusion of nature from dominant historical, political, and ethical formulations.

Geography can be regarded as an unusual (and promising) discipline because of the way that it bridges between these two realms, dealing with both 'the human' and 'the physical'. But this structure within geography is itself a symptom of the nature/culture worldview. Indeed, (sub)disciplinary, theoretical, and methodological specializations within 'human' and 'physical' geography often widen that divide rather than the reverse. However, geography remains very well placed to play its part in the process of ontological healing which is needed to reunite our divided and damaged world. Calls for this reunification are being made (in different ways) by some eminent figures within geography, for example, David Harvey, Doreen Massey, Nigel Thrift, Sarah Whatmore, and Margret Fitzsimmons.

The nature/culture division has profound implications for not only how we understand the world but also for how we act in and upon it. Some of these implications appear to be very troubling and problematic for the very well being of life on Earth. A range of environmental thinkers argue that the perilous situations that many sectors of global society seem to face, in terms of ecological, economic, and cultural sustainability, are, in part, driven by difficulties generated by the nature/culture divide. The stakes are very high in this philosophical naming game. But can the difference between 'hyphen' and 'slash' really be that important? In answer, we might draw upon the environmentalist philosopher Mary Midgley, who compares philosophy to plumbing! If a bad smell develops in

your house, or ominous damp patches appear in the ceiling, you call a plumber who might pull up the floor boards and investigate the hidden systems which service the obvious and visible facts of taps, toilets, sinks, and so on. The problem might well be some blockage in the hidden workings of the system. If worrying signs develop in the way society is working, we need to ‘pull up the floorboards’, look beneath everyday understandings and practices for old conceptual infrastructures which may have gone wrong. The nature/culture divide is one such – a blockage which needs to be cleared.

The nature/culture divide is then a pervasive problematic of modern knowledges. There are a whole host of vexed questions about the risks, and the rights and wrongs of how culture(s) engage(s) with nature in numerous ways, such as resource extraction, food production, genetic modification, power generation, nature conservation, understanding and practices of bodies, identities, landscapes, and cities. All of these engagements weave across the so called divide, operating through networks of organic beings, technology, science, industry, economic, politics, and culture. Important approaches in geography and related subjects are therefore now arguing that nature and culture are not, and have never been, divided in terms of everyday lived life on our beautiful blue green brown gray white planet. There is a move away from thinking about nature/culture as ontologically discrete categories (as still represented in much geographical writing). Instead, the world and the many formations which compose it, be they continents, cities, industries, habitats, bodies (human, nonhuman organic, nonhuman technological), are all hybrid assemblages of, and in, heterogeneous entanglements or networks. These entanglements criss cross the so called divide with such intensity, and moment by moment and place by place frequency, that its only meaning stems from its falsity. Our knowledges, disciplines, methodologies, politics, and moralities need to be adjusted to respond to this challenge. Alongside the imperatives and concerns that derive from the problematic nature/culture/worldview, there are new forms of charm, beauty, and ‘enchantment’ to be found in nature culture understandings and practices, as Jane Bennett vividly sets out.

Below, we will consider how the division was not always thus; some of its characteristics and consequences; and how it is now being called into question for a number of reasons and in a number of ways. We consider two ways in which the dualism might be tackled – by making everything ‘culture’ or everything ‘nature’. But these ‘one way’ moves are also called into question as they deny the complexity and heterogeneity of life. Then we gather together seven ‘two way’ approaches to treating nature culture; actor network theory (ANT), hybridity, new dialectics, new ecologies, dwelling, animal geographies, and new readings of place. We then inspect four

key challenges flowing from these various approaches: agencies of nature culture, ethics of nature culture, politics of nature culture, and disciplines and methodologies of nature culture; and finally, we address the idea of differences in nature culture and some of the spaces in which they are enacted, including bodies, cities, countryside/wilderness, and spaces of biodiversity.

## **The Great Divide**

The nature/culture divide is driven by a number of forces. First, modern knowledge systems like to divide, define, classify, and explain. This has been the very job of science, and was quite possibly a necessary step in making science and rational knowledge as we know them. The nature/culture divide is one of the fundamental divisions upon which modern knowledge has been based. It has been seen fit to understand the natural as one set of relatively discrete systems, for example, through biology, chemistry, physics, and geology. These have processes operating within them which can be understood as functioning independently of social life, therefore they can be studied without considering the social. In an attempt to understand the complexities of the ‘natural world’, it seems to make sense to isolate and specialize.

Conversely, and somewhat understandably, humans tend to think of themselves and their societies as rather different from nature, and rather special. This specialness rests largely on our apparently unique capacities – our high levels of self consciousness, our use of language, rational thought, developed knowledges, tools and technologies, and the subsequent production of culture. The dazzling complexity of both individual and collective human life, it seems, also merits a set of specialized studies – the social sciences and humanities, from which natural processes are generally excluded. Politics and ethics have been thought of predominately as stuff of this realm – of people and for people. If nature is a set of mechanical, predetermined, unreflexive processes (albeit highly complex), then politics and ethics are not ‘of’ nature, or ‘for’ nature, but can only be ‘about’ nature; as resources, for example.

## **Cartesian Dualism**

Descartes is often cited as the founder of modern philosophy and science. His contributions to mathematics and logic were part of the foundations that he laid. So too was the famous mind/body dualism. This did not exactly split humans and nature apart, but it split mind, thought, and language apart from the nature of the human body and certainly from the rest of nature. Mind, thought, and language were the defining characteristics of self and

humanity, and had to be understood as such. The rest of nature operated through mechanical, automated, material systems. Other, related, dualisms such as subject/object and agency/structure, where the cultural is the separate, primary actor and nature (the rest of the world) an outside, passive recipient of action, also became part of the modernist architecture of knowledge. Ecofeminist thinkers, for example Val Plumwood and Vandana Shiva, suggest that the Cartesian scientific revolution was a particularly masculinist view of knowledge, self, and world in how it sets up nature as a separate, external world to be objectively studied, controlled, and manipulated. This divided worldview, some argue, has also been buttressed and built upon by certain religions, particularly the Abrahamic, monotheistic religions (Judaism, Christianity, and Islam), as they too have tended to separate 'man' from nature.

### Reaping the Whirlwind?

There is a philosophical imperative here which argues that this bifocal reading of the world is deeply flawed. And this imperative spills out of the realm of philosophy and into some of the most pressing practical questions global society faces today. The emergence of environmentalism and ideas of sustainable development in the latter decades of the twentieth century came about as a result of increasing evidence that global society has been on an unsustainable trajectory since (at least) the Cartesian revolution, and the subsequent industrial/capitalist 'revolutions' which are now increasingly globalized. It might thus seem perverse and dangerous to try to dissolve the idea of (separate) nature as the apparent global environmental crisis deepens, and global society is belatedly waking up to this predicament. The specter of anthropogenically induced climate change is just one of a number of profound concerns which are novel to the human story thus far. Deforestation, the overfishing of the oceans, the degrading of soil and water resources, pollution, and the overall decline in biodiversity are other very pressing matters. Nature is in trouble. Should we be attacking it conceptually as well?

For some, the answer is that we need to dissolve the nature/culture divide in order to avert disaster and to better understand our relationships with and within biophysical systems. Our conceptualization of nature as separate from, 'and subordinate to', culture has allowed corrosive entanglements, often emanating from industrial cultures, to ensnare and overwhelm the beings, spaces, and processes which comprise 'the natural realm'. Nature and culture become imagined and studied as separate, and so much of the traffic which has routinely crossed the 'divide' goes unnoticed and unpoliced. Fresh waves of intense and novel mixings of 'social' and 'natural' elements, which are poorly understood and which

still go unpoliced, may throw up further major problems which are global in reach. And, there is a very real concern that 'nature' will not go quietly. Extreme anthropogenic disturbances to biosphere systems will possibly throw up new patterns and processes, such as the melting of the ice caps, sea level rises, and realignments of climate zones and ocean currents, which will not be at all sympathetic to many settled, cultural, and ecological arrangements. A number of environmental writers are pointing out that this has already started: for example, Elizabeth Kolbert and Mark Lynas.

### Learning the Long Game!!

The increasingly detailed evidence of past geophysical processes now being gathered by environmental archaeologists, when put alongside histories of human societies, shows that what were once hard to explain rises and falls of power, success, and failure in social/political systems, can sometimes be attributed to long term variations and cycles in biogeological systems such as shifting climate zones, or the fall out from extreme events like super volcano eruptions. Nature and society have always been much more entangled than our histories have envisaged. Nature is not merely a passive stage for human history but rather one of the lead players in the show. Megasytems such as the Sun–Earth–Moon interactions, ocean currents, and exchanges between ocean and atmosphere shape the very conditions within which the human social exists. Time is a vital aspect of all this. The temporalities of cosmology and geomorphology are extremely hard to read in terms of social time, and it is only quite recent discoveries which allow us to read these huge rhythms and cycles in which 'social' life is enframed. To better grasp the entanglements of nature culture, we need to readjust the temporal horizons and sensitivities of our understandings.

### It Was/Is Not Always Thus!!

Finally in this section, it is worth noting that the nature/culture divide has not always been in place, and in some nonmodern societies was never established. Excellent histories of environmental thought, for example, by David Pepper, take us back to the inception of the dualism and to what was in place beforehand where nature culture conceptualizations were very different. We are told of the 'great chain of being' where humans, animals, plants, and natural materials were in one overarching, hierarchical family with god at its head and angels taking their places too. In nonmodern societies, and in other theological constructions of life, again nature and culture are not divided but part of grand cycles or narratives of creation, life, and death.

Two simple points are to be made. The first is that under these differing conceptualizations, differing



practices, politics, and ethics of nature society emerged showing how basic understandings of how the world 'is' then underpin actions, politics, and ethics. The second is that recognizing these alternative models shows that the nature/culture divide, and the view of nature that it creates, is not 'natural' or inevitable. Understandings of nature culture relationships have changed, can change, and will change again. The nature/culture divide is showing distinct signs of wear and tear as it comes in increasingly besieged from a range of perspectives. Various branches of knowledge – philosophical, environmental, social theory/science, the natural sciences – need to play their part in questioning the 'divides' that seem to have served us so ill, and in trying to unravel the myriad nature culture entanglements which in fact make the world.

### All Nature or All Culture?

One way to dissolve the divide is to simply say 'all is nature', or, 'all is culture'. The divide disappears. On the face of it, good cases can be made for both these positions. It is reasonable to think that there was a time before humans evolved that all was natural. Humans and their culture have evolved from nature and thus can be seen as extensions of nature. They are just very particular forms of nature. Even the most cultural, artificial things one can think of, say, the Manhattan skyline, is composed of natural elements which have been assembled by human animals. Perhaps they should be treated and studied as such – as natural objects, not that dissimilar from the towering termite mounds of Africa. Alternatively, all could be said to be culture. The very idea of nature, our knowledges of biology, chemistry, physics, and so on are all productions of human mind, thought, and language. In this sense, everything we know we have created. We can only think of nature once culture has invented it. Before Newton had his encounter with the apple, gravity simply did not exist as a force to be reckoned with. These 'one way' approaches to dissolving the divide are discussed below. They are important because they point to the huge constructive power of both nature and culture. After these are tackled, approaches which offer more 'symmetrical' views are considered.

### All Is Nature: New Life Sciences

It could be seen as ironic that some of the more recent insights and discoveries of natural science have challenged the great divide and make a strong case for all being nature. They show the great extent to which human life and culture has emerged from, and exists as little more than faint flickerings within processes of biochemical existence. Foremost among these are developments from Darwin's theories of evolution which

place the cultural firmly as an extension of the natural. This is not only in terms of how we evolved but in how many cultural forms stem from more basic animal functions. Donna Haraway pithily asserts that biology and evolutionary theory have reduced the line between humans and animals to a 'faint trace'. Theories of affect as far back as Spinoza, as well as more recent psychological and neurological insights, all show that rationality, language, and consciousness are not isolated from the body and bodily processes, such as the unconscious and the emotional, but rather are emergent from it. At this point, culture becomes little more than a thin film of extension on these natural processes. Supporting and extending these interconnections is the recent decoding of DNA, apparently showing the mechanisms by which the forms of all life unfold. The line between humans and not only animals, but all living things, and between determinism and free will becomes increasingly faint.

Yet, further layers of interrelation can be wrapped around this unity of living things. All life, and the very stuff of our planet, has been spun out of the processes of cosmological evolution. The popular music star Moby sings 'we are all made of stars'. All the complex atomic elements which go to make up the Earth and life on it were produced by the nuclear fusion of distant, ancient stars. These exploded, scattering the elements into vast stellar dust/gas clouds which, eons later, compress and form planets; then, perhaps, life on them, then, perhaps, culture from that life. Is the cultural hence merely vivid and fleeting blossomings emanating from vast and deeply embedded natural processes? This raises the question of 'determinism'. Is all present and future action shaped by a determinable progression from past situations – 'natural determinism'? Is human nature defined by our environment – 'environmental determinism'; or our biology – 'biological determinism'; or a combination thereof? Perhaps, all we can say here is that these are some of the most profound and challenging questions in science and philosophy, and that many cases are made for varying degrees of freedom of action at any given moment, albeit set within the shaping contexts of unfolding processes.

### All Is Culture: Social Construction and the End of Nature

In human geography and the social sciences, rather predictably perhaps, it has been more fashionable to see culture framing nature rather than vice versa. This is the insight of social construction, and we think about it here because it forms another sustained attack on the nature/culture dualism. In this case, the divide is collapsed by overwhelming the apparently natural with flows of constructive power and practice from the realm of the social. Popular accounts such as Bill McKibben's *The End of*

*Nature* depict culture overwhelming nature so that no part of it remains untouched. The atmosphere has been changed; even the frozen wildernesses of the poles contain traces of pollution. Nature has lost its purity and independence, and that is what made it 'nature' in the first place. The argument is that nature and culture once did stand apart, and that separation was key to their very being, but culture has now corrupted nature in qualitative and quantitative terms. McKibben subsequently qualified his argument, but it rests on restating the problematic dualized view of nature as different and separate from culture.

Social constructivist work, as geographers such as Noel Castree have pointed out, instead argues that 'nature' never was or is, simply natural. Rather, it is a collection of powerful cultural ideas which become understood as 'real' or 'natural'. If nature is created by culture, then the creation is commonly denied, or forgotten, and the product seen as outside culture. This process, for some, constitutes the very 'essence' of nature, which is really 'discursively constructed all the way down'. William Cronon shows that such processes even apply to wilderness, the space where a quintessentially pure nature is supposed to exist. He shows that the idea of wilderness was a construction of modern society and its troubled relation with its environment, as industrialism and urbanism developed, along with the colonial expansion of European culture into the North American west (and elsewhere). To see these places as wilderness was to deny the complex histories of the landscapes which had for millennia included the presence and effects of aboriginal populations.

Noel Castree and Bruce Braun point out that demystifying nature in this way is intellectually and politically radical and liberating. They further add that "there is no generic social constructionist position, only specific modalities of social construction" emanating from differing cultures in differing places and times which generate a whole range of contested and contesting natures. Rather than one untouched, unchanging 'nature', this work points to the creation of a hybrid 'social nature' which is constructed and can come in a number of forms, ones that Castree lists as, 'knowing nature', 'engaging natures', and 'remade nature'. These are about the ways in which we (humans) understand what is natural, and how these understandings are played out as we encounter and remake that nature. This becomes an ever more pressing question as politics play out in bodies and identities, and as scientific and technological interventions remake nature right down to, and beyond, the bone. The phrase 'artifactual natures' has been coined to represent this idea of nature which is 'purposefully engineered'. Geographers such as David Demeritt stress that we must ask what types of artifactual natures are now being developed, by whom, and with what consequences?

Even advocates of constructionism admit that we are now in a postconstructionist era in geography and beyond. Critiques of social nature can accuse it of what Castree calls, hyperconstructionism, the idea that there is no stable, object, material nature 'out there'. Geographers such as Chris Philo and Sarah Whatmore suggest that constructionism has resulted in geographies of nature which empty nature of its vitality and agency to an extent where (at worst) the world is rendered as an exclusively human achievement in which 'nature' is 'swallowed up in the hubris of social construction'. Demeritt argues that conflicts over ideas of social nature arise partly out of the great complexity and varieties of meanings attached to the components of the concept; and he seeks for a clearer position by pointing to ideas of 'constrained construction' where there is a material process, say, climate change, and then a whole range of scientific, political, and cultural forces and perspectives complexly and discordantly clustered around it.

Despite its apparent decline, Neil Smith's assertion that the insight of social construction cannot be bypassed or set aside seems hard to gainsay:

The central and undeniable insight is that the authoritative appeal to reality as the ground of truth claims is always filtered through the social muslin of representations gathered into discourse (no matter how liberal and permissive the muslin may be) and that no kind of purely extra social authority is available for arbitrating the shape and dynamism of nature (Smith, 1998: 273).

This view of the power of thought, language, and culture at the heart of constructive discourse does need to be heeded, but in ways somehow still allowing nature, life, and power (and, of course, a pre/extra human history). The 'one way' approaches reviewed so far reveal the power of both nature 'and' culture, but only at the expense of the other. The seven alternative approaches to which we now turn, in differing ways, seek more 'symmetrical' ways of dealing with nature culture.

### **Reweaving the Torn Asunder World: Seven Approaches to Nature-Culture**

What is in a hyphen? Or, in what ways are the relatively settled, separated ideas of nature and culture being linked or re-entangled? Do we need to see nature and culture as somehow extant, but thoroughly interpenetrated? Or, do we need to go further still, to a point where we think about the world, and facets of it, in ways which do not even recognize the old division and old terms at all, but rather, in ways which only allow for many other, smaller differences? What kind of categories, languages, methodologies, politics, and ethics are needed to construct such a new worldview? This section outlines

seven approaches that variously seek to tangle and to combine categories of nature and culture.

### Actor-Network Theory: A World of Networks

Advocates of actor network theory (ANT) such as Bruno Latour have mounted a concerted attack on modernist modes of classifications. They insist that the persistent separation of the world into cultural (or social) and natural denies the entangled 'nature' of everyday material life and allows dangerous entanglements to flourish unnoticed and unpoliced. ANT has sought to develop a 'symmetrical' view across the previously inscribed nature/culture/technology divides. This symmetry dissolves not only the nature/culture dualism, but also that of subject/object and agency/structure. Indeed, Latour has recently written that we should now completely bypass the old dualisms. We should no longer treat them as starting points for discussions (as so many do) or even as grounds of debate and attack. We should get on instead with tackling the world of actualities – networks or assemblages which contain unique, complex, and changing populations of people, organisms, things, substances, and processes. ANT hence argues that all manner of things (as many as you can imagine) are variously entangled together in specific formations or networks in the making of the world. These networks produce any given achievement in the world, be it education, power generation, food production, politics, music, and so on. Four points can be made about these networks which underpin the relational world view more generally.

First, the networks that ANT envisages make up the entirety of the unfolding fabric of life. They come in many forms and scales. They are unstable and prone to breakdown, and lots of effort goes into stabilizing and repairing them. Many networks fail or just moulder away, others constantly emerge. Second, networks make space rather than trace across previously present 'empty space' which is waiting for life to fill it. Straightforwardly Euclidean notions of space are rendered topological – space is crumpled, lumpy, folded. For example, Latour says that a journey on a modern train across Europe is an entirely different time-space matter than a perilous hike through thick jungle. Old notions of space – place as bounded locality, distance and nearness, local and global – are all problematized. Offices and computers in distant world cities may be in effect closer to each other than they are to areas of poverty which might be physically just down the road.

Third, all elements of the network are actors, or actants, which have agency or actancy (both latter terms are intended to de-center the human subject). Actants' identities and qualities are not innate but are relational – emergent from the network into which they are bound. Fourth, power needs to be read as located throughout the

network rather than just at key centers. ANT is particularly interested in devices which connect and can effectively transmit agency/power from one part of the network to another. How are actants enrolled into a network? How are they held in place? What manner of translations and translating devices are needed to allow differing types of actants to communicate and thereby maintain network stability? The historical argument is that the nature/society divide was a creation of modernity which ignored the true conditions of connected, networked, relational life. If 'modern' means nature/society divided, then 'we have never been', and never will be 'modern', as Latour famously put it. This is not just some esoteric philosophical argument. Latour points out that our divided vision of the world has made us blind to the traffic which criss crosses between the apparently separate realms of nature/society, and also to the monstrous formations which can thus form.

ANT has been questioned for its lack of interest in uneven power relations and thus in victimization. Nigel Thrift, while acknowledging its insights, has suggested that it fails to deal with ideas of place. Nick Bingham with Thrift suggest that it misses 'the sizzle of the event', that is, the complexities of encounter between entities. ANT also has a strongly technological inflection which seems to under-represent organic living things. Some have questioned whether it is reasonable to treat different types of actants in networks – for example, machines and animals – in the same (truly symmetrical) way. The life of animals here seems to be denied, almost as in social constructionist approaches. As in social construction, however, the power of the central insight of this approach needs to be carefully heeded as we contemplate nature-culture assemblages that make up the world. It seems undeniable that everyday processes unfolding in the world do involve a whole host of actants from right across the spectrum of existence working together (ideas, texts, chemicals, machines, organisms, processes, finances, and so on) – all being assembled together in forms of 'heterogeneous engineering', a key ANT motif. The study of these networks requires new approaches which inevitably break out of settled disciplines and disciplinary 'regions', and requires new suites of methodologies (although specific methodologies will remain useful as forensic techniques of investigation).

### Hybridity: Impure Life

Hybridity relates very closely to ANT, but it also brings certain nuances and emphases which deserve specific attention outside, or along with, the 'strictly network' approach. A dictionary will tell you that hybrid means something like, 'anything derived from heterogeneous sources'. Often, it refers to plants or animals which are interbred rather than pure in origin. The heterogeneity,

the impurity, of ‘theoretical hybridity’ is an attack on dualized and purified identities and categories, notably that of nature/culture. ANT networks are clearly hybrid in their combining of a variety of actants into assemblages, but hybridity adds to this vision in two ways. First, it stresses that individual bodies are never pure. It becomes too easy to see networks as assembled from elements of nature, technology, and culture whose form and identity still retain the foundations of the modern settlement. Second, hybridity stresses more open, other, spontaneous, and unruly forms of becoming than ANT sometimes does. This emerges in part from hybridity’s intersecting of biophilosophy with feminist theories of fleshy living bodies, as in the work of Whatmore.

One famous example of a hybrid body is Haraway’s ‘cyborg’, who is part machine, part woman, and part animal. She/it deals in and through instinct (nature), language, body, and technology. This might seem a bit fanciful to some. But at much more prosaic levels, we humans are all cyborgs: people with hearing aids, glasses, and a range of medical implants are to a small, but significant effect, hybrid entities. Their capacities are changed; nature (the body) and technology blur into each other. The same could be said for all the clothes and tools that we use every day: these cannot but shape our very capacities. Gilles Deleuze and Felix Guattari offer hybrid views of conjoined bodies formed of human, nonhuman, and technology making new entities with new capacities for action. For example, a rider, a horse, and riding technology (saddle, stirrup, and reins) together become a new entity which has new power and space/life making potentials (think of the Mongol empire).

The hybrid geographies of Sarah Whatmore focus not only on the ecologies of life, and the material relations through which they are articulated, but also on how these are contested and remade through knowledge, politics, governance, and ethics. Interdisciplinary experimentation between previously isolated approaches, and the scrambling of ‘expert’ and ‘lay’ knowledges, are thus to the fore in her recent research projects. Geographers such as John Murdoch and Paul Cloke use the term hybridity (and co constitution and co construction) as a broad approach of which ANT is one part. They argue that hybrid approaches focus our attention on the ways in which the previously held apart worlds of nature and society routinely and inevitably mix.

At the heart of the notion of hybridity, and ANT, are questions about the balance between relationally and individuality. Whatmore is keen to increase the pressure on the notion of the autonomous individual (human and nonhuman) and the mind/body, subject/object, self/other divides, in order to build knowledges, politics, and ethics of affective intercorporeality. This is moving toward ideas of ‘geophilosophy’ which are best exemplified by the work of Deleuze and Guattari. These authors build a new

set of conceptual tools and categories which can address the complexities, hybridities, and fluidities of the entangling world. New spatial languages such as smooth and striated space, lines of flight, flows and grids are developed; new terms for being – becoming animal, bodies without organs – are developed. In terms of logics of knowledge and logics of networks, rhizomic replaces arboreal hierarchy. Unlike trees, rhizomes are nonlinear and nonhierarchical; they can grow and branch at any point, in any direction. Some proponents of the hybridity approach feel that it becomes problematic in the way that everything becomes, somewhat perversely, the same; in that, everything is just made up of disparate elements which have come together in some way or other. The way around this problem is to take notice of the differences in the precise ways that specific hybrids are formed, noting crucial differences in their spacings, timings, and capacities. This noticing of difference begins to divide the world up again, but not along the old line(s) and not on the old scales, and we will return to this point later. We now consider five further approaches in which nature/culture is re-rendered into nature/culture.

### **New Dialectics; Certain Kinds of Networks (Capitalism)**

Marxism has had a central interest in nature and nature/culture relationships from its inception, not least in how capitalism alienates society from nature and renders nature as property. Latterly, various attempts have been made to project Marxism into ecologism (or vice versa), seeking to make ‘green Marxism’. At the heart of the Marxist approach is dialectical materialism in which nature is embedded as a generative force. Particularly as developed by David Harvey, new dialectics attempts to extend these key trajectories and embrace a more fully relational, hybrid, view of the world. As such, it makes a sustained attack on both the nature/society dualism ‘and’ the dualism of space and time. Here, as in ANT and hybridity, there is a relational view of actants. They are not separate, or in possession of innate, stable identities; rather, their natures are relationally inscribed. But Harvey, from his Marxist base, suggests that capitalism infuses the majority of networks, or relations, which have constructed the modern world, arguing that this fundamental process needs to be confronted. Humans and nonhumans in ‘socio-ecological formations’, as Castree sums up, “become the ‘arteries’ through which an invisible process of ceaseless capital value expansion operates.” His materialist formation then sees not only society making nature in its image but transforming nature, and nature in turn dialectically reworking society. There is a resistance from natural elements as they are forcefully enrolled into capital accumulation networks,

which sets up the dialectic dynamic. Castree offers fish farming as an example of this kind of dynamic between economy and nature. It seems to be a logical market response to the challenges and expenses of sea fishing and fish stock crisis and resulting quota systems, but the many well documented problems with fish farming reveal natural elements not simply conforming to capitalist logics but instead, subverting, resisting, and outflanking the impositions placed upon them.

Margaret Fitzsimmons supports this focus on industrial capitalism which over the last 200 years has, as she puts it, ushered in “massive ecological change ... writing over the landscapes and lifeways of other human cultures.” She points to the four basic interactions among living organisms: competition and struggle; adaptation into niches; collaboration and cooperation; and environmental transformation and how, through the study of their entanglements, Harvey’s purpose is to find

... a way of depicting the fundamental physical and biological conditions and processes that work through all social, cultural and economic projects ... in such a way as not to render those physical and biological elements as a banal and passive background ... [so that] ... somehow the artificial break between ‘society’ and ‘nature’ must be eroded, rendered porous and eventually dissolved (Harvey, 1996: 192).

From this base, Fitzsimmons, after Harvey, advocates academic interaction between the natural and social sciences, and solidarity with active socio ecological projects that address both justice and difference.

Castree feels that the impact of the new dialectics has been limited by the turn away from Marxism in geography and the social sciences. That said, even the new dialectics is thought by some to slip back inadvertently toward, or never properly to shake off, a dualized view of nature/culture embedded in dialectical reasoning. An other criticism is that relations are defined almost inevitably as conflict, whereas other approaches are keen to seek out positive sum relationships between, say, economy and ecology. Nevertheless, this perspective offers a focus upon the key role of industrial capitalism in shaping the spaces and networks of the world in which human and nonhuman elements are relationally articulated. Felix Guattari, in his book *The Three Ecologies*, makes it plain that it is capitalism which is denuding cultural, psychological, and ecological diversity to the extent that we are witnessing ‘ecocide’.

### **New Ecologies: Mobile, Impure Natures**

Since it was coined by the nineteenth century German biologist Ernst Haeckel, ecology has been regarded as one of the natural sciences and a branch of biology. It

focuses on the study of organisms and their relationships with their environment (including other organisms). Thus mostly, but not exclusively, it has focused on the nature side of nature/culture. Given its focus on relationships, however, on occasion it has moved toward a thoroughly relational view of life and drawn in other disciplines in order to effectively map life, meaning that it has, in effect, bumped up against the limits of narrow disciplinary foci and the nature/culture worldview. Ideas of new ecology have emerged which question established ideas of separate nature ‘and’ various assumptions about that nature, particularly assumptions of equilibrium – that nature is in harmony and balance – and that nature is a pure system which in contact with society ‘inevitably’ corrupts, distorts, and lessens. Instead, there is an assumption of nonequilibrium dynamics, spatial and temporal variation, instability, complexity, uncertainty, and even chaotic fluctuations as being more the norm for biophysical systems. This is thought to be so for both apparently natural and apparently human impacted spaces.

Along with a greater emphasis on disequilibria in new ecology, there is a (related) assumption that systems are more open than closed, with exchange and flux between systems occurring constantly. There is concern for spatial and temporal dynamics developed in detailed and situated analyses of ‘people in places’, using, in particular, historical analysis as a way of explaining environmental change across time and space. There is a rejection of the view of nature as separate realm into which human life intrudes, and any correspondingly simple idea of ‘first nature’ being superseded by ‘second nature’. New ecology hence regards ecosystems and habitats as systems which may be more or less open or closed, stable or volatile, certain or uncertain, fleeting or enduring, spatially focused or diffused, and in which a whole host of agents are interacting, including humans. The challenge from new ecology, according to (Castree, 2005: 235), is “to regard human actors as always already ‘part of’ complex and changeable biophysical systems” whose actions do not necessarily ‘corrupt’ or reduce nature. New ecology offers a more hopeful, but still challenging, view that nature–human interactions can be positive. It is not hard to find at least some obvious examples: Bill Adams, for instance, points out that some of the richest habitats in the UK in terms of biodiversity are adaptive, such as chalk downland grazed by domestic animals, and coppiced woodlands. Here, economic production has gone hand in hand with the production of rich (in biodiversity terms) natures. These hybrid ecologies where both culture and nature seem to flourish have often been relatively neglected in scientific and political agendas.

New ecology also moves the purview into terrains less often regarded as natural such as cities which, with their mosaics of spaces such as gardens, parks, allotments,

derelict land, transport network ‘verges’, and landscaped spaces such as car parks, can offer a much richer ecology than intensively farmed, but apparently green, rural landscapes. Thus, even the quintessentially social spaces of the city can be ecologically rich, and places of a new cosmopolitan politics of human with nonhuman co-vivability. Recent studies have shown that the biodiversity hotspots of Germany are not to be found in the countryside or nature reserves, but in cities such as Berlin. Given the rise of the urban world, this is a vital realization, and it also offers wider lessons in the possibilities of human and nonhuman flourishing. One of the challenges of new ecologies, however, is that a recognition of complexity and uncertainty shows how (simple) prediction, management, and control are unlikely, if not impossible.

### **Dwelling: Human and Nonhuman Life as Emergent, Relational, and Emplaced**

If new ecology sees human action as part of the natural world, then perspectives on dwelling tend to see nature as part of humanity. Dwelling is about addressing life in terms of being in the world as an active, embodied, im-mediate, yet also temporal (enduring) relational process. It is about living body in environment (space and place) which is sensing, responding, engaging, exchanging, remembering, knowing, and doing. Dwelling offers a more organicist view of the world than that of ANT. Here, we have the world constructed of the many co-minglings of nature-culture actants within the everyday dwellings of particular worldly locations. Sarah Whatmore and Steve Hinchliffe have discussed how dwelling is about the ways in which “humans and other animals make themselves at home in the world through a bodily register of ecological conduct.” Springing from the later work of Martin Heidegger and related phenomenological approaches, dwelling offers a ground from which life (human and nonhuman) can be rethought away from Cartesian derived dualisms. Dwelling differs from social construction approaches through its stressing of the physical, the relational, the sensed, the orchestration of body and space/environment.

The work of anthropologist Tim Ingold is pivotal to the current upturn in interests in dwelling in geography, sociology, and beyond. For Ingold, dwelling is a perspective that treats the immersion of the organism-person in an environment or life-world as an inescapable condition of existence. The world “continually comes into being around the inhabitant, and its manifold constituents take on a significance through their incorporation into a regular pattern of life activity” (Ingold, 2000: 153). He suggests that nobody and nothing has ever crossed the ‘/’ of nature/culture because it simply does not exist. Dwelling is often explained as a switch from a ‘building

perspective’ to the ‘dwelling perspective’. The former rests on the notion that human thought and action is somehow isolated from the world and thus in a position to impose on the world, literally, to build upon it ideally generated blueprints. The latter points out that any form of life emerges from the world, and that there is never a gap through which thought/practice can completely free itself. The two are always entangled; meanings do not overlay the world but are immanent in the contexts of engagements which perform it moment by moment. This turn has also been mapped as a switch from ‘thinking space’ to ‘thinking place’. Both human and nonhumans are given active roles in this interplay of body and environment.

Ideas of dwelling are potentially bound up with the notions of home, local, and (rural) rootedness. This sits uneasily with the apparently mobile, speeded up, stretched out nature of much contemporary (urban) life. But in such life, time-space deepened experience remains inevitable, and new forms of repeated encounters still abound, such as commuting to and from work. Examples of life without enduring relationships with places such as home (of some kind or other), workspaces, or cities, and with patterns of rhythm and repetition, are nonexistent. Dwelling then inevitably leads to an emphasis on temporality/process in the consideration of landscapes. To capture the relational, emergent, creation of space, Ingold coins the term ‘taskscape’, where the spatiotemporal patterning of the environment takes relatively settled physical form through repeated practice. But this is to make the point that all landscapes/places are taskscapes, in which case the distinctions between them are ultimately dissolved.

Sociologies of nature suggest that dwelling overcomes conflicts between ‘realist’ and ‘idealist’ approaches to nature and environment. Adrian Franklin places dwelling at the heart of a new anthropology of nature which pushes toward an animated, turbulent vision of the world unfolding in a burgeoning far-reaching (in time and space) interfolding of processes. He suggests that the basic building blocks of this anthropology are “un-mediated perceptual knowledge, practical experience and knowledge of the world, the technologies that link humans and nonhumans, the aesthetic and sensual composition of experience and the cultural choices that are made in reference to these” (Franklin, 2002: 71–72). Uses of dwelling in geography by Paul Cloke and Owain Jones problematize a risk that we might replace nature/culture dualisms with a dwelt/authentic-undwelt/in-authentic life dualism which is present in Heidegger, which can lead to a dualism between bounded space and network. John Wylie further adds that dwelling must confront the novel, the fleeting, the singular, and the moment in emplaced becoming, as well as the longer patterns of familiarity, practice, habit upon which dwelling has tended to focus.

## Animal Geographies

One important development in notions of dwelling is the use of the concept to consider the lives of nonhuman animals. The dwelling of animals as well as of humans, and the continuities between them, are important threads in Ingold's work. Geographers such as Thrift use the related notion of Von Uexküll's life world to stress the particular intelligences and spatial practices of dwelt (animal) life. More generally, the somewhat oxymoronish focus on animals within 'human geography' emerges from a recognition of intense mixings and intimacies between humans and nature in the particular forms of animals, and the myriad spatialities of differing animals' presences in differing societies. The thrust of this can be traced in two edited collections from a decade ago, one by Jennifer Wolch and Jody Emel and the other by Chris Philo and Chris Wilbert, which study how animals are implicated in the social in a vastly diverse range of ways; how the acknowledgement and study of these implications has been marginal(ized); and how the questions and implications posed range from the ecological, through the political, to the ethical.

In animal geography, David Matless and various colleagues have developed ideas of nature culture by considering what they call 'animal landscapes'. Expanding examples of hunting and other forms of animal-human interactions historically embedded in place and landscape at a differing range of scales, they show how relations with animals can be a powerful part of human identity and place formation. These processes vary from example to example, and will almost certainly contain conflict as animals are constructed and acted upon differently. Matless uses the example of hunting and wild fowling in the Broadlands (UK) where various historical renditions of the landscape, from topographical writings to museum displays, can chart these 'animal landscapes' and their changing formations as new actors (e.g., new species) and new cultural ideas are folded into the mix of landscape. In another study which uses otter hunting as an example, hybrid and animal geographies are combined and developed in a number of ways. The geographical context of encounter, the nature of the animals involved, the class and culture of the human actors, all fold into highly dense, and highly specific, geographies of culture-nature-animality-place.

## Places as Entanglements

Place is a complex and somewhat fuzzy term, but in various guises it has a track record of scrambling, to some extent at least, the nature/culture divide. Places, in terms of somehow distinguished local spaces, have obvious material, physical 'and' cultural dimensions. There has long been an interest in the interplay of these dimensions

in the very formation of place. Humanist geographers such as J. Nicholas Entriken have sought to develop ideas of place which also scramble simply dualized notions of objectivity and subjectivity, but beneath all this scrambling the nature/culture divide often tacitly remains as place beds down into being 'humanized' space and nature. A concerted effort has hence been seen to rejuvenate approaches to place in human geography which are keen to jettison any notion of them as simply bounded, static, social spaces, all too easily demarcated on a map by a line. The aim instead is to propose places as temporal processes where all manners of trajectories – of people, nonhumans, economies, technologies, ideas, and more – contingently settle out into distinctive local patterns. These are always changing, yet enduring for now, until forced apart, perhaps through new flows of forces from elsewhere, as they always remain networked into the wider world. Thus these views try simultaneously to hang on to both a topographical, located, dwelt view of life and a topological, networked view of life.

As Ash Amin and Nigel Thrift summarize, "places are best thought of not so much as enduring sites but as moments of encounter, not so much as 'presents', fixed in space and time, but as variable events; twists and fluxes of interrelation." Both the 'social' and 'natural' elements are on the move in these views of place. Doreen Massey, in her major text written in 2005, is at pains to stress the dynamic nature of nature. It is not just a case of social flows whirling through, and tangling with, more fixed grounds of nature. Indeed, if a long enough view is taken, even land itself can be seen swirling across the surface of the globe through processes of plate tectonics. Many other natural processes operate in flows, rhythms, and velocities equally unamenable to everyday human apprehension, yet also which remain highly various, such as ice ages, sun spot cycles, and long term weather patterns. These we need science to read. Other rhythms such as planetary movements and the seasons, and corresponding movements/rhythms of oceans, animals, and plants are amenable to 'ordinary' sensing and memory. All these velocities and rhythms flow together into ongoing makings of place.

All manner of actants thus bring their agency to the formation of place, which is one key outcome emerging from eddies or entanglements in trillions of intermeshing flows patterning space-time. Cities, houses, offices, parks, cars, desks can all be seen in this way. Stephan Harrison *et al.* argue just this; "[a]ll kinds of things can come together in the world and, in that process of encounter and settling down into at least a short term equilibrium, they can creatively produce new kinds of organisations that are greater than the sum of their parts." Thrift incorporates a whole range of approaches, including dwelling and ANT into what he calls 'ecologies of place'. To this, he adds yet further

entanglements of memories, longing, affect, and even hauntings. Place can be a receptacle which holds together all of these rich entanglements of the social, the natural, the material, the imaginary, the past, and the present.

### Four Key Challenges of Nature-Culture

As we have already set out, the modern settlement of nature/culture sits at the very foundation of modern knowledge along with related dualisms such as subject/object and agency/structure. It is inevitable that, if these foundations are successfully undermined, the ramifications will be far reaching and a lot of rebuilding work will be required. Understandings of agencies, ethics, politics, disciplines, and methodologies need to be urgently reworked as we change nature/culture to nature culture.

### Agencies of Nature-Culture

In the modern settlement, agency is seen as a distinctly human capacity. It is understood as the capacity of the human subject, using thought, language, and free will, to act on the world. Even higher order animals have been excluded from ideas of agency – they act by complex instinct alone in ways from which they cannot creatively depart. Below them, lower order animals, plants, and materials are deemed purely mechanical followers of set processes. This privileging of human agency has been a ubiquitous factor in modern knowledge and a key architecture of the nature/society divide. Margaret FitzSimons and David Goodman claim that it has been commonplace in social theory to ignore the specific ‘agency’ and ‘materiality’ of nature. We have discussed agency already in the approaches to nature culture outlined above, but it is important to note that they all, albeit to different extent and in somewhat differing ways, challenge the privileging of human agency. As this is a key architecture of nature/culture, it has become a prime target for those seeking to move to nature culture.

Environmental philosophers such as Val Plumwood and Arne Naess have long argued that agency needs to be given back to nature. In Plumwood’s terms, “once nature is reconceived as capable of agency and intentionality, and human identity is reconceived in less polarised and disembodied ways, the great gulf which Cartesian thought established between the conscious, mindful human sphere and the mindless, clockwork natural one disappears.” Put at its simplest, ‘we’ humans would not be here without (among many other things) the sun (and other stars), the moon, the millions of microbes which occupy our bodies, the plants, and animals with which we share the world – without, in short, nonhumans of many a hue. Life itself is a creative force. Surely, this is a form of agency?

There are however challenges to thinking about the agencies of nonhumans alongside those of humans. The answer is not to deny humans agency, but rather to re-think what agency is and how it is enacted. There is now a concern to redefine agency in ways which allow it to arise through nature society assemblages, and which recognize the specific, embodied, agencies of beings and things other than human. This is not to deny the uniquely distinctive capacities of humans, but rather to expand the notion of agency. Whatmore (1999: 26) suggests that agency should be seen as “a relational achievement, involving the creative presence of organic beings, technological devices and discursive codes.” Latour argues that ideas of agency need to be disaggregated in order to account for the differing ways in which the global population of things can creatively act. According to him, “there might exist many metaphysical shades between full causality and sheer non existence [in terms of agency]: Things might authorise, allow, afford, encourage, permit, suggest, influence, block, render possible, forbid and so on” (Latour, 2004: 226). He feels that “no science of the social can even begin if the question of who and what participates in action is not first opened up, even though it might mean letting elements enter that, for lack of a better term, we call non humans”(Latour, 2004: 226).

Two further brief points need to be made about agency in nature culture. The movement of attributing agency to nonhumans is in a way an extension of the idea of human agency. It is the capacity of individuals to act. Latour talks of ‘things’ acting. The more relational processes set out above seek to destabilize this view by saying it is the relational interaction which generates agency, not from individuals alone but between things. We also need to recognize the agency of processes, for example, of photosynthesis and of tidal fluctuations. In a world of process, these are the major creative forces which flow through things and in which things cause turbulence. The second point relates to the idea of place set out above and is also returned to below in the discussion of sites. If the world is made up of mixings, a vast interrelating set of mixings across space and time which are always in flux (in a whole range of velocities), then the contingency, the ‘turned upness’ of those mixings has an agency. What we are bumping up against in the course of our everyday life makes a difference. This is the agency of chance and of difference.

### Ethics of Nature-Culture

The opening up of questions of agency goes hand in hand with the opening up of questions of ethics. The environmental philosopher Holmes Rolston notes how the common assumption persists that ethics are for people. People are both the subject and the object of



ethics, in the sense that only humans are deliberative moral agents and also that humans have ethical obligations only to other humans. Under modernism, ethical consideration has largely operated only up to the supposed boarder of nature, or stopped very soon after it. Environmental political philosophies such as ecofeminism and deep ecology, however, have long contended that the application of ethical concern solely or principally to the culture side of the nature/culture dualism alone is deeply unethical in itself, and a key driver of unsustainable practices. Shiva argues that the scientific revolution in Europe transformed views of nature and in doing so removed all ethical and cognitive constraints against its violation and exploitation. Questions of animal rights form a small but significant disturbance at this nature/society boundary.

Reconfiguring ethics to work throughout the entire body of nature culture is then a primary and again urgent task. Lawrence Buell argues that the environmental crisis involves a crisis of the modern imagination, the amelioration of which depends on finding better ways of imagining nature and humanity's relation to it. This reimagining requires, as Jim Cheney puts it, an "act of considerable moral imagination for those raised in the heart of the monster, the Western dualism of moral insiders and outsiders." We need forms of ethics which can follow entanglements, relationality, and hybridity through nature culture, and which are thoroughly embedded in ongoing practice so as to acknowledge the vitality, agency, and value of human and nonhuman life. We need some how to heed the voices of 'nature' and let them speak in our (human) political and ethical deliberations. Michel Serres has eloquently stated that, through exclusively social contracts, we have abandoned the bond that connected us to the world. He asks "what language do the things of the world speak that we might come to an understanding of them contractually?" And he answers that, in fact, "the Earth speaks to us in terms of forces, bonds and interactions, [] Each of the partners in symbiosis thus owes life to the other, on pain of death." This heeding of nature will include acknowledgement of difference and otherness not only between people but between all humans and nonhumans, who remain also interdependently bound together in life on Earth. Geographers such as William Lynn have opened up the idea of the geography of ethics, while Owain Jones has pointed to the ethical challenges of life which come in very different scales and forms of embodiment and very different spaces, and even elements, such as the oceans.

### Politics of Nature-Culture

Many political implications and questions stem from the newly broken grounds of nature culture. Advocates of a nonmodern nature culture worldview have little faith in

modern politics. In terms of thought and deed, modern politics are outmoded, narrow, hopelessly out of step with how the world becomes moment by moment, day by day, and place by place. That said, ANT and sister relational approaches have been critiqued in turn for providing an uncertain ground on which to build any form of politics. The first answer to this difficulty is that, to reveal the relational, hybrid nature of everyday formations, and to begin to break up the modernist settlement of nature/culture, is a political act in itself. Key nonmodern thinkers such as Latour suggest that not only can effective science (both natural and social) only begin once the divide is breached, the same goes for politics too. In his key early work, Latour set out the notion of 'the parliament of things', which has been taken up as a motif for a new kind of politics in which hybridity, complexity, and process are central.

In his more recent idea of *Dingpolitik*, Latour is seeking new practices of politics, which form through and around networks, collectives, and 'issues of concern', where the more than human is given voice, where political assemblies are mobile (such as portable legislature buildings) and of multiple form. The grand succession narrative of adversarial, ideologically founded, conventional politics is replaced or broken up into many streams flowing at once. No longer are we faced with a simple, entrenched frontline between the left (and environment) and capitalism. 'Capitalisms', and other institutional arrangements, now take many forms, large and small actions with novel, local alliances and objectives are occurring worldwide. There is, as Latour puts it, 'a pixelization of politics'. New forms of politics and governance are hence being proposed through which the active agencies of things/nature can represent themselves, or at least be better represented. Jonathan Murdoch sets out some principles of 'ecological planning' where the processes and forces of nature are built into the very fabric of planning processes. Hinchliffe *et al.* in the context of researching nature in the city, call for a cosmopolitan politics of conviviality. They draw upon the cosmopolitan politics of Isabelle Stengers which is a politics in which the recognition of nonhumans into the body politic generates new formations of scientific and political practices, as well as more democratic distributions of expertise.

### Disciplines and Methodologies of Nature-Culture

The nature culture worldview also sets profound challenges for settled patterns of academia, disciplines and, to an extent, the methodologies that they employ. This does not entail a complete abandonment of the many forms of expertise that have devolved to describe aspects of the world. It is rather a redefinition of how, where, and in what ways those expertise are deployed. If particular

formations in the world, say networks of food production/consumption, involve a whole set of interacting processes and elements, including the biophysical, social, economic, political, cultural, and technological (as they clearly do), then the forensic skills of the natural and social sciences are still needed; but they need to be employed first in the acknowledgement that they are studying a symptom, a pulse in a larger body (rather than an entire body), and second in such a way which can communicate with other investigators. Thus we come to multidisciplinary and interdisciplinary approaches. But Whatmore warns that this needs to be about more than just placing disciplines side by side, it is also about changing the ontological and political basis of knowledge. We also need to embrace the pragmatist and non-representational realization that knowledge is not simply a representation of the world from the outside, but a creative practice in the world which changes it. If all is flows, processes, entanglements, and hybridity, in differing networks, assemblages, and places, then we need, as Marcel Henaff puts it, “procedural methodologies, taking seriously the particularities of the sites, the unpredictability of circumstances, the uneven patterns of landscapes, and the hazardous nature of becoming.”

### Sites of Nature-Culture

With new approaches to nature culture set out above, and new views of agencies, ethics, politics, and methods, we can begin, at last, to confront the legacies of geographies of nature/culture and the false divisions that it engendered. Geography has a distinct advantage in this respect, since one highly productive way of thinking nature culture is through spaces, or sites, of one kind or another. Geographers do not see the world as generally divided into ontological sections, but a world made up of many different places ‘and other’ forms and types of sites, patterns, and processes. There are many types we could choose to consider, but here, as particularly telling examples, we briefly consider bodies, cities, countrysides, and spaces of biodiversity.

*Bodies* (human) are primary sites of nature culture. They are at once intensely natural and cultural. We (humans) are entirely dependent upon a whole host of continual exchanges between our physical bodies and the wider environment that occur through various systems. For example, consider the millions of microbes which live in and on our bodies. The desire for a sterile, ‘germ free’ environment, one which is reflected/fueled by the promotion of many products impregnated with indiscriminate antibacterial agents, is a reflection of the imagined separation of human life from nature. It is a dangerous illusion. Some have argued that the rise of a number of health problems in developed societies is

partly put down to the oversterilization, purification, and isolation of human bodies, thus breaking the relational, trans body functions on which healthy life depends. Additionally, the ‘cultural’ manifestations of bodies (rational thought, language, self identity, free will, voluntary movement) are emergent from and dependent upon all manner of affective systems which include memory, emotion, and various physiological and biomechanical systems which are also common through the nonhuman world. The complexity of the nature culture within us all remains one of the great challenges to knowledge of ourselves and (our place in) the world. The reunification of nature/culture perhaps has to start with the body, just as the Cartesian dualism started at the bodily level.

*Cities*, like New York or Mumbai, can be, as Harvey points out, read as natural as well as cultural phenomena. They are raised out of wood, sand, iron, and the like. The point is not that these apotheoses of urbanity are especially ‘natural’. The same could be said for any city, town, or village, any house, or any artifact which, in the end (or beginning), emerges from raw material and chemical compounds extracted from the Earth and/or from living organisms. The point is that these cities and the spectacles that they offer (such as the Manhattan skyline), perhaps the most extreme, intense forms of cultural artifice seemingly a million miles ‘away’ from nature, can in a very real sense be seen as extrusions of natural substances and processes through complex dies which have created ‘culture’. Not only are they made from ‘raw materials’, but structural techniques such as columns, beams, and arches began their lives as mimics of natural arrangements and still adhere to the ‘the laws of nature’. They are assembled by the work of social organisms as much as is animal architecture. And of course, cities still have physical geographies, for example, topographies of hills, valleys, and watersheds. Furthermore, they teem with nonhuman life ranging from viruses, bacteria, plants, and animals, whose members overwhelmingly outnumber the human population. As already mentioned, cities can be biodiversity hotspots and more hospitable to many creatures than the countryside that might surround them. If human geographies of the city have tended to downplay the natural, then the study of physical geography has tended equally to ignore the urban. Again, as in bodies, cities are sites where nature culture is very vividly and excitingly evident, once we choose to see them in these new ways.

*Countrysides*. In the instance of ‘countryside’, notably the British countryside, the idea of nature culture is perhaps less novel, for it has long been claimed that the British countryside is as much a thing of culture as it is nature. Most of the land (and the very form of the land) has been adapted over centuries of agriculture, forestry, and other land uses. But the specificities of nature still hold great sway in how things go; for example, the changing bands of rock types which help determine soil, vegetation, and

landscape form. The patterns of the country are not simply inscribed by culture, but rather they are outcomes of differing trajectories of various beings and processes coming together, in various ways at various speeds and momentums, and more or less conflictually, and perhaps heading off in new relational directions.

(*Spaces of biodiversities, spaces of difference.* In her 2002 book *Hybrid Geographies*, Whatmore identifies two readings of biodiversity, one which follows the nature/culture divide, another which does not. In the former, nature is seen as a pure, separate realm. Under this view, spaces of rich, pristine, biodiversity are identified, and conservation efforts are based on separating and protecting these important areas from human society. This policy is even to the point of evicting indigenous peoples from spaces such as national parks. The alternative view which Whatmore finds in United Nations literature for the 1993 World Food Day sees things differently. This claims that humanity's place in nature is "still not widely understood. Human influences on the environment are all pervasive; even those ecosystems that appear most 'natural' have been altered directly or indirectly during the course of time. Starting some 12 000 years ago, our forebear, as farmers, fisherman, hunters and foresters, have created a rich diversity of productive ecosystems." From this remarkable, hybrid nature culture view of biodiversity, Whatmore concludes that there is no 'state of nature', only richly inhabited ecologies in which the "precious metal of bio diversity is intimately bound up with the diversities of cultural practices." These alternative definitions of biodiversity–human relationships, Whatmore argues, are important in terms of proprietorship and governance. How nature is named and seen makes a difference to who can own, control, or shape it. Here, though, we are more interested in the idea of difference in terms of how the world is always being made and unmade through distinctive and particular ecologies of nature culture.

This hybrid view of biodiversity thus presents us with a range of different, rich, biocultural ecologies. They return us to ideas raised earlier of ecological and cultural diversity being conjoined. A number of, perhaps surprising, bedfellows are seeking to focus on these kinds of links. Common Ground, the UK based arts and environment organization, has devoted much of its effort in identifying and promoting what it calls 'local diversity', where biodiversity, such as local fruit varieties, plant species, breeds of livestock, are intimately bound into local economic, cultural, and social practices. Common Ground therefore fears the loss of this richness through homogenization, be it ecological, social, cultural, and/or economic. Guattari, in *The Three Ecologies*, similarly sees ecological 'ecocide' going hand in hand with the devastation of cultural and psychological diversity at the hand of what could be called modernist capitalism.

## Conclusions

The last point raised above is very important. In relational, hybrid spaces and processes, cultural (economic) processes and ecological processes can both flourish. For example, in the developed world, modern nature conservation efforts often involve separating and protecting nature, perhaps in nature reserves, from socioeconomic activities (not least agriculture). But this denies the fact that much of the 'nature' to be protected was created by agriculture and other land uses in the first place. Now, in the UK, some producers and some conservation bodies are seeking to reorientate production to ways that echo the past (e.g., less intensive systems using traditional methods) but which also 'intentionally' seek to produce nature as well as commodities: in other words, endeavoring to promulgate processes of nature culture which are positive sum games for both sides of the supposed divide.

If nature and culture are held apart, and encounters between them are seen as zero sum games (initially for nature, but eventually for all), then planetary prospects looks gloomy. With the global population rising past 6.7 billion people and more of the planet following the consumption styles of the developed world, not least in dietary terms, culture will literally consume some elements of nature (such as old growth forests). But nature cannot really be displaced; rather, it will be rendered into different, less diverse forms. These forms, in turn, might consume culture. Rather than thinking nature/culture, then, we need to think and act upon nature culture for formations which may come in a myriad array of combinations and spaces. We need to heed their composition and their processes. We need, as in new ecology, to assess if these assemblages are bringers of growth, well being, richness and diversity, or otherwise. We need sites, networks, spaces, and places where different nature cultures can flourish – bodies, parks, streets, ponds, houses, rivers, gardens, oceans, windowboxes, forests, towns, cities, farmland, countrysides, wilderness, markets ....

*See also:* Actor-Network Theory/Network Geographies; Animal Geographies; Nature, Historical Geographies of; Nature, History of; Nature, Performing; Nature, Social; Posthumanism/Posthumanistic Geographies; Time and Historical Geography; Urban Habitats/Nature; Wilderness.

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# Natures, Charismatic

J. Lorimer, Kings College, London, UK

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## Glossary

**Jizz** A term used by naturalists that refers to the unique combination of properties of an organism that allows its ready identification and differentiation from others. The etymology of jizz is contested, but it is generally believed to be a corruption of the plane-spotters acronym GISS – general impression of size and shape.

**Jouissance** The pleasure experienced in the presence of meaning – the satisfaction of completing an intellectual project.

**Nonhuman Charisma** The distinctive properties of a nonhuman that distinguish it relative to human perception and affect individual and social attachments. It is relational and comprises ecological, practical, and esthetic components.

## Introduction and Definitions

Popular bestiaries of the nonhuman world, both ancient and modern, are inhabited by a relatively small number of organisms – lions, elephants, whales, and snakes, to name a few of the most common. These animals receive disproportionate attention across animal spaces, ranging from the gladiatorial arenas of the Roman Empire to the databases of the International Union for the Conservation of Nature and Natural Resources (IUCN) Species Survival Commission. Similarly, different cultures invest enormous symbolic meaning in “awesome and awe full” landscapes – across space and time, a few nonhuman archetypes such as forests, swamps, mountains, and waterfalls have been variously eulogized and vilified.

In differing ways, these places and organisms can be understood as charismatic – they possess and perform nonhuman charisma. In its most general definition, nonhuman charisma refers to those properties of a place or organism that distinguish it relative to human perception. Although these properties result in myriad human attachments and affections – ranging from love to disgust and wonder to indifference – the charisma of a place or organism refers exclusively to their ability to get noticed. Nonhuman charisma therefore primarily relates to esthetics, but this encompasses the whole body and its full range of senses. Furthermore, nonhuman charisma is both too lively and material to be a social construction and too variable to be naturally determined – it relates

to both the agency of the nonhuman being witnessed and the social structure in which the witness is enmeshed.

The adjective ‘charismatic’ is currently most commonly applied to nonhumans by nature conservationists, who strategically employ charismatic species as flagships to raise funds for and awareness of broader conservation initiatives. However, they have not sought to explore the parameters of this charisma. Cultural and historical geographers of nature and animal geographers have become interested in nonhuman charisma as part of the broader materialist turn with their subdisciplines. Geographers of nature have explored nonhuman charisma as a manifestation of nonhuman, or ‘more than human’ agency, and have traced a few of its various historical and contemporary manifestations. Geographers and sociologists of science have also traced the affective underpinnings and performative character of encounters between humans and nonhumans in the field. They have demonstrated that attention to the charisma of different organisms and places provides useful insights into popular and scientific ontologies, epistemologies, and ethics.

## Theorizing Charisma

There is a long history of interest in human charisma in sociology and social theory, which stems largely from the influential work of Max Weber. Drawing on articulations in the Apostle Paul’s letter to the Corinthians, Weber understood charisma as a ‘gift of grace’: a valuable, yet threatened property in the increasingly ‘disenchanted’ and bureaucratic modern world. Weber and his students carried out a series of studies that traced the social effects of human charisma, especially within large organizations. These studies did not seek to generalize about the characteristics of human charisma, nor did they attend to charisma in the nonhuman realm.

Elsewhere, the charisma of organisms and places has been a long standing concern of a small group of evolutionary biologists, led by the preeminent conservationist E. O. Wilson. In a number of controversial books, Wilson and his colleague Stephen Kellert have argued that there exist ‘biophilic’ and ‘biophobic’ tendencies among humans. These are commonly expressed across all cultures toward different nonhumans, and result from and are perpetuated by the genetic advantages they confer on those expressing them. Charisma is not god given, but it is innate. So for example, they argue that humans favor parkland landscapes because they would have afforded good visibility and hunting opportunities in

the past. In contrast, humans experience biophobia toward snakes and spiders, because they are poisonous.

Wilson and Kellert's theories have been contested by social anthropologists who point to the important shaping effects of culture and representations on individual perceptions of nonhuman charisma, and the difficulties in finding genes for snake avoidance, for example. Instead, such social constructivist accounts replace the formers' environmental determinism, with webs of symbolism, which together construct perception. Charisma is here the result of religion, folklore, and other modes of social signification. However important as they are, such constructivist accounts go full circle and efface the fleshy and earthy materiality of the places and organisms being encountered; charisma is here reduced to narration and iconography.

More recently, cultural geographers have sought to find a path between these realist and constructivist approaches that reconciles the material and the immaterial facets of social behavior and environmental perception. Here they have drawn on a variety of approaches and philosophies, including ethology, phenomenology, post structuralism, and vitalism. These new, 'more than human', 'posthuman', or 'nonrepresentational geographies' emphasize the bodily skills, affects, and technologies that surround and mediate encounters between humans and nonhumans. This approach has shed interesting light on the character of charismatic natures. Nonhuman charisma is here understood to encompass both the ecological affordances of a place or organism and the affective forces that flow between humans and nonhumans in embodied encounters. In contrast to an understanding of charisma as innate or god given, here charisma is relational, and emerges within particular social and material contexts.

## Typology of Charismatic Natures

Taking such a more than human approach, it is possible to disaggregate the characteristics of nonhuman charisma into a three part typology, which comprises its ecological, esthetic, and corporeal dimensions. This division is designed as a heuristic schematic in which the three dimensions interweave and overlap.

### Ecological Charisma

Ecological charisma refers to the ease with which a place or organism is perceived by the witnessing human subject. To trace the ecological charisma of a nonhuman requires an ethological perspective. Ethology starts from an understanding of a being – human or otherwise – as an ecological entity, immersed in its environment, and performing a number of core behavioral characteristics.

Ethologists have termed these the affordances of an organism, and taken together they establish its Umwelt. The intersections of the Umwelten of different organisms determine their possible interactions within an ecological complex.

An ethological perspective on human–environment interactions foregrounds the important common properties of human bodies. These are the specific human competencies that, in Katharine Hayles' terms, frame the 'cusp' through which we make sense of the world; they can be understood as the human body's primary affordances. All humans are warm blooded mammals. Most humans are bipedal, between 1.4 and 1.9 m tall, land dwelling, diurnal, and ocular centric (but in possession of five senses). Human sensory organs only make use of small portions of the electromagnetic, acoustic, and olfactory spectra. Although many, though not all, of these constraints have been stretched or overcome by the extension of the human body through technologies, these developments have only occurred relatively recently and are still expensive and unwieldy to use in the field.

Understood in this ethological fashion, we can see how the physiological and phenomenological configuration of the average human body puts in place a range of filtering mechanisms that disproportionately endow certain organisms and places with ecological charisma. While these can be overcome and are by no means deterministic, the ecological affordances of different organisms currently intersect more or less easily with those of humans. These intersections determine the detectability of an organism and the accessibility of a place and the ease with which an interested human is able to tune in to its behavior or ecology.

The important affordances which determine an organism's detectability include a range of parameters that influence its visibility, including size, color, shape, speed, and degree of movement. They also include aural characteristics such as the presence or absence of a noise, call, or song, and the frequency and magnitude of this sound. Taken together, these affordances constitute what natural historians call an organism's 'jizz'. Jizz refers to the unique combination of properties to an organism that allows its ready identification and differentiation from others.

Furthermore, the nature and frequency of any human–nonhuman encounter relates to the intersections between the space–time rhythms of the two organisms. These intersections are controlled by factors such as an organism's seasonality, migration patterns, day–night ecology, and distribution on land, in the air, or under the sea. Differences in the relative detectability and accessibility of nonhumans would account for the disproportionate human knowledge of birds and mammals, over nematodes and bacteria, for example. This pattern is illustrated in **Table 1**, which shows the degree to which

**Table 1** Taxonomic partialities in conservation research

Group	Prevalence in nature (%)	Prevalence in conservation literature (%)	Ratio of prevalence (r)
Plants	18	20	1.1
Vertebrates	3	69	23
Birds	19	39	2.0
Mammals	9	40	4.4
Fish	48	8	0.2
Reptiles	15	8	0.5
Amphibians	9	6	0.7
Invertebrates	79	11	0.1
Mollusks	6	19	3.2
Crustaceans	3	8	2.7
Insects	80	68	0.8
Butterflies and moths	15	48	3.2
Beetles	39	26	0.7
Other insects	46	26	0.6
Other invertebrates	11	6	0.5

Source: Clark, J. and May, R. (2002). Taxonomic bias in conservation research. *Science* 297 (5579), 191–192.

different taxa are proportionately represented in the conservation literature.

The ecological charisma of a place or organism is also closely related to its practical and economic utility to humans. Those organisms and places that help sustain or threaten agricultural livelihoods often have long cultural histories. However, it is important to separate such utilitarian properties from those encompassed by the concept of charisma. Charisma relates more to the esthetic properties of a nonhuman, rather than its economic value, though the two are closely interwoven.

### Esthetic Charisma

The next two types of nonhuman charisma – esthetic and corporeal charisma – relate to the affective properties of places and organisms. They build on the intersections between the different affordances of nonhumans to trace the affective forces that flow between humans and nonhumans. Here encounters between humans and nonhumans are understood as acts of becoming, where humans and nonhumans evolve and are involved through multiple processes of territorialization and deterritorialization over differing timescales. Such encounters are understood as both skilled and emotional, involving a variety of forms of knowledge outwith the confines of modern rationality.

Esthetic charisma refers to the distinguishing properties of a place or organism's behavior and appearance that trigger particular emotions in those humans who encounter it, either in the flesh or as a textual representation. It catalyzes individuals' ethical sensibilities and is layered over and interacts with ecological charisma in different ways. It is difficult to generalize about the affective properties of different places and organisms as

there is an enormous variety in the responses of different individuals and cultural groups. However, there are two axes along which we can explore different manifestations, which relate to the forms and the temporalities of the nonhumans encountered.

In relation to the forms of nonhuman, especially when it comes to individual organisms, there is a powerful axis of anthropomorphism at work that orientates people's ethical sensibilities. For many people, the organisms they feel the greatest affection toward are those that most closely approximate an anatomical or social behavioral norm. Konrad Lorenz has argued for the existence of instinctive preferences to organisms that look like human babies – the cuddly species much favored by certain forms of animal rights advocacy. Other philosophers have drawn attention to different anatomical components as the touchstone of ethical concern. Levinas foregrounds the face as the site of reciprocity, while Heidegger emphasizes the hand. Monstrous and autonomous organisms that depart from such anatomical norms are often widely vilified – notice the popular mobilization of invertebrates in dystopic science fiction and horror films (Figure 1).

Furthermore, as James Hillman points out, organisms whose mode of social organization renders the individual superfluous to the multitude – like ants – are often widely distrusted. Here there is a strong, sometimes phobic fear of the unknown, which echoes the importance Lorenz places on anthropomorphism. However, in the case of insects, it is their radical alterity to humans in terms of size, ecology, physiology, esthetics, and modes of social organization that engenders popular feelings of antipathy and distrust. In many ways insects have the characteristics of what Julia Kristeva has termed the 'abject', where the abject is understood as the breakdown of meaning that results from being confronted and



**Figure 1** Insect horror poster.

overwhelmed by the other. This abjection is far from universal and there are some who are much more strongly drawn to nonhuman alterity and rejoice in the difference of the nonhuman realm. For them this difference suggests fascinating modes of becoming otherwise.

It is also possible to identify another important axis along which esthetic charisma is arrayed. This relates to the temporalities of the nonhuman realm – the rates at which a place, organism, or ecological complex changes. Despite the best efforts of Darwin and his successors in disequilibrium ecology, for many people in the West, nature is still understood as a timeless and pure place beyond and radically separated from human culture; it is in balance or equilibrium. Stable nonhuman rhythms and patterns are naturalized and thus moralized to provide the foundations for codes of social behavior. Certain people and practices are in or out of sync, depending on their harmony with perceived natural rhythms. Those adhering to this balance of nature temporality favor stable pastoral landscapes, or purified wildernesses, where nature runs its own course at incremental timescales.

In contrast, others look at the nonhuman realm and see only chaos, disorder, and hybridity. For them, the nonhumans to admire are those characterized by feral transgression or apocalyptic potential. They rejoice in the unpredictability and autonomy of nonhumans and resent efforts to efface nonhuman difference. For some, this sensibility results in what Stephen Baker has termed, ‘anthropomorphobia’, a dislike of anthropomorphism and a Nietzschean antipathy toward the domestic sphere. This awe in the face of the sublime and the celebration of nonhuman tricksters has a long cultural history, going back at least to the romantic period.

Without going as far as to prescribe universal modes of biophilia and biophobia, it is nonetheless possible to identify two important axes, which together help chart the parameters of esthetic charisma. Different individuals and cultural groups place different places and organisms at differing points within a matrix formed by these axes – however, it is clear that those nonhumans at the furthest edges will often be the most charismatic – the baby faced panda as opposed to the giant squid, or Constable’s hay meadows against urban wastelands, to give two of the numerous possible contrasts.

### Corporeal Charisma

Corporeal or practical charisma relates to the affections arising from practical, embodied, and sensory interactions between humans and nonhumans in different places. In contrast to esthetic charisma, which generally has its effects in an instant, corporeal charisma involves visceral becomings that take place over a longer period of time. There is a huge diversity of possible types of corporeal charisma, which relate to the enormous diversity of the modes that exist for encountering the nonhuman realm. These range from production to consumption, from detailed study to adrenaline fueled adventure, and are greatly affected by the technological infrastructures that surround any encounter.

There are two wide ranging examples of corporeal charisma that relate to the pursuit of knowledge about the nonhuman realm – these can be termed epiphanies and jouissance. Professional and amateur naturalists are often inspired in their work by early encounters with particular species or places. They have an epiphany with a nonhuman in which they are lifted up or deterritorialized. This event plants a seed and generates the enthusiasm for later encounters and research. Jouissance, on the other hand, is more protracted, and describes the pleasure experienced in the presence of meaning. It is the sense of achievement gained from unraveling a mystery, or generating a revelation, of completing a list or of finding a lost species. Many naturalists and ethologists working on higher order mammals experience jouissance through the recognition





**Figure 2** Human elephant encounter.

and reciprocity they enjoy in their interactions with their research subjects (**Figure 2**).

Both *jouissance* and epiphanies are offered up equally by different nonhumans as a result of differences in ecological charisma – for example, it is more common to have an epiphany with an eagle, than with a nematode. These are just two examples, and there are many more forms of corporeal charisma that have yet to be described in detail.

### Nonhuman Charisma and Ontology

This understanding of nonhuman charisma – as a mode of nonhuman agency – implies a bounded relational ontology. Unlike the determinism of biophilia, the character of charisma is not fixed; however, neither is it divorced from the material and ecological properties of the nonhuman and reduced to a social construction. The recognizable jizz and accessibility of some organisms and landscapes – like birds or mountain peaks – implies the existence of an intuitive ontology of forms and temporalities that is closely tied to ecological charisma. This intuitive ontology affects the categories used to carve up the nonhuman realm – into units like species and habitats. Many of the current working definitions of species are closely tailored to higher order organisms and fall down when applied to lesser groups; similarly, schemes for classifying vegetation essentialize stable climax communities over more dynamic ecological complexes. An intuitive ontology also strongly effects the scope of existing knowledge about nonhuman organisms – the accessibility of birds, over nematodes, for example, means

that their ecology and behavior are much more thoroughly understood by natural scientists.

However, the ecological charisma of an organism is not solely deterministic of human familiarity and modes of categorization. With the development of increasingly sophisticated technological infrastructures for tuning in to the nonhuman world, previously inaccessible places and organisms are receiving more attention. Innovations in film making and the growing popularity of televised natures have also subtly changed the landscapes of nonhuman popularity and familiarity. In some cases, this has reinforced previous dispositions – toward the cuddly and ferocious and against the creepy, for example. However, television has also given unprecedented attention to previously inaccessible spaces – like the deep sea or subterranean regions.

### Charisma, Epistemology, and Conservation

Certain charismatic organisms are strategically employed in nature conservation as ‘flagship species’ to raise fund for and awareness of wider ecological problems. Perhaps the most famous of these is the Giant Panda, whose image has been adopted as the iconic brand of the World Wildlife Fund (WWF) (**Figure 3**). Under the umbrella of the panda brand, the WWF raises money and campaigns not only for the species, but also for all global biodiversity and, by extension, policies to ameliorate climate change, reduce deforestation, and prevent water pollution. Resources raised from the charisma of the panda trickledown all over the world. This strategy is also used



**Figure 3** The WWF 'panda brand'. Source: [www.wwf.org](http://www.wwf.org), permission granted July 2006.

on a smaller scale, where charismatic species are employed to help protect the less charismatic organisms with which they share their habitat.

As flagship species, such charismatic nonhumans are employed as boundary objects that mediate between several different natural epistemologies. In the context of nature conservation, the esthetic charisma of the Panda harnesses the more the rational vernacular affections of the general public and helps to make them commensurable with the objective epistemology of conservation science. Such a strategy helps to overcome the long standing antipathy between science and emotion in nature conservation and allows groups with very different interests in the nonhumans in questions to work together toward a common end.

Nonhuman charisma also operates outwith the exotic realms of conservation in the more mundane spaces of pet keeping. Here animals serve as significant others in the emotional lives of their owners. For many people, such domesticated beings bridge the worlds of humans and animals, and establish epistemological and ethical linkages through the wonderful and affectionate encounters they afford. Geographers are beginning to explore these interactions, but more work needs to be done

on the character of and relationships between everyday and exotic nonhuman charisma.

### Charisma and Ethics

Esthetic and corporeal charisma are differentially offered up by various nonhumans and together sketch out an alternative taxonomy to the nonhuman realm. This taxonomy does not understand organisms as objects, ordered arboreally into cladistic hierarchies. Instead, it is open to the creative force of nonhumans in their encounters with humans. Such nonhuman charisma plays a vital role in compelling and orientating ethical sensibilities toward the nonhuman realm. Nonhuman charisma acts as the catalyst that compels people to care for, ignore, or abhor different components of the nonhuman realm.

The two axes of esthetic charisma outlined above suggest that such ethical sensibilities are strongly orientated toward and against various modes of nonhuman similarity and difference. For some animal rights theorists, like Peter Singer, it is the similarity of certain nonhumans to a human ideal that earns them ethical status. For other environmentalists, who emulate Henry Thoreau, it is the radical and incomprehensible alterity and chaotic dynamism of certain nonhumans that earns their wonder and respect. Either way, the character of nonhuman charisma strongly affects the scope and intensity of ethical concern.

### Conclusions

Recent interest in charismatic natures should be understood as part of wider return to the material and materialist analysis in cultural geography, after the excesses of the 'cultural turn'. This work is highlighting the oft neglected agencies of nonhumans – including bodies, organisms, landscapes, and technologies – in the emergence of everyday life. Theories of nonhuman charisma provide one such materialist mode of engaging with the nonhuman realm, and this approach offers a number of novel insights into popular and scientific ontologies, epistemologies, and ethics. It makes clear the strong influence of charisma on what people know about the nonhuman world and how they act within it. There is still a great deal of research to be done on the nature of nonhuman charisma and its social and ecological effects across different geographical contexts, and this area offers several interesting avenues for future enquiry.

*See also:* Actor-Network Theory/Network Geographies; Affect; Animal Geographies; Becoming; Body, The; Conservation and Ecology; Dwelling; Emotional Geographies; Human-Nonhuman; Material, The;

Nature; Nature, Performing; Non-Representational Theory/Non-Representational Geographies; Posthumanism/Posthumanistic Geographies.

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# Natures, Gendered

C. Radel, Utah State University, Logan, UT, USA

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## Glossary

**Discourse** Social practices and communications which produce (and reproduce) knowledge about the world, making the world intelligible to oneself and to others.

**Ecofeminism** A range of theoretical and activist positions which connect the oppression of women with the destruction of nature.

**Environmental Relations** Another term for human–environment relations – interactions between people and their biophysical environments.

**Essentialism** The view that gender differences are the result of essential biologically based differences between women and men.

**Gender** A description of socially constructed differences between women and men. Gender was formerly used in contrast to sex (as biologically based differences), but recent feminist theory no longer draws this distinction, seeing sex as likewise not occurring outside of a social framework of understanding.

**Patriarchy** A social system in which men (and male characteristics) are deemed superior to women (and female characteristics) and exercise authority over them.

**Social Construction** The view that gender is not biologically determined; rather, gender is defined and achieved through social processes that articulate and enforce appropriate gender roles and behaviors.

## Introduction

Geographers have long expressed an interest in understanding the relationship of people to their biotic and natural physical environments. In human geography, as a discipline, the focus on the human–environment relationship has a long history, with a scope of analysis ranging from societies to households to individuals. For much of geography’s history, women were subsumed into a household unit or were an invisible appendage to the male environmental agent. The development of feminist theory beyond the borders of geography initially led to a broadening of focus within geography’s examination of the human–environment relationship to include women’s experiences. Ecofeminist theory played an influential role in geography’s early treatment of women’s relationships

to nature and the environment, with much of the work celebrating women’s connections to nature and to natural landscapes as different from men’s.

The subsequent explosion of political ecology as a subfield of geographic inquiry paved the way for the development of a cultural–political ecology approach that opened up the household unit and its relationship to the environment to a consideration of the place of gender and gender relations. Political ecology explicitly incorporates analyses of power relations and the social distribution of natural resources into the study and understanding of land use decision making and behavior, and of human–environment relations more broadly. This opening of the household unit allowed inquiry into the both cooperative and conflicting relationships between men and women in the context of household and community environmental relations. Much of the early work in political ecology that incorporated gender relations and differences was linked to research on agricultural and environmental change and often explored women’s access to and control over resources, particularly land and trees.

## The Influence of Ecofeminism

Before the development of gender focused research coming out of cultural–political ecology, early work in geography that focused on women/gender and the environment had been strongly influenced by US and international ecofeminist scholarship. Women’s relationship to the environment and to natural resources was held up as different from that of men’s and was celebrated. Ecofeminist thought in the US developed during the 1970s along many different lines and in a variety of forms. It is possible, however, to identify two main strands of ecofeminist thought, both of which argue for women’s gender based interest in environmental conservation or sustainability: cultural ecofeminism (sometimes labeled spiritual ecofeminism) and social ecofeminism.

The cultural ecofeminist strand, which dominated initially, based women’s interest in environmental conservation or well being on women’s inherent caring or nurturing nature and on a shared subjugation under patriarchal systems. This position is frequently labeled as essentialist, as it bases its understanding of the relationship between women and environment in large part on an essential (or presocial) characterization of women as closer to nature through, for example, the biological realities of human reproduction. The dualisms of nature/culture and woman/man are frequently viewed as

parallel in Western society, with culture and man in positions of dominance following the scientific revolution. Under cultural ecofeminism, these dualisms are not rejected but instead are taken as a source of power, aiming to reverse the positions of dominance. The association of women and nature as equivalent sides of dualistic pairs is one sense in which we can consider nature as gendered, and one common image that embodies this association is Earth as Mother.

The predominantly essentialist strand of cultural ecofeminism was partially replaced during the 1990s by a social ecofeminist strand that was primarily constructivist in nature. This ecofeminist position firmly centered women's interests in conservation and the environment in their socially constructed gender roles of childcare and the gendered division of labor. Women were not considered inherently closer to nature; rather, the sociocultural assignment of specific reproductive and productive tasks to women placed them closer to nature through their labor. In the developed world, the focus has been primarily on child rearing or other caring roles, and these roles have been proffered as an explanation for women's grassroots activism in environmental health issues. In the Third World, women are generalized as having primary responsibility for subsistence production and natural resource tasks related directly to meeting immediate human needs, such as the provision of drinking water and the collection of firewood for meal preparations. These gender based labor responsibilities are thought to position women as the first to become aware of environmental degradation and to place their gender based interests in line with those of environmental conservation. A gender roles approach, as articulated in the 1990s, claims that women's roles and responsibilities make them resource users and managers, giving them both interests in natural resources and special knowledge of those natural resources.

Keeping this general outline of ecofeminism in mind, it is possible to identify at least three primary influences the different variants of ecofeminist thought have had on geography's treatment of the connection between gender and the human–environment relationship. These influences are summarized below:

1. *An examination of nature as feminine.* The dualistic association of man with culture and woman with nature was initially embraced as a source of power and women's relationship to the environment identified as superior to men's. This initial embracing of nature as female later developed into more critical assessments of the ideas of nature or of landscapes as female, with examinations of the sociocultural mechanisms by which nature becomes feminized and explorations of what impact this feminization has on human–environment relations more broadly.

2. *A focus on shared oppressions.* Ideas of positionality or the situatedness of knowledge coming out of feminist critiques of science contributed to a treatment of the relationship between women and nature as different from the relationship between men and nature. Since women are oppressed through gender structures, much as nature is oppressed by male dominated society, women have a different perspective on and knowledge of the environment. This perspective and knowledge was (and continues to be) viewed by some as superior to men's; however, more recently, this perspective and knowledge is viewed simply as different and as an outcome of all the various aspects of a person's identity, including, but not restricted to, gender.
3. *An assumption of women's privileged access to nature through gender roles and responsibilities.* Women's material connections to local environments through their labor can be considered the central core to understanding women's relationships to environments. The approach taken can vary from an essentialist position which highlights women's child rearing and subsistence production to a constructivist position which examines gendered divisions of labor specific to a time and place. A more essentialist position views women as natural environmental caretakers or stewards, whose own interests coincide with those of nature. The constructivist position, on the other hand, does not assume women's privileged access to nature.

Ecofeminism, especially as formulated in the 1970s and 1980s, received much criticism from feminist scholars for its essentialist leanings placing women as closer to nature. Scholars and activists critical of ecofeminism found the continued association of women with nature (as opposed to culture) as problematically reinforcing existing patriarchal structures that oppress women. Third World feminist scholars criticized the essentialist leanings of ecofeminism for creating a single unified image of woman, ignoring the differences among women and the intersections of gender with other social structures such as class, age, and ethnicity.

Feminist geographers and geographers interested in the political ecology of resource access and control likewise have found ecofeminism to be a problematic basis for understanding the gendered aspects of nature and environments. Vandana Shiva has been the foremost shaper of ecofeminist thought with respect to Third World women and environments, and for political ecologists working in the rural Third World her theoretical position has been particularly problematic. For example, Shiva's 1988 publication, *Staying Alive: Women, Ecology and Survival in India*, explored the negative effects of the Green Revolution in India on both rural women and the environment and identified a feminine principle

which she argued is necessary for maintaining humanity's balance with nature. This feminine principle represents rural Third World women's distinct spirituality and relationship to the environment that is crucial for the realization of a just and sustainable development. Many geographers view Shiva's argument as a romanticization of both the feminine and the indigenous as antidotes to a destructive modernist and capitalist development.

More recently, there have been several scholarly attempts to reclaim the promise of ecofeminism for addressing gender based oppression and environmental destruction. In 1999, two ecofeminist theorists (Catriona Sandilands and Noel Sturgeon) issued important calls for salvaging ecofeminism, specifically as political action, distinguishable from a theoretical and analytical tool. One body of work (Sandilands) attempts to move ecofeminism forward as a project in radical democracy, with the potential to destabilize hegemonic categories, identities, and discourses. In this effort, it draws upon the constructivist strand of ecofeminism, recognizing ecofeminism's potential to destabilize, but also identifying significant risks in the strategic application of essentialism for political activist purposes. As argued by many feminist scholars, essentialism reifies existing identities and discourses, in effect legitimizing and bolstering them.

A second body of work (Sturgeon) takes a critical look back at the role played by ecofeminism in international debates during the 1990s around women and environments. It highlights the positive contributions of ecofeminism as an international political discourse, arguing that the intervention of scholars like Shiva into the discourse on women, environment, and development came at a crucial moment in time. Prior to Shiva's intervention, international discourse had positioned poor women primarily as destroyers of the environment, through their role in population growth and in the necessary provision of basic household needs. This work argues that Shiva's ecofeminist theory and feminine principle should be placed into a historical and political context that led to the transformation of women into agents for positive environmental change. In this perspective, ecofeminist intervention opened a political space for the participation of women in sustainable development and in environmental conservation as experts, instead of as villains or victims.

### **Alternative Formulations of Women–Environment Relationships**

Scholars in disciplines outside geography have also formulated critiques of ecofeminism based on case study research in the rural Third World. These scholars argue that ecofeminism's gender and racial essentialisms legitimize discourses that position women as labor resources

for sustainable development projects in the developing world. Some of the most important alternative conceptualizations of the relationship between women and environments have been formulated by scholars such as Bina Agarwal, Cecile Jackson, and Melissa Leach.

Agarwal, coming from a primarily economics background, termed her theoretical approach feminist environmentalism to set it apart from ecofeminism. In her seminal works in 1992 and 2000, she outlines the bases for women's gender based interests in environmental sustainability. Agarwal argues that women may act in the interests of conservation more than men, due to (1) a gendered distribution of natural resource rights, with women more likely to be dependent on common property resources, such as community forests; and (2) a gendered division of labor, with women more likely to be in charge of childcare and the provision of basic household needs. Thus, women and men differ in two critical respects: (1) the extent of and (2) the nature of their dependence on natural resources, and this translates into gender based differences in their relationships to environments and natural resources.

Although feminist environmentalism conceives of gendered human–environment relationships as culturally constructed, context or place specific, and intersecting with other social relations based on class, ethnicity, and age, Agarwal's work nonetheless can evoke an undifferentiated image of the rural peasant woman and her environmental concerns. As a result, feminist environmentalism exhibits clear commonalities with ecofeminism, and it is only in the case of extreme need that the poor peasant woman acts against the interests of conservation and environmental protection, for example, by cutting green trees for fuel in order to prepare food for her children.

The works of both Cecile Jackson and Melissa Leach (both anthropologists by training) are, on the other hand, explicit in conceiving gendered environmental relations that allow for some women's interests to oppose the interests of conservation. Jackson highlights the diversity of women's environmental relations, as an outcome of historical change and differences among women, arguing that women act as environmental agents in both positive and negative ways. Leach's case study on the Mende of Gola, in Sierra Leone, explores how human–environment relations interact with social relations, including gender. What these conceptualizations have in common with each other, and further extend from feminist environmentalism, is the intersection of gender with other social constructions of difference among groups of peoples, such that human–environment relationships can vary as much (or even more) among women as they do between men and women. Thus, perhaps as problematic as an essentialist approach to gender and environment is one that is based upon an uncritical, overly generalized, and

fixed understanding of women's roles. These theorists also critique the gender roles approach for having focused exclusively on women, leaving invisible men and men's environmental relations, despite a reality in which women's changing interests and relationships to environments are in part an outcome of their changing relationships with men and with male controlled institutions. Further, a gender roles approach, through its generalizations, tends to produce two images of Third World rural women: (1) women as victims of negative environmental change and (2) women as fixers of nature, such that conservation projects justifiably can harness women's labor (thereby exploiting women and their cheap labor for environmental goals).

### Feminist Political Ecology

Feminist political ecology developed in geography through the 1990s, drawing upon empirical field research in political ecology and a constructivist feminist theory of gender. Feminist political ecology presents a strong critique of the essentialist aspects of ecofeminism for a failure to adequately address both the material and the ideological bases for women's environmental actions, and draws upon the alternative conceptualizations (described above) developing outside the discipline of geography. The key element to the approach of feminist political ecology is a grounding of an understanding of women's relation to the environment in the material, historical, sociocultural, and political realities of specific places in the tradition of political ecology. Fundamentally, feminist political ecology is the analytical and theoretical perspective that women and men differ in their experience of and relationship to environments, and that this difference is important in part due to the social construction of gender difference. Thus, the second sense in which we can conceptualize nature as gendered is not that nature is female; but rather, that our relationship with nature is intertwined with our experience of gender.

The work of political ecologists led to the identification of an important lesson in the search to understand women's relation to the environment: the need to focus on gender relations as opposed to purely on women's roles and to see these relations as both affecting and being affected by rural environmental change. This understanding in turn has led to a number of different themes in the study of women's relation to the environment, three of which have been particularly important in geography over the last decade: (1) the variable impact of sustainable development and conservation projects on women and on gender relations; (2) the critical examination of the universalized claims of women's shared interest in environmental protection, based upon empirical research with women in specific places; and (3) the

mismatch of women's resource rights with women's growing responsibilities in resource use and management, especially with men's migration.

In 1996, Dianne Rocheleau and colleagues articulated a framework for the emerging subfield of feminist political ecology within political ecology, defining three topics of inquiry within a focus on gendered differences in environmental issues:

1. *Gendered knowledge.* Individuals' knowledge of the environment is an outcome of their material interaction with that environment, which in turn is an outcome of who a person is and the role he/she plays in the household and in the larger community or society. Gender is one important element in a person's identity which structures his/her environmental interactions and thereby his/her environmental knowledge. In other words, women and men experience the environment differently through their labor and social positions and develop different environmental knowledge: knowing about different aspects or knowing about the same aspect in different ways.
2. *Gendered resource and environmental quality rights and responsibilities.* Access to resources, or to environmental quality, also varies according to a person's identity, and gender has played an important role in many places around the world in defining a person's access to and control over different natural resources. Although land tenure is the classic example, feminist political ecologists are also interested in finer nuances of resource tenure, examining, for example, different gender defined rights to different parts of a tree. An interest in how environmental quality rights may intersect with issues of gender inequality connects feminist political ecology to environmental justice literature in the developed world, which although initially focused on questions of race, class, and ethnicity has recently begun an examination of gender inequality in the experience of environmental degradation and risk. In addition to environmental rights, responsibility for natural resource based labor is frequently gendered, reflecting broader gendered divisions of labor. Feminist political ecology views both environmental rights and responsibilities as gendered, but acknowledges the intersection of gender with other social divisions such that different women may experience different rights and responsibilities, and may experience changes in those rights and responsibilities over the course of their lives.
3. *Gendered environmental politics and grassroots activism.* Gender differences in knowledge, rights, and responsibility translate into differences in environmental interests or stakes with regard to environmental change. Although women make up a minority in many of the traditional environmental conservation groups in the

developed world, they are often in the majority in environmental grassroots movements. Environmental sociologists have found limited evidence of gender differences in environmental attitudes and behaviors overall, but there is evidence that women and men differ in the types of environmental issues with which they engage politically, as well as in the manner in which they carry out their political and activist interests. In many instances of women's engagement with grassroots environmental movements, essentialist ecofeminist positions (particularly those related to motherhood) have been strategically deployed. Feminist political ecologists, and feminist geographers more generally, often have ambiguous feelings about this strategic deployment of gender essentialism.

Since the late 1990s, scholarship in feminist political ecology, and in cultural and political ecology more broadly, has continued a quest to understand how human-environment relationships intersect with various social relationships, such as class, ethnicity, and gender. Geographers have articulated this intersection in a variety of forms and have continued to emphasize that gender relations are mutually constructed with environmental relations. Increasingly, geographers examining human-environment relations are stressing the role of ideology together with materiality, exploring, for example, how social identity (including gender identity) is created with and through environmental relations, with specific material outcomes. With respect to the gendered nature of environmental relations, there is a developing exploration of women's agency to (re)define their identities, including their identities in relation to environments, and the material consequences of these processes.

Feminist theory has played an important role in geography's broader examination of human-environment relations and of nature-society interactions, beyond the bounds of feminist political ecology. Donna Haraway has been particularly influential in this respect, with her destabilization of the nature/culture dualism through the metaphor of the cyborg, a creature both animal and machine. Geographers like Sarah Whatmore also destabilize the nature/culture dualism through the concept of hybrid geographies, in which the boundary between human and nonhuman is transgressed.

## **Some Related Fields of Inquiry in which Human Geographers Participate**

### **Women and Sustainable Development**

Women and sustainable development (or women, environment, and development) as a field of inquiry, but also especially as a practice, emerged out of the two international fields of women and environments, and

women and development. Shiva's assertion of a feminine principle and her romanticization of the poor rural woman as living in harmony with nature were particularly influential in sustainable development discourse and practice as it developed through the late 1980s and the 1990s for nongovernmental, governmental, and multilateral development organizations. Shiva and others wrote widely of the Chipko movement in India and the Greenbelt movement in Kenya, both of which became symbols, first in ecofeminist writing and then in international policy discussions, of women's closeness to nature and their proclivity to protect the environment.

The critiques of ecofeminism's essentialism have since been incorporated into international policy oriented discussions on women, environment, and development, with constructivist arguments replacing essentialist ones. Yet, discussions continue either to universalize the experience of rural Third World women, with women's environmental interests based upon a generalization of women's roles, or to ignore gender and gender based power inequalities altogether. The growing body of work in geography (as well as in disciplines such as anthropology) that explores the complex intersections of environmental relations and gender relations in greater detail and diversity, to date, have had little influence on the discourse of sustainable development and the formulation and implementation of conservation and development projects. As women, environment, and development discussions positioned women in sustainable development discourse as universal caretakers and knowledge repositories, on the ground conservation projects fail to include even basic gender analysis, further supporting universalized notions of the relation of women to the environment.

### **Gender and Agriculture**

Another related field has been the study of gender and agriculture, which began with the seminal work of Esther Boserup in the early 1970s. The field began with an exploration of the various labor roles of women in agricultural production, and has since also focused on women's access to and control over land, both in terms of formalized (legal) land tenure and in terms of practice. Most of this work has taken place in the context of the Third World. Recent debates concerning women's access to and control over land center on whether or not increased gender equity in land rights will necessarily lead to women's gender empowerment. Recent work in geography in the field of gender and agriculture in the developed world has focused on women's participation in organic or sustainable farming movements, bringing in questions of gender identity, differential capital access, and social constructions of farming and nature.



## Gender and Sustainable Livelihoods

Robert Chambers and other colleagues developed the concept of sustainable livelihoods in the early 1990s as a means to understand poverty and inform poverty reduction policies. A typical livelihoods framework is based on identifying different types of capital (e.g., natural, social, physical, financial, and human) and how these are combined by individuals and households in their various efforts to make a living. A number of scholars and practitioners have noted that women and men have differential access to and control over these capital pools, and that these differences mean that men and women face different challenges with respect to creating and maintaining sustainable livelihoods. As a result, men and women may adopt different livelihood strategies. Recently in geography, Ann Oberhauser and colleagues have argued that these strategies are more than specific economic practices, and that women's livelihood strategies include struggles to transform social identities and relationships.

See *also*: Agriculture, Sustainable; Conservation and Ecology; Culture/Natures; Environment; Feminism/Feminist Geography; Feminist Geography, Prehistory of; Gender and Rurality; Hybridity; Livelihoods; Natural Resources; Nature; Nature, Social; Nature-Culture; Patriarchy; Peasant Agriculture; Political Ecology; Sustainable Development.

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Energia International Network on Gender and Sustainable Energy.
- <http://www.fao.org/gender/>  
Food and Agriculture Organization of the United Nations (FAO), Gender and Food Security.
- <http://www.genanet.de>  
GENANET Focal Point Gender, Environment, Sustainability.
- <http://www.genderandwater.org>  
Gender and Water Alliance.
- [http://www.unep.org/gender\\_env/](http://www.unep.org/gender_env/)  
United Nations Environment Programme (UNEP), Gender and the Environment.
- <http://www.gendercc.net>  
Women for Climate Justice.
- <http://www.wedo.org>  
Women's Environment and Development Organization (WEDO).
- <http://www.genderandenvironment.org>  
World Conservation Union (IUCN), Gender and Environment.

# Natures, Postcolonial

M. Sioh, DePaul University, Chicago, IL, USA

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## Glossary

**Essentialism** An identity as a given and immutable.

**Global South** An alternative term to 'developing countries' referring to poorer countries that are mostly located in the Southern Hemisphere. Most of these countries are also former European colonies.

**Objectivism** A doctrine that holds that there is a reliable correspondence between reality and an external world that is observable.

**Overdetermined** A post-structuralist term signaling originary conditions that will lead to a certain outcome.

**Paradigm** A concept, less defined and structured than a model, used by Thomas Kuhn to refer to a worldview.

**Relativism** A theory that meaning is filtered through our cultural and historical background and context and often used in opposition to objectivism.

**Social Construction** A school of thought that claims that reality is an artifact of its social and cultural context and often used in opposition to essentialism.

**Stereotype** An oversimplified conception of members of a group.

## Introduction

The study of postcolonial nature is a theoretical engagement with the impacts of colonialism on reconceptualizing nature, usually forests and wild species, not only in developing countries but also in parts of the developed world where racial minorities have to grapple with a legacy of colonialism. Nature, in its popular sense, is taken to mean essence or inherent properties, external to human society, or the opposite of culture. Postcolonialism is a school of cultural criticism concerned with the impact of colonialism on both colonized and colonizing peoples in the present, as opposed to postcolonialism which refers to the chronological break after political independence. Postcolonial nature studies follow as a critique and an alternative paradigm to sustainable development, and more generally, the environmental movement. Postcolonial nature studies is a hybrid of nature studies and postcolonialism, complex areas of inquiry derived from, and given impetus by, the intellectual currents of post structuralism, postmodernism, and social studies of science that became influential in the social sciences and humanities in the 1980s and 1990s. While definitions of both the terms 'postcolonial' and 'nature' are contested, multiple, and fractured, postcolonial nature as a problematic is characterized by its definition

with respect to or in contrast with the stereotype of the native.

The political significance of the widespread intellectual acceptance of nature's ontological character has been its use to justify morally reprehensible programs of conquest and material appropriation. This trend was most clearly seen in the late nineteenth to early twentieth century vogue for environmental determinism which coincided with the era of high imperialism. In its most basic articulation, environmental determinism justified colonialism, because if we are what nature makes us, then the populations of certain parts of the world are born to conquer and lead just as others are born to be conquered and led. The rise of natural history as a discipline was the result of European colonial activity by scientist explorers, such as James Cook, Alexander von Humboldt, Joseph Banks, and, most famously, Charles Darwin. Consequently, scholars have also traced the origins of the modern conservation movement to the European tropical island colonies inspired by the search for the Garden of Eden, itself derived from the Zoroastrian, and therefore non European, notions of *Pairidaeza* (paradise) and *garodaman* (garden).

Postcolonial nature studies is concerned with the epistemological and ecological consequences of this construction of 'natural' history. Despite the twinning of natural history with political ventures, even when environmental determinism was succeeded by cultural and landscape ecology in the second half of the twentieth century, nature conceptions continued to be viewed as politically neutral. Sustainable development is now the prevalent model for managing nature in developed countries that is being exported to the rest of the world, including societies where respecting nature was the custom before the advent of Western capitalism and modernity. Sustainable development is seen by aid and development agencies as especially urgent in developing countries because environmental degradation there is perceived, ahistorically and contextually in isolation, to be caused by a combination of high fertility rates, ignorance, and irresponsible governments.

Marxist influenced political ecologists have responded to this neutral conceptualization of nature by arguing that nature is a product of profit driven transformation. Some Marxists have gone beyond arguing that modern capitalism simply exploits and transforms nature to argue that modern capitalism produces nature, and that in turn, nature is used for political legitimization of social relations. Cultural geographers and historians too

have studied the role of nature as a symbolic source in Western cultures for representing social ordering, or in contrast, the role of nature as a common heritage in masking social ordering. Particular aspects of nature can be used to symbolize ontological group identity, such as the giant redwood groves in the United States that came to symbolize the national magnitude as well as the ancient lineage of the new nation in the nineteenth century. Thus, conservation of the redwoods became synonymous with patriotism. Alternatively, nature conservation is seen as originating in the colonies where reformist scientists attempted to recreate Eden to compensate for the industrial destruction of nature in their home countries. However, the explicit theorization of cultural constructions of postcolonial nature emerged out of the fields of ecofeminism, post structuralism, postcolonialism, and social studies of science.

## **Intellectual Influences**

### **Ecofeminism**

Ecofeminism links the domination of nature to that of women. In analyzing descriptive and normative statements about nature and women, ecofeminists observe that changes in the latter are often preceded by changes in the former. Ecofeminists identify the turning point in the constructions of nature and women as the Enlightenment, before which nature was identified as a nurturing mother and the center of an organic cosmology. This view is still central to non European ecological models. From the sixteenth century onward and with the advent of the Scientific and Industrial Revolutions, ecofeminists argue that women and nature were viewed as wild resources to be tamed and exploited materially, psychologically, and recreationally by harried men/entrepreneurs. But ecofeminists in post colonial countries emphasize that their societies experience the triple domination that pose women, natives, and nature as inferior to men, Westerners, and technology. For example, the introduction of land enclosures and highly capitalized, monocultural cropping for profit during colonialism devalued native women more than men because women were engaged in subsistence agriculture and gathering wild forest products. The destruction of women's livelihoods and the unequal distribution of resource access were justified in the name of theories of progress, gender, race, and nature. These theories ascertained the natural abilities of certain groups to participate in the introduced agricultural practices and deemed a material world not incorporated into the capitalist system as wasteful. Ecofeminists from postcolonial societies argue that such theories thought to be universal and objective are actually masculinist, ethnocentric, and historically specific, and policies informed by them will only

perpetuate the current social inequalities and loss of biodiversity resulting from the accelerating spatial expansion of monocultural cash cropping.

### **Post-Structuralism and Discourse**

The challenge to the notion of an essential identity by ecofeminists, and feminists in general, signaled the opening of the broader debate about the theoretical basis of knowledge. This set of challenges is often somewhat simplistically referred to as post structuralist, a mainly French school of literary theory that critiques the rational, objective, autonomous, self aware subject of humanist thought. Theory has a privileged position because it governs the rules of judging knowledge: what counts as evidence and what constitutes an argument. But theory's privileged position depends upon the existence of an underlying, unchanging external truth associated with nature. The claim of a fixed, external nature has been challenged by Michel Foucault as an historically constituted idea that emerged during the Enlightenment. Hence, the social context of enquiry, rather than the world in which the investigation takes place, constructs what we find, as opposed to us discovering a reality fully formed. Where ideology argues for single imposed truth, post structuralists, after Foucault, prefer the term discourse. The term discourse refers to a system of signs that constructs meanings that are then represented as essential truths. Discourse works by selecting and organizing information, establishing relevances, defining unities, and describing hierarchical relations between them. Yet, for discourse to appear legitimate, meaning must appear ontologically derived, so the rules for organizing discourse must be obscured. Because perceptions of racial, class, and gender differences and hierarchies frequently encode each other, interlocking discourses strengthen each other to form, eventually, a regime of truth. The post structuralist turn in the social sciences and humanities has meant that theories are viewed more as stories with their own assumptions, contradictions, and silences that challenge the correspondence between reality and representation. Instead, knowledge is perceived as partial, contextual, situated, and reflecting power relations. Terms such as 'nature' and 'native' are constructed through language and are unstable in communication. Yet, even well meaning policies are enacted based on assuming the immutability of these terms, thus continuing the conditions that over determined the past environmental degradation.

### **Postcolonialism and the Natural 'Other'**

Postcolonial studies emphasize that the social relations bequeathed by colonialism are more than just political or

economic but also a cultural process imagined and energized through language. The interest in the legacy of colonial representations can be traced to post structural theories inflected through Edward Said's classic critique of Orientalism, which questions how ideas acquired the status of natural truths during the period of high imperialism in the nineteenth and twentieth centuries. Orientalism supplied colonialism with an enunciative capacity which was transmitted from one generation to the next through repetition and institutional embeddedness. Postcolonialists argue that political independence has been merely cosmetic and that colonially dictated representations have been redeployed and reaccentuated through administrative forms, institutions, and relationships. Said argued that recurrent, systematic tropes and asymmetries in representation – which he described as a discourse – ran through colonial texts. Colonial culture has to be understood as a material network of connections between power and knowledge. The Orient exists for the West, and is constructed by, and in relation to, the West. It is a mirror image of what is inferior and alien ('Other') to the West. Orientalism is a style of thought based upon an ontological and epistemological distinction made between 'the Orient' and 'the Occident' in which an essentialized image of a typical Oriental is represented as culturally and, ultimately, biologically inferior. In the same manner, postcolonial nature scholars have analyzed the way nature, even in its positive constructions, was conceived as a native dwelling 'other' space to the spaces of colonial towns and plantations, and as the ultimate visible symbol of the difference between European civilization and its wild 'Other'.

While postcolonial theorists agree that neocolonial power depends upon its authority to fracture the subjectivity of its native subordinates by encouraging them to identify with Western values and cultural norms, critics of Said such as Homi Bhabha argue that the critique of Orientalism asserts too much intentionality and direction in the flow of power. Instead, Bhabha emphasized the instability and hybridity of identity and ambivalence in neocolonial relations. For Bhabha, the point of stereotypes is precisely that the endless repetitions assuage colonial insecurity by fixing identity. But even stereotypes can have a temporary purchase on imagination that allows a discourse to judge and control. Stereotypes derive their power precisely because they are unstable and ambivalent and can be modified to change with times. The colonized and postcolonized themselves accept certain stereotypes of power and show their ambivalence in their desire for Western tools and symbols of power – science and technology. Postcolonial scholars instead urge us to be attentive to how signification is affected by particular sites and contexts of enunciation, or what Donna Haraway has called 'situated knowledge'. In Bhabha's 'mimicry' concept, native copying of white

behavior is never quite the unadulterated homage to a superior culture, because the performance and enunciation are always different from the original and intended. In the course of translation from their sources to the rest of the world, scientific ideas, narratives, and theories are rearticulated into hybrids that dilute the intentions of power. For postcolonial nature scholarship, Western notions of nature conservation are examples of the slippage between, and hybridization of ideas as paradigms of resource management and sustainable development are absorbed, yet undermined, through being spliced onto notions of national sovereignty and local practices of territorialization. These notions of conservation may sometimes work against Western power, but they almost always work against indigenous tribal groups who experience a double colonization.

Gayatri Spivak takes up the issue of addressing multiple levels of colonization by using deconstruction techniques to examine contradictions in official texts and subplots and minor characters for the different stories they tell us. While postcolonial nature studies have relied on deconstruction of archival documents and unofficial texts such as letters and diaries to open up different narratives of colonial and postcolonial natures, arguably, it is Spivak's notion of 'strategic essentialism' that has been most usefully deployed in practical struggles over control of material resources. Strategic essentialism refers to a strategy that while strong differences may exist between members of ethnic minority groups, it is sometimes advantageous for them to temporarily 'essentialize' themselves and bring forward their group identity in a simplified way to achieve certain goals. Spivak has since disavowed the ways in which she claims the notion of strategic essentialism have been misused. This has been used not only by certain native groups to emphasize their suitability to manage natural resources in Western societies but also by tribal groups in the Global South in alliance with international conservation groups. However, Spivak has cautioned postcolonial scholars on whether it is ever possible to represent anyone or anything else accurately or whether we should abandon attempts to represent an 'inaccessible blankness'.

### **Social Studies of Science and Construction of Nature and Natives**

Deconstructing representations of race and gender have achieved significant purchase in the intellectual arena, but the application of the same methodology has engendered heavy resistance in the context of nature studies. While not claiming that the material world is entirely socially constructed, because nature cannot express itself, post structuralists, who would include social constructionists in their ranks, contend that there can be

no objective view of nature since we are always left with human representations that construct nature through language, in particular those of scientists. Critics of the social constructionists contend that this is tantamount to stating that all knowledge is relative, and that there can be no standards for judging among knowledge claims. Because science is used to enforce moral codes and justify rewards, then controversies about scientific knowledge have repercussions for moral discourse. Nature in postcolonial countries is triply disadvantaged through the arbitration of mainly male, white scientists and indigenous scientists who disavow native knowledge as part of their claim to legitimacy through an alliance with Western scientific rationality. Within the field of social studies of science, proponents contend that scientific enquiry was more subjective, flexible, and historically contingent than was previously acknowledged, in terms of who belongs to a community, whose views are noted, and how consensus is reached. The newer generation of social scientists (1980s onward) studying science differs from the older generation who claimed that although knowledge is subjective, truth can still be known through experience, whereas the newer generation argues that the 'truth' of a statement is based on the degree of its links to, and embeddedness within, other statements. The focus on representation and relativism as opposed to subjective and experiential knowledge has implications for postcolonial nature scholars who have shifted methodological emphasis to archival sources in place of empirically measurable information.

Understanding why certain representations of nature prevail becomes a matter of determining the degree of its links to, and embeddedness within, other discourses such as gender, colonialism, nationalism, and global capitalism. One way of approaching the issues of linkages and embeddedness is as a network made up of various discourses that interact, sometimes in contradiction to each other, but with an overall discernable direction. The process of acquiring allies, both human and nonhuman (such as machines) can be examined using Bruno Latour's network theory to understand how discourses are translated into practices of power. Latour's network theory proposes that in order to acquire the status of truth, a paradigm must acquire allies. Like the post structuralists, Latour sees a scientific claim as a regime, which acquires the status of truth when it has collected enough allies, which can be in the form of interlocking discourses. Fact construction is a collective activity, and consensus lies in the creation of a network of commensurabilities, meaning that participants must agree on the general aim of the project at hand even if on a point by point basis they do not agree. Within contemporary nature discourses, sustainable development is the corporate identity that governs the way the material world can be shaped and deployed, because its ambiguous definition allows it to

mean different things to different constituencies. Simultaneously, sustainable development incorporates the language and concepts of powerful existing discourses of colonialism, race, gender, class, science, and progress, which while not unchanging over time, have been recast to subvert non Western views of nature.

### **Interlocking Discourses: Postcolonial Natures**

Modern dualistic and individualistic rationalities underpin environmental research and practice, which have been redeployed to the detriment of non Western practices of nature conservation. While discourse does not unilaterally determine what can be said about, and done to, nature, a whole network of interests is involved whenever 'nature' is invoked. In summarizing the theoretical treatments above, the various significations of nature stem from its place in social relations of power. Postcolonial nature is given meaning through specific material and discursive practices; its physical transformation embodies the (neo)colonial relations of power through which dominant images are produced. Colonial power relations were starkly symbolized in opposing landscape formations of forests and plantations. Nature, symbolized by forests, was cast as the negative 'other' of the plantation's modernity and role as an oasis of scientific order, just as natives were cast as the negative 'other' to Europeans. These images are projections of nonspatial signifiers onto the physical space of nature. As the physical environment changed, forms of consciousness – perceiving, symbolizing, and analyzing nature – were also reconstructed. In the process, the colonial and capitalist transformations legitimated a set of symbols that placed Europeans and technology above natives and nature. Imperialism was not just the result of the power to take over territory but also a justificatory regime for its actions.

Postcolonial nature is an idea that has a history and a tradition of thought, imagery, and vocabulary that have given it reality and presence in society in the same manner as contemporary discourses on the Global South that are beyond any correspondence with a real place. Nature has been made to stand for many things: as a resource in itself for export, as an impediment to capitalist agriculture to be replaced with plantations, farms, and ranches, and as a source of fear and a symbol of anxieties about national identity. Moreover, the dominance of the discourses that turned nature and the Global South into negative places lies in their 'knitted together strength', that is, the very close ties between socioeconomic and political institutions. Applying actor network theory to postcolonial nature, we see that the status of nature depended on its role within the colonial enterprise, as well as the larger project of progress upon

which postcolonial nationalism would depend. The following are common tropes in narratives of the post colonial nature–native nexus.

### Resource Management and Environmental Stewardship

The most dominant, and still the most dominant, trope of colonial and postcolonial nature is its economic potential. During the colonial era, European perceptions of landscapes were always inflected through the needs of empire. Natives were seen as too lazy and/or too ignorant to exploit nature to its fullest potential. Although the value of plantation (or ranch) products, and timber was economic, the justification for replacing the forests (and grasslands) went beyond the purely economic to integrate modern concepts of rational order and scientific progress. While exploiting nature is now associated with contemporary environmental degradation rather than being praiseworthy, appropriation and exploitation of nature nonetheless goes on. The forestry industry and the environmental movement represent ‘nature’ or ‘wilderness’ as a realm separate from ‘culture’ while relocating it within the abstract space of the global commons through representations and rhetorical practices of responsible stewardship in which Western trained scientists, bureaucrats, and capitalists are better managers of nature than native peoples.

Liberal Western attitudes toward the nature–native nexus take two forms: romanticization and alliance with tribal groups as the last innocent links to nature or antagonism and hostility toward many governments in the Global South as irresponsible stewards of global commons and oppressors of tribal groups. Both forms involve essentialization of natives either through a fetishization of the exotic in the case of tribal peoples and their ‘oneness’ with nature, or the subtle implications of ignorance, oppression, or corruption, or all three in the case of post colonial states that do not comply with Western environmental conservation models. Of course, the trade in stereotypes need not necessarily be unidirectional or disempowering. Employing strategic essentialism allows disempowered groups to represent themselves as the best equipped to halt environmental damage wrought by external sources and conserve nature because of their perceived special kinship with it. This is not to deny the validity of the experience and situated knowledge but to highlight that if disempowered groups are to achieve their aims of controlling their immediate environment, they need to incorporate the language of power.

### Territorializing Nature

From the perspective of governments of developing countries, Western environmentalism is a neocolonial

interference in its sovereignty and the championing of tribal peoples and knowledge a Trojan horse for undermining the attempts of developing societies to modernize and escape poverty. This view was most forcefully articulated in the 1990s by Malaysia’s then Prime Minister Dr. Mahathir, who harks back to the colonial encouragement of native innocence and unworldliness that had disastrous consequences – the theft of native lands and resources by Europeans. Historically, colonial conservation authorities saw indigenous peoples as the main cause of environmental destruction through native agricultural practices and hunting (which Europeans referred to as ‘poaching’). Hence, conservationist ideas in post colonial states have been associated with political conservatism. Indigenous or traditional ecological knowledge, then, can only be essentialized and praised when there is nothing to fear from it. Ironically, given the stress on neocolonialism, for tribal peoples, the loss of ancestral lands through appropriation or physical degradation has resulted in a condition of double colonization, first from the Europeans and then from the majority ethnic population in the post colonial nation states.

But in the latter half of the twentieth century onward, nature construction has proceeded in tandem with state building. Transforming the physical landscape has been, and is, closely related, to political landscape formation. According to Max Weber, an important function of the state then is to demarcate where the boundaries of its territory lie and to maintain order within those boundaries. In the context of forest based decolonization wars and the Cold War in the 1940s through to the 1970s, nature in the form of the tropical forest was socially constructed as undesirable. Since the state’s boundary is the limit of the state’s coercive supremacy, then the forest, as beyond the control of the state, was perceived as a frontier that had to be territorialized. Forests were the antonym to the controlled domain of the colony or the nation state and the synecdoche for insurgency. During the Cold War, decolonization military campaigns often segued into insurgencies in many newly independent countries. Once seen as securely territorialized by the colonial powers, post colonial states became new territories to be colonized as frontiers between the West and Communist Russia and China. These forest based insurgencies became the symbol of this unterritorialized world. The US Secretary of State, Dean Rusk, resisted troop pullout from Vietnam by claiming that the alternative was a world situation that disintegrated into the ‘law of the jungle’.

Finally, post colonial states needed a positive projection of territorialization and some postcolonial nature scholarship has focused on large scale agricultural schemes as constructions of a new nature. Multiple repetitions of agricultural rituals across space act as positive productions of state power, while making it

fruitful for capitalism. The scale, organization, and standardization of state supported agricultural schemes marked them as the 'new nature' for a modern nation produced through scientific techniques.

### Criticisms

In general, criticisms on postcolonial nature studies have focused on the overemphasis on textuality and culture. Marxists, especially, criticize its methodological lack of empirical groundedness and paying insufficient attention to other more traditional configurations of power such as capital. The multidisciplinary nature of postcolonial nature studies also poses the challenge of how to avoid incoherence in such a wide open field. Moreover, much work remains to be done in the area of contesting constructions of nature in the Global South. Ironically, the criticisms themselves reflect the deeply rooted problem at the core of the debates on essentialized notions of authentic representation and epistemic legitimacy taking place across the humanities and social sciences whenever the terms 'native' and 'nature' come into play. However, the fact that postcolonial nature studies is a hybrid of different schools of research augers well for its development as an alternative and more respectful paradigm for the relationships between society and nature, and within societies by heeding different voices.

See also: Land Change Science; Nature; Political Ecology; Postcolonialism/Postcolonial Geographies; Poststructuralism/Poststructuralist Geographies; Sustainable Development.

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# Neighborhood Change

J. Kenny, University of Wisconsin–Milwaukee, Milwaukee, WI, USA

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## Glossary

**Factorial Ecology** Drawing upon the theoretical framework of social area analysis, the application of factor analysis and principal-components analysis to study urban residential patterns.

**Family Life Course/Lifecycle** Assuming a traditional nuclear family, households may be classified according to stages in the family life course or lifecycle (e.g., single, childbearing, and empty nesters) that carry with them expectations for housing needs and preferences.

**Filter-Down Process** As theorized by land economist, Homer Hoyt, a process whereby high-income households continually move out to more desirable housing, leaving their houses vacant and creating a chain of occupancy for middle-income households, who then leave their housing to be occupied by lower-income households.

**Gentrification** The conversion of a low-income district into one dominated by middle- to high-income residents.

**Housing Submarkets** Distinctive types of housing in localized areas of a city that tend to be occupied by households with similar socioeconomic characteristics.

**Human Ecology** Introduced by the Chicago School of urban sociology in the early twentieth century, this perspective examines the social and demographic compositions of neighborhoods assuming that the sociospatial patterns reflect the competition that exists among various groups for favorable locations.

**Social Area Analysis** Approach to modeling the internal structure of metropolitan areas that evaluates how family characteristics, economic rank, and ethnic status interrelate to produce sociospatial patterns.

## Definitions

Despite the familiarity of the word, neighborhood as a focus of research involves a degree of ambiguity, since it contains both geographic (place oriented) and social (people oriented) aspects. Many use the word interchangeably with community, another term that is difficult to pin down. However, as generally defined, the neighborhood focuses on a residential area – houses and their immediate environment, including local institutions such as churches, schools, and local services – demarcated by subjective boundaries. Evaluated functionally, these boundaries are determined by the intersection of

household types, ethnic, and lifestyle characteristics, and social class associated with area residents.

Although the dynamic nature of neighborhoods is inherent in the concept, attention to change further complicates this discussion, since an effort to evaluate neighborhood character (or neighborhood quality) might involve a focus on physical decline or improvement, a consideration of shifting demographic characteristics, or both. Traditionally, emphasis has been given to housing submarkets and the role of residential mobility in shaping and reshaping neighborhood character within a metropolitan area. More recently, researchers have also considered the ability of neighborhood residents to organize in the face of unwanted change. Various themes in urban geographic research, as demonstrated below, highlight the extent to which geographic studies have reassigned significance to discussions of neighborhood change as both disciplinary research agendas and the conditions in cities themselves are transformed.

## Research Themes

Among the earliest analyses of urban space focus on issues of neighborhood changes. The credit for this generally goes to members of the early twentieth century Chicago School of Sociology and the study of human ecology. Borrowing concepts from animal and plant ecology, Chicago sociologists developed their analyses by collecting extensive ethnographies of various social and ethnic groups to document communities and territory, and by mapping out social difference to assess urban growth and neighborhood change. ‘Natural areas’, that is, territorial units roughly the equivalent of neighborhoods, served as the basic unit of analysis reflecting the relative attractiveness of districts within the city and the competitive power of a particular residential group. Human ecological analyses assume that urban areas constantly experience shocks to their social–spatial arrangements as various groups expand and adjust territorially through processes of ‘invasion’, ‘dominance’, and ‘succession’.

Attempting to find evidence of the city’s internal structure in the patchwork of Chicago’s neighborhoods, sociologist Ernest Burgess contributed the widely recognized concentric zone model to the social sciences in the 1920s and with it a generalization of urban growth based on the dynamics of change at the neighborhood level. The concentric zone model, consisting of rings radiating outward from the central business district, represented greater economic and social status with each



successive residential ring. Underpinning this pattern was a history of successive waves of immigrants drawn to inexpensive housing and jobs in the industrial city and the consequent expansion outward of the 'zone of transition' (defined as the central city's factory zone and adjacent areas of deterioration). While these zones imply competitive conditions, the 'natural areas' (or neighborhoods) within any particular zone were characterized as symbiotic, as expressed in the residents' shared sentiments, traditions, and local interests.

Numerous critics of Burgess' sociospatial model offered alternative perspectives on neighborhood change. In the late 1930s, land economist Homer Hoyt re-formulated the residential model by changing the zones to sectors and arguing that the desire of the wealthy for new homes fueled urban growth and development. Sectors developed, he noted, as higher status uses developed adjacent to one another moving outward along transportation corridors or other favorable landscape features. His critique of the zonal model stemmed from his study of patterns of rental values in American cities. Sponsored by the Federal Housing Administration in the last years of the Depression, his study sought to predict mortgage lending risks in different types of neighborhoods by identifying the relationship between socioeconomic characteristics of residential populations and the stability of neighborhoods. Hoyt theorized that the central dynamic of the housing market depended on the transfer of obsolete housing from higher income households, who vacate in order to occupy more fashionable dwellings, to middle income households. Thus, he contributed the concept of the filter down process and the term 'filtering' to housing market vocabulary, arguing that status and the desire for novelty serves as the mechanism for change by driving urban growth and creating a chain of vacancies in the housing stock that moves previously owned units down the social scale.

Burgess' and Hoyt's models both drew from the Chicago School of Sociology's close examination of the city's changing neighborhood conditions. Yet when geographers Chauncy Harris and Edward Ullman introduced them to urban geography in their seminal article on the nature of cities in 1945, the models' iconic status as generalizations of the city's internal structure tended to dwarf the human ecology research agenda. Particularly when introduced into the study of mid twentieth century North American urban geography, static zonal patterns rather than dynamic processes typified the models' interpretation and application.

The influence of human ecology on British social geography persisted more effectively and attention to urban residential patterns was sustained as a dominant aspect of research through the 1960s and 1970s in Britain. British geographer Ceri Peach acknowledged the Chicago School's influence by applying the term spatial

sociology to work that used spatial analysis to clarify social structures. Methodologically, it borrowed from forms of analysis developed by sociologists in the 1950s. On the one hand, a reinterpretation of social area analysis – factorial ecology – analyzed social differentiation through multivariate statistics. On the other hand, this spatial sociology addressed issues of segregation through measures of social separation such as the index of dissimilarity. Each approach served to vindicate the school's association of social difference with spatial distance and provided both a new vocabulary and new measures for academic and applied research related to socially fragmented cities. The futures of these methodologies varied.

Social area analysis was developed by sociologists Eshref Shevsky and Wendell Bell in the 1950s. Theorizing increasing social differentiation within urban areas, the researcher evaluates census tracts to assign them a position on a scale for each of three indexes: family characteristics, economic status (or social rank), and ethnic status (or segregation index). This method of classifying and describing different neighborhoods links the three constructs to the social space of the city and highlights residential patterns associated with changing urban lifestyles. The focus on residential areas underscored the researchers' interest in the neighborhood as an important context for community formation, group identity, and the shaping of individual attitudes.

Geography's adaptation of social area analysis, factorial ecology, gained ground at the advent of the quantitative revolution in the 1960s and 1970s as computers offered greater opportunity to manage a large number of variables related to the three indexes of social variation. The conceptualization of these indexes is taken up below in discussions of neighborhood lifecycles and housing markets. While factorial ecology analysis can handle a great deal of information, and continues to be used in marketing work to define a metropolitan area's residential structure, it falls short of explicitly accounting for neighborhood change since it tends to produce data snapshots. Although still in use, the peak influence of factorial ecology within urban geography ended in the 1970s as geographers sought more critical perspectives on neighborhood change, particularly as questions related to racial segregation and gentrification assumed greater significance.

Indexes of segregation, again pioneered by sociologist in the 1950s, continue to be an important measure of social integration of various racial and ethnic groups and the character of particular neighborhoods. The index of dissimilarity – the most commonly used of the indexes, which includes the index of segregation and the index of isolation (also called the index of dominance) – compares the spatial distribution of two groups to answer a question. What percentage of one group would have to move to other areas within the city to achieve a proportional

distribution comparable to their proportional distribution within the city as a whole? This simple statistic provides a means of addressing changes in neighborhoods over time as well as suggesting the relative assimilation of particular ethnic and racial groups. For example, geographer Ceri Peach drew upon such figures in recent (and ongoing) debates as to whether segregation of South Asian Muslims in British cities is growing or declining. Although undoubtedly powerful statistics for addressing particular conditions, interpretations related to individuals' assimilation are frequently made from such figures – and this possibility suggests just one of the many critiques associated with the Chicago School and its positivist approach.

When inferences are made about individuals, based on aggregated spatial patterns, an error can be produced, known as an ecological fallacy. An individual's behavior cannot be assumed based on knowledge of the group's statistics. This error of interpretation is well known to introductory statistics students, although, unfortunately, knowledge of the term does not safeguard research. Perhaps a more critical issue related to such analysis is that it is difficult to infer process from the pattern associated with group information. Behavioral geography's interest in residential choice modeling responded to this particular challenge as it attempted to model individual decision making.

Behavioral geography's influence on studies of neighborhood change reflects both the contemporary critiques of geography as a spatial science and the particular social conditions of the 1960s. By the second half of the twentieth century, increasing complexity and social polarization in Western cities underscored once again the patterns of investment and inequality in urban areas and made housing abandonment and racial segregation significant themes in urban social geography. As numerous, large American cities experienced change in their racial composition, studies examined the 'tipping point' in housing markets. That is, they questioned at what point do residents respond to the immigration of a new minority population by suddenly and rapidly leaving the residential area themselves. The 'prisoners' dilemma', one of the simplest forms of gaming models, articulated the logic used by property owners with incomplete knowledge in the face of changing conditions. Assumptions regarding the relationship between a neighborhood's racial characteristics and property values influenced the homeowner's expectations of the future and, with imperfect knowledge of other's plans, resulted in a choice to sell. Such analyses contributed to an understanding of the self-fulfilling prophecy involved with such panic over racial change. Over time, more serious consideration would be given to the social construction of race and the construction of racial identity with consequences affecting households' choices and constraints. Kay

Anderson's seminal study of Vancouver's Chinatown's 100 year history, for example, explores the extent to which segregated urban districts must be evaluated by considering the impact of racial ideology and institutional practices.

Whereas neighborhood decline, segregation and housing abandonment proved important issues from the 1960s, rising property values in certain older, central city neighborhoods drew increasing research attention from the 1970s onward. Over the last several decades, the examination of the processes involved in gentrification further demonstrates the extent to which neighborhood change is influenced by a complex set of factors. Gentrification, a term coined as early as 1964 to address the class transformation of older central city neighborhoods, represents an important aspect of contemporary urban spatial restructuring. Neil Smith introduced the concept of a rent gap as a means of addressing why some neighborhoods might be profitable to redevelop while others are not. The rent gap refers to the difference between actual ground rent obtained from existing land uses and the potential rent that could be obtained if the centrally located property were redeveloped for higher income residential use. If the rent gap serves as the underlying economic driver for gentrification, others emphasize the emerging demands on the part of a new middle class and changing cultural values. David Ley, for example, examined the role of gentrifiers in the process, questioning the extent to which changing cultural values and attitudes might draw people to older, working class neighborhoods. He argued that gentrification was a spatial expression of new cultural values and examined the particular sense of place associated with such urban neighborhoods. Contemporary research tends to benefit from these two aspects of the early gentrification literature. Thus, the supply side explanation – focusing on the roles of developers and mortgage lenders as they seek profitable investments and the support provided by government agencies seeking an 'urban renaissance' – combines with the demand side understanding of new lifestyle choices and cultures of consumption among members of a new middle class. An ongoing research agenda emphasizes the importance of a 'geography of gentrification' that maintains a sensitivity to the specific contexts and scales of gentrification rather than trying to reduce it to a single, generalizable process.

The contrast between the earliest work on neighborhood change, as exemplified by Burgess and Hoyt, and current work on gentrification and urban form put to rest any notion of universal, persistent trends in the housing market. Instead, neighborhoods are influenced by uncertain metropolitan wide factors related to the regional economy, technological innovation, population and immigration trends, state and federal government policy, and emerging social and cultural values.

### Neighborhood Lifecycles

In the face of such complexity, research on neighborhood change might begin with attention to three components that influence the individual household's choices and, ultimately, through the aggregate effect of neighbors' choices and neighborhood lifecycles. These include the aging of the physical environment, the aging of the residential population, and the consumer values associated with housing submarkets. In monetary terms, the quality of the physical environment involves the initial investment made and its ongoing maintenance. Common sense suggests that the quality of the initial construction would influence the probability of its continued maintenance at least in the near term. Until relatively recently, assumptions about aging neighborhoods tended to emphasize physical decline accompanied by declining real estate values resulting in out migration from the central city. Smith's work on the rent gap as it relates to gentrification demonstrates, however, that investors and developers evaluate disinvestment in the built environment and opportunities for redevelopment of central city real estate based on changing trends in the central city housing market.

Related to such changing trends, the potential for obsolescence of any particular unit is also a matter of its functional and stylistic character. Housing units may be described as functionally obsolete based on the occupant's demand for new amenities or changing technologies. Changing family structure, that is the size of the family and age of its members, also influences the household's assessment of the structure as functionally viable. Stylistic obsolescence acknowledges the fads associated with desirable architectural styles and the potential that changing tastes may trigger the desire for new housing, as highlighted by Homer Hoyt's research on upper income households. Hoyt's term filtering introduces a means of linking the mobility of individual households to neighborhood change with its emphasis on the movement of wealthier households up the housing scale (into new construction) and the consequent filtering of (their) houses down the social scale. The movement of households creates a vacancy chain with each move associated with an opportunity for those with incomes a rung below the previous owner. The ultimate consequence for aging structures in the vacancy chain would be a lack of value to anyone and abandonment. Financial obsolescence is another form that influences individual household behavior. For instance, a rise in family income or the effect of inflation reduces the relative size of mortgage repayments, thus encouraging the desire for a move into a larger and/or more expensive unit. In the language of the real estate market, a 'starter house' suggests a combination of functional and financial obsolescence that would trigger such a move.

Just as the aging of the built environment suggests conditions for neighborhood change, the aging of a neighborhood's residents also introduces conditions for neighborhood change. This is based on assumptions about the behavior of residents, particularly homeowners, over time. Mobility is associated with certain periods of an individual's life. Traditional habits associated with the nuclear family would suggest that younger, single individuals and young families would move more often. Influencing the decision to move includes a household's (perceived) need for space, desire to own rather than rent, and the (perceived) need for different environmental amenities for families. On the "contrary", families with children will be more sedentary, and particularly homeowners will stay in their houses until age affects their ability to maintain their own household. Because neighborhoods tend to be characterized as appropriate to different stages of the family life course (or family lifecycle), there are examples of housing areas with units built about the same time where residents 'gray' together. As a consequence, the aging of area residents influences opportunities for neighborhood change when they depart.

Arguably, as demonstrated by researchers such as Patricia Gober, changes in household structure related to the family life cycle are less dominant today than they were in the post World War II city. For the baby boomers and succeeding generations, lifestyle concerns rather than family life cycle offered greater explanatory value. Producers and consumers respond to new opportunities and changing lifestyles. Three categories characterize differences in consumption that include family oriented people, careerists, and consumerists. Family oriented people conform to behavior associated with the previously dominant concept of the family life course. Careerists tend to be highly mobile and status conscious with a focus on prestige neighborhoods. Consumerists may not place the same priority on professional requirements but they do prioritize the material benefits of modern society in their housing choices and seek the amenities of more fashionable neighborhoods. These categories reflect a decidedly middle class orientation in a discussion of housing markets and neighborhood life cycle. Clearly, lower income households are primarily influenced by income rather than defined by lifestyle choice.

### Urban Segregation

The differentiation of residential areas might be interpreted as one primarily based on income – a form of economic segregation so naturalized in capitalist economies that it is rarely discussed in terms of segregation. Instead, discussion of segregation emphasizes the categories of difference associated with race and ethnicity. Although the Chicago School's optimistic assumptions regarding assimilation of different groups and its

consensualist view of society dominated social geography for a long period, greater attention was given to persistent segregation and racism over time. To describe instances of voluntary and enforced segregation based on assumptions of either choice or constraint, scholars refined their vocabulary to distinguish among: (1) colonies, a temporary stage in the assimilation of groups into the wider sociospatial fabric of a city; (2) enclaves, more permanent ethnic settlements based on the internal cohesion of their members; and (3) ghettos, settlements that form in response to the negative conditions and external forces facing a particular ethnic or racial group. The distinction between these categories – particularly between enclaves and colonies – as has been raised in the work of Ceri Peach regarding South Asian Muslims in British cities influences interpretations of social fragmentation. In the United States, attention to the expansion and contraction of poverty neighborhoods – called impacted ghettos – considers particularly the contributions of sociologists Manuel Castell, whose work evaluates the economic and social exclusion of marginal groups, and William J. Wilson, who has advanced the concept of an underclass. Contemporary research acknowledges the complex of factors influencing changing conditions within segregated neighborhoods, including attention to economic opportunity, social and cultural constraints, and institutional influences on government and business practices.

### Housing Submarkets

Housing, as both shelter and investment, is a complex package. The discussion above focused on individual units and consumers. The stability of any particular neighborhood, however, depends upon the dynamics of the local real estate market, that is, the demand for housing of particular types and price, the institutions involved in property transactions, and the people served. The role of institutional barriers and social gatekeepers in shaping spatial submarkets requires attention to the role of developers, mortgage finance agencies, realtors, and government. In part, housing submarkets result because developers build homes with similar physical characteristics adjacent to one another based on the construction benefits of economies of mass production. Local land use regulations tend to further reinforce the class homogeneity of submarkets as a means of stabilizing investments for financial institutions and property owners. Furthermore, spatially based attributes contribute to housing quality and, as a consequence, units in close proximity share certain qualities that define property value.

Class and race were key factors in defining housing markets in the twentieth century city, and thus served as important variables in discussion of neighborhood

change. Today, the proliferation of lifestyle choices further contributes to the transformation of the residential landscape. Paul Knox provides one illustration of this in his case study of Washington, DC. Drawing together a sociological literature on the culture of consumption – particularly influenced by the sociologist Pierre Bourdieu and his concept of habitus, Knox provides an overview of the development industry's response to the demands of the new bourgeoisie. Both sociologists Sharon Zukin's and Rosalyn Deutsch's research also have proven influential in their respective work on post-modernism's 'society of the spectacle' and the associated impact on defining fashionable neighborhoods with consequential change. The niche marketing of urban landscapes reflects the creation of products in response to the fragmentation of classes and thus influences the fortunes of new and existing neighborhoods in a metropolitan housing market.

### Neighborhood Organizing

Although the literature on neighborhood change focuses primarily on residential mobility and competing submarkets, certain neighborhoods maintain a relative stability despite pressures to do otherwise. The ability of neighborhoods to organize in the face of unwanted change has also received attention in urban geographic research. The conceptual framework for evaluating locational conflict and its influence at the individual and neighborhood level identifies three potential options: voice, loyalty, and exit. In those instances that residents actively respond to a particular change, they exercise voice whether that is through formal, legal channels or through covert, illegal resistance. When resignation to a particular change is involved, traditionally the misnomer loyalty has been applied. This resignation suggests a perceived inability to respond and, consequently, suggests negative consequences for the individual and potential change in the neighborhood. Those who are able to exercise other choices might select the exit option. The combined effect of many individuals pursuing this option also results in neighborhood change. Recent studies on the effectiveness of local organizing to direct local land use development, such as the work of Mark Purcell and Deborah Martin, examines neighborhood activism as an expression of a group's vision for their neighborhood. The activists invest their social values in a spatial vision for the neighborhood. Whether their voice meets with success depends on the group's relative power in a land use competition with an outcome that is likely influenced by various scales of negotiation and accountability.

*See also:* Chicago School; Gentrification; Social Justice, Urban; Urbanization.

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Neighborhood Change in Urban America.

# Neighborhood Effects

Sang-Il Lee, Seoul National University, Seoul, South Korea

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## Glossary

**Buffer Zones** Areas of user-defined width surrounding geographical features.

**Dummy Variable** A numerical variable used in regression analysis to represent categories.

**GeoCoding** The process of positing a geographical feature on a map as a point by using a code representing its location.

**Logistic Regression** A regression analysis used for categorical dependent variables.

**Measurement Scale** The physical size of the spatial unit in a study, sometimes called spatial resolution.

**Misspecification Error** A modeling error in a regression framework committed mainly by omitting relevant variables.

**Operational Scale** The spatial extent to which a spatial process operates.

**Spatial Dependence** A particular relationship between geographical similarity of locations and numerical similarity of values observed on them.

**Spatial Heterogeneity** A lack of spatial uniformity in mathematical and statistical properties.

## Introduction

Neighborhood effects refer to socio geographical milieu's influences on the ways in which people think and act. In other words, the neighborhood effect is a structural factor which may drive individuals in a place to possess a collective behavioral disposition leading to similar behavioral outcomes or choices. In social sciences, neighborhood effects have been regarded as a synonym or a particular type of contextual effects. The concept of neighborhood effects has provided a conceptual foundation for those who seek to emphasize the importance of socio geographical contexts in explaining various types of behavioral outcomes such as educational achievements, adolescent misconducts, crimes, and so on. The concept has also been utilized in housing studies, epidemiology, psychology, and so on.

It is, however, in the field of political geography that the most attention has been given to the concept. Political geographers have used the concept in order to explain why different people in the same place vote in similar ways while similar people in different places vote in different ways. It is generally accepted in particular by political scientists that individuals' voting decisions are

largely determined by who they are. However, if the voting decisions are also associated with where they live or have been socialized even after the effects of who they are were controlled, one might argue that there exist geographical contexts' influences on the political behaviors and the influences might be conceptualized as neighborhood effects. On the contrary, if who they are explains the voting patterns or if the explanatory power of where they live is not sufficiently large in comparison with that of who they are, one might argue that neighborhood effects do not exist.

Subsequently, this article briefly discusses some theoretical underpinnings which the concept may rely on, and then moves to some methodological issues as to how to formulate and model neighborhood effects. All the discussions revolve around voting behaviors.

## Theoretical Underpinnings

How could socio geographical contexts possibly drive individuals in a place to possess a collective behavioral disposition? It has been known that the conceptual origins of neighborhood effects lie in the work of a Swede and an American political scientist, H. Tingsten and V. O. Key, in 1930s to 1940s. It is by Kevin Cox, David Reynolds, and Butler and Stokes in the late 1960s that the concept emerged as a keystone for electoral studies.

Kevin Cox, in his seminal 1969 paper, identified four factors (or biases), on the basis of a theory of communication and information flow, which influence people within a socio spatially structured information network. The geographical distance bias refers to the fact that people living nearby are more likely to interact than those apart. The acquaintance circle bias facilitates more frequent and intensive interaction and thus tends to lead to more opinion agreement between members of the same acquaintance circle. This bias is closely related to the first one; people who live close together are more likely to be members in the same acquaintance circle than those who live further apart. In practice, the information flows within a neighborhood are often diffusive, influential, and persuasive such that the situations may heighten the possibility that some having minority opinion are converted to the dominant majority opinion. The forced field bias indicates some situations whereby an established political culture in a local area appears to be quite coercive enough to mobilize opinions in a particular way. This is most clearly observed where place based political parties are pervasive. The reciprocity bias

refers to the fact that the chance of information being passed between two individuals is greater where there already is a tie between them. For example, the relationships between parents and children, siblings, husbands and wives, friends, and colleagues provide a greater channel for information exchange. All these factors can be articulated in spatial terms, and collectively constitute the fundamental rationale for the concept of neighborhood effects.

In sociology and other social sciences, there are several theories about how neighborhood effects occur, some of which are congruent with Cox's notions, but others not. Contagion theory underlines the power of peer group influences to spread particular types of behaviors. Collective socialization theory emphasizes how neighborhoods provide role models and sources of social control. Institutional theory stresses the roles of various institutions located in local areas such as schools, businesses, political organizations, social service agencies, and so on. Competition theory and relative deprivation theory are less relevant here. On the basis of all these theoretical contemplations, five processes by which neighborhood effects are produced can be listed as follows (after Johnson *et al.*, 2005):

1. Local social interaction: the classic neighborhood effect. This involves a process of 'conversion through conversation' or 'those who talk together vote together'; "I talk with them and vote as they do."
2. Environmental selection: according to this process people choose to live (to the extent that they can) among people they wish to associate with; "I want to be like them so I live with them."
3. Emulation: in this process, people choose to behave like their neighbors, even without interacting with them, on the basis of observed (or inferred) behavioral patterns; "I live among them and want to be like them."
4. Environmental observation: people see and hear about issues in their local area and vote with their neighbors accordingly, in order to promote local interest; "what I observe around me makes me vote with them."
5. Local pressure: political parties actively seek support through canvassing and local campaigns, and people may therefore be influenced by the intensity of that local pressure to vote in a particular way; "they want me to vote for them here."

## Debates

There have been two large scale debates on whether neighborhood effects or contextual effects really matter, first in *Political Geography Quarterly* and second in *Political Geography*. Those debates were seen as conflicts between

two academic fields – geography and political science. In the 1987 debate, political scientists reported that if individual factors were controlled, contextual effects would vanish. In contrast, political geographers demonstrated that substantial contextual effects remained when individual factors were held constant. The former argues that neighborhood effects are mere myth or embellishment, while the latter contends that the alleged pure individuals have already been saturated with contextual effects.

In the 1996 debate, Gary King, a political scientist, argued "The *geographical variation* is usually quite large to begin with, but after we control for what we have learned about voters, there isn't much left for *contextual effects*." (159–164) and "Geographical variation yes, contextual effects no." (159–164). John Agnew (1996: 129–146), a political geographer, contended "The concept of geographical context can be used to draw attention to the spatial situatedness of human action in contrast to the non-spatial sorting of people out into categories based on census and other classification schemes that inspires most conventional social science." He further argued, "[T]he hierarchical geographical context or place channels the flow of interests, influence and identity out of which political activities emanate." and thus "political behavior is inevitably structured by a changing configuration of social geographical influences..." (Agnew, 1996: 129–146).

It is worthwhile to indicate here that the boundary between individual effects and contextual effects is often blurred; what are usually regarded as individual variables are indeed dependent upon contextual variables in many cases. For example, an individual's union membership may be significantly affected by local norms and traditions; individual income and education levels are often dependent upon the quality of schools and jobs in the local neighborhood; an individual's status in the occupational ladder is likely to be constrained and shaped by the local labor market economy.

In a methodological sense, the essence of the arguments raised by those who are against the geographical/contextual effects is that empirical models favoring the effects are committing a kind of misspecification error; that is, contextual variables turn out to be significant simply because important individual variables are omitted. Thus, what is at issue in the debates is methodological, rather than theoretical.

## Methodologies

The methodologies for formulating and estimating neighborhood effects may be classified into two categories: area based and individual based. One could think of a typical research framework from each of the categories. A study with aggregated data may involve a regression analysis in order to explain spatial variation of

voting results with various independent variables which are usually derived from census data. Although this kind of analysis could provide a formula to predict the voting outcomes at a locality on the basis of the locality's characteristics, it gives little insight into neighborhood effects. As a matter of fact, neighborhood effects reside intact in a set of residuals. On the other hand, a study with individual data may also involve a regression model, usually logistic, by positing an individual's choice in a binary format on the left hand side and their attributes on the right hand side which usually include:

1. socioeconomic status (occupational class, educational attainment, housing tenure, employment status, income, etc.);
2. ascribed characteristics (sex, age, race, ethnicity, etc.); and
3. family background (parents' political propensity and socioeconomic status).

This approach, however, completely ignores the neighborhood effects and has been overwhelmingly adopted in political scientists' literature.

### Methods for Aggregate Data

A study based on aggregate data examines the neighborhood effects in reliance on an area's collective characteristics which are expected to explain collective outcomes under investigation. Prior to a discussion on methodological principles utilizing area data, a distinction between compositional variables and contextual variables needs to be made. In general, a compositional variable refers to an individual's socioeconomic characteristic whereas a contextual variable relates to location which provides a milieu within which an individual lives and is socialized. When aggregate data are considered, this distinction needs to be furthered. In a conceptual sense, compositional variables are associated with who people in a place are and what they have, whereas contextual variables describe environmental properties, physical and/or human, that a place possesses as a macro scale entity. For example, geographical variations in death rates are not only due to different age structures of areas (the compositional effect), but also due to some detrimental attributes of the areas that may have a direct or indirect effect on people's health (the contextual effect). It should be noted, however, that the two types of variables are dependent upon each other such that it is often impossible to separate one from the other.

One way of tackling neighborhood effects with aggregate data is to regress socioeconomic variables (usually compositional variables) of local areas plus 'locational variables' on voting outcomes. The locational variables are mainly associated with where an area stands as a spatial

object in relation to other areas or specific features. For example, they could be each area's distance from a focal point, for example, central business district (CBD), or dummy codes indicating membership in buffer zones or to particular geographical categories based on either administrative regionalization or functional classification, or an areal unit's identity itself. If the locational variables have a statistically significant explanatory power with other socioeconomic variables being held constant, the existence of neighborhood effects would be confirmed. For example, it has been acknowledged that suburban areas are more pro conservative than their inner city counterparts. One can follow this analytical line by incorporating a series of higher level regional dummies along with socioeconomic characteristics of basic spatial units. A significant level of heterogeneity in the regression coefficients of the dummy variables could evidence, at least partially, the point that geographical contexts count.

A more intelligent way of tackling neighborhood effects in the regression framework using aggregate data might be to attempt to define a set of contextual variables rather than the simple, locational variables, and then to put them on the right hand side along with a set of compositional variables. Contextual variables may include economic experiences, socio cultural practices, capital-labor relationships, and the level of social capital of a place. If the set of contextual variables has sufficient explanatory power in comparison with the set of compositional variables, one can say that there exists a neighborhood effect. One problem in implementing this framework is that it is often difficult to measure genuine contextual variables and to separate them from compositional variables. A carefully designed set of contextual variables could identify neighborhood effects which would otherwise be hidden in the residuals.

There are other types of area based analyses utilizing aggregate datasets, some variables of which are derived from individual level survey data. We know the proportion of votes favoring a particular political party from aggregate data, but do not know what percentage of people belonging to a particular social class actually vote for the party. By possessing that kind of information, one may be able to devise a way of proving the existence of neighborhood effects. It has been found that the more dominant the class is in an area, the greater the proportion of its members who vote along the expected class lines. This echoes the finding that the more residentially segregated cities would show greater polarization between social classes.

In comparison with individual based research, area based studies provide indirect or 'circumstantial' evidences for neighborhood effects, basically because they are never completely free from the problem of ecological fallacy, though there have been some attempts to bridge the aggregate-individual gap. They also are subject to



modifiable areal unit problem (MAUP); there is no such thing as a set of 'natural' spatial units; therefore all the statistical results are dependent upon the scale and configuration of spatial units engaged.

### Methods for Individual Data

Purely individual based research can be seen as a simple extension of the primitive approach; the dataset is composed of individuals' characteristics plus their locational properties. The locational properties simply refer to which regional unit the individuals' residential locations belong to; the regionalization scheme could vary according to what spatial scale is considered. In most cases, a logistic regression model for a binary dependent variable is utilized to see if the locational variables really count when the individual characteristic variables are held constant. If the individual variables as well as the locational variables are all significantly related to electoral choice, then one could conclude that contextual effects on voting are important.

Individual based methods, in many cases, combine individual level survey data and aggregate census data. Rather focusing on where people live, the hybrid approach pays more attention to the characteristics that an area possesses. Those areal characteristics are captured by compositional variables (rarely by contextual ones) which usually include ones related to socioeconomic performance, class or occupational structure, and demographic structure. The variables are first obtained from census in an aggregated form at a particular spatial scale; and the variables are then coded onto the individual level data according to individuals' residential location, so that each individual is allocated a separate set of areal attributes. Once all the variables are prepared, a logistic model is fitted.

One of the most advanced methodologies to implement the hybrid model is multilevel modeling. It is contended that multilevel models operate at more than one scale, so that a single model can handle the micro scale of people and the macro scale of places simultaneously. Multilevel modeling is expected to resolve the analytical dilemma not only between individual scale and aggregate scale but among different aggregate scales. Here it may be sufficient to provide how a multilevel model is specified for an empirical study. One might take a three level model where level one is the individual level, level two the local level, and level three the regional level. Independent variables at the level one may include some individual variables such as age, occupational class, housing tenure, employment status, and so on, and compositional (and/or contextual) variables at the level two may include unemployment rate, unemployment rate change, and proportion of workers in a

particular industry. By conducting a multilevel modeling, one may find that the relationships of the dependent variable not only with each of the independent variables at the level one but with each of ones in the level two vary region to region (the level three). Empirical studies utilizing the multilevel modeling report that typically 10–20% of the variance in the response is attributed to contextual effects.

### Some Lessons from Spatial Data Analysis

Recent advances in spatial data analysis and geographical information have increasingly provided Science (GISc) new insights into neighborhood effect research, though their applicability still remains limited. One of the most important sources of the limitation is that there are some conceptual and methodological difficulties in applying spatial data analysis techniques to neighborhood effect modeling. In spatial data analysis terms, the neighborhood effect is associated not with first order effects but with second order effects. In general, first order effects relate to a global or deterministic or large scale trend, while second order effects refer to local or stochastic or small scale variations, resulting from the spatial dependence in the process, that is, the tendency of neighboring locations to be correlated with each other in terms of the deviations from the first order effects. In short, the first order effects is associated more with compositional effects while the second order with contextual effect.

In the individual based approach, some second order point pattern analysis tools could provide a promising room for application. When voters' locations are geocoded, Ripley's  $K$  function can gauge the degree of the spatial clustering of voting patterns. A bivariate  $K$  function, however, could provide more insights into the nature of neighborhood effects. For example, if the geocoded voters' locations are given a categorical value, one for supporters of a particular party, and two for supporters of the other party, then we have two sets of point patterns. By applying a bivariate  $K$  function, one could gain an understating of whether they are spatially independent or not. In a regression setting, aggregate or individual, spatial linear regression models such as various types of spatial autoregressive models, could edify the problem of spatial autocorrelation in residuals endemic to the ordinary least square (OLS) regression framework which has overwhelmingly been adopted in the neighborhood effect studies.

In the cases of aggregate data, various techniques of exploratory spatial data analysis (ESDA), particularly utilizing local measures of spatial association such as local Moran's  $I_i$  and Getis Ord's  $G_i^*$ , could broaden the analytical spectrum allowing for exploring spatial dependence and spatial heterogeneity which voting

patterns usually display. Such ESDA techniques, however, may be more useful when a particular assumption on the spatial scale at which neighborhood effects operate is satisfied: the operational scale should be larger than the measurement scale, that is, the (average) size of spatial units. Only when the assumption turns out to be conceptually and practically sustainable, (positive) spatial dependence observed in voting patterns can be regarded as a circumstantial hint of the existence of 'inter local' neighborhood effects as opposed to 'intra local'. However, it should be noted that many of ESDA techniques do not allow for heterogeneity in the first order effect, that is, constant compositional effect over space, which wouldn't be tenable in most cases under investigation. Thus, genuine (inter local) contextual effects can be tackled only when the first order, compositional parts are removed from the original variance of voting patterns.

Geographically weighted regression (GWR) can be seen as a method to deal with intralocal and interlocal neighborhood effects simultaneously. One of the most important rationales of GWR is that local areas possess their own peculiarities which are irreducible to the global trend. Thus, GWR allows for spatial heterogeneity of causal relationships between variables, that is, spatially drifting regression parameters. Meanwhile, GWR fulfills the task by having values at original locations referencing ones at their adjacent locations in the estimation process. In the context of neighborhood effects, GWR can show how spatially different the relationship of the dependent variable with each of not only compositional variables but contextual variables is (intra local neighborhood effects) and how similar each of the relationships between adjacent local areas (inter local neighborhood effects) is.

Some critical issues for future research need to be addressed. The first issue revolves around how to define a neighborhood: Is there any natural foundation on which neighborhoods are delineated? How can we be sure that our data units are congruent with the concept of neighborhood? What is the spatial extent of a typical neighborhood? Some GIS based approaches such as an automated neighborhood identification procedures open up a promising space for this issue. Second, there is another scale issue, that is, the multi scale nature of neighborhood effects. To gain understanding of the whole picture of neighborhood effects, it may be desirable to investigate the hierarchical and/or interlocking nature of the effects occurring at different spatial scales. Recent advances in multilevel modeling could provide a viable starting point to address this issue. The third issue

is about how to specify neighborhood characteristics, either compositional or contextual. In order to adequately model neighborhood effects, it is crucial to possess explanatory variables which properly measure socioeconomic and environmental conditions of a place. Some efforts have recently been made to devise composite measures of neighborhood characteristics such as measures of areal deprivation by exploiting a variety of data sources in a GIS environment.

See also: Cox, K.; Ecological Fallacy; Electoral Geography; Exploratory Spatial Data Analysis; First Law of Geography; Geographically Weighted Regression; Georeferencing, Geocoding; GIScience and Systems; Modifiable Areal Unit Problem; Point Pattern Analysis; Regionalisations, Everyday; Regression, Linear and Nonlinear; Spatial Autocorrelation; Spatial Clustering, Detection and Analysis of; Spatially Autoregressive Models; Statistics, Overview; Statistics, Spatial.

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# Neighborhoods and Community

J. Flint, Sheffield Hallam University, Sheffield, UK

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## Glossary

**Broken Windows** A theory developed within criminology that environmental incivilities will result in further crimes and the decline of a neighborhood.

**Collective Efficacy** The combined capacity of groups of individuals to influence their local environment or social circumstances.

**Communitarianism** A form of social theory and political organization based on membership of, and engagement within, a community.

**Ecological Fallacy** The fallacy of making inferences about individuals from aggregated data.

**Residualization** The increasing concentration of deprived and vulnerable populations within a neighborhood.

**Social Capital** Forms of collective networks and reciprocal relationships that bring social benefits to a group of individuals.

**Spatial Mismatch** Spatial barriers of access, such as poor transport connections that prevent individuals from taking up certain employment opportunities.

**Tipping Point** A theory that once a particular population forms a certain proportion of residents in a neighborhood, rapid and significant change will then occur in the neighborhood.

**Underclass Theory** A theory that certain deprived populations are becoming increasingly socially and culturally isolated from 'mainstream' society.

## Introduction

Neighborhood and community are two of the most frequently used terms in urban geography. They are multidimensional forms of human organization with no universally agreed definition to describe them. Neighborhoods and community are synonymous with urban settlements. Although neighborhood and community are not interchangeable, and indeed one may exist without the other, it is the sociospatial interaction of neighborhood and community that has been the focus of urban geography, dating back to Mayhew's study of London's rookeries in the nineteenth century and the Chicago School's exploration of neighborhood formation in the 1920s. It is primarily through neighborhoods that urban spaces become identified as urban places, with their own histories, trajectories, and meanings for residents.

If the city is conceptualized as a form of community or communities existing within urban space, then neighborhoods are the smallest territorial scale at which the communal processes of urban life are usually organized and studied in urban geography. In this conceptualization, neighborhoods may be regarded as the blocks upon which the economic, social, political, and cultural elements of the city are built. Neighborhoods and community have become increasingly prominent in both urban geography and urban policy, based on an understanding that neighborhoods serve crucial functions within urban systems and are in turn affected by wider changes in urban and global forces. Contemporary studies within urban geography suggest that neighborhoods and communities, and our understanding of what these mean, are being transformed at an unprecedented scale and pace.

## Defining Neighborhoods and Community

Neighborhoods comprise the smallest unit of urban social territory and political organization. There is no universally accepted definition within urban geography of what constitutes an urban neighborhood. The smallest unit of a neighborhood is typically defined as an area of up to 10 min walk from one's home. A neighborhood may be enclosed by physical boundaries, including railway lines, major roads, and fences. It may also comprise residential properties of a similar built form or housing tenure. Residents of a neighborhood may share similar characteristics, including ethnicity, occupation, and income, which come to define the identity of the neighborhood. Neighborhoods are also demarcated by a range of agencies and organizations for the purposes of urban administration, service delivery, and governance. Within neighborhoods, there are often subterritories of particular streets, and neighborhoods are also situated within wider localities, often referred to as wards or districts, which in turn are located within larger settlements and regions. Neighborhoods are multidimensional forms of urban organization, comprising a series of spatially based attributes and processes relating to the built environment, the economic, social, and cultural characteristics of the population residing within them, the interactions between residents and the forms of employment, services, and facilities located within neighborhoods, and how these are utilized.

Community is an equally complex and contested term. Community relates to a form of social organization based

upon some commonality between individuals, which results in them being defined as members of such a community and simultaneously demarcates others who are not members of the community. Membership of a community is differentiated from membership of a family grouping or legally defined citizenship of a nation state and is therefore regarded as a separate form of social identity with related social processes. Most individuals are members of diverse and overlapping communities. Communities need not be primarily spatially based. They can relate to religious affiliation (as in the global Umma of Islam), political beliefs, sexual orientation, occupation, and cultural and leisure interests. The growth of global communication technology has been particularly important in establishing 'online' communities which reduce the centrality of space to community identity. However, many communities are linked to defined spaces and places at a range of spatial scales, including the international (e.g., the European Union) and nation states. The interaction of place and community at the local level has received particular attention among urban geographers and urban governments, leading often to a conflation of neighborhood and community and a focus upon the combination of social and spatial dynamics within neighborhoods. The extent to which individuals identify with communities and neighborhoods varies, as does the importance of neighborhoods and communities for individuals' lives. It is therefore important to avoid the ecological fallacy of equating an individual's residence with his/her personal attributes or behaviors.

### **The Functions of Neighborhoods and Communities**

Neighborhoods serve a number of functions. Their predominant function is as a site of residence and home location for individuals and families. This is often, but not necessarily, linked to individual psychosocial processes of belonging, identity, security, and familiarity. The emergence of neighborhoods in the historical growth of urban areas was often linked to their role as the sites of initial residence for new populations. The migration of rural populations to cities due to industrialization characterized the development of urban neighborhoods in the developed world in the nineteenth and twentieth century and characterizes the rapid urban growth of developing nations into the twenty first century. The close proximity of home to work was a feature of the development of human settlements which continued through the Industrial Revolution. However, in the post World War II era, advances in transport and communication technologies and changing economic activities reduced the link between work and residential neighborhood, epitomized in the growth of commuting. This was often combined by deliberate urban

planning policies that sought to separate residential neighborhoods from industrial and commercial zones in cities. However, further evolution of the economy and information technology and concerns about environmental sustainability may result in a renewed proximity between neighborhood and place of employment.

Neighborhoods also serve a primary function in housing markets and housing policies. They serve as a sorting mechanism that links households to employment opportunities, educational facilities, available health services, or ethnic and cultural support mechanisms. The residential choice of neighborhood is heavily mediated by house prices and income, and the composition of most neighborhoods therefore reflects differential economic and social status. Urban geography research suggests that the neighborhood is equally, or even more, important than the characteristics of individual properties in driving residential location decisions. The provision of subsidized, affordable housing by public or quasi public agencies also results in the development of new neighborhoods, for example, the slum clearances and construction of large scale periphery housing estates, which were a dominant feature of urban planning in many cities during the twentieth century.

Neighborhoods also serve as sites of consumption and civic engagement. They provide some local retail and commercial services, although these have often reduced due to the growth of edge of town retail parks. Neighborhoods may also provide specific facilities linked to ethnic, cultural, or religious affiliations. They provide sites of leisure and recreation, including public spaces, and are the locations where public services such as policing, environmental cleansing, and education are delivered. In addition to organizational sites for public service delivery and management, neighborhoods also serve a civic and political function as the arena for engagement between urban residents and governance structures and the lowest tier of political representation. The recent trend in many cities for decentralized and devolved urban administration has resulted in both neighborhood management and neighborhood forums for decision making gaining increasing prominence. The functions that a neighborhood serves vary between individuals and also change over the life course, for example, the attributes required from a neighborhood by a young, single person is likely to be different to those required by a household with children. The extent to which an individual is reliant on the neighborhood to provide his/her employment, friendship networks, and access to services and facilities is also a function of economic status, so that a neighborhood of residence and the attributes contained within it will matter more to some individuals.

Neighborhoods are also arenas for socialization, including family and friendship networks, and also provide sites of social solidarity and protection. The concept of

neighboring refers to social interaction between non family members sharing a spatial proximity, while the concept of community is differentiated from the relationship between citizen and state. As such, neighboring and community are regarded as organic processes developing and occurring within neighborhoods. The acts of neighboring range from the exchange of pleasantries in the street to reciprocal favors, such as guarding properties or childcare. Community, strongly influenced by the concept of communitarianism, denotes both a membership of a social body and the social processes that arise from this membership. In addition to community serving as a site of identity and belonging within the arena of the neighborhood, the processes of community are envisaged as fostering social solidarity and providing the motivations and means for collective endeavor, including political engagement. This is based on a common attachment to a neighborhood (and its future) and a shared sense of purpose among its residents that overrides other social divisions and allegiances to other forms of community. However, the work of urban geographers, from Harvey Warren Zorbaugh in the 1920s and David Ley in the 1970s through to contemporary studies, has identified the complexities and disunities in everyday behavior and social interactions within neighborhoods. Despite this, the promotion of community, enacted spatially through neighborhoods, has been a prominent pillar of contemporary urban policy in many nations.

### **Neighborhood and Community Careers**

Urban geographers have identified that neighborhoods and communities, like individuals, have careers. That is, neighborhoods evolve over time, both internally and in relation to other neighborhoods in an urban area. These careers can result in changes in the function of neighborhoods, their populations, and their built environment. The study of neighborhood careers has a history dating back to the Chicago School's identification of zones of transition through which neighborhoods became the site of new populations and economic activities and subsequently evolved to serve new functions in the urban system, such as the 'frontier outpost' role of Black inner city neighborhoods in the United States. A contemporary manifestation of neighborhood careers, which has been subject to considerable attention in urban geography, is the processes of gentrification occurring in many cities of the world, whereby previously working class and/or ethnic minority inner city neighborhoods are being transformed by new populations, businesses, services, and facilities. Gentrification and regeneration may represent the 'rise' of a neighborhood, associated with improvements in the physical environment, falling crime rates, higher educational attainment, rising house prices,

improved public services, and an enhanced reputation of the neighborhood, and its inhabitants, in the wider urban area. Conversely, urban geographers have also studied neighborhoods that decline, leading to social disorganization, the abandonment and demolition of properties, rising crime levels, the withdrawal of commercial and public services, and a stigmatization of the neighborhood and its inhabitants. A contemporary example of this process is what is usually termed the residualization of public housing estates in many countries, resulting in a growing concentration of vulnerable and deprived residents. Specific, and contested, concepts such as broken windows and population tipping point theories have been developed to describe the micro processes within neighborhoods that lead to a spiral of economic, social, and physical decline.

The role of community in neighborhood careers is uncertain. A strong community, stable population, and long term residency are regarded as signifiers of successful neighborhoods, while rapid population turnover is often a signifier of a distressed neighborhood. However, collective coping mechanisms among residents are also a feature of many declining neighborhoods. Changes in neighborhoods are linked to wider economic and societal shifts. For example, the long term evolution of some neighborhoods in the northern United States was linked to economic developments in both the north and south of the country, the resultant migration of the Black population to inner urban areas and the subsequent 'white flight' to the suburbs and then further economic and social restructuring which increasingly disadvantaged inner city neighborhoods. The link between neighborhood and employment opportunities is also emphasized in spatial mismatch economic theories that suggest residents in some deprived neighborhoods are unable to access new employment opportunities in urban areas due to their physical isolation and the poor or expensive transport infrastructure serving these neighborhoods.

One of the challenges facing urban planners is the extent to which policy should focus on changing the fortunes of neighborhoods as static places or the mobile populations who reside within them, linked to the functions that particular neighborhoods serve. For example, some neighborhoods have retained long established ethnic populations and identities, including many Jewish communities. Other neighborhoods experience shifts in their population and identity, for example, the historic Irish and Italian, and more recently Korean and Hispanic neighborhoods of New York. This also applies to the economic, housing tenure, and life course function of neighborhoods. Neighborhoods dominated by public or private rented housing may remain problematic as sites of low income and social problems, but may be regarded as necessary transitory locations for individuals prior to them moving to other neighborhoods and housing

tenures. The emphasis on spatially targeted neighborhood regeneration and area based initiatives in urban policy also faces this dilemma, with the evidence suggesting that many of the improvements resulting from interventions benefit individuals who then leave a deprived neighborhood to be replaced by new vulnerable or deprived households, resulting in little overall change in the circumstances of the neighborhood. Some urban renewal programs, such as the Hope VI and Moving to Opportunity programs in the United States, are explicitly based on relocating households to more affluent neighborhoods and communities in order to further their life opportunities.

### Neighborhood and Community Effects

The concept of neighborhood effects is influential in contemporary urban geography and urban policy. Neighborhood effects describe the advantages or disadvantages that a place of residence has on the life circumstances and opportunities of an individual. Neighborhood effects act as a related but independent variable to individual characteristics such as age, gender, ethnicity, and social class. Neighborhood effects have therefore been identified as explaining the differential trajectories of neighborhoods with initially similar socioeconomic and demographic population profiles.

The prominence given to neighborhood effects reflects both the cultural and spatial turns in human geography. Neighborhood and community and the social and cultural processes occurring within them have become more important as the concept of poverty has broadened from material deprivation to a focus on a wider social exclusion that includes both individual and collective spatially based dimensions. The 1990s saw a reemergence of the 1960s 'rediscovery' of poverty and a focus within urban geography upon cultures of neighborhood poverty. The school of underclass theorists claimed the existence of specific forms of collective attitudes and behaviors that resulted in the sociospatial distancing of deprived communities from the rest of their societies. While urban geographers disputed the extent to which such cultures were caused by internal neighborhood processes or were the result of wider economic and social restructuring, underclass related theories have been influential within urban policy programs aimed at reversing neighborhood decline.

The growing concentration of poverty within particular urban neighborhoods and the concentration of effects that are conceptualized as arising from this process have led many urban policy regimes to attempt to increase the levels of social mix within neighborhoods, including providing a range of housing tenures, income levels, household types, and ethnic diversity. However,

the international research evidence suggests that the resultant spatial proximity does not subsequently lead to improved social interaction between social classes or facilitate a growing sense of community based around a collective neighborhood identity.

### Social Capital and Collective Efficacy

Two concepts linked to neighborhoods and community have recently been influential in urban geography and urban policy making: social capital and collective efficacy. Social capital refers to the forms of trust, reciprocity, and collective capacity that exist between networks of individuals and neighborhood based organizations. As with other forms of capital, social capital is a resource which communities may draw upon to further opportunities and services within neighborhoods. Social capital may operate informally between neighbors in order to strengthen social processes and a sense of belonging or be used by local communities to influence economic and political decision making to achieve improvements within neighborhoods. Social capital has been promoted as a neighborhood and community based mechanism for complementing economic and social regeneration in deprived neighborhoods and for revitalizing civic engagement. However, social capital is also theorized as a mechanism for ensuring the status of more affluent and elite neighborhoods. There is an important distinction between social capital that enables residents to cope in deprived neighborhoods, for example, exchanging favors or lending each other small amounts of money, and social capital that enables residents and neighborhoods to advance their circumstances by enhancing employment and educational opportunities or improving the quality of public services within neighborhoods.

Collective efficacy develops social capital theory by focusing on the outcomes, rather than the presence, of collective processes or shared norms and values within neighborhoods. Primarily developed in criminology, it has been applied within urban geography to studies of how communities use mechanisms of formal and informal social control to regulate behavior and the use of public space within neighborhoods. These studies have demonstrated that levels of collective efficacy vary significantly between neighborhoods, and, as with the neighborhood effects literature, suggest that collective efficacy is not related straightforwardly to the income, ethnicity, or age of residents. The importance of social capital and collective efficacy theories lies in their identification of the significance of the sociospatial interaction of communal processes within urban neighborhoods. While social capital and collective efficacy remain influential in urban policy and planning, they have been criticized by some urban geographers for failing to capture the complexities

and divisions that exist within communities and that play out at the scale of the neighborhood.

### **Neighborhoods and Urban Segregation**

Neighborhoods are a physical and spatial manifestation of the wider economic and social forces acting upon them. Although there are contemporary concerns that urban neighborhoods are becoming increasingly socially segregated along community fault lines, it is important to note that cities, including classical period Rome, have always had neighborhoods that have been socially and spatially segregated on the lines of social status, income, and ethnicity. Indeed, urban geographers have long identified that the delimitation of boundaries and territoriality are inherent features of the social construction of neighborhood. However, international urban geography research evidence does suggest that many neighborhoods are becoming more internally homogeneous, while concentrations of wealth and poverty are becoming more pronounced, thereby increasing the neighborhood effects on life chances. Two other contemporary developments in neighborhood formation have also received much academic attention in relation to urban segregation.

First, neighborhoods are becoming less physically as well as socially permeable. This is symbolized in the growth of gated communities which prevent nonresidents entering neighborhoods and which challenges the traditional urban concepts of public space, fluidity, and universally accessible, if differentiated neighborhoods. Gated developments also reflect the growth of community governance through which local neighborhoods seek to govern themselves, insulate their residents from risk, and consume private rather than public services. In addition to changing the traditional built form and sociospatial processes of urban areas, these developments also challenge the role of neighborhoods and local communities as the first tier of political and civic engagement that links residents to the wider municipality.

Second, there are concerns, particularly in Western Europe, that neighborhoods are becoming increasingly segregated along ethno religious lines, with a resultant undermining of national belonging and social cohesion. In the UK, the concept of parallel lives denotes the spatial and social isolation between neighborhoods comprising different ethnic groups, in which strong internal community ties are premised on the exclusion of outsiders. The work of urban geographers such as Fred Boal illustrates that ethnic and religious segregation within neighborhoods is not a contemporary development and that differentiation of residence is influenced by population change and migration and linked to wider notions of community identity, belonging, and interaction.

### **Changing Forms of Neighborhoods and Communities**

Urban geographers have identified the scale of changes occurring in urban localities across the globe and manifested most visibly at the neighborhood level. Neighborhoods have always formed and reformed, but the contemporary pace of change is greater than its historical precedents. Neighborhoods are more susceptible to rapid local economic restructuring and to increasing population flows within and between nation states. While neighborhoods and communities are posited as providing important anchors for social identity, familiarity, and belonging, the sociospatial processes occurring within them mean that traditional certainties about neighbors and access to housing and employment are diminishing. As individuals become more mobile and are required to become more flexible and responsive, it is likely that many will live in more neighborhoods during their life course than previous generations. However, mobility and choice are far from universal, and neighborhoods in the developed and developing world are sites of exclusion and disadvantage as well as places of opportunity. Just as cities increasingly compete in a global economy, neighborhoods, including those within the same city, are also in competition for forms of capital, making the trajectories of individual neighborhoods uncertain.

The reductions in space and time manifested in processes of globalization are also evident in how neighborhoods are identified and defined, for example, through online residential search sites, while information technology also creates new opportunities for the formation of communities. However, these technologies are still linked to the local sociospatial manifestation of forces that define what a neighborhood is. Economic development, population change, and technological advances dominated the historic formation and evolution of neighborhoods and local communities in the nineteenth and twentieth centuries. Environmental sustainability may well prove to be an equally important factor for neighborhoods and communities in the future.

*See also:* Chicago School; Ecological Fallacy; Gentrification; Governance, Urban; Planning, Urban; Public Spaces, Urban; Regeneration to Renaissance; Segregation, Urban; Urban Policy.

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## Relevant Websites

- <http://www.neighbourhoodcentre.org.uk>  
ESRC Centre for Neighbourhood Research.
- <http://www.icpsr.umich.edu>  
Project on Human Development in Chicago Neighborhoods, Inter University Consortium for Political and Social Research.



# Neocolonialism

M. Watts, UC Berkeley, Berkeley, CA, USA

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## Introduction

Standing at the heart of the term neocolonialism is a sort of paradox. Kwame Nkrumah, the anticolonial leader and first president of Ghana and the first theorist of neocolonialism as such, defined the condition as:

modern attempts to perpetuate colonialism while at the same time talking about 'freedom' (Kwame Nkrumah, 1964: 41).

In his formulation it was the 'last stage' of imperialism because it emerged in the context of the Cold War (in which the Third World became the site of proxy anti-communist struggles) and the deepening militancy of ex colonial territories. This was no longer 'naked colonialism' but rather more invisible modalities – economic, ideological, political, and cultural – in which colonial exploitation was perpetuated. For Nkrumah, the control by imperial powers over nominally independent states was achieved through new forms of corporate and especially financial forms of capital, by a psychological dependency among Third World elites, by the effects of what he called 'limited wars' and by the capitulation of African, Latin American, and Asian leadership to the hegemonic forces of the former colonial states.

While Nkrumah first gave voice to the concept of neocolonialism as an analytical device, the substance of the term was an integral part of African anti-imperialist theorizing. Leopold Senghor, Alioune Diop, and Albert Memmi all articulated similar sorts of ideas in the 1950s and 1960s. In 1967, it was Franz Fanon, in particular, in his searing account of Algeria and what he called "the pitfalls of nationalist consciousness," who laid out of profound map of the forms and norms of the neocolonial condition. The Algerian war of liberation played an absolutely indispensable role in the formation of neocolonialism as a category of thought, and French intellectuals – most obviously Jean Paul Sartre in 1964 (reprinted 2001) – also contributed to the theorization of, in his case, French neocolonial rule and the deployment of violence (the assassination of Patrice Lumumba in particular) as its particular instrumentality.

## Neocolonialism as Exploitation

Central to the idea of neocolonialism is the persistence of 'colonial' (or more properly imperial) and therefore exploitative relations. There are three broad senses in which

exploitation is usually deployed in this regard: first, as a modern form of industrial or commercial land use (or mineral extraction) derived probably from its Latin origins as an arrangement or explanation. The second meaning is a generic sense of unjustness or oppression, referring to a potentially wide ranging social relations across time and space (exploitation of women by men, workers by capitalists, slaves by slave owners, low by high castes, serfs by feudal overlords). The range of opinion here can be substantial ranging from the Kantian view that exploitation refers to the instrumental treatment of humans to coerced activity to psychological harm. The analytical content is of less concern than its moral standing and the moral force of the reasoning (whether and how the state or groups of states should prohibit exploitative transactions or refuse to enforce such agreements). The third meaning which is central to neocolonial theorizing is explicitly analytical in the sense that it purports to provide a theoretical and conceptual ground on which the claim – A exploits B when A takes unfair advantage of B – can be assessed. In philosophical terms, one can say that social science seeks to understand the truth conditions under which such a claim can be made of a particular social setting.

The theorization of exploitation in neocolonialism was originally (and to a large extent still is) associated with the work of Karl Marx and the notion of surplus appropriation and the labor theory of value, and subsequently theories of imperialism. Marx's account identifies a fundamental contradiction at the heart of capitalism – a contradiction between two great classes (workers and owners of capital) which is fundamentally an exploitative relation shaped by the appropriation of surplus. Unlike feudalism in which surplus appropriation is transparent (in the forms of taxes and levies made by landowners and lords backed by the power of the church and crown), surplus value is obscured in the capitalist labor process. Marx argues that labor is the only source of value, and value is the embodiment of a quantum of socially necessary labor. It is the difference between the sale of a worker's labor power and the amount of labor necessary to reproduce it that is the source of surplus value. The means by which capital extracts this surplus value under capitalism – through the working day, labor intensification, and enhancing labor productivity – coupled to the changing relations between variable and constant capital determine, in Marx's view, the extent, degree, and forms of exploitation. In the first volume of *Capital* Marx identifies the origins of surplus value in the

organization of production (the social relations of production so called). In volume II Marx explains how exploitation affects the circulation of capital, and in volume III he traces the division of the total product of exploitation among its beneficiaries and the contradiction so created. In Marxist theory, two kinds of material interest – interests securing material welfare and interests enhancing economic power – are linked through exploitation (exploiters simultaneously obtain greater economic welfare and greater economic power by retaining control over the social allocation of surplus through investments). Members of a class, in short, hold a common set of interests, and therefore have common interests with respect to the process of exploitation.

A long line of Marx inspired theorizing has, of course, attempted to grasp exploitative relations between countries, and this contributed directly to Nkrumah's original formulation. This is the heart of theories of imperialism, whether as the coercive extraction of surplus through colonial states through unequal exchange or through the imperial operation of transnational banks and multilateral development institutions (the World Bank and the International Monetary Fund). The so called 'anti globalization' movement (especially focusing on institutions like the World Trade Organization) and the 'sweatshop movements' (focusing on transnational firms such as Nike) are contemporary exemplars of a politics of exploitation linking advanced capitalist states and transnational companies with the poverty and immiseration of the Global South against a backdrop of neoliberalism and free trade.

In the Marxian tradition, there has been in general an abandonment of the labor theory of value – away from Elster's view that "workers are exploited if they work longer hours than the number of hours employed in the goods they consume" – toward John Roemer's notion that a group (or country) is exploited if it has "some conditionally feasible alternative under which its members would be better off". Perhaps the central figure in developing these arguments is Erik Olin Wright. Building on the work of Roemer, Wright distinguishes four types of assets, the unequal control or ownership of which constitute four distinct forms of exploitation: labor power assets (feudal exploitation), capital assets (capitalist exploitation), organization assets (statist exploitation), and skill assets (socialist exploitation). While Wright and others have used this approach to grasp contemporary exploitation within so called advanced capitalism, there are obvious resonances between the operation of neo colonialism and his quartet of forms of exploitation.

### **Neocolonialism and the Process of Decolonization**

Decolonization refers to the process, often long, tortuous, and violent, by which colonies achieve their national

aspirations for political independence from the colonial metropolitan power. Decolonization can be understood as the period of later colonialism but implicit in the notion of neocolonialism is the idea that decolonization was incomplete or perhaps aborted to perpetuate a form of metropolitan or imperial hegemony. Modern colonialism in its various norms and forms extended over the period from the fifteenth to the twentieth centuries. In the New World, which had been subjected to Spanish, French, Portuguese, and Dutch colonial rule in the 'first age of colonialism', the first wave of decolonization occurred in the eighteenth century. In this regard, the so called 'classical age of imperialism' in the last quarter of the nineteenth century was short, the first decolonizations of the second wave being achieved after the end of World War II. The two cycles of imperialism both concluded with a limited phase of decolonization followed by the rapid collapse of empires and an irresistible push to political independence. What neocolonialism offered was a critical sense of how this process occurred and whether it was in any sense complete.

The first challenge to the first wave of colonization came in 1776 as British North American colonies declared independence. While Britain maintained its Caribbean and Canadian colonies, the Napoleonic upheavals in Europe so weakened Spain and Portugal that European settlers from Mexico to Chile expelled their imperial masters. By 1825, the Spanish and Portuguese empires were dead. In the subsequent 115 years up to World War II, decolonization was limited to Cuba in 1898 and two groups of British colonies: the white settler colonies (Canada, Australia, New Zealand, and South Africa) granted internal autonomy and finally full sovereignty in 1931, and Egypt and Iraq after World War I. World War II marked the death knell for European colonization: India's separation from the British, Indonesia from the Dutch, the remaining Arab mandated territories, and Indochina from the French. The independence of Ghana in 1957 marked an avalanche of liberations in Africa, though the process was not complete until 1990 (Namibia). Between 1945 and 1989 over 100 new independent states were created.

Decolonization is a process marked by the achievement of political independence but the duration, depth, and character of decolonization movements vary substantially. In some African colonies, colonization was barely accomplished and resistance movements of varying degrees of organization and institutionalization attended the entire colonial project. In other cases, an organized anticolonial and nationalist movement came late, accompanied by a rapid and hastily assembled set of political negotiations in which it is clear that the metropolitan power wished to hand over the reigns of power with utmost expedience (Nigeria). In others, it took a war of liberation, a bloody armed struggle by leftist guerillas or nationalist agitators

pitted against white settlers or intransigent colonial states (as in Laos, Vietnam, and Zimbabwe).

One of the problems with analyzing decolonization, as Fred Cooper notes, is that the story 'lends itself to be read backward and to privilege the process of ending colonial rule over anything else that was happening in those years'. It should also be said that any account of decolonization – or for that matter neocolonialism – presumes an account, or a theory, of colonialism itself: top down interpretations take colonial projects at face value, whereas the nationalist account denies any reality to the goal of modernization which the colonial state is purported to bring. In general, decolonization is seen as either (1) 'self government as an outcome of negotiated preparation and vision from above' by a colonial state apparatus, or (2) as a 'nationalist triumph from below' in which power is wrested (violently or otherwise) from recalcitrant colonizers. In practice, decolonization was an enormously complex process involving something of each, and shaped both by the peculiarities of colonialism itself and the particular setting in world time in which the nationalist drive began.

There are two forms of decolonization which rest on what one might call nationalist triumph. The first is built upon social mobilization in which a patchwork of anticolonial resistances and movements (many of which are synonymous with colonial conquest itself) are sewn together into a unified nationalist movement by a western educated elite (Malaysia, Ghana, or Aden). Mobilization occurred across a wide and eclectic range of organizations – trade unions, professional groups, and ethnic associations – bringing them into political parties and propelled by a leadership focused on racism, on liberation, and the sense of national identity of the colony, given its own history and culture. The second is revolutionary – Franz Fanon is its most powerful and articulate spokesman – in which the vanguard is not western educated elites or indeed workers, but the peasants and *lumpenproletariat*. It rested upon violence and rejection of any semblance of neocolonialism. Decolonization rejected bourgeois nationalism (of the first sort); rather, as Fanon put it, "the last shall be first and the first last. Decolonization is the putting into practice of this sentence."

Both views depict nationalism as subsuming all other struggles and hence obscures and misses much history; both posit a 'true cause', as Cooper puts it, in which there is little truck with opposition. Mamdani's enormously influential book on Africa makes the important point that decolonization posed the possibility of breaking with the tradition of European colonial indirect rule (what he called 'decentralized despotism') in which African custom granted enormous powers to local systems of traditional (and therefore cultural) authority, and developing instead a sort of civic nationalism in which cultural politics did not play a key role. Most African states continued the colonial

model in which African colonial subjects were granted a racial equality and citizenship rights but in which 'indigenes' were simultaneously a sort of bonus. In the historiography of the period, the nationalist road to self government tends to take for granted the depth and appeal of a national identity. It is precisely the shallowness of these nationalisms in the postcolonial period which reveals how limited is the simple nationalist account of decolonization itself. In practice, decolonization occurred in the context of all manner of contradictions and tensions between the national question and other social questions.

There is also a narrative of decolonization which has a singular vision but from the side of the colonial state. It was the colonial bureaucracy, long before nationalist parties arose, which shaped self government on a calculus of interest and power derived from an older conception of colonial rule (New Zealand and Canada) as a stepping stone to Independence. In this view, Africa by 1947 had already been set on the road to decolonization – this is a classic instant of Whig history – in spite of the fact that the colonial offices typically saw early African leaders as schoolboys or demagogues. Another version of the *dirigiste* theory is rendered through the cold calculation of money and cost. It was the decision making rationale of accountants estimating costs and gains – and who in particular gained – against the backdrop of imperial power's economic performance after World War II which sealed the fate of the colonies.

In all of these accounts – for India as much as Indonesia or Iraq – colonialism is as monolithic as the explanations themselves. There is a reduction involved in seeing Indians or Kenyans as colonial subjects or as national or proto nationalist actors. An alternative approach pursued by the so called subaltern school sees colonialism as a contra metropolitan project, moving against trends to exercise power under universal social practices and norms. In other words, the hegemonic project of colonialism fragmented as colonial rule attached itself to local idioms of power. From this experience characterized by hybrid forms of identity, of blurred boundaries, and contradictory practices, the process of decolonization must necessarily look more complex than simply self rule managed from above by the colonial state or mobilized from below by nationalist forces. In the same way, the shift from decolonization to neocolonialism operated through similar sorts of complexity and intermixing in which hegemonic metropolitan power was exercised through a battery of institutions and practices ('development', 'capitalism', and 'socialism').

### Neocolonialism as a Contemporary Category of Analysis

The term neocolonialism has fallen out of fashion since the 1970s (with perhaps the exception of a flood of Soviet

Marxist inspired, and largely ideological, studies published up to the mid 1980s). It is quite true however that the broad thrust of critical development work from the late 1960s onward – dependency theory emerging from Latin America, the calls for a New International Economic Order, unequal exchange theory, and the French Marxist modes of production debate, and Wallersteinian world systems theory to take handful of the most prominent trends in development discourse – all spoke of relations of exploitation between former colonial states and the advanced capitalist core. Indeed, any theory of imperialism almost by definition presumes the exercise of powerful forms of dependency among First and Third World states and to this extent the analytic core of neocolonialism identified by Nkrumah has been central to any critical and left wing account of global political economy.

More recently in the so called anti globalization protests – the movement of movements – the critique of corporate power, of the expanded role of finance capital in the impoverishment of the Global South, and the imperialist role of multilateral development institutions such as the International Monetary Fund (IMF) and World Bank is entirely consistent in substance with Nkrumah's account. The revivification of neocolonialism is especially clear in the World Social Forum (WSF). First convened in January 2001 in Porto Alegre, Brazil, the WSF in an annual meeting held by members of the so called anti globalization movements – sometimes dubbed the 'movement of movements' – to provide a setting in which global and national campaigns can be coordinated, shared, and refined. It is not an organization or a united front but "an open meeting place for reflective thinking, democratic debate...by groups and movements of civil society that are opposed to neoliberalism and to domination of the world by any capital or any form of imperialism." The WSF has grown substantially from its first meeting in Brazil. Subsequent meetings in 2002 and 2003 were also held in Porto Alegre, and thereafter in Mumbai (2004), Porto Alegre (2005), and Nairobi (2007). In 2006, a 'polycentric forum' was held in Bamako (Mali), Caracas (Venezuela), and Karachi (Pakistan). In 2001, 12 000 people attended the WSF; in 2007, the number had grown to 60 000 registered attendees, and 1400 organizations representing 110 countries. The WSF has also prompted the establishment of a number of regional fora – the Asian Social Forum, the Mediterranean Social Forum, and in 2007, the first US Social Forum – though not all of them stand in a similar relation to the 'parent body'.

The genealogy of the WSF is complex. The fact that four of the 11 WSF meetings have been held in Porto Alegre – a city with strong connections to the Brazilian Left and the Workers Party and the home to an innovative model of local government and participatory democracy (so called participatory budgeting) – says

much about the broad ideological thrust of the Forum. Ideologically, it clearly stands against neoliberalism and free market capitalism; it is of the Left but looks for new and different models of economic and political organization drawing from a vast array of experiments embracing the landless workers movements, anti dam struggles, indigenous peoples, and anti corporate and multilateral struggles. The idea of a global convention of anticapitalist movements was in part driven by the desire to provide a counterweight to the World Economic Forum held every year in Davos and by the difficulty of organizing mass protest in Switzerland capable of generating sufficient media coverage to challenge the prevailing hegemony of free market discourse and practice. The protests against the World Bank and IMF annual meetings in 1999 and thereafter – most notably in Seattle, Genoa, and Washington, DC – were an important milestone in the move toward an alternative forum for civic movements opposing unfettered capitalism around the world.

It is impossible, however, to understand the WSF outside of the counter revolution in development thinking and relatedly the growing dominance of neoliberalism (free markets, free trade, privatization, and state cut backs). The abandonment of Keynesian models of capitalist development – marked by the ascendancy of Ronald Reagan, Margaret Thatcher, and Helmut Kohl – and the rapid adoption of the economic ideas associated with Frederick Hayek and Milton Friedmann and the Mont Pelerin Society had massive and direct implications for the Global South beginning in the 1980s with the massive onslaught of structural adjustment and stabilization programs. It was out of this combination of 'economic reform' (viz., the rapid liberalization of state led development), 'shock therapy', and in many places massive economic recession (e.g., the early 1980s and the late 1990s) that the plethora of movements, often arraigned against the privatizations of various commons, arose. In contradistinction to the triumphalism (and purported inevitability) of globalization that dominated the 1990s, the WSF stood for, in their own language, "another world is possible" rather than "there is no alternative". In some circles, the WSF is held up as a shining example of what Negri and Hardt call 'the multitude'. The term neocolonialism does not appear prominently in the WSF but the affinities are clear. The language now is of 'recolonization' (as the process) and 'empowerment' and 'alternative development' (as the solution).

## Conclusion

Neocolonialism more than anything was a key marker of a certain sort of 1960s Third World nationalism. Neocolonialism was a by product of its largely African and

Marxist origins, of the Bandung movement, and of the contradictions of decolonization as it unfolded in the wake of World War II and in the heart of the Cold War. For a while, it was central to thinking of the theories of imperialism within a Marxist frame but it fell out of intellectual fashion. The so called neoliberal counter revolution and the devastating consequences of structural adjustment and economic reforms on a large part of the Global South (and Africa, in particular) has given neocolonialism a shot in the arm (seen in the various forms of anti or alternative globalization movements). The anti IMF movements across Africa in the 1980s and 1990s had, in this respect, more than a tinge of Nkrumah's original intent. There are also close affinities between neocolonialism in the Nkrumah sense and postcolonial theory, but the latter always distanced itself from the sort of determinism and historical telos that accompanied so much of Leninist and orthodox Marxist accounts of empire.

See *also*: Colonialism I; Colonialism II; Dependency; Neoliberalism and Development; Structural Adjustment.

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World Social Forum.

# Neoliberal Economic Strategies

R. Le Heron, The University of Auckland, Auckland, New Zealand

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## Glossary

**Accumulation by Dispossession** Arising from corporations and elites exercising class power, to set in motion and benefit from privatization and financialization processes in the economy.

**At-A-Distance Governance** The development of relationships of coordination and control based on a local acceptance of remote rules, conventions, calculative practices, procedures, and so on through institutionalized power geometries. The effects are often redistributive as well as generative of accumulation.

**Commons** It denotes dimensions of biophysical processes (e.g., land, water, and air) that are outside of private ownership but available to enter production processes with few constraints other than the productivity of the biophysical processes. Appropriation of commons takes many forms (e.g., of land, fisheries, airspace, intellectual property, and genes).

**Contracts** Legal arrangements expedite the number, frequency, repeatability, and formalization of transactions among economic actors. It is usually applied to external arrangements among discrete actors (e.g., firm to firm and contracted workers in rural and urban activities) but increasing to internal transactions within businesses, government, public-private organizations, and NGOs, to insert new layers of audit and performance in the conduct of activities.

**Development Project** Distinguishing mid-twentieth-century model of nationally organized economic growth, instituted on a world scale that provided relatively stable conditions for especially national accumulation, with negotiated social contracts between capital and labor in nation-states.

**Enclosure** Traditionally seen as the systematic institutional bounding of access to, conditions of use of and rights over the distribution of product from biophysical processes (e.g., land and soil, sea, and air) that along with marketization is integral to capitalist development.

**Entrepreneurialism (Including Urban Entrepreneurialism)** A vision of social activity and organization holding that individuals through their special creative and innovative qualities contribute to growth and profit of their spheres of activity. The vision downplays the importance of contextual constraints for individual initiative, the role of contingency in shaping entrepreneurial activity, and power relationships in constructing criteria and justifications for success.

**Financialization** The elaboration of the capitalist financial system following widespread deregulation, beyond that required for international trade and productive investment flows, leading to speculation, fraud, predation, and thievery on unprecedented scales, with major redistributive effects in favor of corporate and elite interests.

**Globalization Project** A political and economic construct of mainly elite and corporate interests, framed by a dominant idea, market rule on a global scale, to organize global economic growth, having context-specific interpretations, practices, and distributive and redistributive implications, favoring particular groups.

**Governance** It refers to governing practices, often at multiple geographical scales, that are distributed internally and externally (e.g., in and between entities) in economic and institutional/political processes, marking the blurring of boundaries between and within public and private sectors and masking the interplay of interests and the distribution and redistribution of gains and losses.

**Hegemonic Project** A lived system of meanings and values affirming geographically grounded practices that are taken for granted, naturalized, normalized, and dominant in a context (used initially with reference to the nation-state but now applied internationally to, e.g., neoliberalism).

**Post-Structural Political Economy** An emerging strategy in the social sciences that explicitly and deliberately deploys post-structural approaches with structural approaches in research.

**User Pays** A mechanism for assigning the costs of access to and use of resources, goods, services, ideas, and so on to users, regardless of the user's ability to pay. One social effect is a redistribution of social surplus from poorer to wealthier sections of the population.

## Introduction

This article begins with a note of caution on what can be realistically accomplished and an observation about where it is thought that geographers as knowledge workers exploring neoliberalizing practices are likely to head in the next few years. The immediate unease is over the phrasing neoliberal economic strategies, because this gives the impression of being an unproblematic classification of a set of actions, maneuvers, or campaigns, as most dictionaries indicate, to introduce greater freedom

in political institutions relating to the economy. Some of concern this article has stems from living in a country that has had recent, rapid, and deep economic restructuring, much described by human geographers including the author of this article as neoliberal in character. We wish to disturb the commonsense position by arguing that each word bundled into neoliberal economic strategies must be approached carefully. We do so by thinking geographically, especially with regard to the multiple and ever changing politics of the spatial scales, connections, and boundaries that attend claims, behaviors, and activities associated with neoliberal processes. The accumulated insights of economic geography risk being disabled by exercises such as attempting to slavishly fill the neoliberal economic strategies 'box' unless such exercises are finely contextualized. We contend that a process disposition toward knowledge production leads us from neoliberalism to neoliberalization to neoliberalizing practices, which helps with how we put our growing geographic knowledge to work. This leads to the guarded optimism that a powerful new direction of geographic research on neoliberal processes is appearing regarding humans and nonhumans in a socionatural universe, drawing from and adding to the critical literature developed already by urban, economic, and development geographers.

The geographers' penchant for empirical exploration in response to alarming reports on the condition of planet Earth has seen growing attention on resource issues. One exciting thread is the interest in Earth processes where economic geographers are using the think kit of a relational ontology to explicate qualities of the Earth that enable where and how life in its diverse forms inhabits the planet. This may seem some distance from neoliberal economic strategies. The argument is that as human geographers have come to know neoliberal processes better they are revealing both a whole range of new understandings and possibilities and also how such knowledge confers different political and ethical horizons. This is a very different intellectual frontier from the twentieth century. Intriguingly, the recent preoccupation with neoliberalism appears to have rather fortuitously coincided with the Earth processes turn. Importantly, human geography has on hand insights of post structural political economy cum post structural political ecology that allow very different questions to be asked, in and from differently understood contexts.

### **Distinctions and Dangers**

The push in the early part of twentieth century to develop the national economy, via the national development project, as a set of activities to support populations (using politically agreed rules so as to bring forward

claims for improvement and for arriving at social settlements) had by the end of twentieth century been overwhelmed by a new organizing mythology, the globalization project, wherein national populations should be competing to participate in the global economy, through competition. This point of entry into neoliberal processes paints a broad picture of a capital centric project holding sway. Three themes to keep in mind about this reality are the high levels of national and international concentration in most economic activities, the spread of business models into government and community activities, and the character of engagement among the domains of business, government, and community, especially the activities of corporate and elite interests. This economic landscape fundamentally alters the terms under which resource access, allocation, and distribution are handled. In short, investment decisions made in the name of accumulation and profits are very central. The overarching questions are still who is getting what, where, by what means, and with what effects upon human and nonhuman others. Major interests are inclined to neoliberal priorities because they appear to provide more favorable conditions for profits for local, national, and international interests, at the scales needed especially by large entities.

The term 'neoliberal' is recent. Conventionally, it embodies the overriding principles of marketization (making markets when none existed) and liberalization (freeing up markets from the restraints of governments), which together offer a framework for facilitating and managing globalizing economic processes (connecting markets to enable greater prospects of economic growth). The speed with which neoliberal ideas have proliferated has astounded commentators. On one level the emphasis on markets in a liberal order is a revisiting (one meaning of neo) of thinking deeply entrenched in Western political economy. In orthodox terms, the neoliberal goal when counterpoised against the early to late twentieth century experience of state led national development is about replacing politicized hierarchies and bureaucracies with depoliticized markets.

On another level the pro market movement has precipitated an enormous struggle over knowledge production. Why? Because the very idea of freeing up political institutions challenges the established conventions, attitudes, and commitments toward particular styles of politics that contributed to the successes of the national development vision. Some pressing challenges include the politics of whether politics should be integral to theoretical and empirical analysis (the end of traditional political economy?); the politics over what is acceptable to be named, located, othered, or vilified when discussing markets (silencing opposition?); the politics around the acceptability of depoliticizing market institutions (legitimizing less open practices?); the politics of

how much economy should be included in politics as well as how much politics should intrude into the economy (the influence of the cultural turn?); the politics of the boundaries between what can be represented about the world and performed in the world using knowledge so produced (keeping the academy and policy and community separate?); and the ethics of how researchers might conduct themselves with respect to politics (how politics might be made visible?). Clearly, ethics and politics in producing knowledge deserve to be a paramount concern.

One (ethical and political) intervention aimed at shaping how knowledge is produced is to unpack the category of neoliberal economic strategies. **Figure 1** summarizes three stylized distinctions – neoliberalism, neoliberalization, and neoliberalizing practices. The figure achieves several things. First, it illustrates the general idea that the search for ‘isms’ is a *cul de sac*, by noting different forms of disconnection from actual experience. A consequence is that the notion of neoliberalism is too abstract for practical politics. Second, while ‘izations’ edge thinking toward encompassing wider processes, the characterization is still that logically, someday, the process will be completed. One implication is that knowledge production is still separated from specific circumstances and so all the ‘ifs’, ‘buts’, and ‘maybes’ of lived experiences are left out of discussion. This takes us to the third point. By highlighting practices, that is, procedures understood in everyday contexts, which can

be pointed to, named, challenged, and looked at from all angles, be shown to contain inconsistencies and so on, new spaces are opened that encourage engagement on different terms.

Noel Castree (2006: 1–6) submits that in analysis of neoliberal processes the relevant question is “What comprises the neoliberal component of this complex situation?” Each situation will be a distinct mixture of wider as well as more local social relations, some neoliberal. We can go on to inquire, “Are the relationships and interactions of the neoliberal component an especially significant or defining feature in an overdetermined situation?” Castree (2006: 1–6) But there are more issues.

When we undertake research on neoliberal processes in our different contexts what and how are we naming? This is important because naming provides targets for political critique (as in naming the ‘need’ for a better framework for accumulation that is a strong message of neoliberalism). Castree suggests we are doing two things. First, accepting that we can pin down strategies, policies, programs, plans, and projects, in or between the private and public domains, then we are examining contingently occurring processes and outcomes. His point is that the processes and outcomes may well have been different had the neoliberal elements not been present. Second, the focus of research is not to find some temporary variant of a pure form. Rather, interest is in the articulation between certain neoliberal policies and many other processes.

<i>Neoliberalism</i> (noun)	<i>Neoliberalization</i> (noun)	<i>Neoliberalizing practices</i> (verb)
Thought abstraction	Finite process	In-the-making
Monolithic exogenous processes transforming places from outside	Sense of predefined sequence	overdetermined (more-than-neoliberal context), other processes implicated
Pure and formal construct discussed as a model/ paradigm	Closure when new state arrived at	coordinated
Universal, applicable everywhere, yet no such thing geographically	different starting dates	contingent
	different contexts and conditions	open to intervention
	plurality of forms	continually negotiated
	variants but still with similarities still hard to find	counter-tendencies integral
Encourages search for similarities in different settings	Actors shown to have adopted a range of behaviors in different contexts	no scales where geographic difference ends and spatial similarity begins
Assumes particular behaviours of actors		Neoliberalism understood as impure at all geographical scales
		Actor behaviours continually being reconstituted
		Practices made possible by active input from sets of administrators, experts, strategic brokers, and other translators who show the practices as imaginable and workable

**Figure 1** Contesting categories of neoliberal.



## **Globalizing and Neoliberalizing Economic Processes**

There is little doubt that globalizing and neoliberalizing processes need to be assessed against the backdrop of macro and structural knowledge of long run geographical and historical processes. But first a reality check – the late twentieth century champagne glass image of the world's resources. At the top of the glass is the generous cup of plenty, 80% of the world's resources controlled and consumed by 20% of the world's population, at the thin base, 1–2% of resources available for 80% of the world's population, the constricted stem highlighting the gap of grief of such unevenness in worldly wealth.

Whatever one's politics, this image should be salutary. More so because the overarching dilemma of the post 1945 era was the reluctance of the so called developed countries to significantly alter the highly unequal access to wealth creation that characterized the twentieth century world economy at the time. The Bretton Woods institutions of the long post war boom formed ostensibly to deliver global development were captured by developed country interests. Crucially the aspirations of shared development, held by developing countries, did not eventuate. With the failure of the Bretton Woods agreement came a period of instability and crisis; abandonment of the gold standard, the oil crisis and inflation, global recession, and financial turmoil. The General Agreement on Tariff and Trade (GATT) framework came under strain as all manner of groups (e.g., farmers, unions, small businesses, and citizens) saw they had much to lose from ever more open markets. Non Tariff Barriers were adopted to manage international trade and the US was seen as wielding too much economic power in favor of its transnational corporations (TNCs). Closure in 1994 of the Uruguay Round of GATT seeded the World Trade Organization (WTO), which was immediately criticized by less developed countries as not eliminating unequal power in the global economy. One consequence of the neoliberalizing movement was that it opened up space for nongovernment organization (NGO) and civil society resistance.

What was achieved then? Viewed from within any country the answer has to be reasonably positive for some decades. The construction of the national development project gave substantial gains to people in the developed countries and to a lesser extent many developing countries through state intervention in societal investment processes and a refocusing to a degree of business behaviors to meet national development goals. Bob Jessop argues that this was a time when directive (e.g., nationalization of industries) and supportive (e.g., subsidies, assistance, incentives, and import barriers) actions by the nation states were a departure from earlier patterns of more *laissez faire* government involvement. This extended

into regional and local government. This directional change was widely adopted, with the so called Western model preferred over alternatives, such as development based on empowering local cultures. Underlying this was a vision of an economy powered by industrialization and the promise of technological abundance. The overriding metric of this organizing myth was outcomes and gains (e.g., aggregate growth) but this masks what people are giving up or losing as they experience development. Moreover, it cloaks the international structural background. The cumulative effects worldwide of individual national developments have included further unequal distribution of wealth, deterioration of the biophysical environment, the paradox of Southern countries aspiring to Western style growth and wishing not to be just sources of natural resources, and the contradiction of sustainable development where global managers are arguing for access to and use of resources in ways that do not compromise their accumulation of economic wealth.

Thus, the second half of the twentieth century was for most countries not a great half century. Indeed, for many countries and a high proportion of the world's population, the last 50 years have been ones of deception at the hands of developed countries and evolving TNCs. A development framework was found operationally to be a framework that retained structural unevenness. Why then, as so many have asked, did neoliberal ideology spread so dramatically? Who in different settings viewed the neoliberal turn as especially attractive? How was a relatively diffuse ideology translated into specific governmental actions and diffused so rapidly? Who and what groups were able to mobilize against the shift to neoliberal practices? These questions set the scene for the next section.

## **Overviews on the Directionality and Content of Neoliberalizing Economic Strategies**

The past decade has seen vigorous efforts by researchers from geography and sociology, particularly to establish the changing contours of neoliberalizing processes in ways that illuminate the underlying spatiality of such processes, regardless of how they might be conceptualized. A number of concerns have framed the debate. Bob Jessop for example argues from a state theoretical regulationist approach that we need to go beyond neoliberalism to interpret recent changes. He begins by highlighting a gradation, from policy adjustments (improving performance of an accumulation regime and mode of regulation), to regime shift (the introduction of new economic and political principles) and radical system transformation (a move from state socialism to capitalist social formation). In ideal type terms he labels

the post 1945 period as Keynesian Welfare National State (KWNS), and places recent developments under the rubric of the Schumpeterian Workfare Postnational Regime (SWPR). Using overlapping aspects of economic regulation he identifies four SWPRs: neoliberalism which promotes market led economic and social restructuring; neostatism involving a market conforming but state sponsored approach to restructuring; neocorporatism consisting of a negotiated approach to restructuring by public, private, and third sector actors with the aim of balancing cooperation and competition; and neocommunitarianism which focuses on links between the market and the state via the third sector in securing economic development and social cohesion.

This preliminary overview has been extended in several interesting ways. Following Jessop, Neil Brenner picks up on the distinction between state projects intended to alter the state's institutional arrangements and state strategies that are aimed at the circuit of capital and business and civil society or the community. Brenner's interest is European city system urban entrepreneurialism. For this context he concludes that in contrast to the KWNS which sought to equalize the distribution of population, industry, and infrastructure (spatial balance), the hallmark of the glocalizing state era is the reconcentration of capacities for economic development in strategic subnational sites such as cities, city regions, and industrial districts. This has promoted much activity around local economic development. Work by human geographers mostly on urban entrepreneurialism, however, has meant a neglect of rural-urban links, especially around property, lifestyle, food movements, and so on.

In a more encompassing review Adam Tickell and Jamie Peck sketch three phases to the historical geography of neoliberalism (Figure 2). The first phase, proto-neoliberalism, relates to a fledgling ideology that was, to use their words, not destined to translate into the ascendancy of neoliberalism. They contend, at least for the UK, that the Labour Government of 1976 going 'cap in hand' to the International Monetary Fund (IMF) for emergency financial aid helped create conditions for a regime shift. By declaring that 'there is no alternative' (since abbreviated as TINA), Margaret Thatcher established the necessity for a shift. The IMF's conditions amounted to a First World form of structural adjustment subsequently imposed on many developing countries in the 1980s (e.g., constraining of inflation, reduced money supply, and government spending cuts introducing market favoring rules). Their second phase, roll back neoliberalism, approximates the New Zealand experience in the mid 1980s. Facing severe balance of payments difficulties and a currency crisis, heavy assistance and subsidies for a once highly competitive agricultural sector, unsustainable fiscal spending with resistance to further

taxes building up, the failure of 'think big' national development projects, and so on, the incoming Labour government of 1984 in New Zealand (elected on a caring society platform) announced unprecedented state sector and economic policy reforms (e.g., a floating exchange rate, removal of agricultural subsidies, downsizing and reorganization of government departments, and opening of the economy through rapid reductions in tariffs and quotas that had shielded an import substitution manufacturing base). This intervention in an interventionist state was a time of dismantling an existing order, of widespread 'pain before gain' as equivalence among sectors in the economy was established. But it was also a celebratory moment. A book, *Farming without Subsidies*, published in 1991 by the recently privatized government printing office, showed the world evidence that New Zealand's farming industries with minimal producer subsidies were thriving under the new regime. The third phase, roll out neoliberalism, denotes a consolidation, through extending principles and developing new economic policy agenda. As Tickell and Peck remark one of the far reaching effects has been attempts to remove key economic policy issues from political processes and enshrine user pays. Figure 3 illustrates how neoliberalization can be seen to have extended beyond islands of experimentation to embedding in wider policy networks, institutional circuits, and political processes. Privatization for instance is extending to a growing number of sectors; not just industrial utilities like energy, water, and transport, but health, education, media, communications, pensions, prisons, and defense. Human geographers have been active in examining economic strategies in a range of countries, sectors, and industries. A number of special issues of *Antipode*, *Environment and Planning A*, and *Geoforum* extend this knowledge base. A major empirical omission is the study of financialization, which with privatization is regarded by David Harvey as a hallmark of the neoliberal era. What the figure does not show is the growing tension around financialization that is expressed in new contradictions among owners, workers, and managers and the reluctance of the state to resolve any impasse that results.

Significantly, however, much of the literature on neoliberal processes has a curious state centric bias, though for all this, it skirts the question of why and how the restructured state which continues to have deep tentacles in every sphere of the economy is not mobilized to resolve issues. Developments in business are infrequently studied. That TNCs and small and medium enterprises have been actively developing their own trajectories, more in spite of than because of state projects and strategies during the neoliberal era, seems to have escaped many researchers. Given that even under strong state intervention, businesses could not be held to socially defined goals, the greater apparent freedoms

	<i>Proto-neoliberalism</i>	<i>Roll-back neoliberalism</i>	<i>Roll-out neoliberalism</i>
Periodization	Pre-1980	1980s/early 1990s	Since early 1990s–
Mode of political practice	Extra-state project	Statization	Hegemony/state-building
Dominant discourses	Anti-Keynesianism/state failure	Small government deregulation	Paternal state/free economy
Key institutions	Liberal think tanks	Governing parties	State cadres
Mode of political rationality	Ideological critique	Ideological project	Technocratic management
Sources of resistance	Keynesian orthodoxy	Organized labour	Cyber-activists
Intellectual frontier	Monetarist economics	Supply-side economics	Bourgeois sociology
Totemic figures	Milton Friedman, Hayek, Pinochet	Thatcher and Reagan	Clinton, Blair, Schröder, Greenspan
Principal agents	Theorists, philosophers	Vanguard politicians, political appointees	Policy-functionaries, technopols
Intellectual elite relations	Confrontation	Conciliation	Cooptation
Service delivery	Spending cuts	Privatization	Marketization
Labour regulation	Crisis of full employment	Mass unemployment	Full employability
Fiscal posture	Stagflation	Tight money/liberal credit	Persistent deflation
State finances	Fiscal crisis	Systemic indebtedness	Debt repayment
Geographic heartlands	Chicago	London and Washington, DC	Brussels, London, and Washington, DC
Geographic frontiers	Santiago	Brussels	Paris, Berlin, Hong Kong, Singapore, and Johannesburg
Space of resistance		British cities and coalfields, North American rustbelt	Anti-globalization confrontations, France, Malaysia
Scalar constitution		National	Glocal
Financial discipline	Inflation	Structural adjustment	Standards and codes
Ethic	Individualism	Amoral marketization	Moral authoritarianism

**Figure 2** Modes of neoliberalization. From Tickell, A. and Peck, J. (2003). *Making global rules. Globalization or neoliberalization?* In Peck, J. & Yeung, H. (eds.) *Remaking the Global Economy*, pp 163–181. London: Sage, Table 10.1 Modes of neoliberalization, p 169.

available in the neoliberalizing global environment to organizations (and their management) that exceed in size many nation states should mean shining the spotlight onto business governance strategies. Investigations of global production networks, global supply chains, and transnational business behavior from a variety of perspectives (e.g., fair trade, ethical trading, organic production, corporate social responsibility, and issues of public health) are gradually being linked to the literature on neoliberalism. These developments are not independent of the new spatialities that Brenner identifies. Thus clusters, industrial districts and innovation systems, local food provisioning, and short supply chains, may have strong local territorial traces but they are also linked into global production networks and global supply chains, whether largely internal or external to MNC and TNC organization. The spatiality and the redistributive aspects of these connections is a shadowy presence in writings on neoliberalizing processes.

## Understanding and Coexisting with Neoliberalizing Processes

The general drift in the literature toward the explication of neoliberalizing processes took a sharp leap forward with the publication of *Neoliberalization: States, Networks and People*. This book targets three concerns: the orthodox terrain of mainstream economic development and alternatives (a state centric exposition); the opening of conceptual space between states and markets (achieved by examining intermediaries); and consideration of states and subjectivities (emphasizing the constituted nature of understandings and behaviors). The book's aspiration is gaining leverage for alternative political directions. To this end, it identifies four ways of understanding neoliberalization that to some degree signals a shift from representative knowledge about neoliberal processes to knowledge on how to perform differently in the context of neoliberalizing processes. The understandings in brief

		<i>Spatial Relations</i>	
		<i>Shallow neoliberalization ...pursuit of locally specific strategies</i>	<i>Deep neoliberalization ... interlocal logics and reflexive relations</i>
l n s t i t u t i o n a l	Roll-back neoliberalism ...its destructive and deregulatory moment	<i>Attacks on inherited Keynesian-welfarist structures, coupled with primitive deregulation of markets, including:</i> <ul style="list-style-type: none"> <li>• Monetarist macroeconomic management</li> <li>• Primitive marketization: dogmatic deregulation and privatization</li> <li>• Place-specific assaults on institutional and spatial strongholds of welfare statism and social collectivism (e.g., social service cuts, deunionization)</li> </ul>	<i>Extension of neoliberal strategies to the international domain, including:</i> <ul style="list-style-type: none"> <li>• Reductions in overseas aid</li> <li>• Imposition of structural adjustment programs</li> <li>• Initial liberalization of financial markets and trading relations</li> <li>• External imposition of neoliberal strategies</li> <li>• Intensification of coercive pressure emanating from international markets</li> </ul>
f o r m s	Roll-out neoliberalism ...its creative and proactive moment	<i>Proactive statecraft and institution building in service of neoliberal goals, including:</i> <ul style="list-style-type: none"> <li>• Invasive moral reregulation of the urban poor</li> <li>• Expansion of penal state apparatus and social control policies</li> <li>• Continued crisis management of deregulated and privatized sectors</li> <li>• Extension of, and experimentation with, market-complementing forms of regulation</li> <li>• Technocratic economic regulation within neoliberal parameters</li> </ul>	<i>Normalization of neoliberal logics and premises in interlocal relations, including:</i> <ul style="list-style-type: none"> <li>• 'Fast policy' development through inter-local transfer, learning, and emulation</li> <li>• Appropriation of networking forms of governance and policy development</li> <li>• Institutionalization of competitive globalism (e.g., WTO dispute resolution architecture, GATS proposals regarding public ownership)</li> <li>• Posture of permanent adaptability and reflexivity in fields like urban governance and social/penal policy</li> </ul>

**Figure 3** Spaces of neoliberalization. From Tickell, A. and Peck, J. (2003). Making global rules. Globalization or neoliberalization? In Peck, J. & Yeung, H. (eds.) *Remaking the Global Economy*, pp 163–181. London: Sage, Table 10.2 Spaces of neoliberalization, p 170.

are: as an ideological hegemonic project (e.g., the discursive development of the idea, and how it was naturalized); as systematic shifts in class power (e.g., who is able to decide on investment decisions, who captures surplus and on whom as a result burdens fall, and who can stall the mobilization of state action); as changes in boundaries of the state (e.g., involving the appearance of NGOs, private–public partnerships, the concept of joined up government, and subsidiarity or at what level governance is best undertaken); and as governmentality (e.g., especially the development of new governing practices, such as benchmarking, best practice, standards, certification, audit, and the accompanying subjectivities that are constituted). In some respects, the NGO and civil society movements are losing momentum, revealing the new challenge of reactivating state engagement to deal with ethically inspired pressures.

The idea of governing mentalities is especially helpful as it provides a framework better suited to probing ethics and politics in contexts where choice is a guiding

maximum. The governmentality framework is in a sense a way to deal with the multiplicity of networks that are activated and nurtured during episodes of heightened restructuring/transition and as a result of continuing re-adjustment. But part of the difficulty of grappling with neoliberalism has been the fact that regulation theory, which spotlights the mediation of economic processes under the interventionist state tends to confine politics to the state and to ascribe prescriptive logics to politics. This is not to suggest abandoning macro and meso structural frameworks but to recognize the different tasks of political intervention. The ethics movement is challenging all spheres of economic life, from the personal (e.g., how does one behave in relation to declared values), valuing the nonhuman (e.g., animal welfare and ecosystems), calling for new evaluate metrics (e.g., ecological footprints based on land resources used to support territorial populations, food miles that calibrate carbon contributions rather than price, and General Progress Indicators instead of gross domestic product), to the corporate (e.g., insisting on

accountability such as corporate social responsibility and rewriting the rules of performance).

The utility of the concept of the political project is being explored by economic geographers Wendy Larner, Nick Lewis, and Richard Le Heron who are seeking to understand the genesis and momentum of political initiatives in a neoliberalizing environment. A political project is a speculative imaginary defined by a number of dimensions that delineate how projects are simultaneously constituted and constitutive. Political projects (always of particular interests) spring from rationalities that justify and legitimate claims and actions, an intelligibility to others that attracts attention and commitment, relate directly or indirectly to spaces that because they are identifiable become potentially governable, providing governable subjects who can be enrolled, through translations of key ideas into immediate circumstances and practices, with the help of technologies that facilitate action and assist with knowing the world. In this characterization, political projects are relational constructs or emerging networks giving new meaning to economic strategies, in the sense of seeking and gaining visibility and resources through action and the availability of a resource to be networked or aligned discursively into other political projects.

### Progressive Spaces

It has been argued that economic geographers have come to engage with neoliberal economic strategies in increasingly sophisticated ways. This is one key point of **Figure 1**. This growing process centered understanding is that what might start as a neoliberalizing economic strategy can be negotiated (prioritizing ethical interventions) and mediated (from political interventions) into something with progressive dimensions. This engagement has consequences, however. One is that there has been a shift on the part of a growing number of researchers from a politics of resistance mentality to a politics of emergence ethos. Some of the shift in theoretical thinking needed to more fully activate this movement has been highlighted by Castree. To this must be added the full weight of the most recent Gibson-Graham post-structural political economy intervention, *A Postcapitalist Politics*. They strongly favor focusing on what can be done through mapping community assets rather than retaining the needs-centered approach of traditional political economy, the latter being complicit with forestalling instead of activating new political and economic directions. It is ironic that instituting more shared practices of understanding and making choices over valuing and using group assets could easily be classified as neoliberal-like development of self-management. The progressive potential of neoliberal at a

distant technologies of governance should also not be discounted. By taking the ideas of subjectivity seriously (derived from the post-structural literature), economic geographers are now equipped with capacities to reflexively explore the connecting and making of place-place co-constitutive processes (e.g., neoliberal and other processes). At present, this is being propelled by the ethical movement, which is after all, people taking care over their choices and the ramifications and implications of choices made by them and others. In perhaps one of the more startling of contingencies in the history of geography Bruno Latour, speaking at the British Sociological Association in 2007, called for making explicit the fragility of the life support systems that make our spheres of existence possible. His call excites the notion that insights from the trajectory of economic geography's engagement with neoliberalizing economic strategies are part of what geography can contribute to this new ethical and political project around knowledge production.

**See also:** Capitalism; Competitiveness; Consumption; Firms; Global Commodity Chains; Livelihoods; Natural Resources; Privatization; Transnational Elites.

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# Neoliberalism

W. Larner, University of Bristol, Bristol, UK

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## Glossary

**Deregulation** Reduction or elimination of state regulation over economic and social activities, and their replacement with market modes of governance.

**Governmentality** Analytical approach that emphasizes heterogeneous political problematizations and governmental technologies in constituting political formations.

**Marketization** Emphasis on quasi-entrepreneurial and market modes of action for the governing of economic and social life.

**Neoliberalism** Short-hand term referring to the new emphasis on markets, minimal states, and individual choice in contemporary political-economic formations.

**Neoliberalization** Analytical approach that emphasizes the contested political processes associated with neoliberalism.

**Privatization** Repositioning of public assets into the private sector, usually in an effort to increase efficiency and accountability.

## Introduction

Neoliberalism is a short hand term referring to a new emphasis on markets, minimal states, and individual choice as a means of ensuring economic and social well being. Over the last decade geographers have paid considerable attention to this change. They are concerned to identify how a political-economic transformation of this scope was able to occur, the consequences for economic, social, political, and environmental relations in a range of places and at a variety of scales, and the prospects that remain for social justice. More generally, neoliberalism has become a keyword across the social sciences, including development studies, sociology, anthropology, and political studies. It is also widely used among policy makers and activists resisting the general move to market based policies.

Despite its increasing popularity in geography and more generally there remains a great deal of confusion about neoliberalism. What exactly does this term capture? Is it an activist and academic caricature of a pragmatic policy consensus that now has adherents from across the traditional left-right political spectrum? Does the term provide useful analytical purchase for those attempting to understand the ways in which economic and social relations are currently understood and acted

upon? Is neoliberalism an economic and social successor to Keynesian welfarism, or a more pragmatic temporary political accommodation? Is it more usefully seen as involving the qualitative transformation of states, spaces, and subjectivities? The answers to these questions depend on how neoliberalism is understood both theoretically and politically.

## The Rise of a 'Neoliberal Era'

The term neoliberalism first appeared in social science literatures in the context of attempts to describe a distinctive set of policies deployed at the level of the nation state during the 1970s and 1980s. During this period, conservative and social democratic governments alike were involved in debates over the relative roles of states and markets. Whereas during the post war period, the state provision of goods and services to a national population was understood as the best means of ensuring social well being, by the 1980s markets were increasingly understood to be a better way of organizing economic activity because they were associated with competition, economic efficiency, and choice. In conjunction with this general shift toward the tenet of 'more market', deregulation and privatization became central themes in political programs.

Yet it is rare to find the actual term neoliberalism used in the political discussions of this period. Only in Latin America was the term widely used to describe market oriented reform programs, most notably in Pinochet's Chile. Elsewhere much more specific terms tended to be used, including political programs named after specific politicians – Thatcherism, Reaganomics, Rogernomics – or terms that focused on specific aspects of the economic processes in dispute – economic rationalism, monetarism, deregulation, privatization, and marketization. However, by the 1990s neoliberalism began to be more widely used as a *post facto* description of the general shift in policy paradigms that took place in the 1970s and 1980s. It remains most common in those countries that have experienced dramatic state sector reform programs, notably those in Latin America (Chile, Mexico, Argentina) and the group of countries formerly known as the liberal welfare states (United Kingdom, Canada, New Zealand, Australia). Only recently has the term entered into popular political debates in the United States.

Whereas initially discussions focused on neoliberalism as a nation state project, more recently neoliberalism has begun to be used interchangeably with the term

globalization to refer to the process of opening up national economies to global organizations such as the IMF and World Bank. Indeed, increasingly the two terms are now often linked through the phrase 'neoliberal globalization'. As with its developed country counterpart, this discussion was a response to political events in the 'real world'. By the late 1990s this language was being used to describe structural adjustment processes, in particular the imposition of market oriented reform programs associated with the so called Washington Consensus. The response to the so called Asian crisis generated further debate about the role of states and markets, as did efforts to understand the experiences of 'transitional economies' such as those in Eastern Europe and South Africa. In each case the term neoliberalism gave analysts a means of describing the new emphasis on the introduction of markets as a mode of governance in both economic and social domains.

In the last 5 years references to neoliberalism have proliferated. In both critical social science and activist literatures neoliberalism has replaced the earlier labels that referred to specific politicians and/or political projects. The domains in which analyses of neoliberalism are found have also expanded, now encompassing transnational, national, urban, and local scales. For academics, neoliberalism is now providing an analytical means to link macro level discussions of global economic change with micro level discussions of subjectivities. Like its important predecessor, post Fordism, which moved from an account of changes in economic production to that of 'New Times' which encompassed economic, political, and social processes, neoliberalism appears to have moved from being a descriptor of contemporary policy frameworks to that of the current period as a whole. References to the 'neoliberal era', 'neoliberal state', 'neoliberal city', and even 'neoliberal nature' now abound. For activists neoliberalism has become a means of labeling an increasingly ubiquitous set of market oriented policies that are understood to be responsible for growing numbers of economic, political, social, and ecological problems.

### Theorizing Neoliberalism

As neoliberalism has become increasingly pervasive, so too have the intellectual tools used to analyze its origins and effects become increasingly disparate. Over the last decade, theorizations of neoliberalism have gradually broadened from that of a political philosophy based on the writings of Hayek and Friedman, to a policy program premised on marketization and a minimal state, to a new form of economic and social rule premised on 'government at a distance'. Analyses of neoliberalism have also begun to colonize debates, such as those around Third

Wayism and good governance, which began as discrete endeavors. There is also an emergent discussion of new subjects and spaces, manifest in terms such as 'neoliberal citizenship' and 'neoliberalizing spaces'. Today, neoliberalism is variously understood as policy program, hegemonic ideology, and governmentality, and increasing numbers of analysts are working across these literatures in their accounts.

The analysis of policy frameworks remains the most common approach to neoliberalism in academic literatures. In this approach the focus is on the new emphasis on the market provisioning of formerly 'public' goods and services. Analysts attribute this shift in policy agendas to the capture of key institutions and political actors by a political ideology that rests on five values: the individual, freedom of choice, market security, *laissez faire*, and minimal government. These theoretical ideas are understood to underpin the new institutional economics (built on public choice theory, transactions cost theory, and principal agency theory) which, together with a new emphasis on managerialism, comprise the intellectual basis of the neoliberal challenge to Keynesian welfarism, and provided a diverse range of governments with the theoretical impetus for deregulation, marketization, and privatization. This is not to suggest that the rise of neoliberalism was inevitable or straightforward. Comparative institutionalists have revealed the variety of national paths through which these new ideas were able to work their way from relative obscurity to influence and political power. Diverse literatures on epistemic communities, transnational advocacy networks, global public policy networks, and global knowledge networks have all been deployed to explain how these ideas have become internationally influential.

Marxist and neo Marxist readings of neoliberalism link these policy changes to broader analyses of changes in nature of capitalism. For these commentators, it is the broader workings of capital that underpin the shift from Keynesian welfarism and developmentalism toward political programs favoring the relatively unfettered operation of markets. This has reestablished the conditions for sustained capitalist accumulation, privileging the dominant classes and restoring their income. The question of why the rest of us have acquiesced to this state of affairs has been the focus of sustained attention from neo Gramscians. These scholars argue that neoliberalism has been able to constitute subject positions from which its discourses about the world make sense to people in a range of different social positions. There are two foci in these discussions: first, the relationships between classes within the so called 'hegemonic bloc'; second, those between the state and civil society. The former focuses on the way in which particular constellations of political forces come together around a set of understandings. For example, Stephen Gill has drawn attention to the



relationships between different fractions of capital, political actors, and key elements in the state apparatus in his efforts to explain the rise of neoliberalism at the global level. In the case of the latter, attention focuses on the way in which hegemonic political discourses articulate with broader social understandings. For example, Stuart Hall's classic analysis of Thatcherism argued that it represented an ideological hegemony based on the tenets of neoliberalism and neoconservatism.

Socialist–feminist analysts have built on these claims, emphasizing that new political and ideological forms emerge out of struggle and contestation rather than being simply imposed in a top–down manner. In doing so, they have drawn attention to the role of oppositional movements and broader social processes in determining the contingent outcomes of neoliberalism. While neoliberalism has indeed reinforced the power of finance capital and increased social polarization, equally importantly it has been shaped by the ‘mainstreaming’ – albeit in compromised fashions and with unexpected outcomes – of a wide range of social movement claims. Seen together, the contributions of neo Gramscian and feminists have encouraged closer inspection of particular neoliberal political projects that have revealed complex and hybrid political imaginaries, rather than the straightforward implementation of a unified and coherent philosophy.

Neo Foucauldian work on governmentality brings yet another perspective to accounts of neoliberalism. This literature argues that while neoliberalism may mean less government, it does not follow that there is less governance. While on one hand neoliberalism problematizes the state and is concerned to specify its limits through the invocation of individual choice, on the other hand it involves forms of governance that encourage both institutions and individuals to conform to the norms of the market. This literature has inspired innovative analyses of neoliberalism, which show how ‘advanced liberal’ strategies of rule, found in diverse realms including development programs, workplaces, educational institutions, and health and welfare agencies, encourage people to see themselves as individualized and active subjects responsible for enhancing their own well being. It has encouraged commentators to move beyond the terrain of the state in explaining the exercise of new forms of power and the implications for governmental, political, and ethical processes. The distinction between advanced liberalism and neoliberalism has also emphasized that strategies and techniques premised on ‘governance at a distance’ can be linked to a variety of political projects.

The varying contributions of these diverse theoretical literatures have broadened analyses of neoliberalism. Whereas early accounts were dominated by analyses in which the focus of attention was on the state either as specific set of political institutions or as acting in a relatively straightforward way on behalf of capital in

imposing a coherent political project, more recently there has been a tendency to understand neoliberalism as involving historically and geographically contingent political processes, and to conceptualize it as a contested assemblage of diverse discourses and techniques out of which new political forms, spaces, and subjects are being constituted. Correspondingly, interest in neoliberalism among the social sciences has diversified from the structural accounts most often associated with political science, policy studies, and political economy to the ethnographic and embodied approaches more likely to be found in the domains of human geography, sociology, and cultural anthropology.

### **Geographies of Neoliberalism**

If the Dictionary of Human Geography is an accurate reflection of changing disciplinary interests, then neoliberalism had come to the attention of human geographers by the late 1990s. Initial contributions focused on debates about the so called ‘New Right’ in the United Kingdom and United States, with a parallel but less high profile discussion taking place in development studies focused on the changing models of Third World development. For these early observers the extension of market relations was highly problematic. More specifically, deregulation and privatization were identified as transferring power away from democratically elected governments with a mandate to ensure universal service provision, toward private capital concerned primarily with furthering opportunities for accumulation. In turn, the shift from public to private sector and the new emphasis on individual choice was understood to erode the foundations of both national economies and traditional social solidarities. It was also widely accepted that neoliberalism was increasing spatial and social polarization, with women, visible minorities, and indigenous peoples being particularly disadvantaged.

In subsequent years considerable energy was spent criticizing the move away from Keynesian welfarist and developmentalist approaches in the developed and developing world, respectively and tracing the deleterious consequences of the new approach for politics, people, and places. Understandings of neoliberalism itself, however, were rarely questioned. Despite the debates and diversity within the broader theoretical literature on neoliberalism, early geographical contributions to this literature were dominated by Marxist and neo Marxist accounts in which it was usually assumed that neoliberalism was a relatively coherent reform program initiated and rationalized through a particular ideological framework, the widespread adoption of which could be attributed to the influence of key politicians and/or political organizations. Consequently in these accounts

the state was seen as having a key role in guaranteeing and regulating the spread of neoliberal ideology and practice.

More recently, greater attention has been paid to the historically and geographically specific nature of 'actually existing' neoliberalism and the diverse forms this political project takes in different places. This has given rise to an important distinction between abstract accounts of neoliberalism premised on the model of unfettered market activity and freely choosing subjects, and neoliberalization which involves multiply determined, geographically uneven, politically contested processes. Geographical scholarship has increasingly focused on the latter. This work has not only helped identify the diverse reasons for the emphatic turn to neoliberalism, it has also emphasized how neoliberalism is associated with the rescaling of political processes across supranational, national, urban, and local levels, and the way in which the new orientation toward markets and individualism has been incorporated into the common sense understandings of the world.

This research has helped draw attention to mutations and contradictions within neoliberalism itself. For example, as political ecologists began to examine the implications of neoliberal processes for socio-nature, they emphasized the need to delineate carefully between processes such as deregulation, commodification, marketization, and privatization. Feminist geographers underlined the fact that women and ethnic minorities are not simply the victims of the political-economic processes associated with neoliberalism, but rather they play an active role in resisting and thus shaping these new state forms and institutional configurations. Relatedly, there is now a growing theoretical and empirical discussion of what is being variously named as 'roll out', 'inclusive', 'social', and 'after' neoliberalism. Debates about these new developments range from claims that they are simply 'flanking mechanisms' to compensate for the inadequacies of the market, to arguments that strategically targeted resistance has resulted in the transformation of the overall political project.

Seen collectively, these contributions suggest that human geographers have begun to take neoliberalism seriously. It is now widely accepted that there is no going back to the Keynesian welfarist and import substitution approaches that characterized post war development strategies. The research of the last decade has sensitized geographers to the need to identify and examine the different forms of neoliberalism over time and space, to trace the flows and networks through which neoliberal discourses and techniques have been disseminated, to analyze the ways in which neoliberalism is mutating, and to interrogate the various forms in which neoliberalism has been instantiated and embodied. Thus whereas early studies saw neoliberalism as a coherent policy agenda and

focused on documenting the negative consequences of the new emphasis on the market, a more diverse range of theoretical and political approaches are now being deployed in the effort of human geographers to research the new spaces and subjects emerging in the context of what is now understood to be a fundamentally new political formation.

There remain, however, two notable tendencies features to the geographic literature on neoliberalism relative to other disciplines. The first is a lingering commitment to methodological nationalism. Only recently has the focus of geographical attention shifted from the domestic politics of particular country case studies to the globalizing processes driven by international institutions and actors. More research projects have begun to work across North/South divides, resulting in a more careful tracing of the intellectual, policy, and practitioner networks that underpin the global expansion of neoliberal ideas, and their subsequent manifestation in government policies and programs. The analyses that are emerging show that despite the assumptions in accepted accounts, the movements of neoliberal ideas are not one way and they do not necessarily flow in the directions expected. But much more work remains to be done in this area, and a deeper engagement with the existent literatures on policy transfer and global networks is needed.

There is also a tendency to see debates about neoliberalism as the continuing preserve of Marxist and neo-Marxists. Certainly, the concept of neoliberalism is one overwhelmingly mobilized and deployed by left wing academics and political activists, and it is important to note that theoretical and political architects of neoliberalism don't name themselves in this way. However, analysts of neoliberalism are not the only well intentioned contemporary political critics who inadvertently redraw the very configurations and effects of power they seek to vanquish. And certainly the ideological and material processes associated with neoliberalism resist easy dismissal or glib characterizations. In this context, more geographical analyses that engage with the debates and themes found in wider theoretical and social science literatures on neoliberalism are needed.

## The Politics of Neoliberalism

A broader engagement with the diverse bodies of scholarship on neoliberalism would also suggest that we should be wary of foreclosing political debates on this topic too early. This is particularly important given the growing prominence of discussions of neoliberalism in the United States. Understandably, for many critical commentators in this context neoliberalism remains in delibly linked to a right wing moral project. David Harvey, for example, recently argued that there is a risk

that the moral discourses of cultural nationalism, Christianity, and family values are seen as providing a new basis for social solidarity in the United States in a context where neoliberalism has eroded more traditional social solidarities. Elsewhere, however, there are countervailing trends. In Latin America, for example, important variants of a developmental state based on a partnering ethos are emerging in the wake of 'more market' neoliberalism. Similarly, in liberal welfare states such as the United Kingdom, Canada, and New Zealand there is a new political impetus that emphasizes the building of human and social capital through strategic future focused investments. This suggests we should avoid setting up neoliberalism as a preconstituted explanation for contemporary political changes, and remember that neoliberalism is not the only political formation found in the current period.

If we accept arguments about multiple and contested processes associated with new political formations, we are also forced to consider carefully the assumption that the neoliberal state is an inherently unstable political form. If this new political formation is shaped by multiple political projects and oppositional claims then it may be – as all state forms are – an uneasy political compromise. In our analyses of new modes of economic and social governance, we need to know much more about the ways in which new political rationales and organizational forms are constituted and consolidated in particular places. How has neoliberalism articulated with other political projects? How do different versions of neoliberalism draw people into regulatory relationships with the state? Are different people being drawn in different ways? What of the traditional political alliances of both the left and right? How are these alliances being reconfigured by the foregrounding of new social actors? What forms of social subjectivity are being assumed and constituted? What are the gendered and racialized paradoxes that are emerging?

What are the implications of highlighting complexity and contradictions in analyses of neoliberalism? In constructing neoliberalism as a monolithic apparatus that is completely knowable and in full control of policy makers, many critical analyses inadvertently reconstruct its hegemony. The recognition that contemporary political formations are inherently contested, rather than assuming we live in a monolithic neoliberal world, is a more empowering way of assessing contemporary political conditions and potentialities. Above all, it is the programmatic coherence of neoliberalism we should

challenge. Indeed, it may be more useful to see the current moment as involving profound experimentation rather than the rolling out of a political agenda. Not only would it help us overcome the hopelessness generated by monolithic accounts of the 'neoliberal project', it would allow us to think carefully about the multiple forms that political strategies, techniques, and subjects are taking. In this context the need for more rigorous theorization and further careful research should be clear.

*See also:* Governmentality; Political Ecology; Social Geography.

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# Neoliberalism and Development

W. E. Murray, Victoria University of Wellington, Wellington, New Zealand

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The terms – neoliberalism and development – are contested: views on interaction between the two turn on one's political perspective. Neoliberal thinkers believe that the policies that have been diffused across the Global South based on their ideas have brought large benefits, especially in the economic sphere – although some would argue that there have been positive effects in the political and social fields too. There appears to be a mounting body of evidence, however, that suggests that neoliberalism has eroded development prospects, where development is defined as social change toward a situation where people can exercise their full human potential.

## Neoliberalism, Globalization, and Development

Neoliberalism is an economic, political, and it can be argued, cultural paradigm, which is all but hegemonic at the governmental scale across the globe. Echoing back to early capitalist thinking, neoliberalism argues that governments fail inherently. Such state intervention in the economy causes crowding out and inefficiency leading the capitalist system to function less effectively, lowering competitiveness, and ultimately prospects for economic development. According to neoliberal thinking the most effective way to optimize welfare is through a privatized, deregulated economy that is open to trade and inward investment. This allows comparative advantage to work on a global scale, thus maximizing total global welfare. Neoliberal policy facilitates the linking of processes at different scales articulating the local into the global and vice versa, thereby stimulating greater economic openness and efficiency. In essence, neoliberalism promotes politicoeconomic Darwinism on a world scale, and the model thrives on the notion that only the fittest economic units survive and that the benefits of efficiency gains will eventually trickle down to all members of society.

Neoliberalism is a political ideology, promoting negative liberty (freedom to pursue individual goals without intrusion from others), which seeks to optimize welfare through operation of what neoclassical economists called the 'invisible hand'. In the sense that neoliberalism is bound up as part of capitalistic individualism, it is a cultural paradigm, also. Early neoclassical political economy was clear about the central regulatory function of the state, while neoliberalism is far more mistrusting of its role. The culture of neoliberalism forms part of the wider regulation of the capitalist system and is tied to

Western ideas of modernization, civilization, individualism, materialism, accumulation, and rationality. In terms of its relationship with theoretical perspectives on development it is borne of enlightenment 'doctrines of development', which have had a major impact on the Global South since the advent of colonialism and through the neocolonial/postcolonial modernization period since World War II.

Neoliberal ideas have fed into recent discourses of good governance, which ostensibly have to do with optimizing the rules and interventions that regulate and govern societies and polities, but arguably have had more to do with the advancement of free market economics, under the cloak of liberal democracy. There is no reason why good governance should have this particular connotation, some might argue that good governance is best exemplified in the 'developmental state'. For example, arguably the most impressive developmental progress historically has not come through free markets alone but through state intervention and strategic political economy reflecting popular aspirations. However, neoliberal thinkers link state developmentalism at best to inefficiency and at worst to corruption; thus, arguments for rolling back the state have come to dominate policy reform across the world.

Neoliberalism is intimately tied to 'globalization as currently practiced', that is to say, corporate globalization. It can be argued that the model that has taken hold since the 1980s is the most recent turn in the globalization agenda which has moved through two waves – colonial and postcolonial – which are further subdivided respectively into two phases, mercantilist and industrial and modernist and neoliberalism, respectively. Neoliberalism reduces barriers to economic flows which opens doors to investment and trade. This leads to the greater penetration of transnational corporations (TNCs) into the Global South and the articulation of peripheral economies into the global capitalist system, often under unfavorable conditions. Globalization has often been used as a synonym for neoliberalism by hyperglobalists who argue there is no alternative. These are really just arguments for a particular model, which is masqueraded as inevitable, that are designed to further the self interest of those that promote it. As geographers well know, there are many different possible globalizations and the neoliberal model can and is being resisted from the grassroots upward. The reign of neoliberalism and the spell it has cast on orthodox development thinking need not be everlasting.

## **Historical Roots of Neoliberalism – Laboratory Chile**

The ideas of neoliberalism emanate, in large part, from the University of Chicago's school of economics and are associated with Milton Friedman and other monetarist economists – although the principles have been elaborated beyond supply side economics. The history of the diffusion of this specific type of economics is in many ways serendipitous, suggesting that the notion that 'there is no alternative' is fallacious. Following the Chilean coup of 1973 the military junta led by Augusto Pinochet had no idea of how to run an economy, but they knew that they wanted to reverse the Chilean 'road to socialism' of Salvador Allende's 'Frente Popular' which they had toppled. They called on the services of a number of right wing Chilean economists who had been trained at the University of Chicago during the late 1960s, some of whom had been sponsored by the anticommunist inspired, US backed funding program 'Alliance for Progress in the Americas'. They developed a radical restructuring model based on neoliberal principles and received advice directly from Friedman and economists close to him. The Chicago Boys, as they are now known in Chilean folklore (many of them survive till today and one, Joaquin Lavín, came close to being voted president in 1999 and 2005), recommended aggressive opening of the economy, devaluation, sharp reductions in public service expenditure, and privatization of most nationalized industries. In the event the dictatorship did not privatize copper, as this was important strategically and financially to them; Chile has the largest copper supplies in the world, and 10% of revenues were set aside for the military.

In a few short years Chile became the most open and 'free' economy in the world. This led to an inflow of foreign investment and, later, a surge in exports of primary products and nontraditional agricultural items destined for the Northern Hemisphere. These flows were largely controlled by foreign firms and often mediated through large economic groupings built in part from the elite families established in colonial times. Chile's macroeconomic 'miracle' came at great social, political, and environmental cost, and some have also questioned the economic performance of the model. Given the attendant cuts in social expenditure combined with the shock exposure to global forces, the socioeconomy was radically restructured. Small business, small farmers, the poor, and generally those most in need suffered grave consequences, furthermore, the natural environment was not accounted for in the new model and sustainability was threatened by the clamor to export vast quantities as quickly as possible. In terms of the model's stated objectives of lowering inflation, increasing exports and competitiveness the policy was a success and it was

argued that eventually this success would trickle down to the masses if the economy were freed up sufficiently to allow this.

Based in part on the macroeconomic success of the Chilean model it was applied in the UK in 1979 under Thatcher, to the USA in 1980 under Reagan, and followed by New Zealand in 1984 as the post World War II welfare consensus was eroded by the recessionary impacts of the oil crisis. The diffusion of the policy across the Global South was made possible through structural adjustment policies (SAPs) applied to the periphery by financial institutions, primarily the International Monetary Fund (IMF) and the World Bank and later some aid donor agencies and the World Trade Organization (WTO). As explored below, the consequences were devastating to the lives of millions of people. It is instructive that in many cases in the 1980s, neoliberalism was brought in under military dictatorships – in democratic systems in poorer countries they may not have been politically sustainable.

## **Neoliberalism and the Political Economy of Global Development**

The neoliberal agenda has supporters in many quarters, not least in big transnational business and rightist political parties and organizations that back it. In academia supporters tend to come from schools of business and management in which social issues are not always at the forefront. Proponents of neoliberalism often argue that the success of East Asian countries – breaking away from primary product production and into high technology manufacturing, services, and ultimately into the top ranks of the global economy – proves that the theory works. Others have countered that the East Asian model has involved market forces and processes, closely monitored, sequenced, and directed by developmental states that have intervened actively to create the conditions necessary for capitalist growth. In a way, there really is no such thing as pure neoliberalism – all economies are regulated to a degree and deregulation can be conceptualized a 're-regulation' toward lower levels of state involvement. There is a continuum between structuralist approaches to development and neoliberal approaches, becoming progressively less interventionist as we move toward the latter.

At the scale of the whole globe, the world economy remains mixed. Despite the fact that neoliberalism has been promoted as the solution for development ills in the South, Western countries themselves have continued to protect their agriculture and industry behind high tariffs and quota walls, especially in the European Union (EU), Japan, and the USA. In this sense, the world system exhibits neoliberal elements juxtaposed with highly regulated components designed to promote the interests of

those that have most influence over the rules of the global economy. In this sense the world economy is in fact highly 'un free' for many, especially as it traps much of the Global South into a primary product producing role which offers very few prospects for long lasting social and economic progress, in spite of fleeting commodity booms such as that which has characterized the late 2000s.

The differences in levels of 'development' between nation states and individuals at the extremes is large and growing. Neoliberalism and the networks it creates increase these disparities. The opportunities for those plugged into the net with the abilities to compete are substantial. However, the gaps are becoming wider and more are falling through them. This has the potential to lead to global conflict. There are thus geopolitical and economic, as well as moral arguments for reforming the system. Indeed, post September 11th 2001, a number of commentators were arguing that the root cause of the conflict was indeed development inequalities. While this vastly oversimplifies the factors behind the current global instability, it does point to the fragility of peaceful relations under the neoliberal model which is so adept, and indeed is predicated on, concentrating wealth.

### **The Rolling Out of Structural Adjustment Policies and the Rolling Back of the State in the 1980s and 1990s**

Neoliberalism has risen to global hegemony at a time when alternatives have been sidelined. The end of the Cold War helped solidify the place of the paradigm across the poor world and was seen as a triumph of rational and democratic values. From the mid 1980s onward neoliberalism eclipsed a range of alternative development approaches, including dependency and structuralism. The backbone of this diffusion has been the rolling out of SAPs and World Bank and IMF loans, which together with some aid flows were made conditional on the implementation of neoliberal policy from the mid 1980s onward. Following the reform of the General Agreement on Tariffs and Trade (GATT) one of the principal backers of neoliberal reform has been the WTO, which now has the power to punish signatory countries that fail to deregulate and open their economies, even if they are very poor and industrially underdeveloped, lest social and economic intervention 'distorts' international trade.

The watershed in terms of the implementation of SAPs was the 1982 oil crisis, which led to the debt crisis (which it could be argued still persists). In the 1970s international lending to poorer countries, on the back of petrodollar deposits generated by the first oil hike in 1973, led to an escalation in debt. At the time, given the expansive money supply, interest rates were low.

Following the second oil hike however, inflation and recession bit into the Western economies and they used supply side policies, including interest rate rises to restore equilibrium. These rates filtered through the system and left the indebted nations with enormous debt burdens – in Latin America in the 1980s debt outstripped annual GDP in many countries. In 1982 Mexico defaulted and in response a SAP was imposed on the country in return for a rescheduling and extension of debt. SAPs were heralded as the new path toward economic self sufficiency and modernization, as opposed to the Keynesian influenced state developmentalism approach that had dominated since the end of World War II. In reality they were designed to restore stability to and expand the profits of the global financial system upon which the prosperity of the elite in the West and their associates in the South was, and remains, dependent.

The adoption was rapid across the Global South – after all, countries had little option but to heed the financial institutions that were in turn funded and driven by Western political and economic powers. By 1990, for example, every Latin American and most African countries had adopted neoliberal policies. In this way the World Bank, and its major backers gained neocolonial power over the economy policy of nation states. By the end of the 1980s a good deal of the Global South had signed up to SAPs, thus surrendering a substantial level of economic sovereignty to external powers with a very particular worldview.

### **The Nature of Neoliberal Development Models**

The nature of SAPs has been relatively constant across time and space – leading to accusations of a 'one size fits all' approach to their design. Indeed, even former insiders at the World Bank such as former chief economist, Joseph Stiglitz, have argued this point. Essentially, SAPs contained four cornerstones: (1) 'downsize' – reduce taxation and public expenditure to lower deficits and raise incentives for private enterprise; (2) 'privatize' – sell off state owned assets to introduce the profit motive into the economy; (3) 'deregulate' – reduce state involvement in order to maximize efficiency and allow the free market to find its natural equilibrium; and (4) 'globalize' – reduce protectionist measures, such as tariffs, to allow foreign investment, facilitate the transfer of technology, attain economies of scale in exports, and ultimately stimulate competitiveness on the global stage. In isolation, many of the objectives of SAPs are laudable. The unfortunate reality is that economies have often been launched into a global system in which the industrialized economies have had decades and centuries to evolve their economies; thus, it is enormously difficult for poorer countries to

participate without becoming locked into low value added production as dictated by comparative advantage. In East Asia this comparative advantage was turned into competitive advantage through selective intervention. In most countries, however, adherence to the model has led to little structural economic progress.

If the impacts of neoliberalism in the West in the 1980s were harsh, they were devastating in the South. Poverty and inequality were, by definition already much higher in the periphery and the new policies exacerbated these divisions. It is recognized by both supporters and detractors that there are negative impacts when neoliberal policies are first applied. Austerity is required in order to put SAPs in place. Countries adopting SAPs will experience rising inequality, poverty, unemployment, and informal sector activity in the short term at the very least. Neoliberals have consistently argued that these are merely transitory problems of 'adjustment'. There is gathering consensus, even among some centrist neoliberals, that empirically this has not been observed. The toughest critics have argued that SAPs have often left countries worse off in terms of holistic development measures, including environmental impacts. Studies have shown that it is often women, children, and the poor that have suffered the most devastating consequences in terms of loss of livelihoods and increased vulnerability. Furthermore, these impacts have been shown to be long lasting. The continued marginalization of the developing world in an economic sense can be empirically illustrated as countries in Africa, and parts of Asia, Latin America, and Oceania continue to lag behind. Partly based on the empirically observed failure of SAPs there has been a shift away ostensibly at least from extreme neoliberalism toward what might be termed 'third way' policy in some financial institutions and some countries. The case of Latin America, explored below, illustrates the trajectory from extreme SAPs to 'neoliberalism with a human face'.

### **Neoliberalism and beyond in Latin America**

Arguably, in Latin America, the impacts of neoliberalism have been felt more acutely than anywhere else. Given the depth of the debt crisis in the early 1980s, SAPs were almost universally adopted by the middle of the decade. The combination of the austerity measures accompanying the SAPs and the debt burden itself led to a 'lost decade of development' whereby previous gains in living standards were halted or reversed. Across the continent income growth fell to 1.4% on average, compared to 5% for the previous decade, becoming negative in places such as Argentina and Bolivia. Unemployment and poverty rose and inflation skyrocketed in many countries. Due in part to

this economic instability dictatorships maintained or grabbed the reigns of power in many places.

Based on SAPs, Latin American countries were encouraged to exploit their comparative advantage which was and is almost exclusively found in primary and agricultural production for export. Despite industrialization gains in the largest markets of Brazil and Mexico based largely on the ISI policies of the 1960s, this policy compounded the region's historical role as a resource periphery for the global economy. This had regressive developmental impacts including declining long run terms of trade, Dutch disease (overvalued exchange rates), the evolution of enclave economies, and vulnerability to commodity boom and bust cycles among other things.

Neoliberal restructuring had a particularly profound effect on agriculture in Latin America. Most of the Latin American economies have relative cost advantages in agriculture and neoliberalism exploits these. There was a major shift away from domestic, food and traditional production in the 1980s and 1990s, toward export oriented, exotic, and nontraditional production. Forestry, fisheries, and agriculture formed the backbone of this change. This has had profound impacts in rural localities across the continent as the signals of the global market are transmitted into local spaces. Some such trends provided export opportunities for farmers. For many rural dwellers, however, globalization in the countryside has had negative impacts including loss of land, concentration of ownership, increased vulnerability to external trends, and environmental nonsustainability.

Following the end of the Cold War and the implicit, and sometimes explicit, support of the US and its allies of the neoliberal, dictatorships of the 1980s declined. This has led to the watering down of the neoliberal agenda in the continent and the revival – to an extent – of regional cooperation efforts. Throughout the 1990s, given that electorates now had the vote, governments had to make concessions to social policy in ways which some have argued hark back to the structuralist period of the 1960s and 1970s. Designed in order to ensure the political sustainability of the model, this has been termed 'neoliberalism with a human face' or 'neoliberalism with a human face'. After the Asian Crash of 1997, an economic downturn occurred which led eventually to particularly harsh outcomes in Argentina, Brazil, and Uruguay. The left and center left blamed this on IMF policies and, more broadly, the neoliberal Washington Consensus. Neoliberals blamed internal factors, especially corruption. This crisis solidified the critique of neoliberalism at all levels of society from the grassroots upward and resistance movements became increasingly heard across the continent.

The coming together of popular and political concern about the impacts of neoliberalism has led to a shift to 'center left' politics in many countries from the early 2000s, and the victory of presidential candidates with

centrist and left leaning tendencies including among others, Lagos (2000–06) and Bachelet (2007–) in Chile, Toledo (2001–06) in Peru, Morales (2006–) in Bolivia, Lula de Silva in Brazil (2003–), Chavez in Venezuela (1999–), Vazquez (2005–) in Uruguay, and Kirchner (2003–08) and Fernandez de Kirchner in Argentina (2008–) among others. It is certain that in order to win elections in Latin America, it is necessary to adopt a post neoliberal stance, and this is bound up in part with a desire to distance the continent from the currently highly unpopular United States. Ironically, the USA has meddled politically in Latin America less than ever over the last decade and thus the space to distance countries from it has been created. In the Argentinean election of 2007, the eventual winner, the center left Peronist influenced Justicialist candidate, Cristina Fernandez de Kirchner, campaigned using anti IMF television advertisements which played on nationalistic feelings.

Whether the shifts in policy in Latin America can be termed 'leftist' or even 'center leftist' has been called into question. There can be little doubt that the policies of Chavez's Bolivarian revolution, involving nationalization and poverty reduction, fall further to the left than many of the others, but this has been made possible by the country's ample supply of oil and thus influence over the global economy. Other ostensibly leftist governments such as that of Morales in Bolivia or Ortega (2007–) in Nicaragua could be viewed as populist. In other cases governments are decidedly centrist by historical and global measures, and despite anti IMF words of leaders such as Kirchner, they are still very accommodating of the global capitalist system. The free market remains a central pillar, and as a consequence the general model in Chile, Argentina, Uruguay, and Brazil is, in fact, further right than the structuralist inspired policies of the 1960s. Renovated left leaders (*los renovados*) have argued that global conditions have changed, ISI policies failed, globalization is here to stay, and that the market can be tempered and optimized. Critics might charge that governments across Latin America talk anti neoliberalism while still pursuing many policies that have been inspired by it.

Although in a small handful of economies there has been a shift away from primary product export reliance, in most there has not. The resource curse thesis argues that resource endowment can, under certain conditions, actually be an impediment to development progress – in contrast to more traditional neoclassical and neoliberal ideas. This is the most damaging legacy of the years of pure neoliberalism in the continent and one which the current 'neoliberal' model – whether we define it as a continuance of neoliberalism or something else – is very unlikely to solve. The spectacular yet ultimately non-sustainable short term windfalls that are accompanying the commodity boom of the mid 2000s may actually delay the necessary strategic diversification of the Latin

American economies unless the lessons of economic history in this respect are heeded.

## The Future of Neoliberalism – Resistance and Reinvention

The Global South has been the site of intense struggles over neoliberalism, and resistance movements abound. There is also a rich vein of development theory that has emanated from the periphery – including dependency and structuralism that still has much to say about the current situation despite the disdain that has been piled on it by neoliberal orthodox economists. There have been international institutional attempts at the government scale to resist and reform including, it could be argued, the formation of trade blocs in the South such as Mercado Comun del Sur (MERCOSUR) and South African Development Community (SADC) – although it could be posited that these merely perpetuate and diffuse neoliberalism further. Other examples include the continued policies of Organization of Petroleum Exporting Countries (OPEC), collective action by developing countries against the hypocrisy of Western agricultural policy, and more recently, efforts led by Venezuela's Chavez to build anti neoliberal alliance across the Southern Hemisphere incorporating countries that are out of favor in the West such as Iran and Cuba. Whatever one thinks of Chavez's attempts in this regard they signal a mounting consensus in the South against neoliberal inspired ideas and the dominance of the Organization for Economic Cooperation and Development (OECD) countries.

Over the recent past struggles which go back many decades, have coalesced at the grassroots – at least in the eyes of the popular media – to form the antiglobalization movement. To the extent that such a movement can be discerned it is motivated by a common abhorrence to neoliberalism – or 'globalization as currently practiced'. There has been growing popular dissent and the formation of transnational nongovernmental organizations (NGOs) and new social movements intended to resist neoliberalism. This has been particularly prevalent in Latin America, due to the profound impacts of neoliberalism there, its association with rightist dictatorships, and the history of popular struggle. This is embodied most obviously in the Zapatista movement, which some credit as the foundation of the antiglobalization movement. The lines between antiglobalization, anti neoliberal, anti Western, and anti US 'movements' have become increasingly hard to discern. Popular struggles have become far broader than opposing neoliberalism, focusing most recently on the Iraq War, as well as more general antipoverty and pro environment causes. At the root of many such movements there is a disdain for free market economics and US led economic and political dominance which, in the opinion of the



protestors, has brought regressive impacts across most of the world and underlies specific geopolitical moments such as the War on Terror and the so called fight for democracy in the Middle East.

In the case of lending institutions there has been a marginal tinkering with the policies of the Washington Consensus partly in response to the concerns of new social movements and political change. The World Bank's approach to development is ostensibly far more rounded than it once was, focusing on broader sustainability in a social and environmental sense, drawing attention to poverty and inequality as embodied in the Poverty Reduction Strategy Papers, and promoting the notion of good governance. Notwithstanding, the major institutions such as the WTO and the IMF still pursue an essentially neoliberal doctrine of development. It could also be argued that underlying the World Bank's ostensibly holistic policy is the core idea that it is free markets, free trade, and competition that are deserving of promotion; the road to this might be slightly altered but the eventual destination is the same. Such shifts then have been largely rhetorical, barely hiding the fact that at the core, development finance is about expanding the influence of capitalism across the globe, opening the 'emerging' economies as places for business. This might well bring benefits for some sections of society, but ultimately it is tied up with discourses concerning the inevitability of globalization and the need for poorer countries to embrace it or to sink.

Do organizations such as 'Jubilee 2000', events such as 'Live 8', and endeavors by the UK government to write off the debt of the poorest nations point toward a new popular and parliamentary politics when it comes to neoliberalism and development? Will neoliberalism continue to dominate and thus foster corporate globalization or is it being meaningfully reformed? Can we talk of a shift toward a post neoliberal development policy? The shifts in Latin America and beyond indicate that extreme neoliberalism is no longer popular in the Global South itself, not that it ever was beyond the elites. Indications are that despite promising superficial signs the underlying approach remains much the same. Neoliberalism is both facilitated by and facilitates globalization. It has allowed the penetration of multinational companies who locate parts of the commodity chain in peripheral areas. Neoliberalism has had the effect of widening income gaps at virtually all scales of analysis and the world economy thrives on this unevenness. It may be that the powerful interests that have colluded to make neoliberalism dominant – big business, conservative politics, and the institutions that represent their aspiration such as the WTO – are difficult to defeat. This raises questions over

what we mean by development, and who should be responsible for defining it and designing policy. Development geographers have a duty to continue to map the impacts of neoliberalism, but more crucially they need to engage directly in the formation of viable alternative models if the inequity and nonsustainability of neoliberal development practice is to be challenged.

**See also:** Anti-Geopolitics; Civil Society; Colonialism, Internal; Debt; Dependency; Desertification; Development I; Development II; Famine; HIV/AIDS in Developing Countries; Intermediate Technology; Neoliberalism; Orientalism; Postcolonialism/Postcolonial Geographies.

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# Neoliberalism, Urban

W. Larner, University of Bristol, Bristol, UK

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## Glossary

**Creative City** Approach to urban policy that privileges the role of culture and creativity in new forms of economic development.

**Gentrification** Process of urban neighborhood change in which relatively affluent residents displace lower income groups.

**Neoliberalization** Analytical approach that emphasizes the contested political processes associated with neoliberalism.

**Neoliberalism** Shorthand term referring to the new emphasis on markets, minimal states, and individual choice in contemporary political-economic formations.

**Revanchist City** Urban politics that combines punitive approaches with moral discussions about public order.

**Shadow State** New relationship between state and voluntary sector in which the latter is increasingly involved in developing policy and service delivery.

**Urban Entrepreneurialism** Urban economic development strategy that involves political coalitions between local states and private sector actors.

## Introduction

Over the last decade, increasing numbers of geographers have engaged in debates about neoliberalism. Like their colleagues elsewhere in the social sciences, they have been interested in examining the implications of new political emphasis on markets, minimal states, and individual choice as a means of ensuring economic and social well being. Of particular interest to geographers have been the political economic and sociospatial consequences of this new political formation. It is argued that whereas Keynesian welfarism saw the nation state as the primary basis for economic, social, and political processes, neoliberalism has been associated with the contradictory rescaling of these processes to both supra and subnational scales. It is in this context that urban geography has become the disciplinary locus for many geographical accounts of neoliberalism, and changes in the nature of contemporary cities the focus of many analyses. In the most general terms, the argument is that the new market oriented formulations associated with

neoliberalism have given rise to a new role for cities in managing the relationships between global flows and networks and local economies and societies. In turn, this has had major implications for urban governance, the urban landscapes, the built environment, and urban subjectivities.

Accounts of what are now commonly called 'neo liberal cities' build on early work by David Harvey and Manuel Castells during the late 1970s in which they identified the strategic roles that cities play in capitalist societies, rather than seeing contemporary urban spaces in simply empirical terms. This work stimulated the rise of a new research agenda in which Marxist and neo-Marxist perspectives began to be deployed to theorize the city. Correspondingly, in the early 1980s, there was a considerable resurgence in urban geography, as geographers began to explore the shift in urban governance from the redistributive policies associated with Keynesian welfarism to a new emphasis on generating economic growth by encouraging competitive markets and entrepreneurial activities. These new theoretical perspectives reshaped analyses of urban development, drawing attention to both the broader structural processes that were altering relationships between cities and nation states, and the way in which the class based interests of hegemonic urban actors influenced these processes. Today, many geographical analyses continue to interrogate the relationships between political economic restructuring and new forms of urban governance, including the transformation of policies and programs, the constitution of new spaces and subjects, and the rise of city based resistance struggles.

For many urban geographers, neoliberalism has emerged as a useful umbrella term to describe these changes in the urban environment, in particular, the new emphasis on international competitiveness, marketization, and economic growth, and the effects this has had on different groups within the city. The consequence is that discussions about topics as varied as de industrialization, urban entrepreneurialism, the informational city, global cities, gentrification, and sociospatial polarization are all now likely to be framed by macro accounts of neoliberalism. However, like the use of the term neoliberalism in geography more generally, this is a *post facto* argument. It wasn't until the late 1990s that neoliberalism began to emerge as a broad term to describe new forms of urban governance involving market based political formations. Indeed, the landmark text is Neil Brenner and Nik Theodore's *Spaces of Neoliberalism*, which was not published

until 2002. Moreover, this text explicitly focuses on urban restructuring in North America and Western Europe. Today, however, increasing numbers of urban geographers are drawing on the broader literatures of neoliberalism in their efforts to analyze widespread shifts in urban governance from welfarism to entrepreneurialism, from government to governance, and from redistribution to recognition, in cities across the world.

### **Neoliberalism or Neoliberalization?**

In geographical accounts, neoliberalism is a critical term that is most often understood to be about a political ideology that privileges markets and the role of individuals in ensuring economic and social well being. The origins of this formation are usually traced to the post war period and the writings of philosophers and economists such as Hayek and Friedman. It is then traced through the national experiments of the 1980s and 1990s, particularly the political programs known as Thatcherism and Reaganomics, which involved a critique of interventionist economic policies and the welfare state. The new approach was made manifest in regulatory frameworks that privileged the role of markets, and fiscal austerity and privatization programs designed to shrink the public sector. Neoliberalism is now used as a general descriptor for these market based institutional shifts and policy realignments. However, whereas classic liberalism saw markets as naturally occurring phenomenon, neoliberalism is premised on the idea that the conditions can be created that will encourage people to act in a more marketlike fashion. Neoliberalism is thus both an analysis of the world and a view of how it should work. It embodies assumptions about the appropriate role of the state, markets, and individuals. It is a political discourse that both represents and constitutes economic and social relations in particular forms, and has transformed dominant political imaginaries over the last two decades.

Geographers have made important contributions to the debates about neoliberalism by distinguishing between neoliberalism as a universalizing ideology and the specificities of 'actually existing neoliberalism' as a located and contingent phenomenon. More recently, these discussions have been complemented by the term neoliberalization which emphasizes the contested nature of political economic processes in explaining the turn toward 'more market'. These conceptual distinctions have allowed geographers to do what they do best – examine historically and geographically specific processes in particular places to explain why, from Johannesburg to Moscow, neoliberalism now appears to be the new common sense in urban politics. These analyses show that the state is now only one of many institutions involved in urban governance, and that a raft of new

entities has emerged to take on powers and responsibilities once provided more centrally. These entities range from the corporate business partners involved in public–private partnerships that provide infrastructural services, through to the nongovernmental organizations and social movements who have become increasingly involved in social and environmental policies and service provision. Moreover, this new approach to urban governance is not simply premised on encouraging more markets in order to facilitate the processes of economic exchange; rather, it involves a wide range of economic, social, political, and environmental processes that are premised on negotiated agreements among diverse urban organizations and actors, making manifest a new emphasis on self managing, autonomous, urban subjects.

### **Theoretical Approaches to Neoliberalism**

Not surprisingly, given the intellectual and disciplinary legacies identified above, the literature on urban neoliberalism continues to be dominated by Marxist and neo-Marxist political economy approaches, particularly those associated with regulationist tradition. In these accounts, neoliberalism is understood to be a set of political shifts associated with the changing nature of the capitalist economy. It is argued that the increasing globalization of economic processes that followed the end of the long boom in the 1970s reflected the efforts of capitalists to find new ways to restore profitability. In turn, the growing tendency to organize production across national boundaries and the rise of globalized financial systems forced governments to abandon their commitment to full employment and an inclusive social welfare system in order to focus on enhancing economic efficiency and international competitiveness. Urban geographers have linked these changes to shifts in the governance of cities. They argue that in the context of economic globalization, cities have become engines of economic growth as well as centers of innovation, giving rise to a new political emphasis on market activities and individual enterprise.

More conceptually, these scholars identify a shift from the nation state formations associated with Keynesian welfarism to the heterogeneous scalar formations associated with neoliberalism. In these theoretical debates the work of Bob Jessop, supplemented more recently by that of Neil Brenner, has been influential, particularly as the 'urban question' and the 'scale question' have become increasingly intertwined. It is argued that the move beyond methodological nationalism is associated with a new role for cities as sites of economy, politics, and society. This new scale is socially constituted, produced by the spatial imaginaries and political strategies of a wide range of actors. As the politics of scale became the focus of attention in these discussions, so too did questions of

scale jumping, used to refer to the ways in which political actors appeal both upward and downward in their efforts to broaden the scope of political struggle, become more central. Finally, as the debate between those who understand scale as the new spatial ontology structuring urban politics and those who would privilege the role of networks has come to dominate debates about the nature of the neoliberal city, so too has social movement theory entered this terrain and greater attention has been paid to questions of the discursive frames and political coalitions that underpin efforts to resist neoliberalism. That said, in the vast majority of these accounts, the state, aligned with corporate power, is understood to be the primary architect of neoliberalism.

However, this political economy scholarship is not the only approach to urban neoliberalism. Also influential has been the neo Foucauldian governmentality literature. Developed out of the late writings of French philosopher Michel Foucault, this work is concerned with theorizing political power as an assemblage of discourses and techniques. There are three aspects to these discussions. First, this literature focuses on problematizations – an examination of the historically and geographically specific ways in which urban problems are defined and solutions imagined. These discussions have highlighted a new role for the state as a partner in government whose role is to facilitate and support the self governing of both entities and individuals. Second, this literature has drawn attention to the specificity of the objects and subjects of governance identified and constituted through urban policies and programs. Of particular interest here has been the shift away from conceptions of urban governance premised on universalizing conceptions of society, toward multiple and heterogeneous conceptions of community, and the new emphasis on urban citizens as active, entrepreneurial subjects. Third, increasing attention has been paid to the strategies and techniques used in urban governance. Of particular interest are the relatively mundane techniques – such as land use plans, zoning, and community consultations – through which particular objects and subjects of governance are constituted. These analyses have also identified the new emphasis on ‘governing at a distance’ through budgets, targets, standards, and objectives, all overseen by monitoring and audit. Correspondingly, it is argued that there is a new relationship between expertise and politics as accountancy, audit, enumeration, calculating, and evaluation take on a new and heightened emphasis.

Interestingly, given the important role feminist geographers played in debates about gentrification during the 1980s and 1990s, they have been less visible in recent debates about urban neoliberalism. In part, this may reflect the gender politics of the so called ‘neoliberal era’ in that, both men and women are now involved as paid workers in market based politics of gentrification and

consumption led urban redevelopments. Gay consumer spaces are also part of the new urban renaissance and have been rescripted as sites of spectacle and consumption in, for example, Paddington in Sydney and Soho in London. Recently however, a new generation of urban geographers concerned with the gendering of neoliberalism have begun to interrogate how the ‘work, life, play’ rhetoric of city officials is premised on degendered understandings of the urban subject and overlooks the ongoing demands of social reproduction, including housework, caring, and emotional labor. Attention has also been paid to the gendered injustices that have arisen as a consequence of neoliberal policies such as the deliberate targeting of sex workers as an ‘undesirable’ group in newly gentrified areas of the inner city. More conceptually, feminist theory – together with post structuralist and postcolonial readings of citizenship – has informed important analyses of the ‘making up’ of urban citizen subjects, for example, in work associated with the journal *Citizenship Studies*. In these accounts, attention has focused on the way in which market based strategies for managing different populations are linked to changes in political subjectivities among those affected by such policy shifts.

### Geographical Studies of Neoliberalism

Just as theoretical influences have become more diverse in the debates about urban neoliberalism, so too has the focus of empirical studies. Early accounts focused on the corporate led revival of central city areas based on megaprojects in the areas of entertainment, tourism, and retail. It was shown how run down inner city areas were being revitalized through private sector investment, particularly through activities that involved conspicuous consumption in the form of shopping centers, cultural venues, and tourist attractions. Examples of this ‘urban entrepreneurialism’ were widespread, including the revitalization of London’s docklands and Auckland’s waterfront. The aim of these developments, it was argued, was to recreate the city as both a focus of market oriented economic growth and a space of elite consumption. One result was increased competition between cities and a new emphasis on what has come to be called ‘place marketing’ as cities attempted to reposition themselves in the globalizing markets for both capital investment and people. Today, the legacy of this new emphasis can be clearly seen in the proliferation of international league tables that compare cities in the search of the ‘best place to do business’ or the ‘most livable city’. Significantly, these comparisons are no longer to other cities within the same nation state; rather, they are to other cities in the global ‘space of flows’ (another term for which we should thank Manuel Castells).

One intellectual site in which the politics of the neoliberal transformation has received particular attention is in accounts of urban regimes. The focus of these analyses is on a 'new urban politics' in which political elites engage in the courting of private investors. Efforts have been made to identify the class coalitions that come together around efforts to develop enterprise zones and public-private partnerships, and the relationships between city officials and private sector actors through which financing, construction, and management of these new spaces takes place. Initially these accounts understood the new involvement of the private sector in urban governance as representing the 'rolling back' of the state, but now it is increasingly recognized that these changes are more usefully understood as involving the political, institutional, and geographical reorganization of the local state. This encouraged a rethinking of changes in urban governance during the 1980s and 1990s. Whereas the 1980s was a period of lean government, in which cost cutting, cutbacks in public services, and the privatization of urban infrastructure was the primary focus of what was then called the entrepreneurial city, more recently, greater attention has focused on the creation of new 'flanking mechanisms' in which efforts are made to displace the worst effects of 'tooth and claw' neoliberalism. Jamie Peck and Adam Tickell distinguished between 'roll back' and 'roll out' neoliberalism in their efforts to understand this shift – a classification that is now entrenched in the literature on urban governance.

These accounts of shifts in the nature of urban governance have segued into a focus on what is sometimes described as the shift from government to governance. In these debates, urban geographers have engaged more actively with their colleagues in political science and policy studies. There are two aspects to this literature. First, there are important discussions that show how the business led networks that were established to recreate the conditions for economic growth have given rise to new clusters of economic activity, involving not only relationships between local states and firms, but also between educational institutions and infrastructural developments. New economic spaces and activities are a corollary of these relationships; for example, the recent proliferation of business incubators as a means of growing small entrepreneurial firms makes manifest these new relationships between state, business, and educational institutions. The conclusion of these studies is that we are seeing networked forms of entrepreneurial modes of governing premised on the need to insert urban activities into global flows and networks.

Second, a parallel and related discussion has developed around the role of social movements and not for profits organizations in urban governance. As budgetary pressures have tightened and local states increasingly contracted out services, a new role has

emerged for the community sector in social policy and provisioning. In the early 1990s Jennifer Wolch called this phenomenon the 'shadow state'. In the years since she made this observation, new relationships between state and so called 'third sector' organizations have proliferated. Associations, advisory groups, forums, regeneration agencies, social enterprises, and partnerships have emerged as forums in which urban governance decisions are made. The extensive literature on the relationships between neoliberalism and these 'bottom up' organizations has revealed not only the ways in which these new relationships alter all those involved, but also how they are giving rise to new urban spaces and subjects premised on heterogeneous, overlapping, and multiple conceptions of community. Debates over whether or not social movements and third sector organizations have simply been co-opted to neoliberal agendas, or whether new spaces for politics emerge through such initiatives, continue apace.

These changes in the nature of urban governance link into a second set of discussions that now occur under the umbrella of neoliberalism. Over the last two decades there has been considerable attention paid to the relationships between neoliberalism and increasing socioeconomic and sociospatial disparities, and their manifestations in the urban setting. There are a number of features to these debates. First, debates about neoliberalism have reframed discussions of gentrification. Initially, gentrification was assumed to be confined to so called global cities such as New York and London in which increasing mobility had given rise to a new constituency of financiers, technocrats, and other transnational subjects who were able to purchase high price residential property in the inner city. However, over the last two decades, it has become clear that gentrification is a much more generalized process in which middle class inhabitants and the accoutrements they demand have underpinned the redevelopment of massive swaths of Western cities through new forms of housing, retail precincts, and consumption spaces. It is widely accepted that this process is associated with high levels of exploitative real estate development, and has had diverse geographical implications.

Second, attention has turned to the urban inhabitants who have been displaced by gentrification, increasing property prices, and new expectations of neighborhoods. Neil Smith's description of the 'revanchist city' has been particularly influential in this respect. He explicitly associates the rise of a divided city with the neoliberal repudiation of welfarism and concerted efforts to expand programs premised on individual responsibility and self reliance. While his account was developed to explain events in New York City during the 1990s, analyses developed from this work have explored the impacts of neoliberalism in Western cities more generally. They show that urban pro growth agendas inevitably intensify

social and territorial inequalities. The growth of these inequalities explains phenomenon such as structural unemployment, the rise of workfare, and the use of day laborers in major US cities. The geography of inequality has also been addressed; various studies have shown how groups such as squatters, 'squeegee kids', street people, and sex trade workers have been targeted as 'disorderly populations' and forced to more marginal spaces in the city. Efforts to 'clean up' the city are also associated with new strategies of policing and surveillance involving CCTV cameras and the privatization of formerly public spaces. The consequence, it is argued, is that contemporary Western cities are becoming spaces of consumption premised on the growth of 'spatial apartheid' as poor, unemployed, racialized, and homeless people are banished to peripheral housing estates, far flung suburbs, or ghettos. The result is a new geography of exclusion and fear based on race, gender, class, and sexuality.

Finally, cities feature in the literature on neoliberalism in accounts of contemporary subject formation. The argument is that cities are replacing nation states in the construction of social identities. This is not just an analysis of the decline of the social subjectivities associated with welfarism and social citizenship; it is also an argument that new forms of urban governance are premised on an image of the urban citizen as calculating, self responsible, autonomous, and unencumbered. In the discussion above, we have already seen that new forms of urban governance are premised on a specification of the urban subjects as the discerning consumers of ever increasing numbers of goods and services, responsible for their own destiny. So too are the less well off seen as responsible for their own misfortune; the unemployed, the homeless, and the poor are increasingly seen as responsible for their own fates. Correspondingly, the consequence of neoliberal efforts to 'govern through freedom' is not only a new politics of inclusion and exclusion, but also new forms of citizenship and new ways of being political are also emerging.

It is this last point that opens up the analysis of neoliberalism and counters the pessimistic vision that emerges in so many of the discussions above. Whereas it is agreed that cities play a key role in neoliberal restructuring, it can also be argued that they have been central to both resistance against neoliberalism and sites of alternative practice. For example, recent years have seen a concerted effort to involve community members into decisions about social service provision and neighborhood revitalization. Whereas the literature on neoliberalism has focused on the 'rolling back of the state', a longer historical view might see the shift to governance as a move away from the top down planning agendas associated with urban renewal in the 1950s and 1960s

toward a 'bottom up' strategy in which urban citizens are now able to make meaningful decisions about different aspects of their lives. This is not a straightforward process; these new efforts to govern mobilize people as entrepreneurs and consumers as well as neighborhood members and residents. There is also the risk that this new approach reasserts the neotraditional sense of place and community that is often associated with the rise of gated communities variously based on lifestyle, prestige, and security. What is clear, however, is that the use of community to redraw subjectivities and create new entrepreneurial modes of citizenship is creating multiple and contradictory effects. How these articulate with the constitution of global labor forces drawn into the city through both paid work and social reproduction, giving rise to what Aihwa Ong has recently called 'states of exception', remains to be explored in the literature on urban neoliberalism.

## Conclusion

Cities are understood to be the crucibles in which political and ideological strategies associated with neoliberalism are invented and experimented with. Consequently urban neoliberalism has recently been the focus of considerable attention among geographers. From early discussions of grand scale projects premised on marketization to the more recent developments associated with new understandings of culture and the 'creative city', neoliberalism has proved a useful label to capture key features of contemporary urban processes. There are, however, growing difficulties and significant silences in this literature.

First, neoliberalism is too often treated as a unified totalizing set of discourses and practices. One consequence is that too much is now being included under the label of neoliberalism. We hear surprisingly little about the other modalities of power in contemporary cities – disciplinary, pastoral, authoritarian – and when we do, these are too often reduced to neoliberalism, as is the case in discussions of new forms of surveillance. Important national variations being obscured as neoliberalism interconnects with, and sometimes contradicts, older political traditions from both left (social democracy) and right (neo conservatism) of the political spectrum. There are also other political discourses at play in contemporary cities. The discourses of environmentalism – energy efficiency, sustainable development, land remediation – cannot be easily reduced to market based agendas. Even the rise of recent accounts of neoliberal natures show that market ways of thinking about the natural world articulate with longer standing debates about sustainable cities. Why don't we hear more about these articulations and tensions in the literatures on new forms of urban governance?

Second, the continued emphasis on political economy approaches also means that we don't know nearly enough about how people experience cities on an every day basis. In contemporary cities there is a whole raft of emotions and experiences which may or may not have anything to do with neoliberalism. How are cities lived? What is the 'affectual economy' of different cities? How do mundane practices and technologies shape urban environments? How do the rhythms of the city vary according to gender, sexuality, and class? And, with a few notable exceptions such as the work of Katharyne Mitchell on Vancouver, there is definitely not nearly enough about racialization and transnationalism in the literatures examined above. Relatedly, too many of these accounts of the neoliberal city are premised on the experiences of particular Western cities. It is striking that the emerging literature on South African, European, and Latin American cities often frames itself with reference to other literatures and debates. Do these cities also experience urban neoliberalism? With what consequences, and for whom?

Finally, and perhaps most importantly, why are cities now the dominant analytical lens for geographical accounts of neoliberalism? Why is it that commentators such as myself, who have never formally worked on cities, increasingly find ourselves drawn into debates in and around urban geography? Why are economic geography and urban geography increasingly blurring? What does this say about the status of the city as an object of analytical enquiry? Is this because cities have been at the forefront of neoliberalism experimentation? Is it because of the growing importance of cities in the global

economy? Or is it simply that cities are major concentrations of population and therefore register the impacts of neoliberal processes whose origins are actually elsewhere? Is there actually anything distinctive about urban neoliberalism?

See also: Gentrification; Marxism/Marxist Geography I; Neighborhoods and Community; Urban Policy.

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# Network Analysis

**M. J. Kuby**, Arizona State University, Tempe, AZ, USA

**T. D. Roberts**, University of Colorado at Boulder, Boulder, CO, USA

**C. D. Upchurch**, University of South Carolina, Columbia, USA

**S. Tierney**, University of Denver, Denver, CO, USA

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## Glossary

**Arc** A connection in a network, also known as link or edge.

**Complex Network Theory** The study of the structure and evolution of interaction networks in which the formation of new linkages is a probabilistic function of the degree of the node.

**Connectivity Matrix** A matrix with 1's indicating a direct link between nodes and 0's indicating no direct link.

**Degree of a Node** The number of links connecting to a node.

**Graph Theory** A set of methods for analyzing the connectivity of networks and nodes.

**Mathematical Programming** A family of techniques for solving constrained optimization problems.

**Network** A set of points connected by a set of linkages, also known as a graph.

**Node** A junction or start/end point in a network, also known as vertex.

**Planar Network** A network in which arcs cannot cross without intersecting.

## Introduction

'Network' is a general term for physical infrastructure or patterns of interaction that can be represented as a set of points connected by a set of linkages. The points are known as nodes or vertices, and can represent origins, destinations, and junctions. The linkages are known as links, arcs, or edges, and represent connections of some kind among the points. Links may be defined as one way (in a directed network) or two way (undirected). The terms 'vertices' and 'edges' generally are used together while 'nodes' are paired with 'links' or 'arcs'.

Networks can be planar or nonplanar. In a planar network, with all arcs on the same plane, a node must be placed at all intersections because two arcs cannot cross without intersecting. In nonplanar networks such as air line or friendship networks, arcs may cross without intersecting at a node.

In the field of geography, the term 'network' is highly flexible and encompasses both physical infrastructures over which transportation and communication occurs, as

well as patterns of interactions themselves. Physical infrastructure networks can be composed of road, rail, pipeline, inland waterway, telephone, and Internet point and line facilities. Interaction networks can include a wide variety of interactions such as social connections, business transactions, Internet hot links, and academic citations, as well as transport and communication flows. Note that the range of phenomena that can be analyzed as networks include those in which both nodes and arcs are physically fixed in space (e.g., roads), neither are fixed in space (e.g., friendships), or only the nodes are fixed in space (e.g., seaports).

This article focuses on three methods of network analysis: graph theory, complex network theory, and network optimization (mathematical programming and heuristic algorithms).

## Graph Theory

William L. Garrison and Duane Marble introduced scientific analysis of network structure to geography beginning in 1960, although their work was preceded by Shimbels in 1953. Garrison and Marble's work helped kick off the quantitative revolution in geography.

Graph theory analyzes the topology of networks. It is sometimes referred to as static graph theory to distinguish it from the more recent field of complex networks (see below), which focuses on how networks evolve. Graph theory measures and compares networks in two ways. First, it computes a variety of full network measures in order to understand the structural properties and adequacy of the overall network. Second, it mathematically manipulates matrix representations of networks to assess the internal spatial structure and properties of particular nodes. Very little has been added to the graph theory literature since the mid 1960s, but some of these basic measures of network structure are still used today in academic and practical settings.

## Full Network Measures

Various measures have been developed to characterize the connectivity or density of an entire network as a whole. These methods provide a basis for comparing networks of different sizes, modes, types, times, and places.



**Connectivity measures**

A minimally connected network, also known as a tree network, contains no circuits. The removal of any edge would produce two unconnected subgraphs (possibly consisting of a lone vertex). The minimum number of edges is given by

$$e_{\min} = v - 1 \quad [1]$$

where  $e$  represents the number of edges and  $v$  the number of vertices in the graph. Most of the measures that follow are based on the insight that each additional edge added to a tree network produces one additional circuit. In a nonplanar graph, every vertex can connect to every other vertex, and thus the maximum number of edges assuming two way edges is

$$e_{\max} = v(v - 1)/2 \quad [2]$$

In a planar network, the most highly connected network consists of a series of connected triangles, leading to this formula for the maximum number of edges:

$$e_{\max} = 3(v - 2) \quad [3]$$

The 'gamma index' uses eqns [2] or [3] to summarize how relatively connected a network is. Its value ranges from 0 to 1 (using, of course, the proper equation for maximally connected networks for planar and nonplanar networks, respectively):

$$\gamma = e/e_{\max} \quad [4]$$

One of several similar measures is the 'beta index', which measures the average number of edges per vertex, and has a minimum value of zero:

$$\beta = e/v \quad [5]$$

A limitation of these kinds of measures, however, is that they take into account topology only, not scale or density in relation to the people or area served.

**Regional Measures**

Another set of full network measures relates the network to the region being served. They are widely used by governments and economic development organizations such as the World Bank to assess infrastructure investment needs.

Network density (ND) is a measure of the total network length  $L$  (all links added together) relative to some base variable  $B$ :

$$ND = L/B \quad [6]$$

The numerator  $L$  is often measured in kilometers but can also be measured in lane km or track km to better account for the capacity. The base variable  $B$  can be the area of the region in question, the arable land area (since there is less need for transport infrastructure in sparsely populated regions), or the population. Another measure

of the adequacy of a network is the Eta index:

$$\eta = \text{total network miles}/\text{total number of links} \quad [7]$$

Eta measures the average link length, which in a planar road or rail network is a reasonable proxy for density.

Several methods measure the degree of circuitry in a network by comparing the actual length of links to the geodetic (straight line over a curved surface) distance between the start and end of the link. The degree of circuitry, also known as the route factor, is a ratio of the actual over the geodetic distance for each link. Ratios of 1.0 indicate a straight line, whereas ratios greater than 1.0 indicate circuitry. The degree of circuitry for the entire network can be computed either as the average of the route factor ratios for all links, or as the ratio of the sums. In either case, higher numbers generally result from poor connectivity and/or rugged terrain.

Finally, traffic density is an indicator of the usage of a network relative to its size. It can be measured in several ways. The theta index computes the average flow (e.g., passengers or tons) per node. Similarly, an index that Black (2003) refers to as the iota index computes the average passengers or tons per mile. Both indices, however, fail to consider the average trip length. A more commonly used measure of traffic density, TD is:

$$TD = U/L \quad [8]$$

where usage  $U$  is measured in tkm (ton km shipped) or pkm (passenger km traveled) and  $L$  is again the total length of the network. The resulting indicator is measured in tkm or pkm per km or per lane km, depending on how  $L$  was defined. Higher traffic density is often interpreted as efficient use of network infrastructure.

**Nodal Measures**

Another branch of graph theory quantifies the relative positions of each node within a network. The basic building block for this type of graph theory is a representation of the network as a connectivity matrix  $C$  – a square matrix with a row and column for each node. A direct link between two nodes  $i$  and  $j$  is represented by a cell value  $c_{ij} = 1$ , while all other cells are 0. Using this matrix, one can calculate the degree  $k_i$  of node  $i$  which is a simple count of how many links it has to other nodes:

$$k_i = \sum_{j=1}^n c_{ij} \quad [9]$$

The degree of a node, however, can be misleading, because it measures only direct linkages. More meaningful

measures of nodal accessibility also incorporate other principles:

1. Direct and indirect linkages: methods should recognize that it is possible to move from one node to another, even if no direct link between them exists, by traveling indirectly via other nodes.
2. Multiple paths: methods should give credit for the existence of alternative routes.
3. Attenuation: methods should discount indirect routes relative to direct routes.
4. Redundancy: methods should correct for alternative routes containing meaningless back and forth loops.
5. Topological distance versus length: methods should be able to measure connectivity to other nodes in terms of the actual length of all the arcs in a route, or in terms of the number of arcs.
6. Circuity: this is similar to attenuation, but for length rather than number of links.
7. Unequal node size: methods should account for the size of nodes.

The first two desired improvements to node degree, namely indirect linkages and multiple paths, can be incorporated by computing the total accessibility,  $T$ , matrix. To get  $T$ , one first multiplies the connectivity matrix  $C$  (referred to here as  $C^1$ ) by itself to get the  $C^2$  matrix (Figure 1). In the  $C^2$  matrix, the values for each  $i$ - $j$  pair represent the number of paths from  $i$  to  $j$  using two links. Multiplying  $C^2$  by  $C^1$  yields  $C^3$ , which gives the number of paths from  $i$  to  $j$  using three links. Note that the method counts redundant, nonsensical paths such as A-B-A-B and A-C-A-B as three link paths from A to B.

Then, to find the  $T$  matrix,

$$T = C^1 + C^2 + C^3 + \dots + C^n \quad [10]$$

where  $n$  is the topological diameter of the network (the maximum number of links between any two nodes). Summing across the rows indicates the number of ways node  $i$  can reach all nodes in the network, but does not correct for attenuation, redundancy, length, or node size.

Other extensions to this basic technique address the remaining principles [3]–[7]. Garrison introduced a scalar weighting system that accounts for attenuation by assigning lower weights to paths with more links. Shimmel eliminated both attenuation and redundancy by generating a  $D$  matrix that records only the number of links in the shortest topological path between any pair of nodes, ignoring all paths with more links. An  $L$  matrix of shortest path lengths between all pairs of nodes can be generated with another type of matrix manipulation; the end result is similar to the output of an all to all shortest path algorithm. Summing across the rows of the  $D$  and  $L$  matrices will yield the total number of links or the total length to move from a node  $i$  to all other nodes in the network. Kansky developed measures of circuity for individual nodes, based on the difference between the Euclidean distances and the network's shortest paths from node  $i$  to every other node  $j$ . Finally, the topological distances in  $D$  or lengths in  $L$  can be mathematically combined with variables representing the size of the nodes to generate measures of each node's accessibility to the distributed population in the other nodes of the network, following work by Hansen. By summing across all destination nodes, one can generate the population

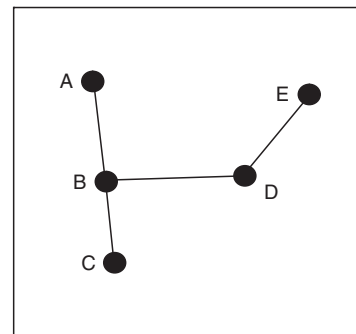
$C^1$	A	B	C	D	E
A	0	1	0	0	0
B	1	0	1	1	0
C	0	1	0	0	0
D	0	1	0	0	1
E	0	0	0	1	0

$C^2$	A	B	C	D	E
A	1	0	1	1	0
B	0	3	0	0	1
C	1	0	1	1	0
D	1	0	1	2	0
E	0	1	0	0	1

$C^3$	A	B	C	D	E
A	0	3	0	0	1
B	3	0	3	4	0
C	0	3	0	0	1
D	0	4	0	0	2
E	1	0	1	2	0



$$C_{ij}^k = c_{i1}^1 c_{1j}^{k-1} + c_{i2}^1 c_{2j}^{k-1} + \dots + c_{im}^1 c_{mj}^{k-1}$$

for example

$$C_{AC}^2 = c_{AA}^1 c_{AC}^1 + c_{AB}^1 c_{BC}^1 + \dots + c_{AE}^1 c_{EC}^1$$

or

$$C_{AC}^2 = 0 \times 0 + 1 \times 1 + 0 \times 0 + 0 \times 0 + 0 \times 0$$

**Figure 1** The  $C^1$ ,  $C^2$ , and  $C^3$  matrices for the network shown. The value of cell (A, C) of  $C^2$  is found by multiplying the A row of  $C^1$  by the C column of  $C^1$  as shown in the formula. The rows, columns, and cells in question are highlighted in gray. The multiplication shows that there is one and only one way to get from node A to node C using exactly two arcs. Note the 3 in cell (B, B) of  $C^2$  indicates that there are three ways to get from node B to node B using exactly two arcs (they are B-A-B, B-C-B, and B-D-B).

potential of a node, given by

$$V_i = \sum_{j=1}^n \frac{P_j}{d_{ij}} \quad [11]$$

where  $V_i$  is the population potential,  $P_j$  is the population of node  $j$ , and  $d_{ij}$  can be either the topological distance in  $D$  or the shortest path distance in  $L$  between nodes  $i$  and  $j$ .

In addition to using graph theory measures to simply describe network structure and the positions of nodes within them, many researchers beginning with Garrison and Marble have empirically tested whether better connectivity, density, and accessibility are associated with improved economic performance at national, regional, and nodal scales.

## Complex Network Theory

Complex network theory, the so called ‘new science of networks’, studies the structure of interaction networks and their evolution. Complex network theory assumes that new linkages are formed under a set of probabilistic governing principles based on the distribution of existing linkages. Scholars have found striking similarities in network topologies across a broad spectrum of interaction networks, from the Internet to academic citation webs, business networks, ecological networks, and sexual and disease networks (Figure 2).

The term ‘interaction networks’ is used here to refer to networks in which a linkage is defined by interaction of some kind between the two nodes, in contrast with infrastructure networks consisting of physical connections such as roads, rail, pipes, or wires.

Within the domain of complex networks lie both small world and scale free networks. Small world theory

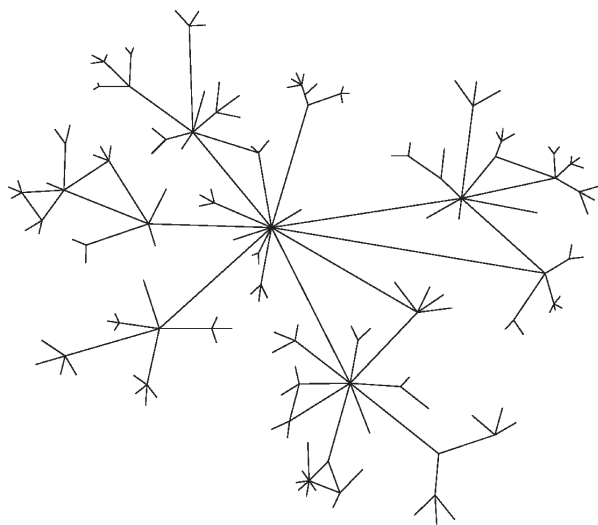


Figure 2 Hypothetical example of a complex network.

and scale free theory are not one and the same, although the terms are sometimes used interchangeably. The chief underpinnings of small world networks are (1) a small network diameter, as in the well known ‘six degrees of separation’ between any two people, and (2) a high degree of clustering. In scale free networks, on the other hand, there are many nodes with few links and few nodes with many links – in fact the probability distribution of nodes per link follows a power law functional form. In addition, in scale free networks, new links are more likely to attach to nodes that already have many links – the preferential attachment rule. These rules, it is thought, capture something fundamental in the way that interaction patterns drive network formation in the real world. The term ‘scale free’ implies that the topologies and rules seem to apply to networks of all sizes, and to subgraphs of larger networks.

## Network Topology Measures

Intrinsic in the structure of a complex network – as opposed to a random, lattice, or point to point network – is the power law distribution of node degree. In a static snapshot of a complex network, a few nodes have a great number of incoming links, while most nodes have few or perhaps only one. This probability distribution of node degree is described by a power law distribution:

$$P(k) \sim k^{-\gamma} \quad [12]$$

where  $k$  is the number of links and  $\gamma$  is the scaling exponent. The Barabási–Albert model gives the value of  $\gamma = 2.9 \pm 1$ , although networks considered to be scale free have ranged from 2.3 for movie actor networks to  $\sim 5 \pm 1$  for sexual networks.

Small world networks are characterized by a high degree of clustering. The clustering coefficient ( $C$ ) is related to the propensity for two linked nodes to have a common neighbor to which both are linked:

$$C = \frac{3(\text{number of triangles})}{\text{total possible } k \text{ in the network}} \quad [13]$$

where triangles are three nodes each connected to one another.

Perhaps the best known trademark of small world theory is the property of small network diameter. Network diameter is the path length between any two nodes in the network. Most studies of small world networks, dating back to Stanley Milgram’s six degrees of separation, have used the average path length definition rather than the maximum. Graphs generated by a truly random process (known as Erdős–Rényi graphs) have an average diameter  $d$  that can be approximated by:

$$d \sim \ln N \quad [14]$$

where  $N$  represents the number of nodes in the network. Cohen and Havlin found that scale free networks display behavior that is consistent with

$$d \sim \ln(\ln N) \quad [15]$$

for networks with degree distribution  $P(k) \propto k^{-\gamma}$ , where  $2 \leq \gamma \leq 3$ . The maximum path length can be found using a standard shortest path algorithm (see below). There is much debate about the significance of small diameter, which can also occur in many random networks of similar size.

Both the airline network and sections of the ocean shipping network display properties consistent with scale free topology. Guimerá *et al.* empirically illustrated that the international airline network is scale free and attributed that fact to multihub airline networks. Roberts found ocean shipping routes in the United States to be scale free with a degree distribution of  $P(k) \sim 3 \pm 0.1$ .

### Network Growth

The power law distribution and degree of clustering are explained by the way scale free networks evolve. In scale free network theory, the probability of links being added to a node is proportional to the number of links the node already has. This is known as the preferential attachment rule:

$$\Pi(k_i) = \frac{k_i}{\sum_j k_j} \quad [16]$$

where  $k_i$  is the number of links to node  $i$  and  $\Pi(k_i)$  is the probability of a new link attaching to  $i$ . Networks that add links in proportion to how many links nodes already have tend to display clustering, a power law distribution, and small network diameter.

### Vulnerability and Resiliency

Perhaps the most useful discovery in research about complex networks is that small world and scale free networks illustrate both great resiliency and vulnerability. Generally speaking, complex networks illustrate a higher resiliency to random attack and a higher vulnerability to a directed attack than many other networks. Barabási cited a number of instances of vulnerability when scale free networks, including regional power grids and online retailers, fell victim to a directed attack on highly connected nodes. The subsequent failures cascaded through the network, leading to near total temporary collapse of the systems. Other researchers have noted that, had the Federal Aviation Administration (FAA) not shut down the national airline system on September 11th, the nation's airline system would have ground to a halt anyway due to the closure of airports in New York and Washington, DC.

The root of this vulnerability to failure and attack is, of course, the degree distribution. Using simulation models, Albert *et al.* found that eliminating the top 5% of most connected nodes can double the network diameter. Removing the top nodes may also disconnect single nodes and smaller clusters of nodes from the rest of the network.

The same power law degree distribution, however, is behind the resilience of scale free networks to random attacks on nodes. Due to the skewed nature of the node degrees in the network, there is a far greater chance that nodes with very few links will be attacked or fail. Other research has shown that quick removal or quarantine of key nodes that are topologically close to the source of the attack is the best strategy to prevent catastrophic failure of system.

### Network Optimization

Network optimization models are a class of prescriptive mathematical models solved using exact or heuristic methods. Many such models can be formulated and solved as linear programs (LPs) – an application of matrix algebra. An LP is composed of decision variables, an objective function, and constraints. The objective function represents a performance measure to be maximized or minimized. Constraints define which solutions are feasible and which are not. The optimal solution is the one with the best (max or min) objective function value that does not violate any of the constraints. LPs are the most basic form of problem in the larger family of mathematical programming problems, which also includes integer, mixed integer, multiobjective, nonlinear, and dynamic programming. Mathematical programming can solve difficult problems exactly, but may not be fast enough or solve large enough problems for some applications. In contrast, heuristic algorithms – such as Lagrangean relaxation, out of kilter, greedy, genetic, tabu search, or simulated annealing algorithms – often can find optimal or near optimal solutions to large problems efficiently, but are not guaranteed to find the exact optimum solution.

A wide variety of network optimization models have been developed and are widely used in industry, government, and academia. Here we introduce a few of the more basic and widely used models. Facility location problems, either on a network or a plane, are covered elsewhere in this volume.

### Shortest Path Algorithm

The problem of finding the shortest path through a network underlies many network analysis problems. 'Shortest' can be defined in terms of distance, travel time, or cost. While it can be formulated as an integer program

and solved as a relaxed linear program, heuristic algorithms are more efficient and are known to find exact optimal solutions. The Dijkstra node labeling algorithm finds the closest node to the origin node, labels it as scanned, and then iteratively proceeds to find and label the next closest node, and so on, until the desired destination node is reached. Floyd's algorithm uses a matrix approach to find the shortest path from all nodes to all other nodes.

### Simple Transportation Problem

One of the first and most basic transport optimization problems was the simple transportation problem, which Hitchcock and Koopmans independently formulated and solved around 1941. In this problem, a set of supply nodes are given with amounts they can produce, as well as a set of demand nodes with amounts required. The costs of shipping one unit from each supply node to each demand node are known. The decision variables are how much to ship from each supply node to each demand node. The objective is to minimize the total shipping cost, while the constraints require that supply limits not be exceeded at supply nodes and demand be satisfied at all demand nodes. The model can be solved with a simple linear program or an exact heuristic algorithm involving transportation tableaux. The Hitchcock–Koopmans problem is not, however, a network problem *per se*. The transport costs can be computed over a network, through Euclidean space, or according to other metrics.

### Minimum Cost Network Flow Problem

The minimum cost network flow problem finds the least cost circulation flow through a network. In a circulation flow, the flows into each node exactly equal the flow out of each node. The decision variables in the model are the flows  $X_{ij}$  on each link  $i, j$ . The inputs are the unit transport costs  $c_{ij}$ , lower bounds on the flow  $l_{ij}$ , and upper bounds  $u_{ij}$  of each link. The model can be formulated as a linear program:

$$\sum_i \sum_j c_{ij} X_{ij} \quad [17]$$

subject to

$$\sum_i X_{ij} - \sum_k X_{jk} = 0 \quad \text{for all nodes } j \quad [18]$$

$$X_{ij} \leq u_{ij} \quad \text{for all arcs } i, j \quad [19]$$

$$X_{ij} \geq l_{ij} \quad \text{for all arcs } i, j \quad [20]$$

Heuristic algorithms such as the out of kilter algorithm, however, can solve the network flow problem more efficiently than linear programming software.

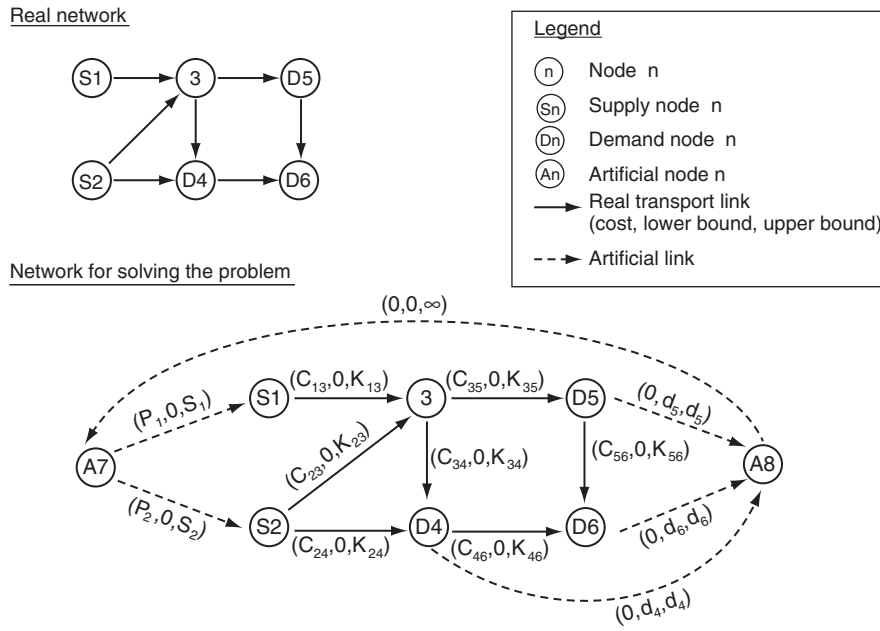
The minimum cost network flow problem differs from the previous two network optimization problems by virtue of having minimum and maximum arc flow capacities. The problem is much more flexible, however, than it first appears. By adding artificial nodes and arcs, and by setting their costs and bounds properly, many other network problems, including the aforementioned shortest path and simple transportation problems, can be structured as minimum cost network flow models, allowing for them to be solved quickly and easily. For instance, **Figure 3** shows how flows from a set of sources (S1 and S2) to a set of sinks (D4, D5, and D6) over a capacitated transport network can be modeled. By connecting an artificial super source node (A7) to each origin by a zero cost arc with an upper bound equal to the source's supply limit, connecting each sink to an artificial super sink node (A8) with a zero cost arc with a lower bound equal to the sink's minimum requirement, and connecting the super sink to the super source by a zero cost, infinite capacity arc, the minimum cost circulation flow will be the cheapest way to route goods to satisfy demands without violating supply, demand, or flow constraints.

### Traffic Assignment Problem

In the simple transportation and network flow problems above, there are amounts supplied and amounts demanded, but the model chooses which supply goes to which demand. In many real world problems, however, people must commute from particular zones to particular jobs, or trade must flow from particular seller to particular buyer. In the traffic assignment (aka network assignment) problem, a matrix called a trip table defines the required flow between each origin–destination pair. The problem is to find the routes for the given flows from origins to destinations over a capacitated network. There are two main versions of this problem. If the traffic flows are managed by a single entity, such as a national railway company, a prescriptive system optimal traffic assignment problem is usually formulated as a cost minimization model with 'brick wall' arc capacities. If independent network users (such as drivers) determine their own routes, a predictive user equilibrium traffic assignment problem is formulated with nonlinear congestion functions representing arc capacities. The typical equilibrium condition, called a Wardrop equilibrium, is that no users can reduce their travel time/cost by switching routes, and the model is solved iteratively until convergence. User equilibrium traffic assignment problems are typically the final step in the four step urban transportation modeling process.

### Network Design Problem

A network design problem decides which arcs, if any, to add to a network for efficient flow. Although there are



**Figure 3** Flows from a set of sources (S1 and S2) to a set of sinks (D4, D5, and D6) over a capacitated transport network. Definitions:  $P_i$  supply cost of  $i$ ;  $S_i$  supply capacity of  $i$ ;  $d_j$  demand requirement of  $j$ ;  $c_{ij}$  transport cost from  $i$  to  $j$ ;  $K_{ij}$  transport capacity from  $i$  to  $j$ .

many variations of network design problems, they typically combine a traffic assignment problem with variables representing construction of new arcs. The objective function minimizes the sum of the costs of both expanding the network and using the network. The model trades off the fixed costs of adding new arcs with the savings on operating costs that result from using the new arcs. The network design problem is considerably more complex and computationally intensive than the traffic assignment problem because the decision variables representing whether or not to add an arc to the network must be binary (0, 1) variables.

### Other Network Optimization Problems

A wide variety of other network optimization problems have been formulated and solved. A minimum spanning tree problem is to choose the subset of arcs of a network that have the shortest total length while providing a route between each pair of nodes. Hub network models are covered elsewhere in this encyclopedia. Scheduling problems for airline crews or pipeline flows have proven among the most difficult problems because of their continuous dynamic nature. The flow capturing problem is to locate  $p$  facilities on a network to capture the highest volume of passing flows (based on a trip table of flows and the shortest paths of each origin–destination pair). The problem assumes one facility anywhere on the path can intercept the flow. The flow refueling problem is an extension of the flow capturing problem where vehicles

have a limited driving range and an adequately spaced combination of facilities may be necessary to refuel a given flow.

### Other Network Analysis Methods

While graph theory, complex network theory, and network optimization are most likely to come to mind under the heading of network analysis, geographers use other methods to analyze networks. First and foremost, geographic information system (GIS) is widely used to analyze networks, and an entire field of GIS transportation (GIS T) has developed to store, capture, display, and analyze spatial network data.

Second, simulation models are dynamic models that mimic the process of a system and predict its changes through time. One type of simulation model used for transportation analysis is a stochastic, queuing model. At the most basic level, queuing type simulation models are built of entities, resources, and queues. While not all transport systems have queues, they are a very common feature, if only because most transport systems will, at some point, have more entities to service than they have available resources.

Agent based modeling (ABM) is a new simulation modeling paradigm that focuses on modeling disaggregated activities and decisions by autonomous agents, rather than modeling the system as a whole. Often called a bottom up approach, the crux of ABM is that a group of entities (the ‘agents’) behave according to certain rules in

the simulation. Bonabeau asserted “ABM is a mindset more than a technology.” The mindset of ABM is to model individual agents’ behavior, and then let that behavior play out in a simulation that yields the aggregate results of their interactions. ABMs are well suited for studying evolutionary processes based on individual behaviors. Traffic flows, traffic congestion, and traffic accidents are the net result of the interactions of vehicle operators on a network. In addition, agent based modeling is used to predict the co evolution of land use and transportation networks. Models such as UrbanSim are used by metropolitan planning organizations to forecast future urban growth.

## Acknowledgments

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See also: Aviation; Garrison, W.; Hub Network Location; Internet, Economic Geography; Location Analysis; Networks; Quantitative Revolution; Railways; Simulation.

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# Network Regions

P. Cooke, Cardiff University, Cardiff, UK

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## Glossary

**Associativeness** The existence of strong networks of informal and formal associations in society that adopt a common discourse to promote the achievement of desired ends, neither entirely in the market nor in the state but seeking to influence both.

**Discourse** Language communicated in the form of a coherent paradigm articulating distinctive interests and members of important networks to achieve domination in a given field.

**Innovation** The commercialization of new knowledge.

**Network** A system of nodes and linkages among persons (and essential equipment) to evolve a discourse to achieve some purpose of consequence to the network's interests.

**Paradigm** A 'world' or 'perspective' of what is the case agreed upon by the powerful shapers of discourse in any field and accepted by all of consequence to that field, except the paradigm's critics.

**Placeless Foodscapes** Forms of food retailing or processing that discount space, either as a barrier to consumption of products on a global scale, as in supermarkets, or as forms of 'fusion' food that cannot be attributed to any particular place on the planet, as in restaurants.

**Social Capital** Exchange relations in society based on trust, reciprocity, and reputation resulting in favor, gift, and support actions largely outside market or state functions.

## Introduction

The idea of a network region began with the notion of a 'network paradigm' for regional economic development which was first articulated in the early 1990s. A network region has many nodes and connections between institutions and organizations; it has high social capital and associativeness. However, the network concept had been bubbling up earlier than that, particularly in relation to innovation networks, but not especially 'regional' networks. However, it is clear that the Francophone European Research Group on Innovative Milieux (GREMI) group were approaching a discourse of regional development in 'network' regions but without explicitly utilizing that language (which in French is *réseaux*) because of a preference for the rather vaguer notion of 'milieu'. Curiously, 'industrial' networks but not 'regional' networks were

mentioned many times. What did 'milieu' signify? It means medium or atmosphere, such as that which sustains us by enabling us to breathe, or water for fish, which performs an equivalent life supporting function. More economically geographical, it is not that far from Marshall's notion of the key to or secrets of industry, or in this context in novation, being 'in the air', again a vague but irritatingly fascinating term that continues to be cited at least a century after he first articulated it. Marshall, of course, wrote about, and in a way discovered, the secret of nineteenth century capitalism, which is that its division of labor was highly selectively located in industrial districts that were, in modern parlance, suffused with network relations among entrepreneurs and employees. In this way, knowledge or, in Marshallian terms, 'information' was in the air because it was the content of communication about technology, specialization, labor processes, associated skills, and their price in these constrained geographical spaces and industrial communities. Neo Marshallian research had begun on highly networked, localized 'industrial districts' even before these 'milieu' dates.

The other main lineament of network regions, though regions were secondary to networks and innovation, arose in a much cited special issue of the journal *Research Policy*. Networks of Innovators were the objects of interest to which many economic geographers – such as Storper and Harrison, Saxenian, Scott, Lawton Smith, and Glasmeier – contributed. Perhaps only the second and fourth focused explicitly on regional networks as such. Freeman was more explicit, but less regional, in his review of 'networks of innovators', as were Bianchi and Bellini on policy support for such networks. Nevertheless, through these interventions and the book edited by Grabher published in 1993, such early awakenings to the notion of network interactions among innovators as a new understanding of the importance of geography to innovation, revealed economic geographers to be at the intellectual forefront of this burgeoning field. Economic geographers like Grabher himself explored the neglected social dimension in economic networks conceived by neoclassical economists as 'asocial', while in Grabher's book, Ash Amin sought to show how globalization was destroying regional networks, a peculiarly 'northern' perspective also later taken up by Coe and Townsend who stood on Amin's shoulders in seeking to 'debunk the myth of localized agglomeration', at least in London, something that now seems recklessly heroic. This is not least given, for example, Grabher's subsequent work on the advertising 'village' in Soho. Another author whose name



would be much cited in the regional innovation and networks literature in subsequent years, Bengt Åke Lundvall, also appeared in Grabher's book writing about cooperation in innovation activities among firms. So this early 1990s era marks a break in the conceptual and real geography of innovation as smart entrepreneurial firms began running rings around large firms who, in turn, began outsourcing innovation to their supply chains, which, as Klaus Semlinger, yet another contributor noted, were often highly regionally networked, especially in his native Germany, but also elsewhere.

### **Integrating Regional Networks and Regional Innovation Policy**

The enthusiasm for studying networks remained in a context of manifest decline in the coordinating capabilities of states and markets regarding leading edge research and innovation, which subsequent evidence shows set in from approximately 1991. But if the central state had become as debilitated as many large private corporations were to become regarding the lack of productivity from their large budgetary allocations to research and development (R&D), the 'regional state' seemed from empirical reportage of the kind discussed above to be on the rise. A parallel strand of research had evolved, which focused on regional innovation policy. Thus, the connecting concept of regional innovation systems (RISs) evolved from this even earlier thinking about 'regional innovation policy', in relation to 'regional innovation networks'. This happened in two publications, by Cooke (see Further Reading), the more widely cited one being less theoretically and empirically rich than the almost totally uncited one. The difference lies in the absence of any bibliographical influence from the 'innovation systems' literature in the 1992 paper, that thus has purer lineaments to economic geography. Contrariwise, the 1993 paper which shows the author had by then read Lundvall on 'innovation as an interactive process' and was also influenced by Johansson and Grabher in probably the first proper book on regional development from a 'network regions' perspective by Bergman, Maier, and Tödtling, also published in 1991.

It seemed necessary to place these distinctive 'network and policy' concepts in relation to each other in a layered model. So, the innovation policy dimension evolved conceptually into the idea of a subsystem, supporting with knowledge and resources the innovative firms in their networks. These formed a 'superstructural' subsystem dealing with actual innovation 'near market'. As we have seen, they had been spoken of as carrying out 'networking' with each other, not only laterally in alliances or partnerships and vertically in sometimes partly localized supply chains but also with the innovation

policy and knowledge generation subsystem. So these also had subsystem characteristics related to the governance of innovation support. Each subsystem was also seen to interact with global, national, and other regional innovation actors, and even through technological or sectoral systems of innovation. Open systems ruled.

Over the years, the RIS framework has been analyzed in terms of many different 'varieties of innovation' relating to localized, networked, and hierarchical innovation 'governance' systems. Third Italy, Baden Wuerttemberg (BW), and French innovative regions exemplified each, respectively. Correspondingly, the 'exploitation' subsystem of firms, in the main, could be dominated by large firms or oligopolies – even foreign ones as with the Asian transplants to Wales in the 1980s and 1990s. Other regions such as Catalonia had a mix of large (SEAT) and small and medium sized enterprise (SME) 'district' type innovation relations, while other places might have innovation regimes in which only small, entrepreneurial firms predominated, as in places with observable 'industrial districts', not only Third Italy but also some newer technology 'clusters'. Later still, these, more entrepreneurial SME systems, living by venture capital and exploitation of public research from universities, could be differentiated further as 'entrepreneurial' (ERIS), market led systems, compared with those, especially in Europe, where they were more 'institutional' (IRIS) where state support was pronounced and 'entrepreneurship' was less advanced.

### **The First Candidate-Networked Regional Innovation System**

RISs are not really 'implemented' by policy but rather they evolve through processes of incremental and sometimes even quite 'disruptive' institutional change by markets and the institutional innovation support system. Hence, an institutional change such as the founding of a regional development agency (e.g., Scotland in 1976) that evolved quite a powerful innovation support regime, does not – even today – have a well functioning 'innovation system'. Interinstitutional network gaps exist, and most SMEs do not function in fluent network relationships. Thus, having the innovation policy subsystem does not necessarily bring forth an innovative network firm subsystem, certainly not swiftly. By contrast, periodically Silicon Valley as an ERIS innovation model has shown excellent networking capabilities, not only among its manufacturing firms but also among its venture capitalists. But, until relatively recently, the governance of innovation displayed little meso level intervention of the kind to be discussed below. In the past decade an 'associative' organization called Joint Venture: Silicon Valley has formed to promote civic entrepreneurship around education and the environment. Hitherto there had been

no civic association or representative governance body for this high tech complex other than Santa Clara county and the fragments of various cities into which it fell. The key networks were between firms, universities, and the US Federal mandates such as defense, energy, and healthcare.

Thus one reason why BW is a candidate as the first RIS is that its apparently modern style of network intervention by various institutions interacting with firms can actually be traced back to the nineteenth century Kingdom of Württemberg. Here, Ferdinand von Steinbeis established a pioneering vocational training system focused on the Esslingen locomotive works to train impoverished rural migrants in engineering because the regional economy of that time was too poor to sustain its population, and hundreds of thousands – as elsewhere in Europe – were migrating to America. This was a ‘seed crystal’ of the idea that ‘catch up’ with more industrialized (or today more knowledge intensive) economies can fail to occur due to ‘market failure’: in which case third party and, increasingly over time, state intervention to design new subnational institutional ‘architectures’, is justified. Normally, national governments took these actions, but following the Thirty Years’ War and up to reunification Germany, sovereign governments were often scaled like regions or even city states (e.g., Hansa cities) rather than the multilevel governance systems present in contemporary Europe.

Assessments of outcomes in the BW case were that during the balmy post reunification economic times of the 1990s, financially stable and growing, its RIS worked well. In particular, new knowledge, especially from abroad, flowed through the institutional networks remarkably swiftly, not least because of the multitude of business associations, research institutes, intermediary associations (e.g., the Steinbeis Foundation), and chambers of commerce that held frequent seminars and workshops or keynote presentations for their members, who turned up, often in hundreds, to meetings on such topics as ‘lean production’, ‘systemic innovation’, and ‘flexible labor markets’. Problem solving capacity, in which government was a partner, was accordingly swift, and innovation support measures or even innovative policy instruments were forthcoming. This seemed of the essence. But once the need for significant restructuring caused by sharp competition from Asia hit the institutional setup, it could not adjust, as a classic IRIS, as swiftly as ERISs like Silicon Valley. There, 400 000 electronics jobs disappeared almost overnight, many more than that were lost from the BW engineering platform, but by today Silicon Valley is well into its fourth or fifth disruptive innovation generation based on iPod and the semantic web. It is often said Google could easily have been envisioned in Europe – but it was not, and the reason why lies at the heart of Europe’s

innovation paradox. The European Union (EU) produces world class science but, often, minor league innovation.

### The Well-Networked Regional System

A network region is a self organizing, open system which, in regard to innovation, translates ‘exploration’ knowledge from inside or outside the RIS, through a process of ‘examination’ of that knowledge to test and try it for dangerous performance under stress conditions, to the point where it can be successfully exposed to ‘exploitation’ knowledge in the form of a commercial innovation on the market embodying new knowledge, whether scientific, technological, or creative. This means the network region has appropriate institutions to cross fertilize ideas and bridge any gaps that need crossing between institutions and people. However, network regions are not confined to technological innovation. Arts based systems, though less studied, can also be innovation systems – as Montmartre, Montparnasse, and other points in *‘fin de siècle’* Paris, networked to other nodes in France and other ‘art cities’ were. New York replaced Paris as the world’s leading ‘creative innovation system’ in the late twentieth century, and in this century, London seems to have risen, through ‘Britart’ to challenge New York. In each case, systemic institutional support (academies and conservatories) and, especially, associativeness among artists and their networks to dealers or, in music or literature, impresarios and agents, led to outpourings of creative product. A network region functions through good transparency and openness between the knowledge generation or exploration subsystem and the knowledge exploitation subsystem, including nowadays what is perceived as practically a third, intervening, subsystem that translates the often tacit knowledge of the former, including from abroad, into primitive forms of codified knowledge for exploitation by the latter.

Increasingly, it can be seen that the ‘innovation paradox’ lies in this third ‘intermediary subsystem’ which in ERIS setups is occupied by knowledgeable attorneys or lawyers of various kinds, knowledge entrepreneurs who solve problems or seek solutions, financial engineers like venture capitalists, business angels and management accountants, and varieties of specialist consultants, incubator and accelerator managers, even well functioning knowledge transfer offices in universities. IRIS setups are slow and inflexible because markets for this talented kind of stratum are thin and largely absent so, through necessity, such functions are performed by unenterprising risk averse government officials who do their best but cannot be effective substitutes.

It is worth noting, in passing, a completely separate ‘network geography’ that built up around a different school of network thinking. The school is known as

'constructivists' and the approach is known as 'actor network' theory'. Strangely it also began from study of the worlds of scientists and innovators by the likes of Michel Callon and Bruno Latour. But it was also adopted by geographers, notably the late Jonathan Murdoch of Cardiff University, who utilized it successfully in rural studies, particularly in relation to the food industry. He and colleagues showed how regions like Tuscany, Wales, and California developed their high grade food and drink offers by the conscious initiative of networks and associations that promoted a discourse of excellence in local provenance in their diversified food products, both to tourists and quality food markets worldwide. The rise of organic food innovations, on the one hand, and functional food (biotechnological) can be explained by reference to the critical discourses articulated by actor networks. As, in a different way, can be the dominance of conventional food by the articulation of discourses from intensive farming, agri business, chemical fertilizer companies, agricultural machinery producers, supermarkets, banks, and governments that subsidize them.

Both these approaches have been criticized, but weakly and often off target. For the first, and larger, field of regional innovation networks, criticism comes in three ways. First, it is asserted that it excludes nonregional levels of analysis, a completely untrue claim. Second, that, in any case, only the state can influence the powers of multinational capital, again not true because, for example, the pharmaceuticals industry depends increasingly on university research and small firm innovation to survive. Third, that RISs are simply a microcosm of the theory of national innovation systems. This is also untrue since the first paper published on the subject reveals the author cited none of the national innovation systems literature, indicating it had not been read at the time of writing. Actor network theory has been criticized because in some variants, inanimate objects, like personal computers, are included as 'actors', something which seems strange, but given the importance of computerized equipment in laboratory research, there would often be no network without the machine. Another critique is that actor network theory does not, as it claims, address power structures in society. However, to the extent that power, and its critique, rely fundamentally upon discourse, then the revelation of that kind of 'false consciousness' performs an important fact in democratizing society.

## RIS and Economic Transformation

Modern economies experience growth from successful competition against other economies and their constituent firms, especially when they demonstrate high absorptive capacities for usable, commercializable knowledge. These generate productivity increases and the largest part of firm

productivity improvements, hence regional productivity growth, comes from innovation. But markets fail, knowledge is asymmetric, there are knowledge monopolies and oligopolies. Nevertheless, knowledge, even patented knowledge, is largely a publicly available good if not always (e.g., in the case of payment for a license to use someone else's patent) an actual public good. Because knowledge is public, asymmetric and monopolized it is incumbent on public and intermediary bodies to stimulate 'open systems' such as 'open science' and 'open source' software that in turn may facilitate 'open innovation' where large firms subcontract knowledge generation of various kinds to smart SMEs or laboratories, rather than conduct R&D in house. Countries are normally too large, complex, and metropolitan focused, in that, they generally favor asymmetric economic development in their capital cities and are ill equipped to deal with the knowledge complexity of assisting regional knowledge capabilities. In such cases of 'government failure' regions are more than justified, indeed they have the imperative to assist in the moderation of knowledge asymmetries in ways tailored to the regional economic mix, which is always different from that of the metropolis. Networked RISs perform precisely this function. They enable the translation, import, and diffusion of exploration knowledge that can enable innovation to be facilitated by those, mainly firms that are responsible for knowledge exploitation. Increasingly, the translation of such tacit or implicit and raw knowledge into more usable codified or explicit knowledge is conducted by intermediaries who are 'complicit' with the implicit knowledge originator and the explicit knowledge exploiter. Most accounts of top venture capitalists show them having precisely this complicit capability where they recombine (*à la* Schumpeter) tacit, technological knowledge and explicit market risk and innovation knowledge through being complicit with both. So the third inter mediating RIS subsystem is the repository of, mainly, complicit knowledge.

RISs are equally important in developed and developing countries. Although few developing country regions have them, by no means all developed country regions do either. Because of asymmetric knowledge problems only a privileged few regions even in the developed world have them. But in developing countries the 'lighthouse' RISs are in Cuba's biopharmaceuticals innovation system whose epicenter is the West Havana Scientific Pole, India's in Bangalore and Hyderabad's software and bioinformatics based innovation systems, and Brazil's – mainly Sao Paulo's advanced bioethanol innovation system, that now even fuels the production of bioethanol with biofuels. China's economic takeoff was not unconnected with Deng Xiao Ping's decentralizing reforms after 1992 and China – like South Korea and Japan – pursues RIS type strategies to a greater extent than hitherto, precisely to escape centralist 'lock ins' that constrain regional innovation networks from evolving

into systems. In developed countries, RISs are growing in importance even in industries that organizations such as the Organization of Economic Cooperation and Development (OECD) condemn as low tech, notably the agro food innovation systems combining biofoods (functional foods, nutraceuticals, or plain 'healthy foods'), with conventional but scientifically managed, processed, chilled and hygiene tested foods, and organic foods utilizing no chemicals or poisons in production. In regions like Skåne in southern Sweden, the innovation support system (schools, welfare, and other public institutions) adopted a policy to be organic by 2012. In Zealand, Denmark, the public food innovation consumption system targets at least 75% of the foodstuff used in the municipal kitchens and canteens to be organic before 2009. Both require that there is more attention given by firms to this demand before properly functioning agro food innovation systems are in place. Since, in Sweden as a whole, 80% of total food demand is from public institutions, and in Denmark not much less, such a change in the agro food innovation system profile will happen, or the conventional food industry is likely to fail in the face of cheaper competition from elsewhere for its dairy and horticultural produce. Most likely, the conventional agro food production subsystem will adapt, as the supermarkets have, to the growing public and private demand for healthy, preferably organic food instead of the 'large footprint' produce that forms such 'placeless foodscapes'.

## RIS and Policy

The most effective RIS operations can be influenced in coordinated markets like those of the Nordic countries by public procurement policy because the public sector accounts for such a large part of total demand. But it does not necessarily happen quickly. Thus the Skåne food cluster, generously funded by the Swedish Innovation Systems Development Agency, initially ignored organic food production and demand, even though its main municipality, Malmö, is committed to a 100% organic school meals policy. Skåne's Food Innovation at Interfaces initiative favors emphasizing the production of functional foods such as health drinks made from oats that purportedly improve the presence of 'good' intestinal bacteria. Such is the absence of scientific evidence that consumption of such drinks has any health gain effect on consumers that a new category of 'health claim approved' was introduced by Sweden's food regulatory body to recognize that a 'claim' for health gain had been officially made, not that it had been scientifically validated. This 'innovation system' thus continues to favor biotech and conventional food over organic 'local food networks' despite well documented evidence that much conventional food sold in supermarkets produces negative health effects, like obesity, let alone possible avian

flu, salmonella, *Escherichia coli* and 'mad cow' effects from its 'Fordist' mass production processes. Of course, these are by no means confined to Sweden; indeed, Sweden's food regulatory system is exemplary and much better, as with all Nordic countries, than in liberal markets such as US and UK. So maybe the 'spontaneity' of a tectonic shift in food markets away from possibly dangerous, conventional food and toward both public and private preference for chemical free, organic food in combination will prove strong influences on RIS network integration and synchronization.

The most important policies to assist RIS development are to reduce political conflicts, especially where they concern human well being, by establishment of an innovation culture that is inclusive, open, and transparent to all actors and institutions in any given region that interact in any way with innovation. In a process of problem identification and policy selection discourse related to innovation, a clear consensus must be elicited for a regional policy vision, supportive associativeness must be animated and leadership from appropriate quarters – not mainly policy – must be mobilized and incentivized to achieve agreed actions swiftly and effectively. Policy should inform itself of the newly discovered importance to economic growth of industries that are neither too specialized (like the alloy golf club head cluster in the Californian desert extolled by Porter in 1998) nor too diversified (can there be much truly innovative discourse between the neighboring pig farmer and iPod manufacturer<sup>2</sup>), but characterized by 'related variety' where knowledge spillovers and absorptive capacity between industries are high in the lateral dimension. The important task of regional innovation policy is to use the RIS to create platform policies for such integrated, rapid innovation diffusing innovation 'platforms'.

The onset of Phase 2 Globalization in which not only routine production and services but also knowledge exploration, examination, and exploitation are increasingly outsourced to China, India, and other Asian countries more generally, means essentially one thing. With slight exceptions, these countries will remain for a long time at best incremental innovators but in the main, like Japan before them, mainly imitators. Schumpeter predicted this mimicry effect that 'swarms' in clusters as imitators pile into the market following the spawning of innovation. The West, especially the US, will remain a significant, possibly overwhelming source of disruptive, even radical, innovation. The former is technology destroying, the latter competence destroying. Hence it is incumbent on Western countries to stimulate much 'related variety' in their economies, particularly of a thematic, rather than the old fashioned, sectoral kind – thus security software, bioenergy, and human-computer interfaces with high grade networking capabilities rather than the stale old ICT, biotechnology, and nanotechnology trilogy highlighted in

most national and sometimes regional science and technology prospectuses. Pervasive, platform based and flexibly specializable innovation is harder to copy than individual innovations like DVD and they are super value adding (i.e., the prospect of six innovations for the price of one). But there must be significant, especially increased private, investment in the predominating sources of complex knowledge, the universities, and their scientists must be better incentivized to innovate or network with innovators and complicit intermediaries, preferably themselves also as entrepreneurs if these RIS based opportunities are to be seized. Good quality, well resourced, and globally benchmarked centers of research excellence will be the key drivers of next generation innovation.

### **Countries and Regions Implementing RIS Network Strategies**

At country level, Sweden, South Korea, and Norway in 2007 had explicit, networked RIS building strategies orchestrated for regions by national innovation agencies. China also, as noted, has had an RIS strategy since the regional reforms of the early 1990s. Indeed China's exponential recent growth cannot be divorced from its RIS experimentation strategy. Surprisingly, Japan has moved only a little in this direction, but will have to do more to escape its current condition of, in effect, economic stagnation. In Europe, the EU has tried to stimulate regional innovation strategies in over 100 regions but the results have been disappointing. Even Germany's BioRegion system building strategy has only been seriously sustainable in Munich, already the county's main biotechnology cluster. The most interesting experiments are bottom up as in Leuven, Belgium, where 20 000 high tech jobs were created in 1998–2006 by pursuit of a related variety platform strategy, and Lahti, Finland, which has independently evolved the same approach involving, for example, nanotechnologies in pervasive applications like energy, drug delivery, and nanobiotechnology bacterial applications. These could be called 'third generation' RIS models, based on bottom up experimentation, communication, and leadership. They are certainly more flexible and agile than first generation IRIS models and maybe even than sectorally specialized second generation ERIS models. In a study of 11 candidate EU IRIS models in 1996–98, only four were found to have all the main IRIS elements listed above – the Basque Country, Wales, BW, and Steiermark (Austria). Of those, the first has performed well in the subsequent decade; the second has gone backward in relative terms, though not absolutely; the third has stagnated; and the fourth augmented its economic performance. Steiermark, Flanders, and Southeast Finland may be the best current technology led RIS exemplars, while East Netherlands (centered on

Wageningen), Skåne (despite its problems, it has great potential) along with cross border Copenhagen forming the Øresund region, and 'Food Valley', the cross border Basel Freiburg Strasbourg regional system, are probably Europe's leading agro food RISs. What such regions find is that 'network externalities' and their contribution to economies arise exponentially from a situation where if there is just one computer or 'knowledgeable' actor in a territory, they are zero, to a situation where if there are 1 million the externalities are incalculable. The more RISs there are to translate, transmit, and transceive commercializable knowledge the more knowledge spillovers there must be and the greater opportunity for lateral absorptive capacity among, hopefully, RIS supported innovative platforms. Perhaps the most crucial lesson brought about by the rise of networked regions and RIS type architectures is that more and more firms and policy officials now realize that mere 'learning' is not enough and 'To be innovative means no more copying'.

**See also:** Actor-Network Theory/Network Geographies; Innovation; Region; Rural Geography.

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# Networks

G. Grabher, University of Bonn, Bonn, Germany

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## Glossary

**Actor-Network Theory (ANT)** This material-semiotic approach focuses on practices of mobilizing networks and conceives networks as hybrid collectifs of human and nonhuman actors.

**Embeddedness** This notion primarily counters idealized perceptions of markets as anonymous exchange and stresses the role of network relations (relational embeddedness) and social structure (structural embeddedness) for economic behavior.

**Governance Approach** Rather than with the formal configuration of networks and network positions of individual actors, this approach explores processes through which networks are initiated, coordinated, recombined, and terminated.

**Social Network Analysis** Behavior and social processes are interpreted with reference to the configuration of networks and the position of actors within networks rather than by the individual attributes of actors.

**Structural Equivalence** This notion of social network analysis refers to actors who occupy similar positions in a network by having identical ties with other members and predicts that structurally equivalent actors will use each other as a frame of reference.

**Structural Holes** This concept of social network analysis denotes the separation between nonredundant contacts (i.e., disconnected clusters) that is expected to yield behavioral opportunities (*tertius gaudens*).

**Translation** In ANT this notion refers to the four processes (problematization, interressement, enrolement, and mobilization) through which relationships between human actors, projects, interests, and naturally occurring entities are proposed and enacted.

Networks have turned into an almost universal principle of social organizing. In our current 'network society' they form the social grid of deterritorialized flows of information, capital, goods, symbols, and people; businesses are transformed from isolated organizations into nodes within networks of associated suppliers, competitors, and collaborators; technical networks such as those of the

Internet surround us within an ever extending ecology of information and communication technologies; the increasing interpenetration of technical and social relations is predominantly conceived as an actor network. Networks, then, are not simply a theoretical concept. They have become metaphor, paradigm, method, and social practice alike.

The rather complex genealogy of networks can be traced back to Georg Simmel's formal sociology and his concern for relational structures. For much of the second half of the twentieth century, research on networks was driven by the fields of sociology, social psychology, and anthropology. These fields produced a considerable corpus of research on the role of networks in mobilizing social support or reproducing social exclusion, and the key role of networks in the diffusion of information among others.

The enormous upsurge of theoretical interest in networks in the economy during the last few decades was mainly catalyzed by Mark Granovetter's notion of the social embeddedness of economic action. By stressing the fundamental role of concrete personal relations and the networks of such relations, he provided a key concept for the study of institutional mechanisms by which networks are initiated, coordinated, monitored, recombined, and terminated. The particular Granovetterian understanding of embeddedness in fact turned into a key concept in the human geography of the so called 'cultural turn'.

This contribution seeks to trace the selective engagement of human geography with three dominant network notions. The paper sets off by depicting the prevailing understanding of the network governance approach. Founded on Granovetter's relational conception of embeddedness, this approach branches off into the study of different network forms with strategic, informal, and regional networks that are most relevant within human geography.

The paper subsequently briefly ventures into the terrain of the social network approach that so far remained largely uncharted by geography. This strand of network research attempts to explain behavior, rather than by attributes of actors like age, gender, or class, by their position within a network and the particular configuration of networks.

By moving way beyond the two dominant network traditions, the article in the final section moves on to the

post structuralist approach of actor network theory (ANT). Although ANT has not reached the status of an alternative to the network governance approach dominant in geography, it has been employed as a conceptual pivot to shift beyond the established dualisms of structure/agency, subject/object, and human/nonhuman.

## **The Network Governance Approach**

### **Governance, Embeddedness, and Network Forms**

The governance approach is chiefly concerned with the institutional and organizational forms that govern exchange relations. Rather than with the formal structure of network configurations, the governance approach more specifically is interested in the institutional mechanisms through which networks are initiated, stabilized, and terminated. The goal of this line of inquiry is to account for the heterogeneity of organizational and institutional arrangements in contemporary economies – ranging from anonymous spot markets to long term collaborative agreements, from informal credit rotating schemes in ethnic enclaves to multinational banks, from tightly knit clusters to elaborate global franchise systems.

The stage for the more recent debate on the governance of exchange relations was set by Oliver Williamson's transaction cost framework in 1985. Williamson asked under what circumstances economic functions are performed within the boundaries of hierarchical firms rather than by market exchanges that cross these boundaries. His answer was that transactions involving high uncertainty about their outcome, that recur frequently, and require substantial 'transaction specific investments' – of money, time, or energy – are likely to take place within hierarchically organized firms. Exchanges that are straightforward and nonrepetitive, requiring few transaction specific investments, should take place across a market interface. This dichotomous view of firms as islands of hierarchical control in a sea of market relations attracted both followers and critiques.

The first most authoritative challenge of this framework was launched when Granovetter addressed the *Problem of Embeddedness*. In the transaction cost approach, under and oversocialized concepts of economic action complement one another. On the one hand, the market resembles the 'undersocialized' conception of an atomized and anonymous exchange, which neglects the role of social relations and local cultures that can provide order in economic life. On the other hand, an 'oversocialized' perception of hierarchical power within firms disregards the role of informal horizontal ties that often transcend vertical lines of hierarchy. In practice, Granovetter categorically stated, economic exchanges are embedded in personal relations and networks that are generating trust

and malfeasance. From the early 1990s onwards, this fundamental understanding of the imbrication of the economy within personal relations and social structure was also increasingly taken up in economic geographic reasoning.

The second major line of critique on Williamson focused on the dichotomous view of markets and hierarchies. By conceiving of markets and hierarchies as 'pure' forms, the rapidly expanding spectrum of intermediate network forms ranging from complex multiparty alliances in high tech industries over elaborate subcontracting relations to vague mutual obligations or illegal informal agreements, were initially reduced to 'mongrel hybrids'. More and more, though, networks have come to be seen as a specific mode of governance in the ever extending range between the alleged 'ideal types'.

An approach to systematize networks in the governance tradition is to differentiate between their duration and governance. Different temporal dimensions have important consequences for the types of regulation of network relations. Long term networks, for example, are shaped by reciprocal ties of past experience and expectations emerging from the 'shadow of the future'. The governance of networks spans a broad spectrum from more hierarchical to more heterarchical. In hierarchical networks, like in the supplier pyramid of a car manufacturer, control is exerted by an identifiable center that regulates network practices and rules, such as the selection of network members, the allocation of resources, and the maintenance of network boundaries. In heterarchical networks, like regional networks, for example, the regulation of interactions and relations in contrast is distributed and associative and authority is decentralized. Within this relational space defined by governance on the one hand, duration of networks on the other, informal, strategic, and regional networks represent the most relevant network forms within human geography.

### **Strategic Networks**

Strategic networks are more tightly orchestrated than either informal or regional networks with regard to the selection of network members, the allocation of resources and distribution of revenues, and definition of network boundaries. Ties in strategic networks are forged – in a much more distinct and manifest fashion than in other forms – by power. Strategic networks evolve both horizontally as inter organizational relations among competitors as well as vertically through the interpenetration of intra and inter organizational networks of global corporations.

By focusing on the inter organizational ties between large vertically disintegrating corporations and their suppliers, an earlier debate evolved around the different governance modes of supplier networks. The spectrum of

the governance modes of supplier networks ranges from market driven adversarial transactions to collaborative ties of mutual learning. Cross country comparisons, in fact, have revealed that opportunism and trust are highly variable and dependent on specific national and regional institutional settings.

The global commodity chain framework of Gereffi and Korzeniewicz brought multiple geographical scales to the forefront of the analysis. At a time when geographical interest had turned to the study of localized production networks, this line of reasoning on commodity chains found its way into geography through Peter Dicken's *Global Shift*. Dicken's seminal piece paved the way for a strand of literature that began to explore the interdependencies between internal and external ties of global corporations and their host economies in more conceptual terms.

This literature increasingly crystallizes around the notion of the global production network that combines insights from the global value/commodity chain analysis with ideas derived from ANT and varieties of capitalism approaches. By drawing on these diverse antecedents, the global production network approach aims to push the conceptualization of territoriality beyond the highly aggregated distinction of core and periphery rooted in Immanuel Wallerstein's world system framework and to appreciate more systematically the particular institutional conditions shaping (regional) development.

While global production networks primarily evolve around vertical ties, strategic alliances typically are confined to horizontal interfirm relations. Over the last two decades joint ventures have increasingly been replaced by nonequity partnerships, such as R&D pacts and joint development agreements that involve a lower degree of organizational dependence and shorter time horizon. Presumably due to their nonlocal and ephemeral character, strategic alliances have hardly appeared in the focus of geographic analysis.

### Informal Networks

Membership in an informal network is typically based on shared experience or the thick bonds of kinship and ethnicity that draw participants together. Given that such relationships emerge out of repeated exchanges, informal networks symptomatically involve long time horizons. Research on informal networks has portrayed this type of networks rather ambivalently. Whereas one strand of research pays tribute to the compensatory role and 'lubricating' effects of informal ties, a less prominent line of inquiry is primarily interested in exposing the potentials of informal networks to disrupt markets and obstruct hierarchies.

The compensatory role of informal networks has been demonstrated in settings that appear to operate

likepurely price driven markets, such as the financial markets of the Wall Street or the City of London, for example. Yet, traders in these market settings often establish continuing relationships based on reciprocity to validate information and exchange rumors and gossip. Human geography has significantly contributed to this line of reasoning, both conceptually and empirically.

Presumably, the most vivid contrast to the sterile image of spot contracting in pure market settings has been revealed in research on ethnic networks that provide the social infrastructure of enclaves and ethnic economies. Ethnic ties provide solidarity and trust that can be enforced in relatively closed networks. The amalgamation of these collective assets in the notion of 'social capital' subsequently tended to privilege the enabling attributes of informal networks. This focus on the short term benefits of social capital glanced over earlier accounts that illuminated how informal networks might turn into mobility traps over time.

Despite the imminent spatiality of ethnic networks and enclaves the geographical community initially has been less involved in the relevant conceptual debates. The more lively cross disciplinary exchange in recent times has moved beyond the emblematic genres of geography such as the idiosyncratic portrayals of the place based nature of local enclaves and ethnic economies to explore the transnational character of migration and 'transmigrants', ethnic networks, or global elite networks.

Informal networks, however, are also particularly well suited for practices ranging from conspiracy to organized crime in violent Mafia type networks or terrorist networks. In fact, the risks associated with crime make trust far more necessary among criminals than among businessmen. Geography largely remained absent from this strand of research and once more narrowed the focus to the more benevolent and functional dimensions of informality.

Like in market environments, informal ties in hierarchical contexts fulfill multiple roles. On the one hand, informal networks can be mobilized to organize resistance against hierarchical rule. On the other hand, they can compensate for the structural weaknesses of hierarchies when they, for example, constitute 'communities of practice' that provide decentralized means of learning. The notion of communities of practice has rather rapidly migrated into a broad range of disciplinary contexts and, in the wake of the intertwined debates on the knowledge economy and learning, has been increasingly employed in economic geography.

### Regional Networks

Regional networks typically evolve over even longer time periods but share the multiplex features of informal



networks. They are, in other words, connected through a variety of intertwined heterarchical social and economic relations that make up their embeddedness. The early accounts on the amalgamation of family, community, polity, and business within tightly knit localities in the Third Italy provided most vivid embodiments of the notion of embeddedness. Although the Italian industrial districts, due to their dense familial and political bonds, represent an atypical case of collective governance, they provided an emblematic point of reference for the unexpected success of regional networks. These small firm networks obviously held the promise to combine economic imperatives of efficiency, innovativeness, and resilience with a sense of economic democracy and social fairness.

Subsequently, other thriving regions, most notably Baden Württemberg and Silicon Valley, were regarded as empirical proof that resilient regional networks can be based on a variety of mechanisms and relational configurations that foster reciprocal forms of exchange. Networks, however, were rarely theorized in an explicit fashion, but rather, envisioned mainly in a rather generic sense as a shorthand for all sorts of lasting ties that did not adhere to a straightforward market logic. Moreover, the reification of regional networks in a plethora of case studies tended to adhere to ‘overterritorialized views on embeddedness’. Initially productive conceptions of territorial innovation models like innovative milieus, learning regions, regional innovation systems, and, above all, the cluster that had branched out from the district debate more and more seemed to constrict the view on regions to isolated ‘islands of innovation’.

More recently, however, earlier attempts to break out of what increasingly appeared as the straitjacket imposed by Marshallian analysis gained momentum. The extent to which regional networks are integrated into global exchange relations has profound impacts on their internal governance, as well as their ability to tap into wider pools of information and relational resources. Trans regional relations, moreover, have been identified as rather robust pivots against the self reinforcing dynamics of closure and lock in.

The current reaffirmation of nonlocal ties has been mainly phrased in the conceptual terms drawn from Owen Smith and Powell’s instructive distinction between ‘local broadcasting’ and ‘global pipelines’. This conceptual step from the local into the nonlocal appears long overdue, yet it still seems rather distant from a topological understanding of space that allows an understanding of individual sites “as a place of trans scalar and non linear connections, and as a relay point of circulating knowledges that cannot be territorially attributed with any measure of certainty or fixity.” (Amin and Cohendet 2004: 154). Most recent attempts, however, have begun to push beyond the static and problematic local–global

duality in which different spatial scales are associated with distinct social relations, behavioral attitudes, and types of knowledge. Local ties, in other words, are no longer necessarily regarded as socially embedded relations bound up with tacit knowledge surrounded by a sparse array of disembedded ties confined to the exchange of explicit knowledge.

Some of the structural limitations of the regional network debate, above all its privileging of cohesion and benevolent trust based ties, reflect the willing engagement of economic geography with the governance approach. Human geographic imaginations of networks hardly appreciated the second, in fact older, tradition of social network analysis in a more systematic fashion. Presumably, human geography was deterred from venturing more deeply into this terrain by the austere and formalistic style of the social network approach that appeared to clash with the predilection for qualitative approaches of the ‘cultural turn’.

## **Social Network Analysis**

The hallmark of social network analysis is to account for “the behavior of network elements (i.e., the nodes) and of the system as a whole by appeal to specific features of the interconnections among the elements” (Laumann 1979: 349). The austere style of theorizing in social network analysis is deliberate and reflects the chief strategy to avoid the ‘traps’ of categorical thinking. Social network theory attempts to institute a relational mode of analysis and to challenge the unexamined construct of the person as an entity characterized by the typical list of variables of interest in social science – age, race, class, gender, etc. – that are conceived as sole causal factors of behavior.

Resonating with Simmel’s program of a formal sociology of relations, networks represent sets of actors linked through specific types of connections. As a most basic representation of such affiliations, the formal language of the nodes and lines of the ‘sociogram’ became an emblematic representation of social network analysis. Over the last decades, the basic formal language of the sociogram or ‘graph’ has been translated into software tools (e.g., Inflow, KrackPlot, Pajek, UCINET) to analyze and depict features of relationships. In human geography, only a few elements of the conceptual toolkit of social network analysis have been employed while the explanatory power of others is yet to be more critically gauged.

## **Strength of Ties**

The strength of ties is presumably the most frequently adopted concept of social network analysis within human geography. Granovetter’s elegant simplicity of the ‘strength of weak ties’, in particular, has consistently been referred

to in human geography and currently seems to attract some renewed interest. Put simply, this principle states that whatever is to be diffused can reach a larger number of network members, and traverse greater social distance (i.e., path length), when passed through weak rather than strong ties. Conversely, the information received in strong tie networks is likely to be stale information, already received from other members of their own social group. Weak ties, in Granovetter's understanding, score rather low with regard to the amount of time, emotional intensity, intimacy (mutual confiding), and reciprocal services which characterize those relationships.

In exploring the significance of weak ties, Granovetter also refers to 'marginal' actors and 'outsiders' who seem to play a crucial role in the first phases of the diffusion of information and innovation. It seems to take only a small analytical step from Granovetter's sociological notion of the 'outsider' to Park's iconic 'marginal man' or Simmel's emblematic 'stranger'. These personifications of urbanity hardly played a noticeable role in the accounts of successful regional networks. The local has rather been portrayed in terms of the social cohesion of a village than of the diversity of a city. Rephrased in Ferdinand Tönnies' terms, locality is seen as *Gemeinschaft* (community) rather than as *Gesellschaft* (society).

More recently, the strength of network ties appeared in the focus of economic geographic inquiry in the re-appraisal of translocal ties. Although this appreciation of weak ties took geographic theorizing a crucial step forward, the straightforward association of weak ties with the local scale has also caused severe objections that deny causality between spatial scale and density of ties.

### Structural Equivalence

Although the notion of structural equivalence hardly has been employed explicitly in human geography, it resonates with more recent debates on innovation in economic geography. The idea of structural equivalence challenges the more familiar line of reasoning that perceives the adoption of innovation as a result of frequent interactions and emphatic communication between network members. Structural equivalence, broadly conceived, occurs when two actors occupy similar positions in a social system by having identical ties with other network members.

Structural equivalence predicts that actors identically positioned in the flow of communication will use each other as a frame of reference even if they have no direct communication with each other. In other words, it is not through intense exchange between network members but rather through the perception of the proper action for an occupant of a specific network position that diffusion is primarily driven. Innovation in this perspective, in other words, is stimulated primarily by mimetic pressures of mutual comparison.

By revolving around dense webs of local linkages, geographical innovation models apparently tend to overemphasize the dynamics of cohesion at the expense of structural equivalence. More recently, a critical line of reasoning that resonates with the structural equivalence argument has been voiced pointing to the crucial role of mutual awareness and observation in stimulating regional innovation. Among the pioneers that explored this particular path in economic geography, MalMBERG and MASKELL in 2002 pointed to the relevance of observation and imitation more generally.

### *Tertius Gaudens* and Structural Holes

A further key principle in social network analysis alerts to the vital importance of the network position of individual actors for understanding entrepreneurial behavior. An actor that is positioned between two unconnected actors can leverage off a stable entrepreneurial decision as the *tertius gaudens* (the third who benefits) by divulging and brokering contradictions and tensions between previously unconnected actors. Burt in 1982 has further built on this classical strategy of 'divide and rule' in his discussion of how actors who connect two others previously unknown to each other bridge a 'structural hole'. These bridges represent unique, nonredundant ties between networks that otherwise would remain separated. By bridging a structural hole, an actor is able to look at a wider information screen and for that very reason becomes an even more attractive network contact to other actors thus providing new opportunities to expand network contacts.

This understanding of entrepreneurship that flows from exploiting ambivalence is radically different from the incarnation of the Schumpeterian entrepreneur prevailing in current economic geographic debates. While networks in economic geographic narratives are predominantly portrayed as webs of trustful ties to curb opportunism and to engender cooperation and innovation, networks emerge from the *tertius gaudens* argument rather as vehicles to pursue opportunistic behavior and to produce competition. The iconographic economic geographic accounts are preoccupied with sharing, trust, and mutual learning; the *tertius gaudens* viewpoint focuses on dividing, arbitrage, and strategic games. Only few accounts so far have begun to conceptualize the intermingling of diverse social rationalities such as family, friendship, firm, church community, etc., within network relations.

Burt's interpretation of structural holes is presumably the most widely cited notion of social network analysis in human geography and, in fact, is regarded as the emblematic representation of this network tradition. Social network analysis, however, encompasses a diverse range of approaches that has advanced beyond 'structuralist

determinism' to address agency in network structures. More significant steps beyond deterministic perceptions of network structure have been taken by Harrison White's seminal writings on identity, temporality, and narrative. Formerly a leading exponent of structural determinism, White began to push towards a reconceptualization of the interrelation between network structures, culture, and agency.

## **Actor-Network Theory**

### **From Network to Rhizome**

Notwithstanding these major steps beyond determinism undertaken by 'structural constructivists' like White, this strand of social network analysis still continues along a structuralist tradition. A fundamentally different ontology rooted in post structuralism is offered by ANT. ANT is a material semiotic approach developed by Michel Callon and Bruno Latour in Paris in collaboration with John Law and others in the context of science and technology studies.

Both the network governance as well as the social network analysis adhere to a network construal rooted in a generic topographic imagination of social relationships that connect social actors. This grid of ties and nodes is contrasted in (later contributions to) ANT with the trope of the rhizome. The rhizome offers an alternative trope that perceives networks as multiple, intertwined, and branching roots with no central axis, no unified point of origin, and no given direction of growth. The botanical associations indeed seem intended: The metaphor of the rhizome foregrounds the transformative and processual dimension of networks; it deliberately departs from the static views of 'transport without transformation' in the dominant network approaches.

### **Relationality and Translation**

This perception of multiple entanglements in ANT is intended to subvert our habitual juxtapositions of structure/agency, subject/object, and human/nonhuman. In the ontology of ANT, actor and network are inextricably enmeshed. An actor network is simultaneously an actor whose activity is networking heterogeneous elements and a network that is able to redefine and transform the constituent elements of which it is made of. The capacity to act and give meaning to action is neither solely embodied in human actors nor localized in norms, values, and institutions that make up our familiar registers of 'social embeddedness'. In this perspective, we do not live in a society but in 'hybrid collectifs' that entangle human actors as well as nonhuman actors in multiple ways.

The point here is not to anthropomorphize insentient beings and things but to appreciate their particular role

in collectifs: they stabilize. Whilst fixed in one sense, 'immutable mobiles' such as maps, texts, algorithms, or organization charts or ships, canon balls, and navigation instruments are also re combinable. Recombination and alignment is achieved through the process of 'translation' that is a process in which sets of relationships between human actors, projects, tools, and naturally occurring entities are proposed and enacted. As Callon in 1986 elaborated, translation is achieved in four moments. Problematization involves the interdefinition of actors and the attempts of actors to establish 'obligatory passage points' in order to become indispensable network elements; *interessement* confirms the validity of the problematization and the alliances it implies; *enrolment* describes the negotiations, trials, and tricks that enable enrolment to succeed; mobilization of allies, eventually, turns enrolment into active support.

### **ANT in Human Geography**

Although the rhizome metaphor up to now has not diffused into human geography on a similarly broad front as the tie and node imagery, it nevertheless exerts increasing influence on human geographic imaginations of networks and space. First and more generally, ANT perforates the analytical distinction between practice and its scientific representation. The relational webs that constitute the economy, for example, not only comprise of the familiar catalogue of nodes such as firms, consumers, and various institutions – but also of the economists who contribute through calculative practices and conceptual tools to the performance of the reality they describe: The economy is embedded in economics.

Second, the governance approach offered to human geography a model for conceiving (or at least implicitly assuming) the fabrics of socioeconomic life that could be assorted neatly onto different scalar levels (from local through regional to global); geographical notions of space themselves, though, remained largely untouched by this network metaphor. ANT radically breaks away from the Euclidean scalar understanding to a genuine relational perception of space as topological stratifications. This approach "opens up space time to the coexistence of multiple cross cutting networks of varied length and durability" (Whatmore and Thorne 1997: 302). ANT, in other words, follows the pleas against essentialist understandings of space and time. A topological geography interweaves time and space with a heterogeneous network of actors that has been differentiated, for example, into regions, networks, and fluid spaces.

Third, the methodological strategy of ANT helps to identify and embody the agents and networks of the global economy in a way that undermines the image of the "faceless juggernaut of globalization" (Dicken 2001: 106). By appreciating the multiplicity of interrelated

processes in the constitution, stabilization, and reshaping of relational ties, ANT challenges the perception of a seamless and lucid global chain that links producer and consumers in a straightforward fashion. In contrast to the more functionalist understandings of global commodity chains, ANT inspired perspectives foreground the fibrous links that have no linear or bounded character and that continually evolve into new constellations in unforeseen ways. Instead of conceiving individuals, firms, industries, or nation states as coherent and unitary actors, ANT directs the focus to their constitution and reshaping via tracing their engagement within an array of actor networks. Studying a different type of global networks though from a similar point of view, Whatmore and Thorne in 1997 used ANT to guide their research on the making of durable 'fair trade' actor networks that link buyers in the North with producers in the South.

Fourth, the perception of networks that challenge the established demarcations between human/nonhuman opened up novel avenues to delve into 'hybrid geographies', in which nature, for example, is no longer perceived as the traditional passive object but rather ascribed an acting role. ANT thus can perforate analytical demarcations that have become 'naturalized' in our prevailing lines of reasoning in a productive fashion.

For this very reason, however, the underlying imagery of the rhizome can also turn into a trap when all too arbitrarily transplanted in any context. ANT inspired studies tend to privilege the relational dimensions of the web at the expense of considerations of the actors themselves. ANT seems to offer an invitation to glance past the differences between distinct types of actors in different domains and thereby also conceals uneven power relations. Although power (in its Foucauldian understanding) is by no means an alien concept to ANT in principle, in practice ANT misses that hierarchies are real.

## Conclusion

This paper set out at tracing the engagement of human geography with the three most relevant network conceptions of the network governance approach, social network analysis, and the post structuralist ideas of ANT.

Human geography, first and foremost, embarked primarily on the route paved by the network governance approach. Far from being exhausted, the governance approach can carry human geographic reasoning on networks farther on. This seems a particularly fertile ground for cross disciplinary exchange with adjacent social sciences. With the increasing spatial awareness in the social sciences, as manifest in the debates on the resilience of national institutions, the '(re)discovery' of local clusters or the importance of micro geographies for learning in laboratories, the conditions, in principle, seem

favorable. However, instead of confining the role of geography to attaching the proper spatial scale (along the familiar scale of local to global) to network structures, human geography might champion more challenging problematizations of space into the social sciences.

Second, apart from fairly loose interpretations of the strength of network ties and structural holes, human geography hardly engaged in the systematic inquiry of network structures and positions. In particular, more recent approaches of the structuralist constructivists like Harrison White have not (yet) been critically interrogated by human geography. Unlike in structuralist determinism, networks in the constructivist perspective afford opportunities for action, though are but one antecedent of action. In this sense, human geography might benefit from examining the potentials of social network analysis. Human geography is strong on processuality and contingency but weak on structure; social network analysis is strong on structure and, apparently, increasingly sensitive to processuality and contingency.

Third, human geography has already ventured into the terrain of the post structuralist strand of ANT. For human geography the proposition that action takes place in 'hybrid collectives' could imply, among others, to more systematically appreciate materiality of the social and the "diverse props ... that sustain people's actions" (Strathren 1996: 523). Studies of financial markets, for example, have exemplified the entanglements of actors with tools, instruments, and algorithms in an instructive fashion. Computer monitors that are used to 'screen' the markets are the very locations of markets on which trading is performed. Geography with its tradition in studying the material world seems in a privileged position to contribute to a 'science of associations'.

See also: Commodity Chains; Embeddedness; Ethnic Economies; Food Networks; Global Production Networks; Industrial Districts; Poststructuralism/Poststructuralist Geographies; Regional Production Networks; Relational Economic Geography.

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# Networks, Urban

N. Clarke, University of Southampton, Southampton, UK

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## Glossary

**Heterophilic Network** A spatial arrangement comprising nodes characterized by their difference from one another.

**Homophilic Network** A spatial arrangement comprising nodes characterized by their similarity to one another (see also glossary terms 'social capital' and 'weak tie').

**Network** A spatial arrangement comprising nodes connected by routes. Such nodes are usually arranged without linear direction (so as to distinguish networks from chains). They are sometimes arranged without one obvious center (so as to distinguish networks from webs).

**Primary Contact** A relationship between individuals (or the individuals themselves) exhibiting relative permanence, often founded in kinship, and usually broadly supportive.

**Secondary Contact** A relationship between individuals (or the individuals themselves) usually providing specialized support, and often mediated by money, calculation, and/or legislation.

**Social Capital** The value of social relations, evident in how they bond individuals together into communities of common interest (bonding social capital), and how they bond communities of common interest together into societies (bridging social capital).

**Social Network** A spatial arrangement comprising individuals connected by contacts, relationships, or ties, along which tend to flow resources and opportunities, and also norms, claims, demands, and expectations.

**Strong Tie** A relationship between individuals (or the individuals themselves) characterized by relative formality, and usually characterized by much overlap between the social networks of each individual (see also 'primary contact').

**Weak Tie** A relationship between individuals (or the individuals themselves) characterized by relative informality, and usually characterized by little overlap between the social networks of each individual, so that new information and opportunities often flow through the relationship.

## Introduction

For much of the twentieth century, urban networks was a term used by urban sociologists and others to describe the

networks of social support carried and translated into urban environments by rural–urban migrants, and constructed anew by metropolitans. These urban networks are discussed in the first section of this article. From sometime in the 1980s, urban networks became a term used by urban geographers and others to describe a number of more or less connected things, from archipelagos of world or global cities, through assemblages of social and technical actors that give urban life its apparent order/disorder, to new forms of social support arising in the first few years of the twenty first century. These urban networks are discussed in the second section of this article.

## Urban Social Networks

From the very beginning, one of the central claims of sociology has been that social networks are important. Among other places, this claim was originally substantiated in Emile Durkheim's renowned study of suicide, completed in the last few years of the nineteenth century. Durkheim analyzed suicide rates in relation to various measures of alienation, race, heredity, climate, and imitation – the usual suspects of the time – but found little correlation. Where he did find correlation, however, was between suicide rates and various measures of social integration. He found that suicide rates were lower among Catholics, because Catholicism emphasized ties between the individual and the group (in a way that Protestantism did not). They were lower at times of crisis, because individuals pulled together at such times. In addition, they were lower among men, because women lacked the opportunities for collective existence afforded to men.

More recently, the claim that social networks are important has been substantiated by sociologists working predominantly in North America in the field of social capital (a term used to describe the value of social relations). For these analysts, social networks represent bonding social capital, since they bond individuals together into communities of interest. They also represent bridging social capital, since they bond communities of interest together into societies. In this literature, social networks, and the social capital they represent, explain variations in educational attainment and child welfare, because social networks are supportive of children, not least because they deliver financial and other resources. They explain variations in neighborhood safety and productivity, because they enable positive enforcement of standards among residents, and offer younger residents access to mentors and employment contacts. They explain variations in

economic prosperity, because advice, information, techniques, recommendations, and the kind of generalized trust that leads to reduced transaction costs all circulate through social networks. Finally, in this literature, and also in broader public debate, social networks explain variations in democratic health: because they enable individuals to express their interests to, and to protect themselves from abuses by, governments; because individuals learn the practical skills necessary for public life through their involvement in social networks; and because social networks serve as forums for deliberation over public issues.

The claim, then, is that social networks are important for individuals, communities, and societies. In addition to this, however, the claim has also been that social networks are important for sociologists, anthropologists, psychologists, and others, in that social networks allow such analysts to move between the microlevel (of individuals, small groups, and interaction) and the macrolevel (of organizations, structures, and patterns). We can identify such a role for social networks in Alfred Radcliffe Brown's classical notion of social structure, which used the metaphors of fabric and web to describe social life. We can identify such a role in Jacob Moreno's influential methodology of sociometry, which constructed and represented the opportunities for, and constraints upon, personal psychological development, and their delivery through group relations. We can identify such a role for social networks in Clyde Mitchell's seminal theory of group organization – his concepts of personal order (the links an individual has with a set of people, and the links these people have among themselves), total network (the links among members of a community or organization, and also the links that cut across the boundaries of such a community or organization), and partial network (the links centered on an individual – as in the personal order – or the links centered on a particular social activity, such as kinship). On the back of these notions, methodologies, theories, and concepts, mostly formulated around the middle of the twentieth century, numerous studies from the last 60 or so years have taken social networks as their starting point and unit of analysis. These include Studies of disease transmission by general systems theorists; studies of group structure, solidarity, and norms by factory and community analysts; and studies of both African tribal societies and British small towns and villages by social anthropologists.

In this social network tradition, a prominent point of focus has been the relationship between urbanization and social networks. As early as 1887, Ferdinand Tönnies expressed his concern that rural social networks – founded in permanency of abode, characterized by sympathetic relationships between kinsfolk and old acquaintances – were threatened by urbanization, associated geographical mobility, and associated relationships mediated by money, calculation, and legislation. Similar concerns were

common among urban sociologists of the early twentieth century, and especially Georg Simmel and Louis Wirth. Cities were defined by their size, heterogeneity, density, and consequent intense stimulation of the nervous system. Metropolitans were defined by their social technologies: clocks and watches, by which meetings took place; money and calculation, by which exchange took place. They were defined by their blasé attitudes and spatial segregation – both attempts to avoid internal atomization, given the overwhelming number and diversity of potential relationships, and associated claims and expectations, brought forth by the city. Most importantly, for the present article, they were defined by their poverty of primary contacts, and their abundance of secondary contacts. Though such a portfolio of contacts could be experienced as liberating by some people – liberating of individuality, for example – more often than not, it was assumed by urban sociologists to be debilitating for both persons and their communities.

We return to secondary contacts and liberating experiences below. Before that, we turn to the concerns of mid twentieth century urban sociologists, as they focused on the relationship between urbanization and social networks. More specifically, we consider two renowned studies of post war slum clearance and urban renewal, both of which raised questions about the position of Tönnies and others with regard to urbanization and social network dissolution/survival. In the late 1940s and early 1950s, Michael Young and Peter Willmott studied kinship networks in the London Borough of Bethnal Green. They found that such networks were very much alive in East London because, among other things, mothers and daughters continued to live in close proximity to one another, as they continued to share the experiences, interests, and associations of child rearing. Young and Willmott found that such networks had importance – they constituted a social asset – in that young women enjoyed support during childbirth and motherhood, grandparents enjoyed support in old age, relatives functioned as a bridge between the individual and the community, and people tended, therefore, to recognize faces in the crowd, to be recognized themselves, and to enjoy the interdependent senses of familiarity, belonging, and contentment. Finally, and significantly, Young and Willmott found that such networks were under threat from the policy of London Borough Council to move people away from places like Bethnal Green and onto housing estates at, or beyond, the city's boundaries. In short, with the concerns of Tönnies, Simmel, Wirth, and others in mind, Young and Willmott argued that traditional social networks had survived urbanization, at least in East London, but were now threatened by the next wave of geographical mobility: suburbanization.

The second study of post war slum clearance and urban renewal for consideration is an ethnography of native born Americans with Italian parentage living



among other groups in West End, an inner city Boston neighborhood, undertaken by Herbert Gans between 1953, when the neighborhood was officially labeled a slum, and 1958, when demolition began under the Federal Renewal Program. Among other things, Gans found that West End was neither a slum nor an urban jungle – a low rent neighborhood that attracts criminals and the mentally ill, and is populated, therefore, by single men, pathological families, people in hiding, and individuals and groups providing services for such people. Rather, it was an urban village – a low rent neighborhood that attracts immigrants, and in which urban migrants attempt to adapt their nonurban institutions and cultures to the urban milieu.

In West End, such attempts led to what Gans identified as the peer group society – a society in which the strongest relationships were between people of the same gender, age, and life cycle status (e.g., siblings and cousins), in which the rules of selection were based less on kinship ties and more on socioeconomic and cultural compatibility, and in which the mainstay was the family circle – a unit between the extended family of hunting or agricultural societies, and the nuclear family of urban societies. While this peer group society discouraged educational and occupational mobility, and discouraged close households, it encouraged sociability and mutual aid; it encouraged the exchange of news and advice, the planning of events, the exchange of memories, and the provision of entertainment and companionship. Most significantly, however, for Gans at least, the peer group society of West End inhibited collective action, since group members were preoccupied with constructing themselves as individuals through competition with each other. As a result of this, and the multiple concerns and actions of politicians and planners, the relatively harmless low rent district of West End was torn down between 1958 and 1962 and replaced by a luxury apartment complex, West Enders were dispersed across the metropolitan area, and what Gans viewed as a functioning social system was destroyed.

This study by Gans, and that by Young and Willmott, and those by Tonnie, Simmel, Wirth, and others, can be seen as constituent parts of a tradition of urban sociology that views geographical mobility as threatening to social networks. The descriptor tradition is useful because it describes a conversation in which participants agree upon the topic of conversation, and this topic remains constant over time and space, while the positions of participants may differ in relation to place, time, and topic. Many commentators predicted the decline of traditional social networks with the rise of urbanization at the end of the nineteenth century. Around the middle of the twentieth century, some commentators found that traditional social networks in places like Bethnal Green had survived. Around the same time, other commentators found the

adaptation of traditional social networks into new, but nevertheless functioning, social systems in places like West End. Many of these commentators predicted the decline of traditional or adapted social networks with the rise of suburbanization. One way to get beyond these different positions is to supplement ethnographic studies of particular neighborhoods with something like Robert Putnam's macrolevel study of trends in social capital across the US during the twentieth century. Using available survey data, Putnam examined trends in: political participation; civic participation; religious participation; connections in the workplace; informal social connections; altruism, volunteering, and philanthropy; and reciprocity, honesty, and trust. He found that levels rose for all of these variables between the beginning of the century and 1960, at which point they leveled off, before declining toward the end of the century. In other words, he found that levels of social capital rose during the first half of the century, a period of urbanization. And he found that levels of social capital stagnated, and then declined, during the second half of the century, a period of suburbanization. Having said that, it is worth noting that, for Putnam, while suburbanization is a minor culprit in this stagnation and decline, along with new time and money pressures, the major culprits are technology and mass media, and generational replacement (of the World War II generation by the baby boomer generation and Generation X).

It is also worth noting that Putnam found two or three exceptions to this general trend of stagnation and decline. He found that participation in small groups and membership of social movement organizations had both grown since 1960. And he glimpsed in the Internet, the potential to enhance communication, to include otherwise peripheral participants, to flatten hierarchies, and to enhance democracy; though he also glimpsed an emerging digital divide, and emerging cyberbalkanization – the confinement of communication to groups whose members share similar interests, leading to bonding within these groups, but not to bridging between such groups. These exceptions, identified by Putnam, point to some concluding comments about urban social networks.

The conversation about urban social networks among sociologists and others did not stop with studies of slum clearance and urban renewal in the mid twentieth century. Since the 1960s, a group of social network analysts – first at Harvard under the leadership of Harrison White, then through the Toronto based International Network for Social Network Analysis, under the leadership of two former students of White, Barry Wellman and Steve Berkowitz – have turned their focus from the survival of traditional social networks in cities to the emergence of nontraditional social networks in contemporary society. Among other things, these analysts have focused on weak ties, directed by Mark Granovetter, who studied how people find work, and found that people acquire

information about job opportunities through their informal social contacts. So, weak ties are more than sources of alienation – the position of Louis Wirth and others in the early twentieth century. They help to diffuse information, to increase opportunities, and to bridge social distance between cliques, leading to social cohesion, and to even the kind of collective action Herbert Gans found missing from inner city Boston. More broadly, these analysts have focused on multiple ties, their multiple geographies, and the multiple kinds of social support provided through these ties and geographies.

The work of Barry Wellman has been particularly influential in this regard. In Wellman's work, the oft conflated categories of primary ties, solidarity (shared sentiments), and locality are held apart. This enabled Wellman to observe social networks of the 1970s – a period of residential mobility, kinship dispersal, and urban diversity – while others were blind to them, having taken the traditional neighborhood as their primary object of analysis. Wellman's observations led him to conclude that social networks neither died with nor survived the geographical mobility described by urbanization and later suburbanization. Rather, for Wellman, social networks were liberated by this geographical mobility – liberated from their local roots. So, primary ties have multiple bases, including kinship and friendship, and multiple geographies, including the neighborhood and the metropolitan area. They provide multiple kinds of social support, from emotional aid, through small and large services, to financial aid and beyond. And networks have multiple segments, one of which may contain immediate kin, whose relations are ascribed, stable, and broadly supportive, while another may contain work mates, for example, whose relations are achieved, adaptive, and specialized in support.

This multiplicity, identified by Wellman, leads to the second part of this article. As we have seen, for much of the twentieth century, urban networks was a term used by sociologists and others to describe social networks, their importance for bonding within communities and bridging between communities, and their relationship to the geographical mobility implied by urbanization and suburbanization. From sometime in the 1980s, however, usage of the term urban networks both multiplied and diversified across the social sciences in general, and particularly within geography. This was not least because urban geographers and others required a productive way out of the structure versus agency debates of the late 1970s and early 1980s, and networks had been helping sociologists and others to move between the micro and macrolevels since at least the 1960s. It was also because, while the relationship between geographical mobility and networks had been viewed as one of tension for much of the twentieth century, in the work of Wellman and others, during the 1970s, networks

had become liberated from locality and looked more and more like appropriate units of analysis for an increasingly mobile and interconnected world.

## Proliferating Networks

Across the social sciences, since the technological revolution of the 1970s and the liberalization of international trade and investment, the network has become a popular metaphor – has become popularized by scholars like Manuel Castells and John Urry as a metaphor – to describe how people, ideas, and objects flow between nodes in a globalizing world. Within this broader context, the term urban networks has come to describe at least four things. First, it has come to describe archipelagos of world or global cities. Claims of the world or global cities literature include: that global production provides a new role for certain cities as command centers; and that such cities, with their management, finance, corporate service, and media jobs, and their catering, cleaning, and security jobs, are characterized by social polarization. An important claim, for the present article, is that centrality within the world city network – the network of cities with functions in the global economy – depends on the presence of other urban networks. These include networks of producer services that produce, in certain cities, a capability for global control. Saskia Sassen has written most extensively about these networks of producer services, and has noted that, whereas such networks were concentrated in the center of cities during the 1980s, they are increasingly found stretched across suburban office complexes and edge cities – across anywhere rich in cyber routes, digital highways, and advanced telematics.

Indeed, if networks of producer services constitute one further network on which centrality within the world city network depends, then another is constituted by networks of infrastructure, including telecommunications – most importantly – and also transport, energy, water, streets, and so on. These networks – a second subject of the term urban networks in contemporary geography and the broader social sciences – appear most notably in the work of Steven Graham and Simon Marvin. They appear as something that integrated urban space between 1850 and 1960, during which time piecemeal provision became replaced by centralized and standardized systems, fragmented islands of infrastructure became integrated and consolidated, and services became more predictable and dependable across urban space. But, after 1960, these networks entered a period of crisis, in a context of fiscal problems that forced many nation states to explore transferring their infrastructure operations to private operators (for the one off spoils of privatization), in a context of collapsed support for comprehensive urban planning among business leaders, feminists, environmentalists, and others, and in a context of

continued urban sprawl. In the contemporary period, networked infrastructure has become unbundled or splintered into a myriad of individually financed and managed projects, since bankers have been reluctant to fund large scale and high risk developments. Infrastructure has enjoyed investment in prosperous or otherwise central areas, and suffered disinvestment in poor or otherwise marginal areas. Favored users and places have become increasingly connected by premium networks, while less favored users and places have become increasingly bypassed. As a result, cities have become increasingly fragmented and splintered.

Such a focus on networks of infrastructure – or networks of social support, or networks of service production for that matter – encourages an imagination of cities as crosscut by various networks that interweave and collide, that combine humans and nonhumans, and that help construct a sense of contemporary cities as, on the one hand, open and porous places of connections, juxtapositions, and encounters, and, on the other hand, ordered and regulated places of institutions, conventions, and technologies. Among others, Ash Amin and Nigel Thrift imagine cities in this way. Like Barry Wellman, they resist mourning the loss of traditional ties within coherent, stable, and proximate communities (while wondering if such communities ever existed anyway), just as they resist yearning for utopias, in the tradition of much writing about cities and their problems. Instead, they seek to acknowledge, surveil, and selectively support the small networks that do exist in the present and contribute to the maintenance of contemporary urban life – the urban actor networks, that describe friendship networks but also the technological unconscious of cities, by which is meant the clocks and watches that interested Georg Simmel at the beginning of the twentieth century, as much as the postcodes and software that interest urbanists at the beginning of the twenty first century.

So, at the beginning of the twenty first century, the term urban networks describes networks of cities with functions in the global economy, networks of infrastructure that have become unbundled in recent years, and networks of humans and nonhumans that help maintain urban life. The fourth subject of the term urban networks in contemporary geography and related disciplines takes the present article full circle and back to urban social networks. Analysts have continued to study these networks as they have changed over the last three decades – decades characterized by high levels of migration and new communications technologies. They have found that social networks are increasingly transnational, in that people, ideas, and objects move back and forth as a matter of routine, within migrant networks (both corporate and diasporic), and across the borders of cities and nation states. They have also found that social

networks are increasingly institutionalized and self conscious. This is necessary given the instability and incoherence of contemporary cities. So, the word network has become a verb in recent times, the Internet contains social networking sites, and networking events take place, where people meet for short and intense exchanges of information, ordered in part by technologies of networking, such as business cards and databases. These urban networks are emerging at the present time. They are expected to attract much attention from geographers and others in the future.

**See also:** Actor-Network Theory/Network Geographies; Human Geography; Mobility; Network Analysis; Networks; Social Capital, Place and Health; Social Geography; Society-Space; Suburbanization; Transnational Ethnic Networks; Transnationalism; Transnationality; Urbanism; Urbanization; World/Global Cities.

## Further Reading

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## Relevant Websites

- <http://www.lboro.ac.uk/gawc>  
The official site of the Globalization and World Cities Study Group and Network hosted by the University of Loughborough.
- <http://www.insna.org>  
The official site of the Toronto based International Network for Social Network Analysis.

# Neural Networks

I. Casas, University at Buffalo – SUNY, Buffalo, NY, USA

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## Glossary

**Axons** Single long fiber that makes part of a neuron and carries signals from the cell body out to other neurons. They constitute the transmission lines.

**Cell Body** It is the component of the neuron that processes the incoming signals from the dendrites.

**Dendrites** Tree-like receptive networks that make part of a neuron and carry electrical signals into the cell body.

**Excitation of Neurons** A state where the neuron has an increased probability of transmitting information to other neurons.

**Inhibition of Neurons** A state where the neuron has a decreased probability of transmitting information to other neurons.

**Learning Rule** A procedure to perform the learning process carried by neurons where weights and biases of a network are modified.

**Neurons** They are the structural constituents of the brain. They have three main components: dendrites, cell body, and axons.

**Synapse** Units that mediate the interaction between neurons.

## Definition

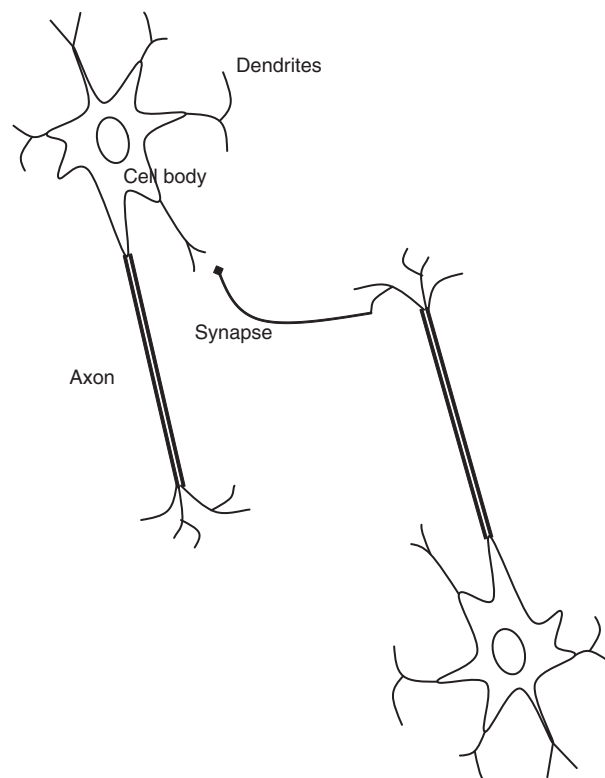
Neural networks model the structure and functioning of the brain to perform a particular task of interest. They do so by simulating the human brain, and its basic components and processes, which include cell body (body of the neuron), dendrites, synaptic connections, axons, excitation and inhibition of neurons, neuron activity, and massive parallelism (see **Figure 1**). To represent these components, the neural network is composed of layers where each layer includes a set of nodes, connections, weights, a bias, a summer, and a transfer function. The nodes are the basic building blocks and constitute the input to the neuron. They are joined by connections to the summer which have a strength represented by a weight. These connections are analogous to synapses and store the knowledge necessary to solve specific problems. A bias constitutes another input to the summer and is similar to a weight but can be omitted if desired. The weights, the bias, and the node input go into the summer which produces as an output what is called the net input, which is then fed to a transfer function that produces the output of the neuron. The summer and the transfer

function represent the cell body, while the output of the neuron represents the signal on the axon.

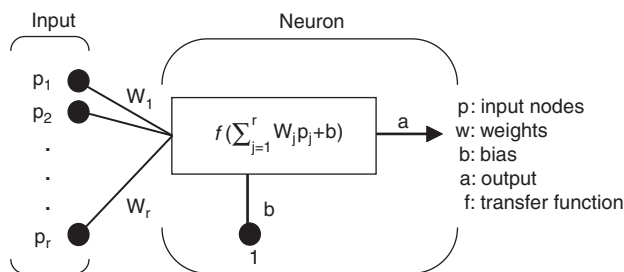
Neural networks are generally used to solve complex large problems of exploratory and explanatory nature. In geography, exploratory problems include mining of large spatial and nonspatial datasets, and pattern recognition and classification particularly in remote sensing. Explanatory problems include spatial interaction, choice modeling, network optimization, and statistical modeling.

## Neural Network Model

**Figure 2** shows the basic structure and operation of a neuron. The neuron has as input a set of attributes represented as nodes ( $p$ ) that influence the output. These constitute the input layer also called an input vector. The inputs are multiplied by connection weights ( $w$ ), which can be modified by a bias ( $b$ ) (correction scalar, usually 1), to produce a net input. The net input is then passed through a transfer function ( $f$ ) that results in an output that can be the input to the neurons in subsequent



**Figure 1** Human neuron.



**Figure 2** Simple network structure with multiple inputs.

intermediate/hidden layers or the final output. Transfer functions can be of different types (i.e., linear, sigmoidal, etc.) and define the threshold, which determines the state of a neuron (either on or off). When multiple neurons are combined to work in parallel, they form a structure called a layer. A neural network model can be composed of multiple layers of neurons, where the output of one layer constitutes the input to the next layer.

The number of inputs, intermediate layers, outputs, and the transfer function to be used defines the architecture of a network. The architecture determines the topology of the network. Three different types of network architecture can be identified:

1. single layer networks: consist of an input vector connected to a layer of  $S$  neurons;
2. multilayer networks: are characterized by one or more layers where the intermediate layers are called hidden; and
3. recurrent networks: are networks with feedback, where some of its outputs are connected to its inputs.

## Learning

Given that the goal of neural networks is to model the way in which the brain performs a particular task, the process of acquiring knowledge is of primary importance. Knowledge is the result of a learning process via a learning rule. A learning rule is a procedure for modifying the weights and biases of a network until a certain task is achieved. Learning rules fall into one of three categories: supervised learning, unsupervised learning, and reinforcement learning.

### Supervised Learning

Supervised neural networks are characterized by being able to map a set of inputs to a set of outputs. The neural network uses the observed/input data to learn how to relate it to a given output. The input data are called the training data and their corresponding outputs are called the target. By means of a learning rule the weights and biases of the network are updated to make the network outputs closer to the targets. This step is performed

iteratively until a statistical measure determines that the data have been successfully emulated. Once the training data have been learned, the network is ready to operate by itself in a different dataset called the test data. Supervised neural networks' basic process follows a series of steps:

1. obtain dataset: the data has to be divided into two separate sets, one for training and one for testing;
2. transform data to values in the 0–1 range;
3. identify network architecture: input variables, number of hidden layers, number of neurons per layer, and type of network to use;
4. train the network: choose learning algorithm and its corresponding parameters; and
5. test the model on the test data.

Supervised neural networks have advantages that make them very attractive when compared to more conventional statistical tools. These include capability to handle nonlinear functions, no need for a model or functional form of the data distribution, capability to handle noisy data, ability to generalize data, learn from unknown relationships, and computational efficiency. However, they also suffer from some disadvantages. These include a limited modeling capacity, training is sort of an *ad hoc* process (i.e., trial and error), there is no standard methodology to determine the best architecture for a given problem/dataset, and testing and validation of their performance are not statistically robust.

Examples of supervised learning networks include the perceptron network, the backpropagation algorithm, and Widrow–Huff learning.

### Unsupervised Learning

Unsupervised neural networks are characterized by having the ability to self organize to obtain a result. They teach themselves and identify patterns in the data. No target values associated to the inputs are required for training. This can be considered impractical given that it is counterintuitive to train a network when it is not known what it is supposed to do.

Unsupervised neural networks can be viewed as data classifiers. Their purpose is to partition the input data into clusters or groups with similar cases. Different types of data classifiers exist (i.e., cluster analysis, factor analysis, and principal components); however, they are not sound when used with large datasets. Unsupervised neural networks provide an alternative due to their flexibility, degree of automation, quality of results, and type of technology.

When comparing unsupervised neural networks with traditional classifiers, advantages and disadvantages can be identified. Among the advantages, unsupervised neural networks do not require a class taxonomy, they do not get

stuck in local suboptima, they do not make assumptions about the data's distribution (i.e., normal), and the analyst does not have to worry about spatial autocorrelation issues. Among the disadvantages, unsupervised neural networks require large datasets, the process by which results are obtained are not as easy to interpret as in traditional methods, the learning rate used in the network can affect its ability to properly cluster the inputs and in turn the learning ability, and the networks might exhibit instability when clusters are closer together.

Examples of unsupervised neural networks include associative networks, Hebbian networks, competitive networks, and Kohonen self organizing maps which have been often used in geographic applications.

### **Application of Neural Networks in Human Geography**

Neural networks have been applied in the field of geography since the early 1990s. However, in human geography there are particular areas that have adopted the technology more rapidly with a level of success. Applications can be identified based on the use given to the neural networks models as either exploratory or explanatory.

#### **Exploratory**

Applications of an exploratory nature use neural networks as a data mining tool to identify either patterns in space and/or time in the data, classify large datasets, or propose taxonomy classifications. Examples include classifying census data, classification of arctic cloud and sea ice features, and recognition of cartographic area features. The area of remote sensing has also made ample use of neural networks for pattern and image recognition and classification.

#### **Explanatory**

Neural network models have been used as a replacement of statistical and optimization models in geography. They have been commonly used to predict and forecast flows in the area of telecommunications, trade, and transport. In transportation besides traffic flow neural networks have also been used in the areas of travel behavior and traffic management. For geography, the section on travel behavior is most relevant. Topics include understanding travel behavior, analysis of daily travel, commuting behavior, travel demand, activity scheduling, predicting travel times, and understanding route and mode choice. The potential applications of neural networks in freight transport have also been discussed.

Other examples of explanatory nature include predicting consumer spatial behavior, medical geography

(i.e., forecasting the acquired immunodeficiency syndrome (AIDS) pandemic), and forecasting regional labor markets.

### **Example**

To get an idea of how neural networks work, an example in the area of mode choice is presented. When making a trip, individuals are required to make a choice between the modes they have available for travel. Assume there are two modes: car and train. In order to model a network that can forecast these choices, an architecture composed of a set of inputs, a hidden layer, and a set of outputs is selected. This architecture is the result of a trial and error process. There is full connectivity between the inputs, the outputs of the intermediate layer, and the final outputs. The neurons make use of a sigmoidal or logistic transfer function. This function has a set of characteristics (i.e., continuity, increasing monotonicity, differentiable at all points) that makes it appealing for this kind of problem. The backpropagation learning algorithm is applied. The output of the neural network is the probability of an individual choosing the car as their travel mode. The inputs correspond to the characteristics of each mode: distance, time, and cost. The number of neurons in the hidden layer and the parameters of the learning algorithm are determined by running different experiments using a training dataset (this is the result of splitting the complete dataset into a training set and a test set). Based on the predictive capabilities of the models resulting, a choice is made as to what are the best parameters and architecture to use. At this point the network is ready for forecasting, using the test dataset. The neural network model will predict the probability of an individual choosing a car as their travel mode.

### **Where to Go from Here**

Neural networks are very promising modeling tools. They possess certain elements that make them desirable such as faster speed in comparison to traditional statistical models, ability to learn, and ability to perform any task provided an appropriate architecture is selected. Neural networks also have benefits when compared to traditional models, some of which have already been outlined. In general, neural networks introduce a significant difference in performance; they offer solutions to hard type problems making them appealing to geographers.

Neurocomputing in geography has been introduced as a different paradigm for spatial analysis and modeling. Supervised neural networks are those more likely to be used and from the evidence found in the literature, this indeed seems to be the case. The success of this type of network and of the technology, in general, can be attributed to its benefits. These include their performance

levels, lack of assumptions and knowledge when creating a model, lack of mathematical and statistical complexity, flexibility, ability to handle noisy data, and ability to handle spatial rich datasets. However, there are also potential problems that need to be considered when using neural networks. These include their reliance on data, difficulty in representing knowledge of the modeling task, variety in types (too many types to choose from), similarity to statistical models, unresolved issues like length of training, and difficulty in understanding the processes underlying them.

Regardless of their problems, neural networks are being increasingly applied to solve geographic problems. More recently self organizing maps have been adopted by geographers given their ability to address issues related to scale, space–time dependencies, nonlinear relationships, and data outliers. These are issues where statistical models typically fail to produce robust results.

There is enough evidence that shows neural networks should be and can be applied in geographic research successfully. In most applications they perform as well or better than their statistical counterpart. They can be applied to areas where statistical models have difficulties (e.g., spatial autocorrelation) and in theory could be applied to solve any geographic modeling problem. The neurocomputing paradigm is here to stay and its complexity and sophistication will continue to expand of fering new alternatives to solve geographic problems.

See also: Simulation; Spatial Interaction Models.

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Train and Analyze Neural Networks to Fit Data.

# New Regionalism

G. MacLeod, University of Durham, Durham, UK

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## Glossary

**Flexible Specialization** A system of workplace organization and production featuring decentralized management (such as quality circles), flexible and versatile technologies and workforces geared for more specialized customers' demands in volatile markets, and signaling a contrast from Fordism's standardized mode of production for mass markets.

**Industrial District** Regional economies that are developed out of high-tech clusters or craft-based sectors often orchestrated through flexible specialization and close interfirm networking; in this sense, they draw some comparison with the nineteenth-century districts featuring an 'industrial atmosphere' identified by Alfred Marshall.

**Institutional Thickness** A concept which sees economic growth to be dependent on not only the 'hard' economic or physical assets but also the softer informational infrastructure, featuring a plethora of public, private, and voluntary organizations engaged in economic development, the collective representation of potentially roguish interests, and a mutual awareness of place so that regional actors come to perceive of a 'common agenda'.

**Untraded Interdependencies** A range of institutional forms such as locally derived rules, conventions, customs, values, labor market governance, as well as the collective goods provided by public and quasi-public organizations and agencies; they can be contrasted with the 'hard' traded input–output interfirm relations that form the cornerstone of transactions–cost economics.

## Introduction

The new regionalism is a term used to describe the research of certain scholars in economic geography and urban and regional planning highlighting how during the era of post Fordism and globalization, certain regional economies appear to be more capable than others of sustaining relatively successful economic growth. One crucial insight of this work has been to firmly rebuff the naïve view that globalization somehow signals the end of geography and to identify how the process of globalization is in actual fact choreographed through a concentration of economic power in certain regions and city regions. The influence of the new regionalism debate has also rippled out to the spheres of policy and politics with

city mayors, regional politicians, influential commentators, consultants, and even business gurus regularly canonizing the region as a functional scale for economic planning and political governance.

So why has the region come to assume such prominence in recent academic debate and policy discourse? In responding to this question, the work of Michael Storper can prove to be most instructive. Storper, a student from the so called Los Angeles School of geography and urban planning, surmises that during the middle decades of the twentieth century the region came to represent a residual category in the advanced developed countries. In the academic arena, regional science had attained ascendancy: in spite of its title and in proffering a quantitative modeling approach to locational analysis and an unshakable quest to identify general laws to explain spatial behavior, regional science diverted the analytical lens away from regions as spaces of cultural and economic difference. The laws of regional science were given a concrete expression through Keynesian economic policies, with regions assigned a role as merely administrative spaces to integrate national economies and to help suppress regionalist ideologies, which were associated with the more obscure and violent fringes of the political arena.

This era can be contrasted with the period of the late twentieth and early twenty first centuries. For today the region is widely acknowledged to represent a fundamental basis of economic, social, and political life. We are said to be living in a regional world. Moreover, the concept has assumed a more profound ontological significance as a meso level of analysis within which to examine the current regime of post Fordist reflexive capitalism. This article has three main aims: (1) to provide a discussion of the main arguments that characterize the new regionalism; (2) to offer a critical assessment of these arguments; and (3) to tender some thoughts about the potential future directions of new regionalist research in economic development.

## Geographies of Post-Fordism: Industrial Districts, New Regional Economies, and Resurgent Rustbelts

Before going on to discuss the new regionalism as it relates specifically to regional development, at the outset it is perhaps worth noting several alternative versions which more directly engage with questions of politics. First, the subdiscipline of international political economy is



deploying a new regionalism to question the realist understanding of states as isolated entities: here the region is defined as a supranational space in a similar way to how international relations discourse habitually deploys the concept to describe a multinational landscape like the Middle East. A second version exists in political science and analyzes the territorial struggles that some times give rise to subnational spaces as significant politico administrative units. Another variant of an explicitly defined new regionalism has surfaced in American urban political science and relates to politically led endeavors to amalgamate and consolidate into a metropolitan form the diverse fragments of urban, suburban, and neighborhood government which have unfolded across the American landscape throughout the twentieth century.

Turning more specifically to debates in regional development, the new regionalism (hereafter NR) can, at least in part, be traced to some pioneering research in the late 1970s and early 1980s documenting the rise of a new mode of production named flexible specialization, which appeared to be emerging in certain parts of Italy and West Germany. At a time when the Western world's received wisdom centered around national models of development increasingly forced to tame footloose multilocational firms and an internationalizing spatial division of labor, the discovery of individual districts in north central Italy and Southern Germany featuring localized constellations of industrial firms interlinking and subcontracting with each other, was quite a revelation.

This flexible specialization thesis generated considerable excitement across the global academic division of labor as a miscellaneous coterie of economic sociologists, economic historians, urban and regional planners, and economic geographers variously heralded: (1) a reemergence of industrial districts such as Emilia Romagna in Italy premised around traditional sectors such as ceramics, furniture, and footwear and (2) regional economies such as Baden Württemberg in Germany propelled more by modern precision engineering, a post Fordist flexible production of luxury automobiles, and guided by a largely corporatist mode of regulation. Crucially, while each of these regions evolved through different historical traditions, their respective sectors were competing on quality rather than price, with the result that employees were often highly skilled, well remunerated, and unionized: again bucking a putative global trend of deskilling and union bashing.

Subsequent research throughout the 1980s and 1990s was to reveal distinctive territorial production complexes and entirely new industrial spaces such as Rhone Alpes in France, Silicon Valley in northern California, and Route 128 in Massachusetts, all quite removed from the older centers of industrial production: indeed Silicon Valley did not exist until the 1960s. The work by several economic geographers in the USA was especially

valuable in identifying how such regions were literally being formed through the locational decisions of high technology firms and their buyers and suppliers, not least the spatial impact of their transaction costs. Such analysis was to offer powerful backing to the notion that regions could benefit from fostering clusters of networked firms specializing in key propulsive sectors.

Over in Europe, alongside a nascent political appetite for a 'Europe of the Regions', in depth qualitative research conducted by urban and regional scholars was beginning to disclose the specific character of economic and political governance in a range of high performing regions such as the Italian and German industrial districts, Catalonia in Spain, and Jutland in Denmark. In deed, a consensus began to emerge that much of the long term economic success of regions such as Emilia Romagna and Baden Württemberg was down to a delicate balance between competition – firms and sectors obviously had to be nationally and globally competitive – and cooperation, featuring a rich institutional fabric of trade and business associations, influential chambers of commerce, innovation and technology transfer centers, development agencies, trade unions, and civic and voluntary organizations. All this was deemed to enable a high degree of trust based behavior among economic actors, not least through the provision of collective services for companies in spheres such as market forecasting, trade, training, and technology transfer and also a longer term horizon for strategic planning and investment. This was also being contrasted with the rugged individualism viewed to be dominant at a national scale in Anglo American societies.

A growing appreciation of these success stories precipitated a sense that regions could become proactive in fostering their own economic success. In part, this was fueled by research which was beginning to herald a new type of inward investment: one qualitatively different from the late Fordist branch plant whose external control and tendency to relocate to cheaper destinations left regions acutely vulnerable to minor market fluctuations. A particularly notable contribution in this debate was work on places such as the Great Lakes in the Midwest of the United States and Wales in the United Kingdom. These were former industrial heartlands whose economies had endured protracted deindustrialization throughout the 1970s and 1980s, but where a number of overseas Japanese investments were seemingly forming integrated transplant complexes and becoming a powerful vehicle for diffusing technology transfer and knowledge throughout the regions. The embedding of such post Fordist knowledge intensive corporate activity was thereby demonstrating how, alongside the provision of interrelated infrastructures in production, industrial governance, human capital, physical and digital communications, even older industrial regions such as the Great Lakes were showing

the capability to adapt amid ever intensifying global competition. Hence, the references lists for university modules on economic geography and regional development were seeing titles such as ‘The rise of the rustbelt’ being added to classics such as the ‘Geography of deindustrialization’.

As we can see, then, a variety of perspectives began to punctuate the academic landscape of regional development: some highlighting the location strategies of key firms, others emphasizing a supportive infrastructure for economic development. While each was drawing inspiration from a diversity of theoretical foundations – institutional economics, economic sociology, evolutionary political economy, and economic geography – they also appeared to be united on at least one front: the enduring dynamism of certain feted high profile regional economies could not be explained by Ricardian notions of comparative advantage and certainly not in terms of raw natural endowments. Neither could it be fully accounted for by pure market forces or by the *dirigiste* policies and spatial Keynesianism that characterized much capitalism in the West during the post war era. Rather, the qualitatively informed approaches outlined above take seriously Karl Polanyi’s axiom of ‘the economy as an instituted process’ to contend that a major source of a region’s competitive advantage is embedded in the operation of its local civil society vis à vis a range of soft infrastructures relating to locally derived rules, norms, customs, habits, cultures, conventions, institutions, trust based interactions, and horizontal relations of reciprocity, which are seen to enhance the benefits of investments in physical and human capital.

By the late 1990s, a variety of concepts were being introduced to help encapsulate this institutional atmosphere of an increasingly reflexive capitalism orchestrated through local and regional strategies: regional innovation system, associational economy, innovative milieu, learning regions, institutional thickness, and untraded interdependencies. All these became routinely deployed as part of the lexicon of the NR. The NR itself was to become immensely influential in debates on regional development as well as those relating to policy.

### **New Regionalism: A Critical Assessment**

New regionalist thinking undoubtedly serves up some valuable conceptual insights and offers us an interesting map of global economic development: indeed, some scholars talk of a global mosaic of city regions and regional economies. Much of the debate also provides persuasive evidence that the subnational region represents an increasingly crucial scale for territorially convening the various organizations and actors which orchestrate the process of economic growth: ranging from

hard infrastructure to soft info structure. Nonetheless, in recent years, each of these dimensions has also been subjected to considerable, at times biting, critique.

### **New Regionalism and Public Policy**

Silicon Valley is being imitated all over the world. There is a valley clone in Bangalore, Russia, and China. Ireland has its own Silicon Bog and Scotland, a Silicon Glen. Of course, it is hardly surprising that elites and growth coalitions from cities and regions that have endured large scale and traumatic economic meltdown have looked outward and across to the experiences of celebrated prototypical success stories such as Silicon Valley and Emilia Romagna, and to seek to emulate their success. Hence, the mania for cluster programs associated with the influential consultant Michael Porter, and also for accredited initiatives to foster ‘hobbyist’ forms of interfirm networking.

Relatedly, however, many of the perspectives associated with the new regionalism could invite economic development practitioners to assume that the ultimate endgame is to help occasion soft infrastructures with which to enable networking, untraded interdependencies, social conventions, and institutional thickness. If such policy prescriptions are to be ingested by a regional corpus whose vital organs are dominated by poorly performing industrial and postindustrial sectors all encumbered by an outmoded institutional inheritance, in practical terms, the net result might offer little beyond euphemistic policy discourses and a public sector funding of business breakfasts for local bourgeois elites. The NR has courted much controversy in this regard. In some NR writings, there has also been a largely implicit assumption of a correlation between the presence of a powerful regional government and regional economic prosperity, but any suggestion of a link between devolved regional government and regional economic success is evidence of association rather than causation.

Nonetheless, one ought to be careful when attributing responsibility in all of this. Indeed, far from necessarily acting as a Trojan horse for quick fix policy solutions, a close reading of certain new regionalist accounts will, quite ironically perhaps, alert us to the very dangers and shortcomings of such crude policy transfer. For concepts such as institutional thickness and untraded interdependencies highlight locally specific assets that are noncodifiable and therefore extremely difficult to transfer across geoeconomic space, geopolitical boundaries, and oceanic divides. We are also informed how, in practical terms, soft infrastructures such as conventions, trust based interactions, and civic cultures are inherently esoteric and intricate, and much harder to magic than the more ostensibly visible and conventional public infrastructures such as roadways, schools, training colleges,

and, of course, the traditional photograph featuring a local politician shaking the hand of some senior executive of an overseas inward investor.

### **Conceptual Blind Spots: The State and the Social Geographies of Post-Fordism**

Much discussion has also focused on certain blind spots in the NR's conceptual arsenal. It is increasingly being claimed that the most obvious analytical lacuna concerns the failure to connect contemporary analyses of regional economic development with the changing form and character of the state. Perhaps this is in part because the state seems much less involved in regional development than in the heyday of Fordism, what with its modernist commitment to state planning and its interventionist approach to shifting people and firms in order to balance growth. Indeed, perhaps this is the key point: regions are able to generate endogenous growth without regional aid from the center.

However, to think along these lines would blind us to the fact that the American gold standard regions of Silicon Valley and Route 128 have been in large part the product of vast amounts of spending on defense by the US federal government. They have also depended on the pumping of public investment into world class universities such as Stanford and MIT. Furthermore, new regional accounts rarely draw our attention to the ways in which distinctive locally derived institutions and vital infrastructures are mediated by national modes of regulation vis à vis market rules and corporate governance or through policies relating to the labor market, education, and training. In thinking through these themes, perhaps we should also consider how and why many of the most successful localities and regions happen to be located within the most robust national economies such as the US and Germany. Moreover, the one dimensional focus on cooperative soft institutions can divert attention from the way that regions are increasingly inscribed into the ruthless global geographies of competitive capitalism. It is exactly the relational webs between various scales of government and governance which are lacking systematic investigation within much NR scholarship.

This neglect of the state, and in particular of the social relations between economic reflexivity and the changing character of the welfare state, also forecloses debate on what is considered to be the sociopolitical downside of post Fordist reflexive capitalism: a splintered urban-regional landscape, intensified social inequality, and an increasingly revanchist and authoritarian political regime that now almost seems to be mandatory for governing such a splintering society. Not least is this down to the NR's preoccupation with supply side innovation which leaves analysis bereft of demand led considerations and related questions of individual and collective

consumption. Furthermore, critical research on sanctified regions like those in the Third Italy has begun to reveal their own particular sociological dark side, where corporate dexterity is often intricately dependent on dual labor markets and hyperexploitation on the basis of class, ethnicity, gender, and other social divisions.

These blind spots are largely down to the fact that the NR analytically telescopes onto seemingly nonexploitative horizontal relations of networking and reciprocity within particular localities, simultaneously obscuring us from the vertical ordering and the hierarchical structuring of social relations across and between spatial scales of governance. In short, the asymmetries of economic and political power, prestige, and social privilege are conveniently sidelined, as are unpalatable themes which were once the stock in trade of critical urban and regional studies: uneven development, exploitation, interterritorial competition, devaluation, and welfare retrenchment. All of which also begs searching questions about just how far economic and political democracy might extend to in the local and regional worlds so regularly canonized in economic geographical discourse.

### **New Regionalism: Future Directions**

Over the last two decades, the NR has had a significant influence in debates on regional development. With cities and regions looking, if anything, to become ever more significant as spaces of governance and arenas subject to global competition and associated pressures of place marketing and promotion, the debate looks set to continue. This brief final section sketches out several directions in which this debate might take.

The first concerns a series of conceptual challenges vis à vis the region. While undoubtedly central to academic and policy relevant analysis for over 100 years now, the region continues to be an elusive category. In general, and perhaps wisely in view of this, much NR research deploys an implicit reading of its spaces of investigation. However, it is argued that it is important to consider how much of the literature on industrial districts refers to economically integrated areas such as Silicon Valley and Route 128 which do not readily correspond to a regional sensibility either in a cultural or a political sense. On the other hand, Baden Württemberg's economic dynamism would appear to be quite closely intertwined with the formation of robust regional (Länder) political institutions, introduced as part of West Germany's federal reconstruction after World War II; thus, the boundaries which characterize the various regions in the NR are at times incongruous. While considering this, perhaps too we should begin to avoid reifying cities and regions. Scholarly and policy discourses regularly describe places as proactive, picking up

their bootstraps: a plea is made for a fuller recognition of the fact that it is people and organizations working in and on behalf of these places that do the acting, not the spaces themselves.

Perhaps a more profound conceptual challenge emerges from those advocating a relational reading of the region. This approach contends that the major forces associated with globalization have been transforming the material and experiential character of cities and regions in recent decades – not least the routine trafficking of objects and people and the instantaneous circulation of information – and that these are surely disturbing any semblance of a world order made up of nested territorial formations. Viewed through this alternative lens, emerging spatial configurations are no longer interpreted as territorial. Rather they are constituted through a kaleidoscopic web of networks and relational connections, which are not fixed or located in place but are constituted through various circulating entities, which in turn bring about relationality both within and between societies at multiple and varied distances. Such a perspective certainly opens up new ways of seeing the transnational circulation of capital vis à vis multinational corporations, money, and migration and could also enable us as researchers to trace the global circulation of ideas, technologies, and knowledges which serve to inform the NR.

The relational approach also opens up some fresh ways to interpret the second theme that needs to be mentioned: that of environmental sustainability. Quite surprisingly, this is a topic that has largely been implicit or even omitted from many significant studies in the NR. However, the theme of environmental sustainability can hardly be avoided in the early twenty first century. Not least in that one of the NR's model spaces has been enduring quite significant environmental challenges in recent years. For, in Silicon Valley, housing is now so scarce that new arrivals and immigrants to the region often have to drive for 2 h to commute to work. As a result, traffic congestion is endemic and the physical environment under threat. While the higher education sector thrives, property taxes are so low that there is not enough money to fund a decent basic education system. Arguably, the most sensible way to solve these problems is through public initiatives, yet Silicon Valley currently lacks the political machinery to address these regional concerns. Similarly, the long term sustainability of German regions such as Baden Württemberg has also been thrown into some serious doubt: intensifying globalization is leaving its high wage and socially generous mode of regulations facing competition from low cost but high quality Far Eastern economies.

This leads to the final theme. As the discourse of post Fordism has tired and at least to some extent become eclipsed by one of globalization, so the analytical gaze in Anglo American writing has extended beyond Western Europe and North America to consider a 'global mosaic of regional economies'. Nonetheless, the debate thus far has been overwhelmingly concentrated in the continents of North America and Western Europe. This needs to change. With some Latin American countries looking toward the European Union as a model for regionally articulated growth, it surely behoves us to begin a much closer dialog with colleagues in Latin America, Africa, and Asia.

**See also:** City-Region; Economic Geography; Governance; Institutionalism/Institutional Geographies; Knowledge Economy; Public Policy; Region.

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# New Towns

K. Kafkoula, Aristotle University of Thessaloniki, Thessaloniki, Greece

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## Glossary

**Conurbation** Coalition of two or more urban entities, that is, cities or towns, which by population increase and physical expansion merge to form one continuous developed area.

**Neighborhood Unit** Urban area of housing and everyday facilities (school, retail, etc.) conceived as a whole. Post-war New Towns comprised usually of 2000–4000 dwellings. In Eastern European planning, it was named as microrayon.

**Population Overspill** Projected population increase, which cannot be accommodated properly within the existing limits of a given urban entity.

**Satellite Town** New settlement created in proximity to an urban center, on which it depends for the employment of its inhabitants. A satellite town is distinguished from a dormitory suburb by the provision of retail premises, schools, and public utility bodies.

## Introduction

New Towns are the result of powerful application of a state policy expressed by governmental decisions. In human history, founding of New Towns have repeatedly been applied as an orderly procedure against the other wise spontaneous, or haphazard evolution, in the Roman, medieval, and later times, or in the nineteenth century. Of all, the ideal communities of the industrial era were the offspring of a widely spread desire for social justice, expressed in philanthropic or communitarian action. Rooted in those movements were the garden cities, the forerunners of the New Towns, put into the planning scene by the Ebenezer Howard, of Britain, before the Great War. New Towns, the subject of this article, started off also in Britain during and after World War II, and incited similar policies elsewhere, to the point that they can now be found in entirely diverse planning environments in most parts of the world.

## Definition

A New Town is a settlement with an official designation act issued at a precise moment in time. On the basis of an agreed policy, the authority decides on the purpose, role, location, and the physical characteristics of the new settlement, the implementation measures and funds, and

the means to attract population, employment, and various other activities, the prerequisites of urbanity.

New Towns have never been a mere technical affair. Crucial for their creation in the aftermath of World War II was the conviction that a more orderly environment would address the shortcomings and malfunctioning of cities; and that new settlements, properly established and managed, could effect a redistribution of resources on a regional or at a national level.

Definition of the term New Town requires laying out a frame of reference, since in the twentieth century numerous ones were built. The definition must not concentrate on the number of inhabitants, since there is no strict correlation between the size of the population and the urban quality expressed by the term 'town'. Also, one must ignore various recent developments of no negligible size, named in USA 'new communities', which sprang out of private initiative with no reference to a regional policy (Reston, Virginia, Irvine, California, etc.), or the so called 'edge cities', that is, outlying urban areas of office space, ample parking, and residential precincts popping up in the wish for real estate profits. The engagement of the state is critical, even when it is minimal, as in the case of some Asian countries. The capacity to grow steadily over a period of time after the original creation is an important factor, but is also insufficient if it is not coupled with the minimum requirements for a decent urban life.

Valid criteria should then be the preexistence of a general plan of regional impact, even if that plan undergoes substantial alterations on the way. Realization should match the provision of a house and a job, ideally not far from each other. This criterion (a heritage of the garden city ideas) originally distinguished the New Towns from satellite towns. However, with the development of high efficiency transport means, the issue of proximity has somehow faded. The term New Town is increasingly being used for satellites also, or for towns that have been so for a considerable part of their life.

This article covers settlements that are named New Towns in their countries, discussing their performance in establishing a more rational relationship between people and their environment. Their assessment points out to the distance between the intended and the feasible.

## The Origins: New Towns in Post-War Britain

New Towns in Britain originated as a response to the recorded ill balanced allocation of industry and population, in

favor of London area and the South East in general. They were implemented by the enactment of the New Towns Act in 1946 and the post war planning machinery of the UK.

Eight New Towns were designated around London from 1946 to 1949, in order to accommodate projected overspill population: in chronological order Stevenage, Crawley, Hemel Hempstead, Harlow, Hatfield, Welwyn (originally a garden city), Basildon, and Bracknell. This was matched by New Towns in the provinces, Aycliffe (now Newton Aycliffe), Peterlee, and Corby in England; East Kilbride and Glenrothes in Scotland; and Cwmbran in Wales. Overspill population targets generated also Cumbernauld in Glasgow (1955) and the next mark of New Towns, from 1961 to 1964, Dawley, Redditch, Skelmersdale, and Runcorn in England, and Livingston in Scotland. Finally, Washington in North East England (1964) would induce regional development. For most of them, the intended population ranged from 30 000 to 80 000.

In view of the forecasts that the south of England would attract a new population of 3.5 million in the two decades 1961–81, three New Towns were planned as regional growth poles in that area: Milton Keynes (1967, 250 000), Peterborough (radical expansion, 1967, 185 000), and Northampton (expansion, 1968, 230 000). Parallel endeavors for decentralization elsewhere founded Warrington (1968, 202 000), Telford (1968, 250 000, the previous Dawley on a broader program), and Central Lancashire (1970, 500 000), all in England. In addition, Irvine was designated in Scotland (1966, again mainly for Glasgow overspill), Newtown in Wales for rural regeneration (1967), and four New Towns started in Ireland for the redistribution of industry and population (Craigavon 1965, Antrim 1966, Ballymena 1967, Londonderry 1969). On the whole 32 New Towns (**Figure 1**) were created in the United Kingdom till 1970.

State financed development corporations, one for each town, acquired the land, installed the infrastructure, constructed the houses and the retail premises, and managed the assets till the New Towns were incorporated in the system of local government. Today, they are home to over two and a half million people. The target of containing the population of older cities, that is decentralization within regions, was largely achieved. Amelioration of regional inequalities hardly progressed, since older cities, particularly London, a world metropolitan area, sustained their dynamism.

## New Town Policies in Europe

In continental Europe, even distribution of population and employment were the two prevailing targets in the designation of New Towns. State land and public transport would facilitate the ultimate end of a balanced society in ecologically friendly environments.

In post war France, the need for emancipation from the dominance of Paris (20% of the population, 50% of the jobs) was translated in a twofold policy: to create metropolises in the provinces and to transform Paris into a decentralized metropolis. Therefore, in the 1970s a New Town was founded around each of the major centers Lille (Villeneuve d'Ascq), Rouen (Le Vaudreuil), Lyon Grenoble (Isle d'Abeau), and Marseille (Étang de Berre) and five around Paris (Cergy Pontoise, St Quentin en Yvelines, Évry, Melun Sénart, and Marne la Vallée) – on the whole nine New Towns. The target population of the provincial cities was of 300 000, which would allow for a large spectrum of jobs and household incomes. However, it is the New Towns around Paris that have proceeded more successfully. State offices had the management, whereas design and construction were undertaken by private firms. In the eve of 2001, French New Towns had around 900 000 inhabitants.

The New Towns of the Netherlands were related to projects of land reclamation, in particular lands reclaimed from IJsselmeer (formerly Zuidersee), and thus state owned. By far the most important is Almere (1970s, projected 250 000 people), planned to restructure Amsterdam region. In Scandinavian countries, early post war, small size New Towns, Albertslund in Copenhagen area, Tapiola in Helsinki, and Vällingby, Farsta, and Skärholmen in Stockholm, became legendary for their modern design and, although not commercial in any way, they were a success in financial and environmental terms.

In what was once the communist world, New Towns were created centrally in support of industrial plants, and housing provided for rent or home ownership. From the 1950–51 New Towns of Hungary, the most important, Dunaujvaros (formerly Dunapantèle and later Sztalinvaros), served the largest iron complex, near Budapest. In Poland, the pride of the workers' New Towns, Nowa Huta was linked to a huge iron complex (today a part of Krakow, with over 200 000). In East Germany a New Town was connected to iron industry, Eisenhüttenstadt (initially Stalinstadt), near Frankfurt an der Oder.

In ex USSR the program for New Towns conformed to two fundamental targets: to transfer population from the agrarian areas into industrial centers in an organized way and to create a balance in economic growth between the eastern (80% of resources) and the western regions (80% of the industries). According to records, albeit scarce, a total of 1100 New Towns were constructed till the late 1970s. Among the New Towns serving heavy industrial complexes, many were in the eastern provinces, the vast Siberian lands. Karaganda and Magnitogorsk near a huge steel plant in Irkutsk area were built before the war, and after the war Angarsk (petrochemicals) in the same region, Bratsk and Sumgait around the Caspian Sea (**Figure 2**), and Togliati to the north of Samara city. A small number of scientific centers



**Figure 1** United Kingdom. Location of New Towns.

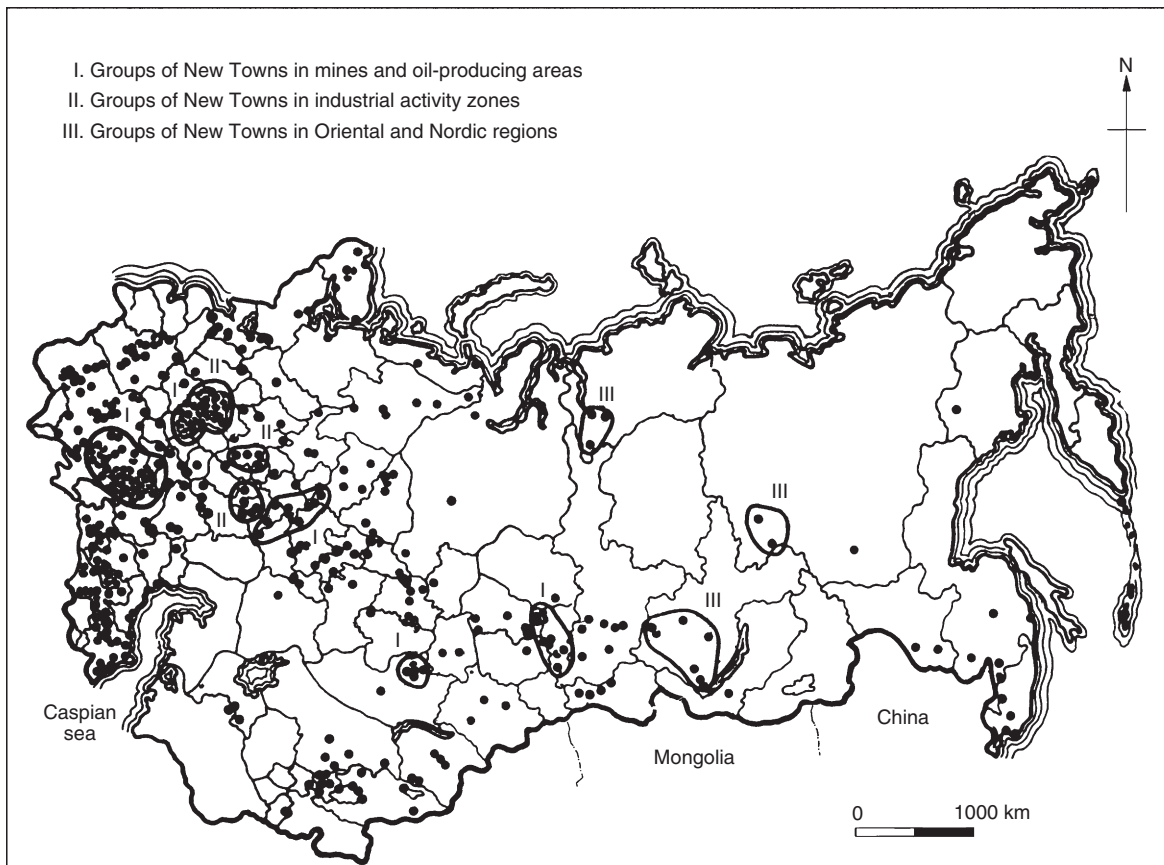
were established around metropolitan areas: Obninsk, in Moscow, and the celebrated Akademgorodok in Novosibirsk. Satellite towns for Moscow (a city with over 10 million inhabitants in the 1960s) were created on the lines of London New Towns, Zelenograd and Elektrostal outside the green belt (of 10 km width), Klimki and Krasnogorsk inside.

### **New Towns Policies in Other Parts of the World**

In the 1960s and the 1970s, countries outside Europe took the lead in planning New Towns, responding to a strikingly rapid rate of urbanization and, to a lesser extent, to

regional inequalities. Problems are aggravated by huge refugee influxes, effected by wars, partitions, changes in legal status, shifts in the political orientation of governments, or immigration policies. As an indication, the population of Greater Shanghai and Greater Tokyo nearly doubled in the 20 years from 1960 to 1980 (from 7.7 to 15.0 million and from 10.7 to 20.0, respectively).

Japan, the most industrialized country in Asia, decided to provide housing for industrial workers and the influx of migrants into towns after the war. The first New Towns housed overspill population from Tokyo (Tama New Town), Nagoya (Kozoji New Town), and Osaka (Senri New Town). The second generation New Towns in the 1980s were meant to create 'technopoles' throughout the country, on the model of Tsukuba, the academic satellite



**Figure 2** New Towns in ex-USSR. From Cahiers de l' I.A.U.R.P. No 38/ 1976. Permission kindly granted by the Cahiers.

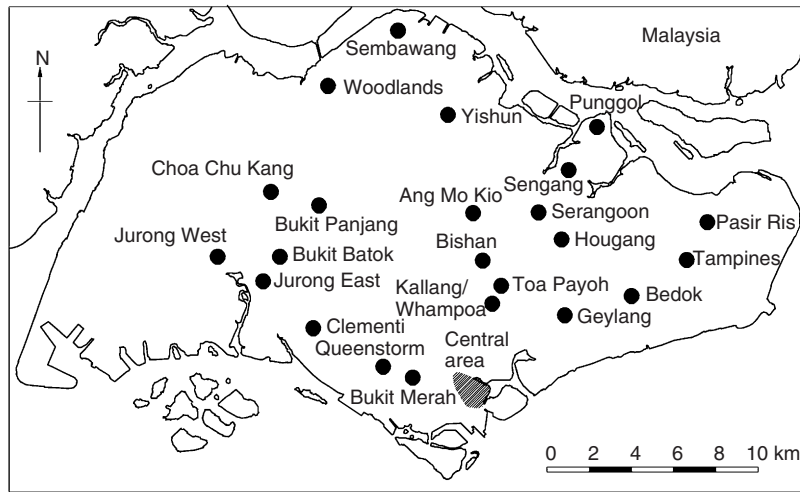
outside Tokyo (1960s). From 26 sites designated around nearly all metropolitan areas, eight technopoles within 300 km from Tokyo developed as ground for modern high end technologies. The conurbation of Osaka–Kyoto–Kobe (named Keihanshin) is now emerging as a vast port industrial area of 16.8 million people, which hosts three New Towns, that is, two technopoles in the making and one scientific city, Kansai, an antipode of austere Tsukuba in terms of urban and housing program.

Singapore city state and Hong Kong former city state (since 1997 a region of China) had to house slum dwellers after the war, among which many were immigrants from Malaysia or China respectively (1.1 million squatters in Hong Kong in mid 1960s, 25% of its population). Both cities took up in earnest the construction of New Towns (**Figures 3 and 4**) (formerly called satellites), places with economic and social life, a target that has not always been evenly managed. Public funds have guaranteed the completion of infrastructure and dwellings, and the provision of a variety of housing tenures. Construction has implied large scale physical transformation and land reclamation. In Singapore, after its independence from British rule in 1959 and the separation from the federation of the Malaysian states in 1965, the government created 23 New Towns, relatively

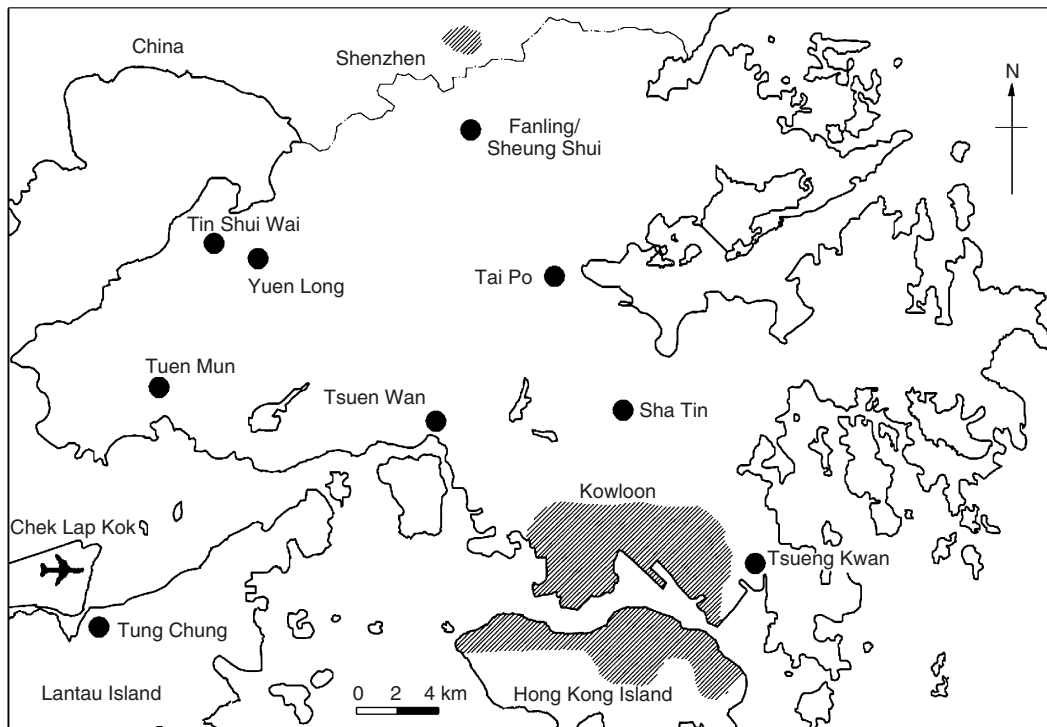
self sufficient and interdependent entities of 250 000–300 000 people. The population of Singapore is estimated at 4.5 million (2006), of which 2.5 live in New Towns. The relevant figures for Hong Kong are 6.7 and 3.1 million, respectively (of the nine New Towns; Tsuen Wan alone has over 750 000 thousands). Notwithstanding the undeniable success of offering good affordable housing, and in many cases manufacturing and industrial activities, Hong Kong New Towns are criticized for their dependency on the central area for tertiary sector jobs. However, given that China has established Shenzhen 'special economic zone' across Hong Kong borders, the peripheral position of some New Towns may change.

China's urbanization is, above all, of tremendous scale. In the last two decades about 500 million people moved from agrarian to urban areas, a move mostly poorly planned, and in the next two decades nearly as many are expected to do the same. Shanghai, the nation's largest city, is now going to have seven new satellite or New Towns, according to the European press. Also Beijing (8.6 million in 2001) has 11 New Towns underway, in order to house an additional 5.7 million (they already have 2.5 million). The new city of Shenzhen, just outside Kong Kong, with 8.3 million in 2005, was a small village before 1989, when the first special economic zone was





**Figure 3** Singapore. Location of New Towns.



**Figure 4** Hong Kong. Location of New Towns.

designated, having Shenzhen at the center. In the population figures are not included, the thousands who stay in temporary settlements outside the city, waiting or just hoping for a permit to establish there.

The creation of New Towns in post war India should be cast in the framework of the euphoria after independence (1947) and the search for equality and social justice. During Nehru's first government, decentralization was pursued as a means of balanced economic growth, through the installation of new nodes of production,

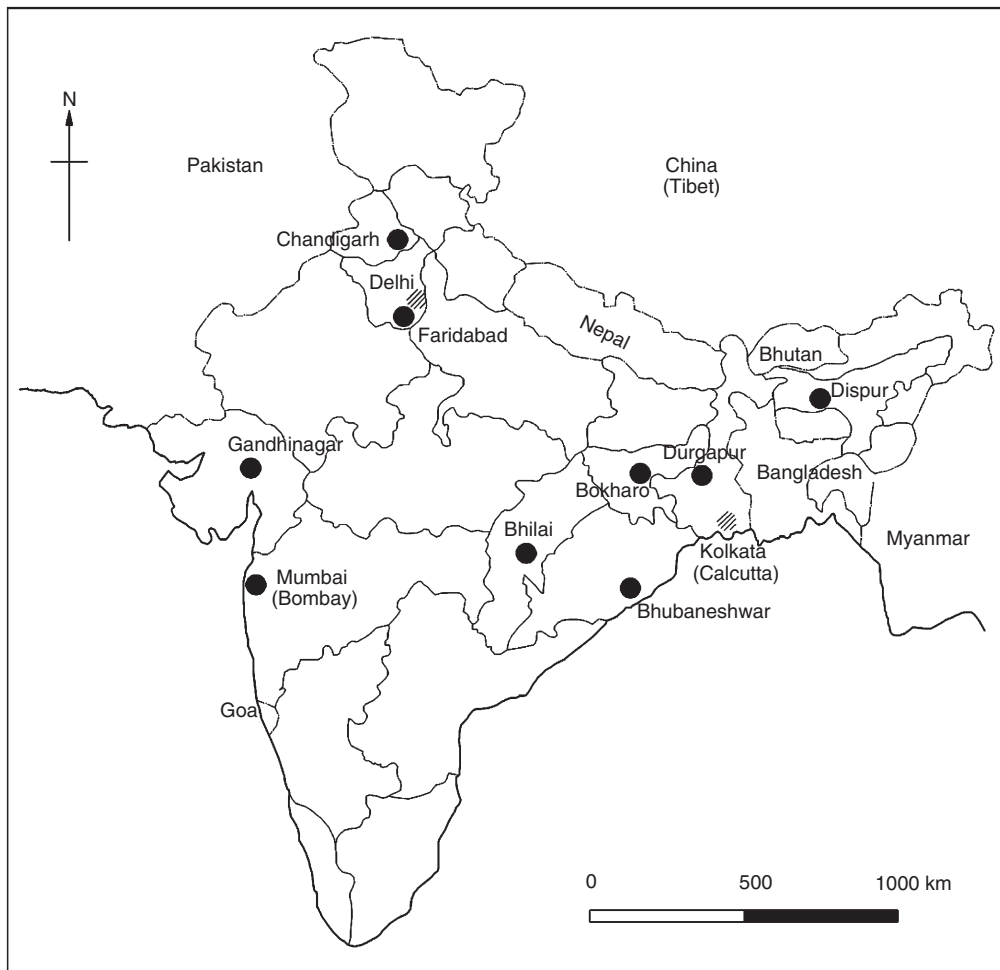
education, and research. About 100 New Towns were planned, most of them near industrial plants, four state capitals (Chandigarh of Punjab State, Bhubaneswar of Orissa, Gandhinagar of Gujrat, and later on Dispur of Assam), and also towns for refugees (**Figure 5**). Examples of planned urbanization include Durgapur in West Bengal State, Bhilai in Chhattisgarh, Bokaro in Jharkhand, all near large steel plants (of 500 000 each). Faridabad in Haryana acquired a next door New Town in 1947, in order to host refugees from Pakistan after the

partition (2.2 million people for both in 2001). Navi Mumbai (New Bombay) in Maharashtra State was the brainchild of the autonomous Maharashtra Industrial Development Corporation (1970), which, among other progressive measures, established Bombay's counterpart, in order to relieve the historic city from the pressure of the tertiary sector (1.5 million for both in 2001).

In the oil producing Iran, the first New Towns of mid 1970s seemed in line with similar initiatives of their time. They were to house overspill population, but the program came to a halt when the ayatollahs took over in 1979. The warfare between Iran–Iraq (1980–88) pushed some 2.5 million people from the western and south western zone into safer areas. In addition, as the new regime abolished many of the Shah's family planning measures, rapid population growth aggravated extreme poverty and unemployment (urban to overall population in 1976 and 1986, 16/34 and 27/49 million, respectively). The need for nation wide measures generated the designation of 18 New Towns in 1985, around Tehran (four), Isfahan (four), and ten other cities. Their population was

projected at 2 931 000. Under state coordination, semi private development companies were created, from which, only 12 have only made a first start (2004). Tehran's New Towns have 52 630 inhabitants, when over 900 000 city dwellers live in informal settlements, 300 000 of them in one informal town, Eslamshahr, which drags its population not only from rural areas but also from the capital.

The New Towns of Israel is a unique case. They are one of the tools toward the colonization of Palestine by the Israeli State, after its creation in 1948. Expelling the Arabs of the state, that is, two thirds of nearly 1.6 million people in 1946, was carried out between 1946 and 1948, before the incoming of Jews from Europe, Africa, and Asia, on the whole 884 800 people between 1948 and 1958. They were transferred to the New Towns or development towns (**Figure 6**), over 30 till now (the ones on the map plus Azur, Bet Dagan, Or Yehuda, Rosh Ha'ayin, Ramat, Tirat Karmel, Yishai, Yehud, Yoqne'am Illit). About 14 of them were established in 1949–50, mostly in towns that were evacuated from their Arab



**Figure 5** India. Location of New Towns.

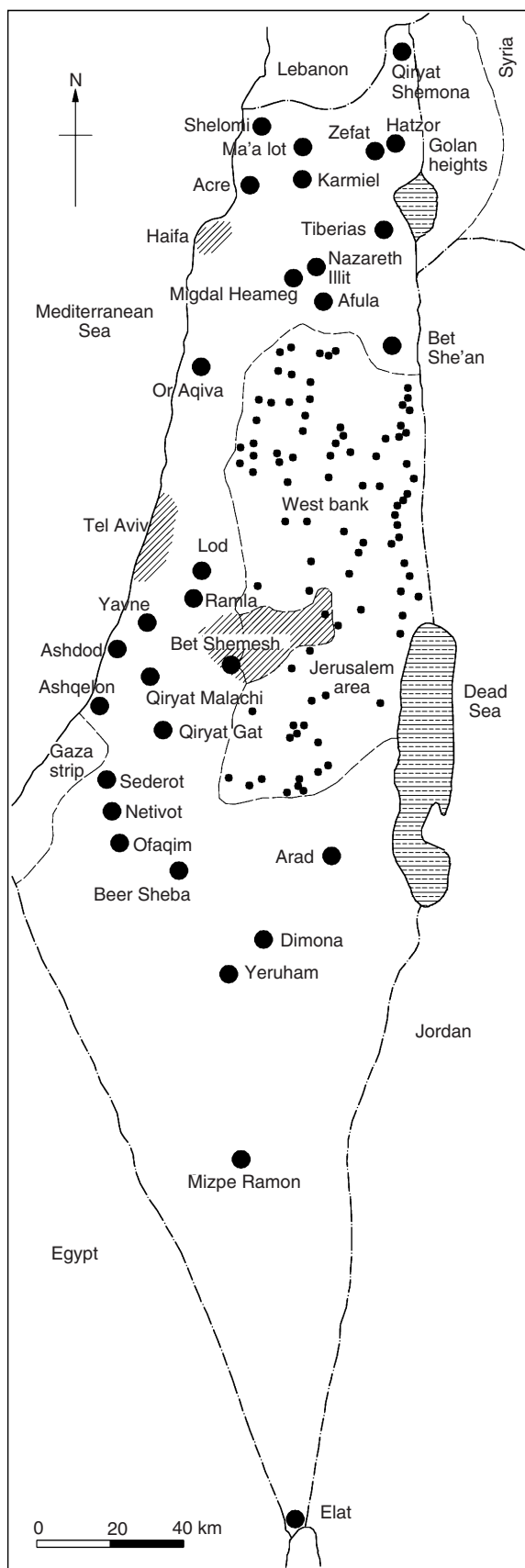


Figure 6 Israel. Location of New Towns.

population and were renamed and redeveloped within months (at least 400 Arab villages had been destroyed previously). A second wave of New Towns in 1951–56 headed at a Jewish majority in Negev and Galilee; finally, the last two settlements, Arad in Northern Negev (1961) and Karmiel in Galilee (1964), rehoused already established Jews and immigrants. The newest flow of 911 000 Jews from ex USSR in 1989–91 did not move to New Towns (save 130 000), but to most advantaged places, economically and socially. Available sources give the New Towns a total population of 800 000. The larger one is Beer Sheba in Negev (over 100 000, a university, etc.). However, the Judaization of the land apparently lags behind, and 30 more New Towns have been announced again in Negev and Galilee. In addition, since 1967 Israeli city making has expanded to the occupied territories of the West Bank and the Gaza strip (from which Israel withdrew recently). Jewish settlements in occupied lands are estimated at a number of 212 and 235 000 inhabitants, ensuring the control of about 60% of the land and specifically of Greater Jerusalem. Immigration is still encouraged. Israeli settlements are marked by thoroughly worked out racial segregation: series of electrified barbed wire fences, intervening minefields, highly sensitized TV–radar installations, night cameras, thermal imagers and sound sectors, armed guards, etc., ‘protect’ their Jewish population, usually immigrants from other parts of the world, against indigenous Palestinians.

### Discussion

This, by no means exhaustive, presentation has focused on the most typical cases of a universally yet disparately applied tool for urban and regional restructuring. A lot more large cities have set New Towns in order to cope with future growth, Seoul, Kuala Lumpur, Cairo, Caracas, and others; sporadic installation of industrial towns includes widely different examples like Jubail and Yanbu New Towns in Saudi Arabia, near enormous industrial infrastructure (late 1970s), or Aspra Spitia in Greece for a single aluminum plant (1965). The most spectacular personalities of the New Town species are the new capital cities, created to fulfill national aspirations or governmental ambitions. Famous for its architecture, Brasilia is also known as the epitome of the distance between plans and reality. In the official city live 300 000 people, whereas nearly six times as many stay in 15 peripheral, unplanned settlements.

Creation and subsequent progress of New Towns are strongly connected to political will and planning tradition. The first British New Towns can be seen as the child of the end of war housing shortage and the victory of the Labour Party. They were committed to self containment, that is, balance of jobs to workers, and full

social amenities, seeking social class balance. This was a state led version of the pre war garden city thinking, the physical characteristics of which ('a town in the country'), penetrated the formation of New Towns elsewhere, in France, Scandinavia, Israel, and even in Eastern Asia. A phenomenon of comparable strength, as far as political orientation and commitment is concerned, is the New Towns in postindependence India.

Organized installation of self contained entities was attracted to regional policies in Europe in the late 1960s and 1970s. However, the impact of the New Town strategy was minimal in Europe, where they are very seldom seen as new nodes operating within a national system of cities. Outside Europe, Siberia of former USSR and – perhaps – India may be regarded as the ground where regional policies were applied more thoroughly. It is in the field of urban containment and comprehensive housing supply that New Towns have performed well almost everywhere. Coordination of various policy instruments, such as land use planning, capital spending on infrastructure, and transportation planning, so as to balance housing, jobs, and facilities, was accomplished with considerable success, even if with delays in the first, 'heroic', times.

In the five decades after the establishment of most European New Towns, changes in administration or the public attitude, in technical knowledge or design values have affected various aspects of New Town making. In Britain during the 1960s, relocation of industries to areas (with a cheap labor supply made New Towns a favorite place for young working class families. During the Thatcher administrations, the public housing emphasis vanished, and upward social mobility influenced the community profile of several New Towns. In France, the need for rented accommodation gave way to the wish for ascent to private ownership. New Towns that did not adjust their policies in time suffered from population loss (as Evry). New Towns of Stockholm were less self contained than suburbs, due to an excellent rail system, which is now in line with the latest views about sustainable mobility. The opposite example is Milton Keynes, depending totally on private car.

Successful managing of land assets was a crucial issue in New Town economics, from the most committed European policies to the hesitant rise of social housing in early post war Japanese New Towns, or to the abortive case of Iran, which can only be regarded as a negative

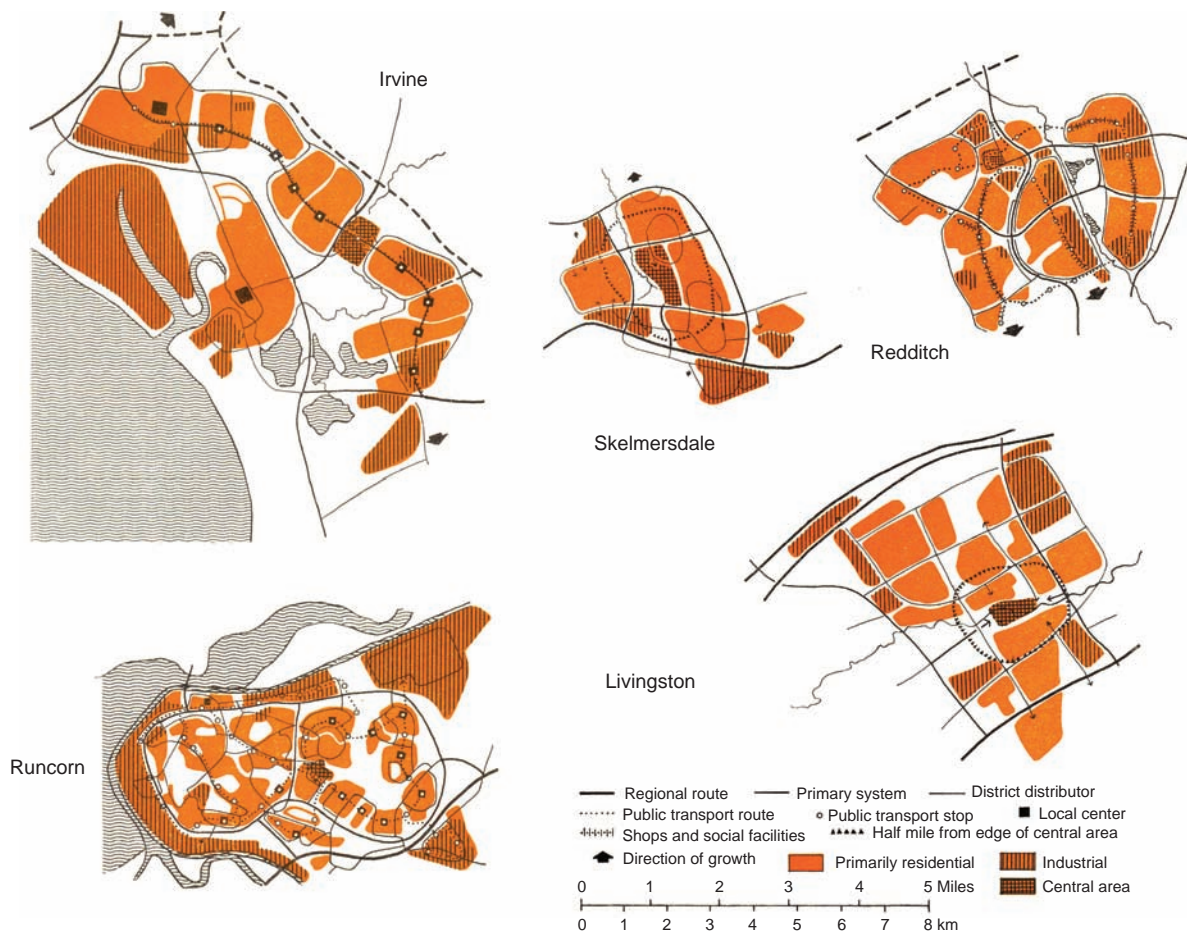


Figure 7 Plans for New Towns in the UK. From Town Planning Review No 3/1968. Permission kindly granted by the T.P.R.



**Figure 8** Shopping center in Stevenage, UK.



**Figure 9** Shopping center in Cergy-Pontoise, France (from a promotional poster).

example. Large scale land acquisition at favorable prices made the provision of housing and public utility services feasible, while keeping land for future needs (as is the case of the French New Towns). British New Towns were forced to wind up by the Margaret Thatcher administration in the 1990s, that is, sell out to private firms pockets of publicly owned land ripe for development. Thus, planning was frustrated from making the best of a public investment.

City building skills, urban architecture, planning, landscape design, and engineering proved important for the vigorousness of urban life. Plans for the first British New Towns conformed to the planning orthodoxy of the 1950s and 1960s, with their strict separation of uses and the application of the neighborhood unit concept (Figure 7). They are now criticized for overly simplistic approach. In terms of architecture, brick built, pitched roof

dwellings characterized British New Towns. The Scandinavian ones, with free blocks and towers, pursued the vision of a 'city in a forest', and were perhaps the prototype for Hong Kong or Singapore New Towns of 30 story blocs of flats. In France, first operations were felt as a fertile ground for pioneering architecture. In their enthusiasm, architects designed artificial and illegible environments, which were to be called science fiction utopias. Among planning innovations, open air shopping centers, a modest version of today's consumption temples, can be credited to New Towns (as in Stevenage (Figure 8), Cergy Pontoise (Figure 9), and others).

Today, ample land and the tradition of innovation make New Towns well equipped to respond to the challenge of more sustainable urbanism, and also of city marketing. Most European New Towns are now part of the local administration system. The discussion about

them, while not overseeing pre mentioned issues, focuses on whether they are cherished by their people, that is, whether their urban, social, and cultural identity stimulate a sense of attachment to them. The ultimate target for New Towns is to become home towns.

See *also*: Edge Cities; Growth Poles, Growth Centers; Refugees and Displacement; Squatter Settlements; Urbanization.

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# New Urbanism

E. J. McCann, Simon Fraser University, Burnaby, BC, Canada

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## Glossary

**Communitarianism** A philosophy that advocates the good community as the foundation of society. Communitarians oppose the individualistic tendencies of liberalism and, instead, see human identity as relational – always embedded in a social context. Individuals' relationships within communities draw them into political participation, etc. which strengthens the community. Recent versions of this approach call for a return to participation in community organizations in order to build social ties, social capacity, or social capital.

**HOPE VI** An acronym for 'Housing Opportunities for People Everywhere' HOPE VI is a program of the US Department of Housing and Urban Development, focused on changing the form of public housing, empowering residents, and locating public housing tenants in mixed income contexts. Among other strategies, it has adopted New Urbanist design principles as a reaction against high-rise 'projects' of the past.

**Smart Growth** A political movement and planning strategy, originating in the US, which seeks to identify and overcome the negative impacts of urban sprawl. Focus tends to be on the preservation and reinvigoration of inner cities and inner suburbs as a way of discouraging development on the urban fringe. Advocates also try to preserve open space and farmland, frequently by using incentives to developers and businesses as much as regulatory limits to expansion.

## Introduction

The New Urbanism is a movement intent on improving quality of life in cities by changing urban form. Its early iterations are most commonly associated with the work of a small group of US based architects in the 1980s. Yet, it is worth noting that early New Urbanists were partly influenced by the work of European architect, Leon Krier and his neotraditional town of Poundbury in the English county of Dorset. Indeed, the movement in general tends to hold certain European urban forms, such as Italian hill towns, in high regard. As a complex combination of influences distilled into a straightforward set of planning principles, New Urbanism has become a major force in planning practice in North America, Europe, and, to a lesser extent, other parts of the world.

New Urbanism's principles combine a critique of car oriented cities with a set of proposals on how urban built environments can be reformed to foster community and reduce negative human impacts on the environment. The ideal New Urban form is compact, features a mix of residential and tenure types, and includes a range of land uses, such as places of worship, schools, shops, and workplaces within walking distance of houses and apartments. Proponents believe that it is a form that encourages the development of community by emphasizing propinquity through compact housing, walkability, and abundant public space. In aesthetic terms, New Urban developments tend to exhibit an eclectic style, although one that is frequently marked by neotraditionalism – a nostalgic attraction to idealized architectural details, such as porches and picket fences. This is especially the case in the North American developments designed or influenced by Andres Duany and Elizabeth Plater Zyberk, although Krier's Poundbury has also been critiqued for its eclectic mix of traditional styles. As the principles of New Urbanism have seeped into planning practice across the world, however, traditionalism has become somewhat less common as attempts to encourage (a return to) compact city form have come to dominate neotraditional design.

Arguments for this idealized urban form are coupled with a strong political agenda which seeks to replace traditional decision making practices in urban planning with a bottom up model of participatory planning 'charrettes' – intense collaborative public meetings in which visions are articulated and where the details of designs are developed by architects, planners, developers, residents, and other interested citizens. The growing popularity of New Urbanist ideas reflects many political leaders' receptiveness to almost any well presented scheme that offers to mitigate the social and environmental problems of contemporary urbanization. For example, English cities were the focus of a government report in 1999, entitled *Towards an Urban Renaissance*. The report, which has informed subsequent government urban policy, echoed many New Urbanist ideas as it advocated for a sustainable urban form that fosters mixed uses, walkability, cycling, and transit. In the US, the federal Department of Housing and Urban Development has incorporated New Urbanist ideas into 'HOPE VI' public housing programs. These national level adoptions of New Urbanist principles have been accompanied by positive responses from mayors of cities across North America and increasingly in European cities such as Berlin.

New Urbanism's popularity also reflects the persuasive abilities of some of its leading lights. US based leaders of New Urbanism include San Francisco based Peter Calthorpe Associates, Miami based Andres Duany and Elizabeth Plater Zyberk and their Duany Plater Zyberk & Company (DPZ) architectural firm, and the RTKL firm, which originated in the Washington, DC area. Besides Leon Krier, the British engagement with New Urbanism has also been influenced by Richard Rogers who chaired the task force that produced the *Towards an Urban Renaissance* report and a subsequent update report, *Towards a Strong Urban Renaissance*, which reasserted a vision of compact well designed cities. These designers, and a number of allied writers like Peter Katz, James Kunstler, and Philip Langdon, have tirelessly promoted and popularized New Urbanist ideas and connected them to other reform agendas, such as those of the sustainable urbanism, compact city, and smart growth movements.

In the 1980s and early 1990s, New Urbanists found it difficult to convince planners in the US to approve the mixed use zoning needed to build their developments or to find developers and financiers willing to partner with them on new developments. Yet, today their ideas are commonplace in planning departments not only in the US but increasingly in other parts of the world. Furthermore, they are now seen as viable and indeed attractive investments by developers and lenders, having, for example, received a corporate 'stamp of approval' through their use by the Walt Disney Company in its Celebration development in Orlando, Florida.

There are now numerous companies designing in a New Urbanist style. A study published in 2001 noted that since the 1980s, over 400 New Urbanist developments had been started in the US alone. Perhaps more profoundly for the future of cities, numerous municipalities have adopted 'form based' (as opposed to standard 'use based') planning codes and regulations formulated by New Urbanists working as consultants. DPZ, for instance, is involved in both building and code development. The firm currently lists completed developments (like its original and iconic Seaside in Florida), ongoing plans, urban redevelopment projects, and a series of other projects in North America, South America, Europe, Asia, and Oceania. Calthorpe Associates list projects on four continents, and RTKL operates globally from offices in a number of North American, European, and Asian cities. (Although, it should be noted that the literature suggests that New Urbanist developments are largely concentrated in the cities of North America and Europe with little significant presence evident in the rapidly growing cities of Asia, for example.)

New Urbanism's foci on the urban built environment, public space, and questions of development and ecology make it an obvious object of geographic scholarship. To

understand these foci, it is worthwhile briefly examining the strands of planning thought that have influenced or paralleled the movement's rise.

## Sources of New Urbanist Ideas

New Urbanism is a somewhat diverse movement with a number of distinct, if connected, emphases – such as environmentalism and neotraditionalism. Similarly, its intellectual development has been characterized by a careful and selective appropriation of ideas from earlier periods of planning thought, often to the point of bringing together ideas that can be seen to be at odds with one another.

A central figure in the intellectual history of New Urbanism is Jane Jacobs, whose classic 1961 book, *The Death and Life of Great American Cities*, marked the beginning of the backlash against urban redevelopment and top down, car oriented planning in the US. Jacobs, like many New Urbanists, saw the vibrant urban neighborhood as the best model for planning. Her touchstone was the Greenwich Village of the 1950s, an exuberant, diverse, and organically growing palimpsest which developed in a dense grid of streets which were populated at most times of the day and night by an array of different characters and activities. From her experience living in the Village, she proposed four conditions for the good neighborhood: it must serve more than one economic function, it must have mostly short blocks on a grid, buildings must be of various ages, and it should contain a densely concentrated population. Three of these criteria have been central to the New Urbanist perspective but it has been difficult for the movement – which largely deals in newly built developments, whether in the suburbs or in central cities – to incorporate older buildings. Jacobs' ideas resonate in some ways with those of Kevin Lynch who, writing around the same time, argued for an urban form that was 'imageable' – easily read by its inhabitants. His work identified the importance of clearly defined paths, edges, districts, nodes, and landmarks in cities. Lynch's ideas have accompanied those of Jacobs into New Urbanist thought. Yet, these appropriations are selective and strategic. The newness and intricately planned nature of most New Urban developments, for instance, stand at odds with the ideas in Jacobs' book which tend to laud urban neighborhoods that have grown organically and somewhat haphazardly. After reading Jacobs' work, one might ask how possible it is to 'plan' diversity and vibrancy, as the New Urbanists hope to do?

Traces of the 'garden city movement' are also evident in New Urbanism. Originating in the work of Ebenezer Howard at the turn of the twentieth century, garden cities are a paradoxically anti urban idea. Developed through a critique of both the perils of life in the industrial city and



of residential suburbs and rural areas, the garden city idea sought to construct a new type of city which incorporated the best of each – jobs, open air, community, etc. – through the careful planning of new communities. This utopian retreat from the unruly city distinguishes Howard's ideas from those of Jacobs'. In fact Jacobs explicitly criticized both garden city ideas in general and specific built examples for their over planned anti urbanness, questioning, for example, the separation of cars and pedestrians onto different paths and roads in Radburn, New Jersey.

Nonetheless, the legacies of Jacobs and Howard have been somewhat improbably combined in New Urbanism. New Urbanist's ideal city form looks more like Jacobs' than Howard's, yet there is a strong desire in New Urbanism for order and beauty on the landscape, rather than the complex and not always aesthetically pleasing jumbles of urban life that inspired Jacobs. Nonetheless, New Urbanists have been able to accommodate these contradictions in their own minds and develop from them a strong utopian vision of the future of cities. Critiques of the inconsistencies and silences in their agenda remain, however.

### **Out with the Old and in with the Older? The New Urbanist Agenda**

The New Urbanist critique of the contemporary urbanism is not without merit. Neither, for that matter, are some of the movement's proposed changes to urban form. Yet, questions remain as to whether their critiques and solutions – which are focused on urban form rather than on the processes that produce negative and unsustainable cities – will affect radical change or whether, instead, they are likely only to produce more convivial urban built environments for the wealthy few, fostering gentrification rather than more comprehensive forms of urban renaissance. Before engaging with these critiques, it is important to detail the New Urbanist agenda.

### **Clash of Utopias: The New Urbanist Critique of Post-War Modernist Urbanism**

The New Urbanist critique of the way that cities have been planned, designed, and developed since the end of World War II is, in essence, a critique of a particular vein of planning thought. Planning in the post war period was part of a wider modernist movement and thus contained strains of utopian thought. These utopian impulses in planning envisioned, among other things, an urban future where the rational planning of land uses and infrastructure, coupled with particular building design principles, would produce socially just cities. The economy would operate efficiently and for the benefit of society through the development of more effective

infrastructures; harmful land uses would be separated from population centers through horizontal functional zoning; and residents would have access to nature through various means, including urban parks, efficient automobile transport to the countryside, and large plat residential zoning which allowed substantial yards around detached single family homes. Yet, the modernist project was internally variegated and involved contradictions and unintended consequences. These are the contemporary urban problems that have been in the cross hairs of New Urbanist critique since the 1980s.

Urban form is, then, at the center of the New Urbanist agenda. From an original focus on US suburbs (at one point, an observer labeled the movement, 'the New Suburbanism') New Urbanists argue that suburban form promoted social distance and encouraged profligate energy use. They point out that standard zoning creates cities with largely similar housing types clustered together – large lot single family here, slightly more dense single family here, and multifamily housing (apartments, townhouses, etc.) over there. This form ensures a general separation of incomes, with all those who can afford a particular type of housing living together, their children attending the same schools, and so on. Social cohesion and a sense of community is, therefore, very difficult to maintain or promote in this fragmented urban geography, say the New Urbanists. Furthermore, they question the very basis for traditional forms of functional land use zoning in 'postindustrial' countries. They suggest that since cities (or at least the North American and European cities in which the movement is largely based) are now much less the centers of heavy, polluting industries, standard forms of single use functional land use zoning are now less tenable, as is post war planning's unease with mixed use zoning.

The (sub)urban form of the mid and late twentieth century is not only critiqued for its segregation of housing forms, classes, and presumably by extension, ethnicities. New Urbanists also focus on details of design and engineering and their social and environmental consequences. The contemporary city is, of course, car oriented. The standard post war model for roads in the suburbs eschews the compact grid pattern of many older urban centers in favor of wider, curvilinear streets that make driving more convenient, often at the expense of walking. This traffic model relies on a dendritic, or tree like, organization of streets and roads, where the smallest local streets in residential areas – ones which often end in cul de sacs or have other design features to discourage through traffic – branch into larger capacity collector streets, intended to carry traffic to local 'traffic generators' such as small shopping centers. Collector streets, in turn, feed into major arterial roads and highways, which service major 'traffic generators' like large workplaces, regional malls, sports stadia, etc., and eventually lead to

freeways. This organization of roadways accompanies and necessitates a number of other landscape forms – such as large parking lots and ubiquitous median strips – while demanding certain lifestyles – for example, the need to drive via busy arterials in order to shop, go to school, or visit a park, or a tendency to be separated from neighbors as a result of traveling mostly by car rather than on foot.

New Urbanists point to the rise of increasingly anomic and placeless cities. They tie the blame for this situation to questions of urban form. (Indeed, supporters of the movement have gone so far as to link the 1999 Littleton, Colorado school shootings to the problems of suburban design and have proposed the New Urban form as a solution while the British urban task force discussed above focused on crime and urban design in their reports.) They also critique the character of decision making in post war urban planning, suggesting that planning has become rigid and bureaucratic and has fallen under the spell of engineers and elitist avant garde architects who are itching to test their latest designs on an unsuspecting public. They argue that, in general, standard planning is closed to ordinary citizens, due to its use of specialist language and Byzantine zoning codes. Any merits of utopian modernism in planning and design have, they argue, been lost and a new optimistic view of urban form is necessary.

### Strategies for Achieving the New Urban Form

New Urbanism advocates a change in zoning regulations. Zoning should focus less on use and more on urban form, they argue. It should, more specifically, be flexible enough to encourage mixed housing and tenure types. This, they suggest, will promote the social and economic mixing and community building that standard zoning militates against. Mixed use zoning codes also encourage compactness, walkability, and the ‘human scale’. Buildings in which apartments are located above shops or restaurants should be encouraged, for instance. Similarly, zoning should allow for the development of mixed use nodes within walking distance to transit stops, in order to encourage alternatives to car travel – these transit oriented developments have been associated most strongly with Peter Calthorpe’s brand of New Urbanism. Duany and Plater Zyberk, for their part, propose a zoning scheme, based on transects of land stretching from rural to urban areas, which emphasizes coherence of land use within specific areas. Apartment blocks are defined as an appropriate form for an area defined as very urban, ranch houses for other areas, for instance. The transect approach also indicates that New Urbanists have emerged from the suburbs in recent years and increasingly deal with issues of inner city redevelopment which has, in turn, placed them at the center of the politics of gentrification.

New Urbanism’s fastidious approach to urban planning is evident in the details of New Urbanist design. Model developments like Kentlands, Maryland feature single family homes, townhouses, and apartments in the same project, although it would be a stretch in most cases to define a significant number of these units as affordable housing. Neighborhood compactness is also central to this design approach. Houses are placed close together, at the expense of large yards and – ideally at least – shops, schools, workplaces, churches, community centers, and recreation facilities will be located among or within walkable proximity to the housing. Thus, cars will be less necessary and walking and cycling will become the common modes of travel. Streets in New Urbanist developments tend to disdain cul de sacs in favor of intersecting patterns, designed to encourage through traffic – cars, bikes, and pedestrians. This interconnection is intended to dispense with the need to travel long circuitous routes along arterial roads to reach stores, schools, etc. Road intersections are designed with relatively sharp corners, rather than the wide, flowing corners of standard suburban streets. This reduces the width of the intersection and makes it easier for pedestrians to cross. This is part of the ‘human scale’ approach and, it is hoped, encourages walking. This detail oriented focus on improving the quality of pedestrians’ lives also extends, for instance, to the details of sidewalk paving materials.

Design must also allow residents to clearly imagine the edges of their neighborhood, its main nodes, or community gathering points, etc. New Urbanists therefore pay great attention to planning these elements in order to enhance neighbors’ sense of place. The social goal underlying these strategies is to promote community. New Urbanists believe that people will engage more with their neighbors if the form of their neighborhood encourages them to be on the sidewalks and in local public spaces. The classic example of this is the use of front porches in many of these developments. In a nostalgic turn, the architects place porches close to the street with the hope that chance conversations will occur between homeowners and sidewalk strollers. For New Urbanists, these conversations will form the basis for building community and social capital.

The ideal of community is also central to New Urbanists’ contribution to contemporary urban decision making processes. As an alternative to the top down bureaucratic planning they criticize, New Urbanists invoke the notion of the ‘charrette’, a term used in architectural practice to define an intensive, collaborative effort to develop ideas and designs for a project. This type of collaborative ‘visioning’ process is intended to break down barriers – between ‘expert’ planners, architects, engineers, or developers and residents or ‘stakeholders’ while also building bonds among different groups of residents and stakeholders. Thus, the charrette

process provides the opportunity for community building in a physical and a social sense. The outcome of this sort of process is, ideally, a consensus based plan with stakeholder buy in, rather than a plan designed within the enclosures of the state and then presented to residents only for comment.

It is worth emphasizing once more that New Urbanist principles are ideals and that the strategies intended to achieve them are best practices. In reality, there is an uneven geography to New Urbanism. From the 'flagship' developments like Poundbury and Seaside to the various infill projects in a diverse array of cities in North America, Europe, and beyond, a great deal of variation exists in how New Urbanist ideas are used. As Jill Grant's book, *Planning the Good Community*, illustrates, the uptake of New Urbanist principles and their effectiveness in achieving all they promise differs depending on a range of social, historical, and geographical factors, even in 'showcase developments' such as Karow Nord in Berlin. Furthermore, New Urbanism's celebration of compact, central city living dovetails perfectly with the global phenomenon of gentrification. In this context, many of the movement's core principles serve as perfect marketing tag lines for developers.

### **New Urbanism as a Social Movement**

Before turning to geographers' and others' engagements with these ideas, it is worth emphasizing that New Urbanism is not merely a force within the design professions. Rather, it should be thought of as a powerful and effective social movement that has been able to get its ideas listened to and its designs built and incorporated into urban policy. This has been achieved in a number of ways. First, New Urbanists engage in persuasion of other architects and planners and of politicians through engagements in policy discussions, publishing books and scholarly papers, and organizing or participating in conferences. The key players in the movement also offer their consultancy services to cities. They teach in various settings, from classrooms to workshops and less formal gatherings, and through their almost religious zeal for their utopian vision, gain many converts who, in turn, have reshaped city policies. Through this process of engagement, the leaders of the movement are often portrayed, intentionally or otherwise, as messianic figures – the saviors of the city. This image, whether accidental or purposively cultivated, has the potential to undermine the bottom up idealism of New Urbanism's approach to decision making.

Perhaps with this tension in mind, New Urbanists have also organized themselves into a professional advocacy organization – the Congress for a New Urbanism (CNU) – with its own charter and set of written

principles. As such, the movement presents itself as serious, firmly grounded, and broad based – not merely at the whim of a few 'starchitects'. The CNU provides weight and added persuasiveness to the New Urbanist cause. New Urbanists also act strategically to link their ideas to other like minded movements and current ideas that are influencing planners and politicians. For instance, while some New Urbanists have always been motivated primarily by the ecological consequences of urbanization, others identified the political importance of aligning the movement as a whole with the sustainable urbanism, antisprawl, and 'smart growth movements' in the 1990s.

### **Geographers' Engagement with New Urbanism**

New Urbanism, with its claims about development, place, community, and human–environment interaction has been an object of study for geographers. While the discipline's journals occasionally feature articles that wholeheartedly accept or explicitly advocate for New Urbanism, most geographers accept some of New Urbanism's critiques of post war urbanism but tend to be somewhat skeptical of many of the movement's proposed solutions and their social, economic, and political implications.

Perhaps geographers' most common critique is that New Urbanism's approach to reforming contemporary urbanism is overly focused on questions of built form. It commits a 'physicalist fallacy' and indulges in a form of environmental determinism which holds that human behavior, social systems, and economic structures will change if the physical built environment in which they operate is changed. Arguments that neighbors will use their cars less and converse more when they live in houses with porches, built on walkable streets are regarded skeptically by geographers whose scholarship emphasizes the complex and multiscaled conditioning of everyday life. These conceptual objections have been accompanied by others from those who have empirically researched New Urbanist developments.

A second major critique of New Urbanism addresses the movement's claim that a better urban way of life will accompany increased 'community'. Both through their ideal urban form and through their decision making charrettes, New Urbanists invoke a notion of community building which mirrors longstanding communitarian concerns, which have recently gained new popularity through discussions of 'social capital'. Geographers have questioned this perspective in two ways. First, they note that there is a problematic equation of neighborhood and community in New Urbanist thought. Neighborhoods, as relatively small spatial units, neither define nor limit most communities, which are assemblages of social connections stretching over large areas and various scales.

Certainly, there are benefits to the ideal of localizing certain social interactions (minimizing car travel, for example), yet it is misleading and simplistic to suggest that community can be defined and contained by a neighborhood. Second, 'community' for New Urbanists is seen to be wholly positive. Yet, geographers and many others have, through a great deal of empirical and conceptual work, noted that communities are by no means necessarily progressive social forms. Community can often be exclusionary, with internal identity being defined in terms of negative opinions of outsiders. Similarly, community can be internally oppressive and conservative, repressing difference and dampening critical thought in favor of conformity to certain social norms. Critics therefore question both the idealist and conservative tone of the New Urbanist agenda.

These questions are paralleled by critical geographers' understanding of New Urbanism as a powerful marketing scheme, as well as a social movement. They have examined the movement's marketing strategies, noting the ways in which particular stories about history, nature, culture, and place are 'cut and pasted' together into narratives that attract certain profitable niche markets of house buyers, as well as policymakers. These critiques of the inconsistencies, naiveties, profit motivation, and cultural politics underlying the New Urbanist agenda should not lead us to ignore or dismiss the movement, however. Rather, New Urbanism should be taken seriously by geographers and others precisely because of the way it sustains and draws sustenance from so many of the ideologies and practices that shape today's cities – from gentrification, to urban neoliberalism, to urban sustainability. It is a powerful force in contemporary urbanism precisely because it proposes a number of broadly attractive solutions to urban problems, even if some of those solutions do not stand up to critical scrutiny.

See also: Anti-Urbanism; Gentrification; Housing; Neighborhoods and Community; Planning, Urban; Public Spaces, Urban; Suburbanization; Urban Architecture; Urban Design.

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Aims to Foster Attractive Communities with a Strong Sense of Place.
- <http://www.dpz.com/>  
Organisation Offering Planning and Architectural Services.
- <http://www.cnu.org/>  
Organisation Promoting Walking, Neighbourhood Based Development.

# NIMBY

P. Hubbard, Leicestershire University, Leicestershire, UK

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## Glossary

**Externality** An unpaid for but experienced effect that results from an investment or land-use decision made by someone else. Externalities may be negative (e.g., the noise pollution caused by a new recycling facility) or positive (e.g., the convenience of having a recycling facility on one's doorstep). In economics, this phenomenon is often discussed in parallel with the idea of 'freeriding', whereby people benefit from a good or service without ever having paid for it: NIMBYism tends to be more concerned with perceived negative externalities.

**Externality Field** The area over which externalities are felt or experienced.

**Gentrification** The displacement of a lower-class group by upper-class homeowners and investors, often associated with the revaluation of specific census tracts or neighborhoods following years of decline.

## Introduction

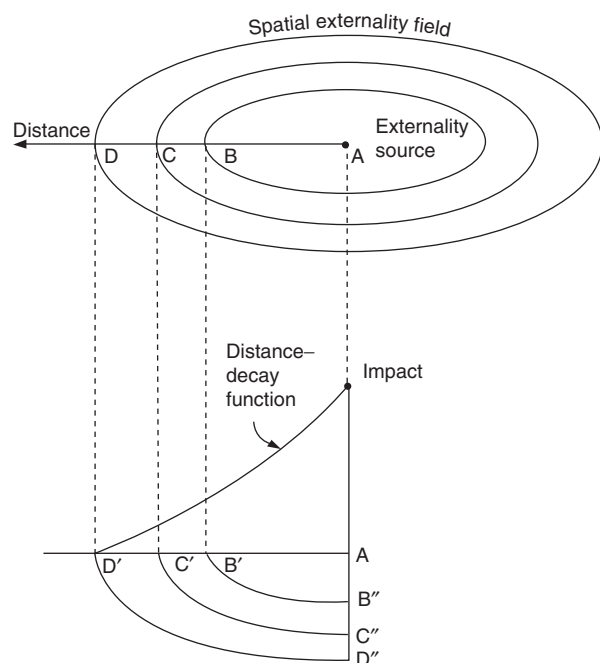
NIMBY – a widely used acronym for 'Not in My Back Yard' – is a term which summarizes the oppositional rhetoric of those residents concerned about the potential impacts of new developments on their neighborhood or locality. The term has hence been used to describe the arguments of those opposing the development of potentially hazardous facilities (landfill sites, power plants, incinerators, and mobile phone masts), as well as protests against 'undesirable' human service facilities (such as alcohol rehabilitation centers, prisons, and homeless hostels). Collectively, such facilities may be referred to as Locally Unwanted Land Uses (LULUs); however, NIMBYism may also be expressed against the development of facilities generally imbued with more positive connotations, with the development of new sporting stadia, supermarkets, casinos, and religious facilities sometimes provoking local campaigns of opposition. Yet perhaps the most frequent form of NIMBY protest is against new housing development, particularly where it is perceived higher densities of residential occupation will have a detrimental effect on neighborhood amenity and put pressure on local resources (as recent studies of opposition to 'town cramming' and new house building have demonstrated).

While it is clear that local opposition to urban development is not a recent phenomena (and, indeed, can be

demonstrated to have occurred at least since the nineteenth century), the term NIMBY has a more recent provenance, reportedly first used in the late 1970s to describe the opposition of US suburbanites to the prospect of having hazardous landfill sites located in the vicinity of their homes. The term spread remarkably quickly, however, and by the 1980s was routinely used in political and media discourse in Europe, not least in the context of opposition to house building in rural areas of Britain, where (mainly) Conservative voters in urban fringe areas sought to oppose the relaxation of planning controls by Environment Secretary, Nicholas Ridley, who repeatedly characterized them as self interested NIMBYs.

This particular – and pejorative – use of the term to characterize protestors as motivated by selfish protectionism has tended to overshadow its use and value as a geographical concept, and there are many who have argued that it is in fact inappropriate for geographers to use the term given that it presupposes the motives of protestors. However, NIMBYism can be regarded as an explicitly geographical concept, in a sense that it is a term which, by definition, refers to 'local' opposition to development. Indeed, in most instances of NIMBYism, opponents begin by conceding that there is a need for such development to occur, yet contest the idea that it needs to be in the vicinity of their homes and families. NIMBY opposition is thus fuelled by an understanding that certain facilities will create 'negative externalities' or nuisances which will effect neighborhoods proximate to the development but have negligible impacts on those people and homes further away.

In this sense, NIMBYism can be viewed as involving a conflict between local/private and national/public interests. Exploring the ways such conflicts are played out has thus become an important tradition within urban social geography, with associated work in economics and urban property management seeking to quantify the real and imagined impacts that development has on particular communities. Demonstrating that locally unwanted land uses have different impacts on house prices at varied distances is thus an important geographical contribution to policy debates, as is the mapping of 'externality fields' which are of different intensity, effect, and distance-decay. In **Figure 1**, adapted from the work of geographer Michael Dear, the intensity of a negative externality (e.g., a measure of the noise generated by an incinerator) indicates the relative level of nuisance experienced at a given distance from a development, while the extent of the field indicates the total area within which some



**Figure 1** Dimensions of the spatial externality field.

nuisance exists. The distance–decay curve accordingly indicates how measured nuisances decline with increasing distance from their source.

Geographers' examination of locally unwanted land uses suggests these tend to be associated with overlapping externality fields whose intensity and extent varies according to the type of facility in question. For instance, a major facility like an airport may be associated with a larger externality field than is the case for a hospital or rehabilitation center; in the case of the former, noise impacts tend to generate a more extensive externality field than traffic and parking problems, which may be more localized. However, research exploring residents' perceptions and experiences of nuisance when living close to such facilities suggests that topography, predominant wind direction, and existing transport routes all conspire to ensure distance–decay rates are rarely uniform (in relation to airports, for example, it has been demonstrated that aircraft noise will impact more on communities in the take off and landing zone than on communities located at similar distances yet parallel to the main runways). Research also suggests that there are important diurnal and seasonal variations in the perceived levels of nuisance associated with many facilities so that, for example, aircraft noise might be experienced differently at night than during the day. Studies of the externality fields of football stadia likewise imply that nuisances of illegal parking, floodlight glare, littering, and noise may be very different when they are being used for pop concerts as opposed to football matches, irrespective of the number of spectators. Even so, Michael Dear

(1992: 291) argues “there is one universal factor in all NIMBY conflicts: geographical proximity...the closer residents are to an unwanted facility, the more likely they are to oppose it.”

Mapping externality fields thus offers a particular understanding of why residents might oppose specific types of development given it is entirely predictable that residents who perceive they will be negatively affected by externalities will act to protect their major asset (i.e., their home). In this regard, it is crucial to note that while homeowners can insure their house against fire, flood, or theft, the development of locally unwanted land uses represents an uninsurable risk. Of course, this perspective assumes that NIMBYs are owner occupiers, and suggests renters and leaseholders will be less motivated to join NIMBY protests because it is not in their interest to do so.

The idea that NIMBYs are motivated to protect property prices is thus a major conclusion of the literature on participation in local campaigns of opposition. As such, it is often suggested that NIMBY is best understood as an attempt by resource rich middle class homeowners to displace undesirable facilities toward transient and resource poor regions. In the context of urban land use, NIMBYism can hence be seen as one of the key ‘push’ factors that encourages the clustering of ‘noxious’ facilities in inner city areas away from wealthier, whiter census tracts. Alongside this oft noted centripetal movement, however, Stein also notes the tendency for NIMBYism to push unwanted developments toward the urban fringe, thus preventing ‘efficient and sustainable’ use of urban space; simultaneously, this process of displacement may create urban/rural conflicts as different political and planning interests seek to maintain a clear boundary between town and country. Hence, while often identified as a predominantly urban phenomenon, NIMBYism is also vociferously expressed in rural environments where NIMBY protestors may make great play of the potential despoilment of the countryside.

### The Tactics of NIMBYism

By definition, all NIMBY campaigns are based on the argument that a particular facility, while necessary, could be better located elsewhere. However, the specific nuance of this argument varies from place to place, with campaigners citing a variety of reasons why a development is inappropriate in their locality. On occasion, protestors will emphasize the potentially deleterious impact of a development on their house prices, and emphasize the issues of blight that might be associated with living alongside a locally unwanted land use (especially when it is regarded as unsightly). More normally, however, attention is drawn to the potentially negative impacts of a development on the community's health and well being,

whether these are related to the initial construction of a facility or its day to day operation. A common rhetorical strategy here is to emphasize the potential risk that proposed developments might pose to the health of children, who are frequently portrayed as 'innocent' parties caught up in a conflict not of their making. The idea that a new development might increase local traffic thus becomes depicted as a threat to the road safety of local children; aircraft noise prevents children from sleeping or studying properly; pylons and mobile phone masts are opposed because of the (unproven) allegation that they may be associated with childhood cancer and leukemia.

In relation to human service facilities (like prisons, hostels, and asylums), such arguments take a rather different inflection, with protestors typically suggesting it is the 'clientele' of the proposed facility that poses a threat. In many instances, it is the media stigmatization of such groups and communities that fuels such NIMBY urges. For instance, geographical investigation of NIMBY opposition to homes for those living with human immunodeficiency virus (HIV), needle exchange programs, homeless shelters, sex work projects, and housing for 'special needs' and disabled clients has suggested that protestors draw extensively on negative media stereotypes of such groups as a direct threat to families and property. This fear is most often expressed in relation to convicted offenders and recovering addicts but it is also expressed for the homeless and the mentally ill since their behavior is often regarded as unpredictable. The idea that such groups might participate in antisocial behavior such as loitering, begging, or drug dealing is an often cited fear. Images of uncleanness and impurity may also be relevant in some instances, effectively stigmatizing some groups as a health risk, while a general concern that users of human service facilities are lazy and unemployable leads many to view them as a potential burden which a community will have to bear. Taking these concerns together, Takahashi and Dear thus identify a 'hierarchy of acceptance' whereby facilities for those with mental illnesses or addictions are regarded as less desirable than, for example, homes for elderly or infirm; in their survey of US suburban populations, it is actually homes for those living with HIV that are regarded as the least desirable community facility.

Prompted by fears of the impact of development on their homes and lifestyle, NIMBY protestors use a variety of means to articulate their anxieties. First, and perhaps most obviously, NIMBY opposition occurs through pre-existing political channels, so that, for example, protestors make representations through processes of planning consultation, zoning hearings, or design review boards. Given most planning systems concern themselves solely with issues of environmental and residential amenity, and not social justice, NIMBY protestors are thus forced to shift the basis of conflict from questions of social or moral

geography into the (apparently) asocial realms of environmental impact assessment. In practice, this means that NIMBY protestors seek to assemble credible evidence to highlight the negative externalities that will be associated with a development (noise, increased traffic volume, health risk, etc.), and lobby politicians and planners accordingly.

Another (successful) strategy employed by NIMBY protestors in this regard is to employ what Michael Dear refers to as a 'sophisticated' argument, whereby they disguise themselves as advocates for the cause but formulate their opposition from the perspective of the target clientele. For example, it might be argued by a NIMBY protestor that a homeless shelter or HIV clinic is an important and valuable facility, but that the neighborhood is not conducive to the rehabilitation of the client. A notable instance here is provided by NIMBY opposition to the development of asylum seeker accommodation in the UK: in the seaside town of Saltdean, near Brighton, opponents of a proposed center made repeated reference to the lack of suitable entertainment and leisure facilities in the area for such populations, as well as the lack of religious facilities catering for a diverse and multicultural community. Similarly, opponents of affordable housing might challenge its development with reference to the lack of local job opportunities or school facilities in the area, or point to the absence of public transport infrastructure. In such cases, NIMBY opponents seek to dismiss allegations they are acting in a parochial or selfish manner: rather, it is developers who are made to appear shortsighted by failing to locate a development in a more appropriate location.

As such, the formal processes which allow residents to make representations about proposed development tend to favor the most politically articulate, giving credence to the claim that NIMBY is a process in which resource rich residents displace unwanted land uses onto less articulate neighborhoods. This is borne out by studies which note the pivotal role of gentrifiers in displacing groups and facilities from inner city areas where resident groups had previously been unable to mount credible campaigns of opposition. Nonetheless, it should be noted that NIMBY is not merely a phenomena occurring in the wealthiest suburbs, with class alliances sometimes emerging as groups coalesce around opposition to developments in deprived or struggling areas. Furthermore, those wealthy suburban dwellers who repeatedly oppose development gain a reputation among planners as serial NIMBYs, and that this ultimately undermines their credibility (and effectiveness). In contrast, forms of direct action (e.g., petitioning, pickets, sit ins, and squatting campaigns) may be more effective at halting development: while anti road building protests, squatting movements, and impromptu street parties are usually theorized by geographers as instances of resistance rather than NIMBYism,

there is no doubt that they can bring together those who are opposed to development in a specific locale with 'eco rads' opposed to development in general. Indeed, studies of anti road building, anti mobile phone masts, and anti airport expansion movements stress that these protests often involve complex actor network spaces with national, as well as local dimensions: the definition of the 'local' is rarely clear cut in cases of NIMBY opposition.

### Problematizing NIMBY

Though it remains prominent in media discourse, NIMBY is a term whose popularity among geographers has waned. One reason is a general uneasiness about the way the term is applied to antidevelopment protests, irrespective of the type of protestors involved. A key question here is whether NIMBYism is just that, or whether some NIMBY protestors are actually Not in Anybody's Yard (NIABY) or Build Absolutely Nothing Anywhere Near Anybody (BANANA). As Wolsink argues, the term NIMBY implies resistance to development in a protestor's own neighborhood, but assumes these same protestors would have no problems with the development of those facilities elsewhere. However, examination of NIMBY campaigns reveals that, in many instances, campaigners are not accepting of the need for development *per se*, and refuse to acknowledge that it is in the national (social) interest. For example, Wolsink has demonstrated that opposition to developments is often unrelated to proximity (challenging Michael Dear's assertion that opposition is dependent on locational proximity). In the case of rural wind farms, for example, he demonstrates that many 'NIMBY' opponents are not directly effected by the noise of wind farms, and may not even be able to see them: rather they are opposed to the idea of wind farms despoiling the countryside in general terms. Similarly, Hunter and Leyden found little evidence of NIMBYism in their studies of hazardous waste incineration. Rather than concern about local property values and aesthetics (usually regarded as characteristic NIMBY attitudes), they found that opposition related more to a lack of trust in the government's claim that this was an appropriate and safe way of disposing of waste.

In addition to the inappropriate labeling of some protests as instances of NIMBYism, Wolsink raises another concern about the language of NIMBYism being utilized by researchers. As he details, NIMBY is a term often employed by planners to emphasize the self interested and negative attitude displayed by some communities. Indeed, throughout the planning literature it is possible to find reference to NIMBYism as a major obstacle to the delivery of services and housing in a socially just and sustainable manner, with Pendall arguing that NIMBY "connotes a selfish desire to abdicate

responsibility for important community facilities." For Wolsink and others, the labeling of protestors as NIMBYs precludes a sensitive understanding of their grievances and therefore prejudices their representation in planning and politics. Considering opposition to radioactive waste dumping, Kemp draws similar conclusion, noting the NIMBY concept may be "applied too readily, a convenient attribution of motive which disguises a more fundamental range of technical, environmental, and socio economic concerns...the NIMBY concept should therefore be rejected as distorting and unhelpful." In this sense, it is possible to concur with Burningham's view that when those concerned with researching, mediating, or resolving local disputes should steer clear of the language of NIMBY and instead engage with the 'diversity and complexity of 'local' concerns.

### Taking NIMBY Forward

Notwithstanding the important caveats that should be applied when describing protests as NIMBY, it is clear that planning proposals continue to be hampered by protests, with certain facilities being displaced from some locales only for their negative externalities to be felt elsewhere. Given the frequency of such protests throughout the urban West, exploring the causes and consequences of local opposition remains an important task for geographers. In this respect, the fact NIMBY has principally been theorized as an instance of class conflict is problematic given the rigidities and inflexibilities which many associate with Marxist perspectives. Accordingly, the attempt to characterize NIMBY as a conflict between development capital and residents seeking to protect their commodified living place (as in the seminal work of Kevin Cox) has been rejected as simplistic in several respects. Noting this, Bob Lake's attempt to position NIMBYism as implicated in both the primary and secondary circuits of capital accumulation places NIMBY in a richer theoretical context; likewise Neil Smith's focus on revanchism and gentrification offers some useful cues for those seeking to understand NIMBY as a means of creating profitable opportunities for corporate investment at the same time it maintains the ambience of family oriented spaces.

Beyond this (long standing) focus on the mechanics and machinations of real estate markets, NIMBY studies have been enriched through geographers' more recent engagement with questions of cultural politics, and particularly the role of NIMBYism in the maintenance of Self/Other boundaries. There is hence a growing literature which explores not only the 'rational' economic basis on which homeowners oppose the development of controversial or noxious land uses, but also the instinctive reactions people have when faced with



the prospect of living in the proximity of Other populations. In this sense, studies of NIMBYism have taken inspiration from more general literatures on sociospatial exclusion. Here, the work of David Sibley on sociospatial boundary making has proved highly influential. Drawing upon psychoanalytic ideas about the sorting of people and things into 'good' and 'bad' categories, Sibley has suggested the desire to create boundaries between Self and Other is inculcated in early infancy, being one of the ways the growing child seeks to situate itself in the social world and cope with anxieties about separation from the maternal. In Western societies that place considerable emphasis on order and predictability, these boundaries serve to exclude those who are depicted as disorderly, and hence as potentially polluting. Such perspectives imply people seek to defend their body, home, locality, or nation in response to the incursion of abject Others who threaten to overwhelm the boundaries of individual and collective identity. Problematically, such psychosocial perspectives also imply individuals are not able to fully articulate why they oppose particular developments or populations because exclusionary reactions are partially unconscious.

While such ideas have been mainly worked through in studies of reactions to human service facilities used by stigmatized groups, there are grounds for suggesting they are highly relevant in other contexts too. For instance, while opposition to affordable housing is often seen as being prompted by fears of declining house prices, Rose suggests those expressing NIMBY attitudes associate public housing with a failure to keep the local environment clean, which they interpret in terms of a lack of sense of responsibility on the part of the tenants. Of course, this stigmatization of the potential occupants of these developments as Other is often hidden in NIMBY discourse, and Rose insists it may only be after reeling off a series of environmental and esthetic concerns that interviewees mention what is really worrying them about a new housing development; namely, that the occupants will 'lower the tone' of the neighborhood.

Developing the case for considering fears of Otherness, Wolsink suggests anxieties about 'strangers' are not incidental even when considering opposition to infrastructure developments (such as landfill sites, phone masts, power plants, or wind farms). In each case, these developments are described using a terminology that stresses they are incongruent, with exclusionary metaphors of weeds, plagues, and bodily excretions frequently deployed to stress these developments would be 'out of place'. Such metaphors are also widespread in the oppositional discourse voiced toward many casino developments, with the potential users of such sites being identified as potentially indebted and/or criminal; likewise, debates about the 'negative secondary effects' surrounding adult businesses (sex shops, lap dancing clubs, and sex cinemas) revolve

around the idea that such facilities attract criminally disposed clientele to the area. However, local authorities' attempts to define 'buffer zones' between adult businesses and residential areas imply that such fears of criminality are conjoined with more general moral anxieties about the public visibility of commercial sex, with NIMBY protests and practices of zoning combining to pushing sex work toward marginal locations.

Tacking between questions of discourse and subjectivity, such analyses have suggested the language of NIMBY serves to differentiate Self/Other, with protestors' rhetorical strategies revealing fundamental anxieties about individual and collective identities. Given discourses about color, disease, and nature feature predominantly in Western representations of Otherness, it is perhaps unsurprising such anxieties are often projected onto non white groups, which are depicted as disproportionately reliant on human service facilities. Hence, within the literature on exclusionary reactions to proposed developments, increased attention has been devoted to the role of race, exposing the ways NIMBY actions often exclude people of color. Though protagonists contesting the development of human service facilities rarely see themselves as having malicious or racist intentions, Laura Pulido alleges that NIMBYism maintains white ethnic privilege by effectively constructing whiteness as the unnamed norm against which Otherness is gauged. Even when it is not characterized by hostile racism, NIMBYism may therefore be a key means by which white populations protect the benefits of their whiteness (such as the enhanced value of their homes and properties in relation to those in 'non white' areas). As such, studies of opposition to mosque building, public housing, and asylum centers flag up some important directions for geographers seeking to explore the intersection of class, race, and identity politics.

In sum, recent geographical perspectives suggest that NIMBY protests can be best understood as part of a suite of processes which serve to perpetuate geographies of social and spatial exclusion. The implication here is that instances of NIMBYism should not be treated as isolated instances of 'land use' conflict; rather, they always and inevitably involve questions of social difference and hence speak volumes about the social and social inequalities inscribed in everyday landscapes.

*See also:* Environmentalism; Neighborhood Change; Neighborhoods and Community; Planning, Urban; Public Good; Social Class; Social Justice, Urban; Social Movements.

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# Nongovernmental Organizations

Saraswati Raju, Jawaharlal Nehru University, New Delhi, India

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## Glossary

**Rent-Seeking** The term rent-seeking implies economic rent and refers to attempts by an individual, organization, or firm to gain money by economic and/or legal manipulation rather than by trade and production of wealth. Now, rent-seeking is more often associated with government regulation and misuse of governmental authority than with land rents.

**Subaltern** The exact meaning is disputed in current philosophical and critical usage. However, it commonly refers to people/perspectives/regions outside the hegemonic power structures.

**Washington Consensus** Term coined by John Williamson in 1989 to identify a set of ten economic policy prescriptions that would constitute a 'standard' reform package for poorer countries by institutions such as the International Monetary Fund (IMF), World Bank, and U.S. Treasury Department. The term has almost become synonymous with the reduced role of the state and expanding market forces associated with neoliberalism.

Nongovernmental organizations (NGOs) have always been present in some form across the world. However, the phenomenal increase in their numbers and the research attention paid to them in the recent past is symptomatic of several parallel processes, which include states' declining role in direct service provision in many parts of the world under the increasing significance of political and economic forces at the global level. Emergence of private players and withdrawal of the state also saw reconfiguring of NGOs' role and functioning and their interface with the state bringing to the fore several issues such as legitimacy, transparency, and accountability encapsulated in the notion of 'good governance'.

The discussion here is confined to development of NGOs on the premise that it is these NGOs that have received particular attention and brought these issues upfront. Moreover, scholars have argued that despite their locations in – arguably simplified divisions – Global North and South, NGOs now share specific discourses and practices largely because of the new managerial practices that lend a certain similarity to NGO issues in apparently very different contexts.

## Definition of Nongovernmental Organization

The term 'NGO' was initially coined by the United Nations (UN) in 1945 at the San Francisco conference for use in its charter to differentiate between participation rights for intergovernmental specialized agencies and those for international private organizations. Thus, under Article 70, 'specialized agencies, established by intergovernmental agreement' could 'participate without a vote in its deliberations' while under Article 71 'NGOs' could have 'suitable arrangements for consultation'. Notably, the terms 'specialized agencies' and 'NGOs' essentially referred to international bodies within the UN context and there was no mention of maintaining cooperation with private bodies.

Prior to this, when 132 international bodies had decided to cooperate with each other in 1910 they did so under the banner of the Union of International Associations. The League of Nations officially referred to its 'liaison with private organizations', while many of these bodies at that time called themselves international institutes, international unions, or simply international organizations.

Over the years, more particularly in the late 1970s and early 1980s, the term NGO has become popular and widespread. However, the composition and the tenor of the organizations identified as NGOs have undergone so much change that not only an internationally acceptable definition is harder to come by, but there exists inconsistency in the use of the term as it carries different connotations in different contexts. In many ways, NGO has become almost an umbrella term to mean all sorts of organizations ranging from extremely influential transnational federations such as the Red Cross, Oxfam International, or World Wide Fund for Nature at one extreme to small neighborhood based citizens', church and community based groups at the other.

As there is no precise definition of 'an NGO', we cannot identify the characteristics shared by NGOs. Yet several basic attributes are generally agreed upon internationally, at least in principle, because these attributes match the conditions for the recognition of an NGO by a UN agency. That is, an NGO must be independent of direct control by any government; it must be voluntary and nonprofit making; it cannot be constituted as a political party; it cannot be a criminal group; and it has to be nonviolent. In reality, several of these conditions can blur, that is, NGOs can actually be part of a political

organization explicitly or tacitly. Also, of late, 'voluntary' features of NGOs are being questioned in the wake of increasing professionalization of the sector.

Scholars have identified two major NGO roles: juridical and sociological. In juridical studies, NGOs' legal status takes precedence and the emphasis is placed on the legal status of the national and international NGOs and their implications for international laws, whereas in sociological works NGOs are seen as societal players and their composition and functioning get attention. For example, NGOs, in addition to their informal participation during all stages of the negotiation processes at global conferences, may also be part of formal official drafting committees. Amnesty International is a case in point. Greenpeace is another, in advancing international standards to protect the environment. At the Earth Summit in Rio in 1992, global NGOs played a critical role and were asked to sit on the Committee on Sustainable Development which was created. At the 1994 Cairo World Population Conference, increasing numbers of international NGOs took on the responsibility of setting the agenda for discussions, as they did at the Fourth World Conference on Women in Beijing and more recently in 2001 at the UN conference in Durban on antiracism. Despite the increasing involvement of NGOs in global politics, however, with a few exceptions, what legally characterizes NGOs remains unclear.

In the absence of a clear definition, terms such as 'private voluntary organization (PVO)', 'nonprofit organizations (NPO)', and 'voluntary associations' (VA) are often used synonymously as well as interchangeably with the term NGOs.

French scholars refer to the French equivalent 'or ganizations non gouvernementales' or its abbreviation 'ONG', whereas PVOs and NGO are nearly co terminus in the United States. Although whether the two terms are equivalent or, alternatively, whether NGOs are a subset of PVOs, is a question that has not been fully explored. The situation gets further complicated, for example, in Germany the official translation of the 1945 charter text 'nicht staatliche Organisationen' is now seen as too broad a definition as it connotes other actors that are not NGOs, such as multinational companies or national liberation organizations. At times, NGOs are also referred as the 'third sector', 'voluntary sector', and also as 'civil society'. However, the ways in which each of these organizations has been defined are distinct from each other although the 'nonprofit' clause seems to be applicable across all of them. Since NGOs are essentially nonprofit organizations, they have often been seen as one of the many subsets of NPOs.

One of the much debated issues concerns the relationship between NGOs and civil society. Some suggest that the role of NGOs in countries with totalitarian regimes and/or politically instability or having fragile forms of representative government is that of a watchdog – a

check, whereas in other situations they can be supportive or grow out of social movements. Thus, some argue that NGOs be posited within the framework of social movements as they are increasingly becoming far more relevant as forces for social change and they must intervene strategically in political processes so as to create pressure groups for better government and/or contribute to public debates about how government might work. Either ways, it is generally agreed that 'civil society' is a broader concept and cannot be synonymous with NGOs. Some have attributed the role of guardians of civil society to NGOs. However, scholars have been questioning such euphoric constructs of NGOs, essentially because of the subcontracting, monetary transactions, and fund flows that routinely influence NGOs' functioning.

Scholars often overcome this problem of ambivalence in defining NGOs by having their own definition in ways appropriate to their particular research agendas. NGOs themselves sometimes use different definitions. By and large, however, NGOs see themselves as offering alternative visions to dominant discourses, be it developmental paradigms, environmental issues, gender concerns, subaltern questions, and so on. By implication then, NGOs are particularly concerned with the marginalized and the poorer sections of the community and their livelihoods, governance, and political rights. However, some urban based organizations may cater to issues such as environmental ethics, conservation, and animal rights that may at times clash with the interests of the poor.

## Classification of NGOs

Classifying NGOs is not merely an academic exercise in absence of any theoretical and conceptual framework impinges upon a proper understanding of the sector. Without a classification, it becomes rather difficult for those on the ground to effectively organize knowledge transfer and sharing of experiential learning across NGOs of different locations, stature, background, and expertise. Despite several attempts, the available classificatory schemes are not exhaustive, exclusive, or fool proof.

Composition – By definition, NGOs are outside the government ambit (third sector/voluntary sector) and self governing (autonomously managed), but in the contemporary environment of public–private participatory development, the relationship that is emerging between NGOs and the state has given rise to government organized NGOs (GONGOs) in poorer countries; quasi nongovernmental organizations (QUANGOS) largely based in the industrialized countries; and DONGOs (donor organized NGOs).

The preference of donors for NGOs in the 1980s and much of the 1990s led to a great increase in the numbers

and size of NGOs. Because of NGOs' increasing presence, there have been considerable official funding flows from developed countries to developing countries. Some scholars distinguish these public service contractors (PSCs) from voluntary organizations.

Geographical location – NGOs have been classified on the basis of their geographical location – between northern NGOs (NNGOs) based in the industrial democracies and southern NGOs (SNGOs) based in poorer countries – the idea being that these serve different constituencies. But this somewhat restricted categorization has been recently questioned as wide ranging organizations have overlapping concerns across globe. More importantly, communication/information gateways have made it possible, at least for some NGOs, to build internationally dispersed coalitions. The 'Third World Network' of NGOs with its base in Malaysia and the International Federation of Human Rights in Paris with 89 human rights groups in 70 countries are prototypes of what has been called 'intermediary NGOs' acting as 'facilitators' for various purposes. Some such NGOs have acquired the status of global NGOs.

Size and organizational structure – measured in terms of number of staff, budgetary allocation, areal/population coverage – have been the more obvious differentiating characteristics in NGO classification. NGOs vary in their structures as there can be global hierarchies – a centrally placed key organization with transnational reach through local offices, or they can have independently functioning bodies under loosely defined federal arrangements; alternatively, NGOs can be 'stand alone' – grassroots organizations. 'Autonomy' from funding/donor agencies – national or international – is another criterion. NGOs have been further classified on the basis of sourcing of their staffers – membership organizations, that is, from local community and nonmember organizations staffed by professionals from different social and ethnic backgrounds. NGOs can also be divided into service delivery, advocacy, and training, but once again such a neat classification is problematic as the roles can overlap and change.

Strategy and evolutionary trajectory – NGOs have also been designated on the basis of the strategies adopted and nature of their work. Thus, NGOs adopting the most basic first generation strategies are involved in direct delivery of relief and welfare services often in response to disasters or crises. Second generation strategies prompt NGOs to engage in capacity building of people for self reliant local action. NGOs that follow third generation strategies reach beyond individual communities and address institutional and policy concerns. In addition to these three generations of strategies, there is a fourth category which aims at broader social vision. These strategies can coexist and also mark the gradual evolution of NGOs from one stage to another.

**Table 1** Alphabet soup: A symptom of classification confusion

BINGOs	Big international nongovernmental organizations
CBOs	Community-based organizations
CB-NGOs	Community-based nongovernmental organizations
DOs	Development organizations
DONGOs	Donor nongovernmental organizations
GONGOs	Government nongovernmental organizations
GROs	Grassroots organizations
GRSOs	Grassroots support organizations
IDCIs	International development cooperation institutions
INGOs	International nongovernmental organizations
NGDOs	Nongovernmental development organizations
NNGOs	Northern nongovernmental organizations
POs	People's organizations
PSCs	Public service contractors
QUANGOs	Quasi-nongovernmental organizations
SCOs	Social change organizations
SNGOs	Support nongovernmental organizations
WCOs	Welfare church organizations

Reproduced from Vakil A. C. (1997). Confronting the classification problem: Toward a taxonomy of NGOs. *World Development* 25(12), 2057–2070.

Gender concern – NGOs have also been classified in terms of work and policies in keeping with feminist concerns. Seven types of NGOs have been recognized on the basis of their inputs in assisting women achieve empowerment: (1) efforts initiated from outside, (2) small scale grassroots, (3) worker based, (4) via affiliation with a political party, (5) through provision of services, (6) research, and (7) coalitions. Out of these, outside initiated women's NGOs are seen as the weakest of the organizational types because of their top down approach, whereas grassroots NGOs are geared toward addressing feminist concerns most explicitly.

In sum, it can be concluded that a plethora of organizations can be classified as NGOs (Table 1) reflecting the definitional inadequacy of NGOs in the first place.

## The Emergence of NGOs

The sudden growth and progressive presence of the NGO sector is strongly related to shifts in mainstream development ideologies and institutions. In contrast to an earlier emphasis on altruistic activities by passionate volunteers, NGOs' role changed significantly in the era of neoliberal development ideologies – embodied in structural adjustment programs (SAPs). SAPs were based on the opinion that states were often rent seeking, slow, and inefficient, acting as stumbling blocks to the market led development model put forward by the IMF and World Bank. This drew upon the logic of the intrinsic superiority of economic liberalism on the one hand and equating economic growth with enhanced personal

economic welfare on the other. The protective regimes of the state were posited as slowing down development. The policies of the East Asian newly industrializing economies were articulated in such a manner that their rise was attributed to the requisite liberal norms coupled with the macroeconomic fundamentals.

The culmination of these processes may be seen as epitomized in the Washington Consensus imposed on particularly debt ridden poorer countries of the South by international financial and lending institutions in the 1980s, which in most general terms involved a commitment to free markets, private property, and individual incentives as a development strategy with a circumscribed role for government.

By the 1990s, the euphoria that had accompanied the Washington Consensus had started dying down as free trade and unregulated markets did not deliver the promised benefits of market led growth, stabilization of financial markets, and political order. Markets privileged only a select few who could access the emerging opportunities, but rising prices and privatized social goods also meant that millions lost their access to livelihoods and regular earnings. Several studies pointed out that even as incomes were rising, disparities across regions, communities, and gender were increasing leading to general discontent.

A series of events followed: Mexico was hit by financial devastation in 1994; Thailand devalued its currency followed by the rest of East Asia, Brazil, and Russia in 1997 and 1998, and the world witnessed the so called 'Asian crises'. A number of critiques and events led to a reappraisal of the strict neoliberal orthodoxy that dominated mainstream development thinking and institutions over the 1980s and early 1990s and saw the World Bank and IMF revisiting the Washington Consensus to reconfigure the role of state vis à vis earlier free market ideology and unrestricted corporate control.

What came subsequently to be known as the post Washington Consensus thus talked about the state's mediating role through managerial and governance strategies whereby the state is replaced not with the market, but with a strong civil society represented by NGOs. In such a policy environment, as some scholars have put it, the state's role was reduced to steering rather than rowing. Along with NGOs' expanded roles, in particular in the developing world, the emerging vocabulary of public-private partnership for good governance meant that citizens' involvement in governance has to be enhanced and they also have to look after their own well being. These goals were to be attained through mutual trust, networking, and building up of social capital and NGOs were to be crucial players in cultivating and representing social capital and in improving public services more generally.

The state started rolling back to gradually withdraw from the social sectors such as health, nutrition, education, and water supply, and privatization of these sectors in many parts of the developing world started taking place. In this context, NGOs were increasingly being seen as a cost effective service delivery mechanism in areas as wide ranging as disaster management, health and education, environment, political and human and gender rights, agricultural extension, and even banking and microcredit programs, to name a few. In fact, the vast literature on NGOs is privy to the potentials this sector has been entrusted with – from alleviating rural poverty and helping communities adapt to modernization and building vibrant civil societies at one end of the spectrum to affecting the state, international politics, and the formation of an international civil society through NGO coalitions and networks at the other. In a nutshell, NGOs were entrusted with tasks that were conventionally the responsibility of state.

Although the post Washington Consensus redrew some contours for a more proactive state, according to some scholars they were more rhetorical and the post Washington Consensus continues to retain significant elements of the earlier neoliberal agenda in which the role of NGO sector gets further strengthened.

It is not to imply that NGOs had a small role before the late 1990s or prior to the Asian crises. However, scholars are of the opinion that their presence in the early 1980s, particularly within the mainstream development ideologies and institutions concerned with long term outcomes, were sparingly, if ever, noted. At best, their roles were seen as confined to welfare and disaster management. Also, southern NGOs were nowhere on the scene in the official documents. This began to change rapidly, as the various World Development Reports suggest, over the 1980s and NGOs were often cited as examples of good practice, cost effectiveness, and innovation. By the 1990s NGOs ranging from service delivery to training and advocacy as well as transnational networks and alliances were acknowledged as significant players in development processes. As the following section shows, this shift meant that the tenor and the functioning of NGOs would change significantly.

## NGO and State

Since the presence of NGOs has become almost inevitable in the current international climate, the discourses around this sector are replete with yet another complex issue – state-NGO relationship. Scholars have critiqued the involvement of NGOs and their positioning as partners in crucial sectors of development as a tacit way of admitting that the state is no longer capable of playing its role. Some even suggest that the state's so called

partnership with NGOs and by implication common citizens is a ploy to divert attention from real problems and uneven appropriation of resources by a select few.

In general, this relationship is fraught with tension – both sides viewing the other with mistrust, hostility, and often condescension furthered by the lack of procedural mechanisms for accreditation either by the state or NGOs and also probity and efficiency in state dealings with NGOs. On one hand, there are issues of NGOs getting co-opted into state agendas and becoming mere extension arms in the delivery of services and programs and losing their critical edge. On the other, there is the danger of NGOs and states assuming competing roles.

Although the diversity of the NGO sector makes it rather difficult to be critical or supportive of all such organizations, there exist dissenting voices about NGOs. These critics argue that NGOs create alternative dependencies instead of self-sufficiency among people with whom they work. Moreover, the almost mandatory nature of state-NGO partnerships in many developing countries and the resulting flows of national and international funds have led to a mushrooming of NGOs and their business-like transformation into professional organizations.

The state-NGO partnership has brought forth the issue of legitimacy, more particularly in the contemporary context of development aid through which NGOs have become preferred vehicles for assistance. Legitimacy can be of two types: formal-procedural and substantive-purposive. Formal-procedural legitimacy is obtained by the state by virtue of popular consent of the governed (withholding the manner in which such 'popular consent' may have been acquired) to command and be obeyed. Substantive-purposive legitimacy is concerned with the actual outcomes of state authority, that is, achieving distributive justice or the welfare of its citizens beyond its formal-procedural presence.

As compared to the state, NGOs are not democratic in nature and cannot claim to be representative voices of the people except under authoritarian governments as their role as participants in democratic debate does not depend upon any claim to representative legitimacy. They may work with the state either as partners or as watchdogs for general welfare purposes, but these activities may have vested interests to protect. In principle, NGOs are non-hierarchical and function through networks that are horizontal in nature. They run in informal and personal ways presumably in contrast with highly stratified, vertically structured state. However, NGOs may easily conceal internal power structures and control mechanisms. Research shows that in many developing countries, communal and parochial considerations decide the network exchanges and bargains. This raises normative questions concerning substantive-purposive criteria of legitimacy.

These concerns have foregrounded issues such as accountability, transparency, and effectiveness of the NGO sector. To whom should NGOs be accountable is a potentially vexed issue as NGOs may be precariously sandwiched between the (northern) donors and (southern) partners facing multiple accountabilities both to those placed downward – their partners and constituencies, and upward – their trustees, donors, and host governments. It has been suggested that weak accountability on the part of NGOs, in many instances, stems from the failure to prioritize such multiple accountabilities.

Transparency can include NGOs' openness to (1) share their decision making processes, (2) readiness in allowing peer and host/donor evaluation, and (3) honesty in revealing their real objectives rather than obscuring them. At times NGOs can camouflage their functioning in order to be more compliant with state priorities, or because of internally sensitive issues that are externally pushed by donors and therefore implicate access to funding, and/or real or perceived threats to state/national security. Funding and its disbursement and utilization are some of the crucial concerns in these matters.

Still states' relative failure in terms of reaching out to marginalized and poor sections of the population as compared to NGOs put the latter in an advantageous position, although much recent literature questions NGO effectiveness as agents of development as exaggerated or largely assumed rather than demonstrated. One of the reasons for such skepticism is because of the difficulties in assessing NGOs' effectiveness including sifting the contribution of NGO led input to a particular outcome from other factors external to NGOs' work. There are no standardized measures or tools for process or outcome evaluation. The commonest concern relates to that of scaling up and replicability. NGOs typically work with small groups in an intense, innovative, and responsive manner that is context specific. It has often been argued that their human and financial investments when posited against their efforts are not cost effective or viable, particularly in large scale developmental activities.

## **Conclusions**

NGOs have increasingly become important stakeholders along with the state in development processes. However, these institutions have strengths and weaknesses – the state has the legitimacy and authority but by and large its actions are beyond public scrutiny. Despite several limitations NGOs can work as watchdogs and pressure groups to check the state, as well as effective providers complementing states suggesting that in the contemporary world both will have to work together in collaborative partnerships.

Given these ground realities and the inevitability of NGO–state partnerships, scholars argue that NGOs will necessarily have to plug into the larger political and socioeconomic processes in which the state continues to play a crucial role. Increasing the impact of even small NGO projects has nothing to do with scale as such, but rather with strategy bridging to larger structures.

See *also*: Aid; Civil Society; Empowerment; Governance, Good; Neoliberalism and Development; Participation; Rio Summit; Structural Adjustment.

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# Non-Representational Theory/Non-Representational Geographies

L. Cadman, University of Glasgow, Glasgow, UK

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## Glossary

**Affect** The pre-personal capacity for bodies to be affected (by other bodies) and, in turn, affect (other bodies). This capacity for affecting and being affected subsequently defines what a body is and can do.

**Everyday Life** The setting for the routine and mundane, but also improvised and transformative practices.

**Immanence** A concept which seeks to overcome all divisions, dualisms, and causal principles (associated with transcendence) by remaining committed to the virtual flow of life itself.

**Nonrepresentational Thought** A mode of thinking which seeks to immerse itself in everyday practice.

**Performativity** The processual and transformative nature of practice.

**Practice** Competences and (embodied) dispositions which precede and exceed contemplative thought and reflection.

## Introduction

### Geography and Representational Modes of Thought

Nonrepresentational geographies attend to both life and thought as practiced and, for this reason, 'in process' and 'open ended'. The genesis of the term nonrepresentational theory began in the early to mid 1990s through a series of books and articles written by the geographer, Nigel Thrift, although its philosophical heritage stems back much further. Thrift sought to challenge the dominant mode of representational thinking throughout human geography, in particular within cultural geography. The cultural turn, in particular, was deemed exemplary of the representational problematic in two senses. First, although it focused on everyday practices such as consumption, it tended to retreat from practice into the (cultural) politics of representation; creating deadening effects on an otherwise active world. Second, and consequently, by retaining contemplative and interpretative models of geographical thought and inquiry, much of the nonintentional, nondiscursive, and elusive nature of the everyday world was occluded from view. Contrary to this, Thrift sought to alert geographers to the embodied and performative nature of practice, much of which subsists prior to reflexive or cognitive thought. He equally sought to overcome epistemological models of

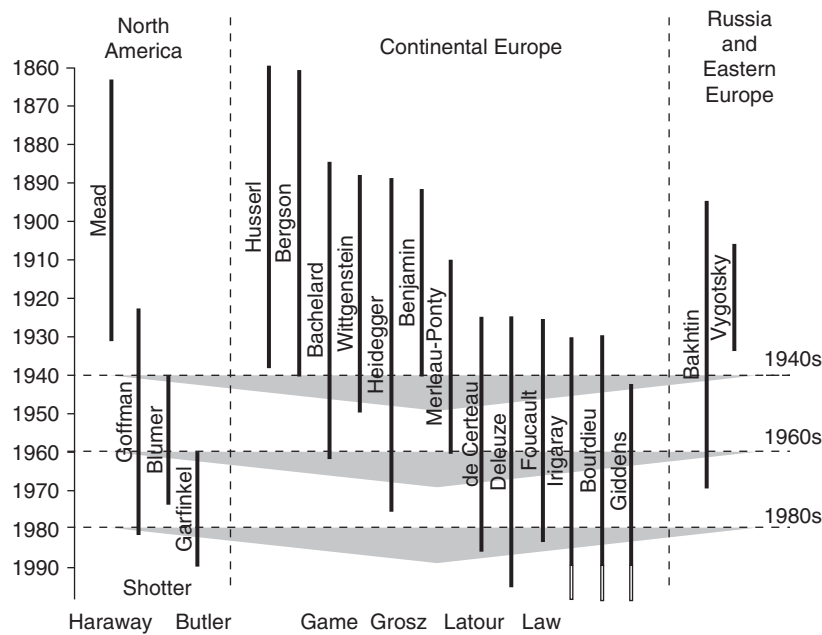
geographical inquiry which maintain dualisms between theory and practice and thought and action.

Despite its title falling within the auspices of theory, nonrepresentational theory cannot be considered an epistemological approach, nor a concomitant social or cultural explanation; it equally resists solidification into a focus of enquiry which might be added to the canon of geographical thought (such as globalization or consumption, for example). At its most bold, nonrepresentational theory aims to overturn the very constitution of geographical knowledge production. Rather than creating an alternative systemic epistemological and ontological framework, however (which would reinstall the problem of representational thinking), it does this through a number of tenets which seek to engage and present (rather than represent) the undisclosed and sometimes undisclosed nature of everyday practice.

If nonrepresentational theory is to have a principle, then it is to configure geographical thought in the same way that it configures life: as a series of infinite 'ands' which add to the world rather than extract stable representations from it. It is for this reason that nonrepresentational geographies have claimed to be both ethical and political.

### Philosophical Antecedents

The philosophical antecedents of nonrepresentational theory have been outlined by Thrift and are shown in **Figure 1**. It is notable that, in general, geographers have tended to focus on the continental philosophy tradition: in particular, Wittgenstein, Heidegger, and Merleau Ponty, through to Deleuze (including his collaborative writings with Guattari), and his influence on the work of Latour, Massumi, and Serres. While somewhat counterintuitive to the nonrepresentational style of thinking, it is possible to outline three dominant philosophical approaches which have influenced nonrepresentational geographies over the past few years. The first is broadly phenomenological (and includes philosophers such as Heidegger, Merleau Ponty, and Wittgenstein). Heidegger's phenomenological dwelling perspective provides a useful starting point for nonrepresentational geographies. Rather than identifying a ground for thought (in our minds, or in the world), Heidegger proposes that we are always already thrown into the world and inseparable from it. Our immersive practices of being in the world are, in themselves, discursive and we must avoid turning to subjective or objective reasoning (or representational thought) to account



**Figure 1** The life-time-lines of nonrepresentational theory. Courtesy of Prof. Doreen Massey.

for them. Merleau Ponty shifts things slightly through the notion of the ‘lived body’. Here the disclosive nature of being in the world is available only through the body and our bodily competences. It is then down to the later Wittgenstein to account for the nonsystematic (it cannot be known in advance) and performative (its rules are only given in action) play of embodied practice. Taken together these authors have had a profound influence on non-representational ways of thinking in the social sciences generally, from Bourdieu’s ‘habitus’, and de Certeau’s ‘tactics’, through to John Shotter’s notion of ‘know how’.

The second philosophical approach is neovitalist (and includes philosophers such as Spinoza, Nietzsche, Bergson, and their reworking through the collaborations of Deleuze and Guattari). The philosophy of Deleuze and Guattari in particular has offered tools for those geographers who want to escape phenomenology’s largely human centered understanding of (embodied) practice and connect with the impersonal and transversal forces of the world. Like phenomenology, Deleuze and Guattari engage with a register that preexists distinctions between subjects and objects, and things and appearances, but their philosophy does not begin or end with human experience or perception. Rather, they seek to overcome all perspectivism by engaging with a dynamic plane of immanence in which there are no distinctions between what things are and what they do. Instead of affections or perceptions residing in people or objects there are pre personal and continually differentiating affects and percepts. It is for this reason that their philosophy connects nonrepresentational geographies with recent posthumanist and more than human geographies. Finally, a third philosophical antecedent ebbs toward post structuralism (bearing in mind that some of the most notorious

post structuralist thinkers – such as Lyotard, Baudrillard, and Derrida – are absent from Thrift’s original diagram). Post structuralism was arguably the theoretical flavor of the month for geography during the late 1980s and into the 1990s and, although somewhat sidelined by early non-representational geographies, has been recently revisited.

Two elements of this (re)engagement stand out. First, and partly as a response to the perceived antirepresentational stance of nonrepresentational theory, post structuralist philosophers (such as Baudrillard) have been engaged to offer alternative or complementary critiques of presentist and representational thinking. Second, and partly through the influence of nonrepresentational theory, post structuralist philosophers (such as Derrida) have been repositioned in geography beyond the realm of texts, signification, and representation and into that of ethics, materiality, and force relations.

As a whole, the philosophical antecedents to non-representational theory offer a critique of the bifurcation between perceivers and worlds found in post Cartesian models of idealism (belief that access to the world is provided through forms given in our minds) and realism (belief in an objective world which we should seek to align with our perceptions); that is, ways of thinking which have persisted into current representational modes of thought.

### Interlocutions

Nonrepresentational theory has emerged amidst wider theoretical shifts in the humanities and social sciences generally. Three areas are worthy of specific attention.

### **Actor-Network Theory**

Emerging in the 1980s, actor network theory (ANT) instigated its own critique of representational thought by focusing on the heterogeneous practices of association, enrolment, and translation, between humans and non humans, which together engineer worlds. More recently, ANT has introduced notions of alterity (otherness) to engage the performativity of these practices and overcome earlier somewhat flattening actor network accounts. The use of alterity here shares some similarities with nonrepresentational understandings of virtuality. Like nonrepresentational theory, ANT prioritizes mobile practices and shares an appreciation for the complexity of the social world; it equally aims to resist becoming pigeonholed into a form of social theory. While non representational theory draws much from ANT, there are also some important differences. In particular, as part of its intent to overcome the residual idealism of representational thought, ANT instigates a methodological symmetry between humans and nonhumans. Contrariwise, although taking an interest in materiality and the more than human, nonrepresentational geographies have tended to emphasize the expressive practices of human body subjects as most indicative of the flow and disruption of everyday life (a facet which has been disputed by proponents of ANT).

### **Performance Studies**

The interdisciplinary arena of performance studies subsists at a productive interface between the performing arts, the use of performance in everyday life (from dance and multimedia technologies through to political rallies), and academic notions of performance and performativity. Nonrepresentational geographies have drawn much from the potentialities of this interface. For instance, the performing arts – in theater but also in forms of street art – provide a means for nonrepresentational geographers to witness and expand the realm of now time and conjure up its potential to create new forms of life. Here the very performativity of (scripted) artistic performance manifests the groundless uncertainty and hence potentiality of the present. Equally, through examples drawn from experimental and revolutionary theater (such as the performative social therapies of Fred Newman and Lois Holzman), nonrepresentational geographies are able to advance experimental ways of knowing that do not prescribe outcomes in advance.

### **The Body and Emotions**

Since the 1980s the body has become a well established locus for study in the social sciences. Authors have sought to critique a prevailing Cartesian intellectualism which

creates a dualism between mind (conscious intellect) and body (matter) and subsequently prioritizes the former. Calls to attend to the body have not escaped the geographical imagination: feminist, queer, and health geographies have all sought to explain how geographical knowledge is largely disembodied, and have repositioned the body as an important site of power knowledge in contemporary life. Further, and more recently, an ‘emotional turn’ in the social sciences has sought to overcome any residual Cartesianism found in rationalist ways of understanding human bodies – a facet which has given rise to an emerging subdiscipline of emotional geographies. With respect to the body, phenomenological approaches in nonrepresentational theory diverge from the construction or representation of bodies toward the very ‘being’ of bodies. Further, neovitalist approaches have shifted the focus from ‘what is the body?’ toward asking ‘what can a body do?’ (in its human and inhuman forms); and have done so by engaging the practices and technologies of bodily ‘becomings’. These differences also permeate nonrepresentational geographies’ preference for the term affect rather than emotion (although the two are sometimes used interchangeably). While neither non representational geographies nor emotional geographies seek to locate emotions in atomistic, or privatized individuals, and instead consider them as produced through relations, emotional geographies have tended to focus on personal narratives of human emotions (such as depression, fear, or love) whereas nonrepresentational geographies have positioned human and inhuman capacities for affecting and being affected as prior to any namable emotional states. This dualism between named emotions and impersonal affects is not a strict one however, and recent emotional geographies, particularly those influenced by the psychoanalytic tradition in geography, are engaging theories of practice (such as those found in the therapeutic encounter, for example) to reconfigure relations between affect and emotion.

### **Main Tenets**

#### **Practice**

Nonrepresentational theory has also been referred to as a theory of mobile practices, and it is perhaps its attention to practice which offers the main challenge to representational modes of thought; notably, because if practice is primary then we cannot point to a world amenable to mental representation beyond those practices constitutive of it. Practice is not a new focus for geography: attempts to map everyday practices are evident in the time geography of Torsten Hägerstrand during the mid 1970s, and an intention to engage practice – understood as a primordial structure of the lifeworld which precedes scientific enquiry – preoccupied earlier phenomenological

perspectives in humanistic geography, such as that of John Pickles in the 1980s. Further, an attention to practice can be allied to the general shift in social and cultural geography during the 1990s to take everyday mundane activities seriously.

One such recent example can be found in ethno-methodological approaches, which seek to engage with everyday 'talk in action'. The importance of practice has been taken, by nonrepresentational geographies, into five different directions. First, nonrepresentational geographies position non- or precognitive practices as primary (and unlike ethnomethodology pay little attention to conversation analysis). Unlike earlier phenomenological accounts, however, they are not interested in eliciting a primordial reduction but in understanding practice through its historical (following Bourdieu) and spatial (following de Certeau) specificity. Second, practice is not conceived as the property of individuals with prior intentions but as dialogical and processual. This means that practices are responsive and often entail unpredictable, or unintentional, outcomes. Third, due to their processual nature, practices as such elude explanation. On the one hand, this means that nonrepresentational geographies refuse to reduce practice to a higher order interpretation; practice itself is much more attuned to the rhythm and flow of everyday life than any static understanding can offer. On the other hand, practice as a way of doing (or becoming) amidst the flow of everyday life will inevitably entail gaps in meaning (such that we may reflect on what we do, but we do not know what 'what we do' does). Practice is therefore closely tied to notions of performativity. Fourth, nonrepresentational geographies are increasingly recognizing that the expressive and experimental potential of practices, particularly body practices, are becoming increasingly valorized in contemporary life (e.g., through yoga and numerous behavioral therapies). Finally, an attention to practice not only urges geographers to attend to everyday life in its doing (and making) but it also pushes geographers to reflect on the practice of geographical knowledge production, in particular, on the status of theory.

Nonrepresentational theory as a whole displaces the term theory from its explanatory role as epistemology and pushes it toward a much more modest supplement to practice. While nonrepresentational approaches are notoriously intellectually rigorous, the use of theory is not sought to explain or represent but to provide a toolkit to engage and expand the world.

### Everyday Life

Nonrepresentational geographies are concerned with the practices of everyday life: a popular term which has been adopted in three related senses. First, authors have

focused on what is most commonly understood as everyday life – the mundane, oft routinized, humdrum of everyday living (such as listening to music, dancing, gardening, walking, and shopping). These activities manifest as habits which allow us to cope and go on in the world. Influenced by the likes of Bourdieu and de Certeau, nonrepresentational geographies have sought to grasp these taken-for-granted background practices as embodied dispositions. Where this work differs is that practices are not inevitably linked to symbolic orderings (such as taste in Bourdieu) nor is the potentiality of everyday life necessarily connected to tactical resistance amidst wider cultural forces (as with de Certeau). Indeed, once allied with a renewed interest in performativity, the taking place of everyday life instigates the routine and mundane but also improvisation, play and, inevitably, change. This links with a second usage of everyday life in nonrepresentational geographies; one which seeks to counter the assumption that it is necessarily profane and ordinary. By thinking through the virtual realm of memory, the sacred, and, in its most concrete formations, bodily practices such as meditation or dance, nonrepresentational theory seeks to contribute to a (re)enchantment of everyday life (which runs counter to Weber's secular and routinized notion of disenchantment). Third, the spatiality of everyday life in nonrepresentational geographies is not simply personal, individual, or local. Taking cues from Lefebvre's notion of 'everydayness' through to Deleuze's 'virtualities', nonrepresentational geographies have sought to engage with the very life of everyday life; that is, a transversal force, or an excess, which constitutes the everyday rhythms of, for example, world cities.

### Performance and Performativity

Attention to practice and everyday life is closely tied to notions of performance and performativity: terms which have had varied uses in geography since the 1990s. Whereas early work in geography tended to utilize notions of performance to describe the scripted routines of subjects in space, later work turned to Butler's usage of performativity to discuss the repetition of discursive scripts which precede and bring forth (gendered, sexed, and racialized) subjectivities. While nonrepresentational geographies have attended to the increasing use of performative knowledges in everyday life, methodologically they share most with the second perspective, in particular Butler's attention to the iterability of performance. However, they tend to question her emphasis on signs and signification to account for subjectification. Subjectification for nonrepresentational theory is not tied to relations between subjects and discourse, rather it is just one possible outcome in a series of irretrievable (i.e., they

cannot be contained) and indeterminate (i.e., they cannot be wholly known) events. This understanding of performativity can be linked to two further facets of non-representational geographies. First, performativity is constitutive of the ongoing nature of practice. Performativity is not an act in time, rather it is the spacing which allows the next moment; it enables the unexpected and transformative but also the mundane ability to simply go on. This sense of performativity allows non-representational geographies to articulate embodied practice and yet retain its inherent openness amid the flow of the world. Second, once the world is considered as productive and processual, then, for academics to become worthy of the eventful nondiscursive world, it demands a refigured academic style; one which recognizes that academic praxis itself is performative. Non-representational geographies tend to position academic research as partial, not in the vein of our situatedness, but in the very encounter or call to attend to the world. To be faithful to this encounter, non-representational geographies do not aim to resemble it through academic representations, but to experiment with the thinking which occurs on the interstice between thought and practice.

### **Embodiment and the Body**

There are, broadly, three ways that understandings of embodiment and the body have been engaged with in non-representational geographies. These can be conceived as: sensuous and expressive; historical and invested; and capacious and affective. First, drawing from Heidegger's attention to the disclosive capacities of being and, especially, Merleau-Ponty's notion that the lived body is our vehicle for being in the world, phenomenological approaches to non-representational theory have focused on the non-cognitive and expressive nature of the human body subject. This work singles out the particular potentiality and capacity of human embodiment (as opposed to animals and other materialities) but has nevertheless sought to dismiss any residual humanism or intentionality by emphasizing that embodiment is in folded through joint body practices with other beings and other objects.

Furthermore, when combined with notions of performativity, being is bypassed in preference for the openness of becoming. Second, more historically attuned non-representational geographies have sought to highlight that investment in the capacities of human bodies is part of an ongoing project of biopower which has shifted from Foucault's original formation – as the investment and management of the vital characteristics of human populations – toward the vital characteristics of life itself. Here bodies are not disciplined subjects but molecularized virtualities. Third, and sharing tenets with the

second, non-representational geographies have turned to the notion of affect as a way of expressing the force and capacities of (human) bodies. Although affect as a term traverses psychoanalysis, psychology, and psychiatry, the philosophy of Deleuze and Guattari gives non-representational geographies an understanding of the body as defined by the affects of which it is capable. Through the notion of affect, bodily dispositions such as joy, boredom, and despair are wrenched from cognitive, atomistic, or strictly emotional understandings and into ethological encounters. Bodies here are not organs or functions (as in the causal analyses of etiology) but modes of speeds and slowness, and capacities for affecting and being affected, which never reside in things as such.

### **Virtuality and Multiplicity (Time and Space)**

Non-representational geographies are concerned with everyday practices, yet they seek to avoid any recuperation of these into strictly empiricist or modernist understandings – such as those accounts that conceive the goings on of the social world through a fixed view point with the intention of describing pure movement. Following earlier calls for relational understandings of time and space, non-representational geographies acknowledge the coexistence of a multiplicity of time-spaces. Where they make a distinct contribution to these ideas is that they engage the effective groundlessness of this multiplicity, in particular through adopting a quasi-Deleuzian understanding of virtuality. The concept of virtuality does not entail a real world in which there are (virtual) possibilities, nor does it configure the possibilities which might manifest in a real world (in which case the real resembles the possible and does not consider the event of change). Virtualities are different from possibilities in that they are in every sense real but not always actualized. They do not settle in beings or things and can be described as the continuously differentiating relations between forces prior to any actualization. In one sense they are like a variable push or an outside that envelopes the forces which make worlds; and the combination of forces always changes. This notion of the virtual points to an intensive and formless multiplicity (through the groundless depth of virtuality) rather than simply an extensive multiplicity (through the depthless and timeless extension of relations), which is found in some network and relational accounts of space.

### **Implications**

Non-representational theory is both a methodology and a (political) practice (or, a practical poetics), inasmuch as it

seeks to reconfigure both what it means to do research and to be political.

### Research Methods

Nonrepresentational thinking tends toward an academic style which seeks to describe and present rather than diagnose and represent. Its ethos of generosity casts a shadow on much of the methodological toolkit available for geographical fieldwork (in particular: in depth interviews, focus groups, and participant observation which each accentuate contemplative and interpretive modes of thought). Still, there is no method as such for nonrepresentational research, nor has there been much sustained engagement as to how nonrepresentational theory might reconfigure the collection of fieldwork. Indeed, it is questionable how far nonrepresentational geographies can really shift the inherent perspectivism and epistemological commitment of field data collection techniques. Nevertheless, nonrepresentational geographies do seek to harness and experiment with the mainstay of qualitative research methods (notably ethnography and participant observation but also diaries and in depth interviewing), developing approaches such as 'observant participation' and 'performative ethnography'. Further, the drive to acknowledge the research process itself as performative ranges from philosophical speculation on the particular call to witness the geographical world, through to, in its practical incarnation, an acknowledgment of the co fabrication of the research encounter that inevitably creates something new (a facet shared with recent posthumanist and more than human geographies). Finally, the presentation of nonrepresentational research has adopted performative and experimental writing styles which seek to present either something of the ephemeral nature of everyday practice or the potential of performative writing itself. The use of montage (which juxtaposes different research methods that inhabit different time spaces), for example, has been sought to address the virtual multiplicity of the nonrepresentational world.

### Politics and Ethics

Nonrepresentational geographies have engaged with three senses of the political. First, they have positioned affect as central to individual and collective political dispositions, and as an important trope for contemporary forms of governing. Approaches here range from engaging the affective circulation of fear during the War on Terror, to an awareness that a therapeutic ethos has become an important tenet for governing in the West. Second, nonrepresentational geographies have advanced a politics of hope which seeks to retrieve hope from its

grounding in utopianism and into the realm of the 'not yet'. Finally, nonrepresentational geographies have sought to rework what constitutes the political and what it means to be political. As this approach encompasses the previous two, it will be focused upon, here. Nonrepresentational geographies do not take the available spaces for political enunciation as given (such as that of pressure groups or policy relevant research); neither, however, do they retreat into restoring a 'true' ground for the political (e.g., the Greek *polis*). Rather, they are concerned with cultivating political spaces through an awareness of the openness of the present time. This follows from the notion that political and ethical dispositions do not proceed from the cognitive faculties of human beings but exist beyond conscious thought (we rarely, for example, consult moral codes in order to act ethically). Rather than consider this an impediment to political action, nonrepresentational theory seeks to harness its productive potential. On the one hand, through a politics of disclosure, not for authenticity, but for the creative potentials of the precognitive realm (by engaging with numerous body practices and the performance arts, for instance). On the other hand, and in its more Deleuzian incarnation, this disclosure moves toward a politics of witnessing; a form of attunement which seeks to open up geographical and political thought to the unfolding (and sometimes wonder and enchantment) of the world. These approaches are, no doubt, risky and experimental (i.e., one cannot prescribe in advance the outcome), but not unproductive (i.e., something happens which might create new forms of life). In brief, politics and ethics are pulled away from judgment and universals, not simply as a matter of principle but because political and ethical dispositions exist on multiple (affective, emotional, anticipatory, precognitive, technological, molecular) registers which have thus far been neglected in much of political theory.

## Current Imbrications and Challenges

### Reception and Critique

Although in principle nonrepresentational theory seeks to avoid becoming a subdiscipline, the project initiated by Thrift has certainly fashioned a niche in the academy for likeminded geographers, or fellow travelers, who are advancing and expanding its central tenets. At present a handful of (largely UK based) geographers might be labeled as nonrepresentational, and several others (interested in post structuralism, (post)phenomenology, and more than human geographies) strongly intersect with many of its themes. The key motif of nonrepresentational theory however – to overcome the 'dead' geographies of representation – has (perhaps unsurprisingly) also been received with ambivalence, critique, and, occasionally,

outright annoyance. These engagements vary but can be summarized by three main concerns: first, a neglect of the importance of representation; second, the denial of power and power geometries; finally, and drawing on the previous concerns, the forgetting of gender and/or sexual difference.

The first critique suggests that, although representation occludes much from view, many people actively (seek to) represent. Further, as the history of subaltern politics tells us, representing is a very effective political tactic. This critique has emerged in response to a perceived tendency of nonrepresentational theory to set itself up as positive alternative (i.e., what we might have) to programmatic and representational politics (i.e., what we have got) which, in itself, is a programmatic gesture. Yet, the ethos of nonrepresentational theory also asserts that there is not really a choice between representation and nonrepresentation, there are only singular presentations. Indeed, even a seemingly representative political gesture (such as the broadcasting of a presidential speech) incorporates a whole array of presubjective and inhuman affects. Still, it is partly in light of this critique that nonrepresentational geographies have recently adopted the term 'more than representational'.

Second, authors have critiqued the retreat from discourse and power toward practice and affect. They have also questioned the emphasis on expressive forms of embodiment which makes it difficult to account for what appear as relatively stable, sometimes restrictive, bodily practices (especially those that are connected to wider imperatives, such as gender roles or nation building, for example). By way of response, the geographer, Derek McCormack, has offered a kind of Deleuzian inversion of Foucault – by which the forces to affect and to be affected precede, and exceed, any stratified formations of power knowledge. Here, the largely ineffable virtual realm can actualize into diagrams. These diagrams are not plans, nor ideas, but a spatiotemporal consistency that holds forces to affect and be affected together. Although compelling, this approach does not address the racialized, gendered, and sexualized dimensions of this affective stability, and is unlikely to satisfy those concerned with this occlusion.

Finally, feminist critiques have suggested that nonrepresentational theory has a tendency to invert the very dualisms it seeks to overcome – mind/body, representational/nonrepresentational, thought/practice – and it is somewhat ironically able to do this through a disembodied stance (preferring abstract discussions of affect over emotion, and being rather than sexed being, for example). Feminist geographies and nonrepresentational theory share some familiar territory in geography (in particular an interest in performativity, the body and, more recently, emotions and bodily biotechnologies) and it is perhaps this shared territory which has provoked

most debate between the fields. While nonrepresentational theory has a certain indebtedness to feminist theory (and, if the above arguments are followed, perhaps even a debt to the feminine), and while feminist theorists (such as Colebrook, Braidotti, and Grosz) have engaged with nonrepresentational philosophers such as Deleuze, nonrepresentational theory in geography has yet to address issues of sexual difference. This is, in part, due to its desire to avoid discursive or psychical understandings of the body subject. It also points to nonrepresentational geographies' preferred Deleuzian approach to difference 'in itself' rather than feminist geographers' engagement and deconstruction of difference 'between' (male/female, masculine/feminine, man/woman). Indeed, whether issues of sexual difference can be incorporated into the nonrepresentational ethos as it currently stands in geography, or whether nonrepresentational geographies might reconfigure feminist geographies' understandings of gendered and sexed bodies is, thus far, a largely undiscovered terrain.

### **Passivity and the Nonrelational**

Recent engagements, which have emerged from within nonrepresentational geographies, have sought to interrupt its propensity toward the active, expressive, and/or otherwise affective nature of (embodied) experience. Paul Harrison has introduced notions of passivity and the nonrelational to counter the imperative for nonrepresentational geographies to always instill an affirmative will to connect, relate, and become. He uses the example of mental or physical pain – a nonintentional state we can only bear or endure – to conceive of a passivity which cannot be subsumed into relation, but is simultaneously its condition of (im)possibility. Whether the nonrelational will be absorbed into the grammar of nonrepresentational theory or whether it offers an alternative (post)phenomenological path followed by authors such as Agamben, Blanchot, Derrida, Lacoue Labarthe, Levinas, and Nancy, is in the process of being explored.

*See also:* Actor-Network Theory/Network Geographies; Affect; Becoming; Body, The; Dwelling; Emotional Geographies; Nature, Performing; Performativity.

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# Nordic Geography

K. Simonsen, Roskilde University, Roskilde, Denmark

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## Introduction: In What Sense a 'Nordic' Geography?

In this age of excessive transnational exchange of knowledge, this article has to start from a consideration of the legitimacy of something called 'Nordic' geography. On the one hand, global circulation of information and ideas – with all its inequalities, restrictions, and deformations – renders problematic any essentializing claims and underlines the hybridity of all knowledge production. On the other hand, a widespread acknowledgment within contemporary human geography is about the contingent and contextual character of knowledge/s. As expressed in a notion such as Haraway's *Situated Knowledges*, knowledge/s has to be grasped in the place and time out of which it emerges. Even though situated knowledges is not necessarily local knowledges, each author is situated in many different ways, where the social and cultural contexts of the production of knowledge do matter. This is not a claim on social theory and knowledge being inescapably contexts bound, but rather an acknowledgment of the way in which they always carry some particularity and inherent assumptions from their place of origin. Cultural/academic traditions and institutional settings still situates them in time and space and facilitate some perspectives and ways of knowing at the expense of others. It is on these premises this article tries to draw a 'map' of Nordic human geography, seeing it as a discourse while at the same time intervening in 'international' debates and producing its own specificity/ies.

Now, the very designation 'Nordic' should, of course, also be used with caution. When a historical scholar such as Benedict Anderson ends up defining a nation as an 'imagined community', doubt must necessarily be cast upon calling anything inherently Nordic. National as well as 'Nordic' identities are phenomena of discourse, constructed at distinctive junctures in time, and for specific purposes. The invention of 'the Nordic' can, in fact, be traced back to nationalist Romantic movements of the nineteenth century. Alongside the spread of a nationalist discourse within the individual Nordic countries, a transnational ideology extolling a Scandinavian or Nordic spirit of communality arose. Interest in the uniquely Nordic past (e.g., the Vikings) was part of national, as well as Nordic, imaginations.

Acknowledging the Nordic as a construction – an imagined community – does not however mean that this construction does not work in a material sense, nor that

particular connections and collaborations do not exist. Indeed, Nordic cooperation has a long tradition, especially when it comes to cultural collaboration between movements rooted in the civil society and between professions, scientists, and artists. Human geography is no exception to that. Also, even though the Nordic countries are not as different from the other European countries as ideology would sometimes have us to believe, certain distinctions do prevail. It is difficult to talk about a 'Nordic model' *per se*, but throughout the twentieth century the Nordic countries have probably undergone a more smooth modernization than have most other countries in Europe, and the welfare state has stood its ground.

If this renders possible the whole idea of writing about Nordic geography, the writing of such an article is still loaded with a touch of ambivalence. Writing a story of a 'local' geography from 'within' carries the danger of casting the writer as an unproblematic translator who – by way of a dual position between discourses – mediates the 'not easily' accessible to 'outsiders'. Like any other 'map' of an intellectual landscape, it is a social construction, a narrative construed by a writer who is ambiguously positioned in the very field one is trying to describe. This should not be seen as a confession or a way to disclaim the responsibility for the story to come, but rather as a problematization of the very presentation of local intellectual landscapes suggesting that, like all other practices of representation, they are necessarily situated, embodied, and partial.

## Nordic Geography: Differences and Similarities

One constitutive contextual element for the development of human geography in the Nordic countries is the welfare state or what Esping Andersen calls "the social democratic welfare state regime." Some parts of the subject directly address the welfare state; for others, welfare issues are more or less conscious assumptions that permeate the theoretical and/or empirical formulations. This connection is a double edged one and the risk of importing into academia the kind of welfare state nationalism or 'Nordism', which has grown in popular discourse in the later decades in concurrence with challenges from immigration and European integration, is not negligible. At the same time, however, the prevalence of the welfare state ideology has carried a persistent clinging to egalitarian values, such as social

justice, social equality, and politics of redistribution, as a background to academic discourse. In particular in Sweden, the marriage between human geography and the welfare state has resulted in a strong orientation toward planning and applied research. Even though this connection is less prevalent in the other Nordic countries, the orientation toward welfare and equality has resulted in a focus on issues such as regional development, labor markets, planning, social reproduction, and the organization of everyday life, while, for instance, research into identity formation, representations, and imaginations (with a few exceptions) has been less prominently featured, and has only been embarked upon in more recent years.

Theoretically, Nordic human geography (like other social sciences in the Nordic countries) has been marked by a specific situatedness at the interstices of Anglo Saxon and continental intellectual movements. Both as regards geographical thinking and more general social theory, affiliations have – to a different degree – existed to, for instance, German, French, and Anglo American discourses. While these influences have, to a certain degree, articulated with local features, different currents have also characterized the different Nordic countries. These differences are historically based and have emerged due to academic traditions and merits, institutional settings and organizational structures of the universities, and economic and political–ideological conditions in the different countries. In brief, in all countries the history of the subject has been marked by ideas and practices of utility, in relation to either training of teachers or forming a basis for planning. In the cases of Denmark, Finland, and Norway, training of teachers remained the dominant function of geography until the 1970s. That is probably why (mainly German inspired) discourses on ‘landscape’ as a notion connecting physical and social circumstances of regions maintained a strong position in geography in these countries, and the subject repeatedly was facing discussions on the synthesis between physical and human geography, between science and social science.

Swedish human geography, on the contrary, both when it comes to institutional organization and subject matter, can be described as a social science since the 1930s. But it has been a particular kind of social science – an applied one based on a close connection between human geography and regional and local planning. This marriage opened up great opportunities for the Swedish human geographers when it came to a practical and methodological development of the subject, but it has as well caused problems with regard to the addressing of more philosophical and theoretical questions. The point here – maybe not that surprising – is that despite the relative similarities between these countries there is no ‘single’ Nordic human geography, no unitary

focus or sole mainstream in the Nordic countries’ geographical discourse. Differences in philosophical and methodological approaches are overlaid by the described differences in ‘national’ discourses in the making of a web of different interests and ideas. Specific academic developments have occurred, and they also influence the contemporary geographical discourse/s. Having said that, however, there is no doubt that the formation of networks across the Nordic countries, in particular between critically orientated geographers, as well as an increasing participation in ‘international’ discussions have leveled some of these differences and created cross national ‘language games’. Also, in the postwar development of the subject it is possible to identify some distinctive moments that, even if they are differently based between the countries, have had a common appeal.

One of these is probably the most internationally well known contribution from Nordic geography, namely, ‘time geography’, introduced by the Swedish geographer Torsten Hägerstrand and his associates in the 1970s. It was a contribution that actually managed to combine applied research and association to planning with more philosophical reflections. Time geography was not supposed to be a theory, but rather an ontological contribution focusing on how different phenomena are mutually modified because they coexist in time and space. Hägerstrand himself, in a posthumously published paper, called it a ‘topoecology’ designated to grasp a society–nature–technology constellation. The basic element of time geography is the connections between continuous trajectories of individual entities in time–space. On that element, a set of descriptive concepts was developed, such as ‘paths’, ‘stations’, ‘projects’, ‘prisms’, ‘time–space bundles’, and ‘time–space domains’. They combine to a worldview on human condition stating that everybody is subject to a confinement in time–space within the limits formed by the bounded capacity of individuals to engage in more than one task at a time, by the speeds by which it is possible to move and assemble individuals, tools, and materials, and by regulations of access and modes of conduct within domains of local order. Most well known is the translation of this view into a nonlinguistic notation system representing ‘possible’ configurations in time–space. It proved a useful tool in planning and has been heavily used as a descriptive tool in Sweden as well as in other places. Also, time geography at a relatively early stage rendered everyday life a legitimate research object in Scandinavian geography.

While time geography was still embedded in a relative naturalist language, this was transcended in the second distinctive moment of postwar human geography, that is, the development of a ‘critical/radical’ geography that, like in other places, translated human geography into a genuine social science. A strong

(cross disciplinarily based) neo Marxist geography developed during the 1970s and 1980s, having its main basis in Denmark, maybe due to a stronger affiliation to political movements in other parts of Europe. The development was performed in dialog with geographers from the Anglo American context, but it took its specific form by way of conjunction with other 'Marxisms' imported from France, Germany, and the then Eastern Europe. Empirically, uneven development on the urban, regional/national, and international scale was addressed, and geographers participated in public debates and activism in relation to planning and other issues. The new radical geography was discussed and challenged through joint Nordic conferences in critical geography, from those including particularities from different countries. From Norway came a 'local community' discourse, strongly embedded in a center/periphery imagination, and from Sweden a local 'action research' based in cooperation with local unions. Feminist geography developed as an offshoot from the radical discourse. Paradoxically, seen in relation to the relative strong position of the Nordic countries regarding issues of equal opportunities, it was a relative latecomer in Nordic geography. Even today, only Sweden can claim to have a well developed feminist geography.

Finally, one author, who is difficult to categorize, is worth mentioning for his role in Nordic and international geography, that is, Swedish geographer Gunnar Olsson whose role in Nordic geography has been less of 'making school' than of constantly challenging established truths and enforcing reflexivity. What, for Olsson, started as a critique of spatial analysis and connected ways of reasoning in planning and politics, developed into a philosophical project of an investigation into the 'cartography of thought' – into the invisible spaces of how ideas in the mind are shaped, combined, delimited, and hierarchialized. Olsson's work constantly focuses on the power and limits of language; it overturns all conventionalist forms of representation and mobilizes new conceptual geometries and modernist esthetics in order to 'think the unthinkable' and open new possibilities for human thought and action.

### **Dominant Current Contributions**

It is of course impossible in the space available in this context to produce a satisfactory overview of contemporary Nordic human geography. Also, making delineations and categorizations of the field area dubious matter, which is deemed to fail by homogenizing the heterogeneous and violating the connections. Therefore, this article chooses another road and presents three issues in which I am prepared to claim that Nordic human geography has provided distinctive contributions.

### **Economy and Regional Development: A 'Scandinavian' School?**

Nordic economic geography has a strong position both internally and externally, particularly, when it comes to analyses of innovation and post Fordist economies. Two background conditions – one contextual and one academic – might provide part of the reason for that. First, part of the readiness to grasp these issues might be seen as a consequence of some specific characteristics of the Nordic setting: the small size, general openness, industrial structures, and relatively high levels of prosperity of the economies of the Nordic countries. Small economies often differ from larger ones on issues, such as degree of openness, exposure to international competition, affinity toward corporatism, and networked relations across firms. It is possible to argue that these characteristics are a factor in explaining why Nordic scholars in economic geography have been particularly interested in the analysis of how networked relations in various industrial systems help create stable specialization patterns, and how innovation and competitiveness emerge from interactive processes with a markedly localized component. Second, the size of the discipline might have had an influence. Human geography in the Nordic countries ranks among the smallest social sciences. It has, in a sense, 'forced' geography to exploit its interdisciplinary potential as a synthetic discipline. Economic geographers have been rather proactive and positive to the contributions coming from other disciplines dealing with regional questions and to the necessity of establishing international networks. This has especially become evident in the close cooperation that exists with other heterodox (evolutionary and institutional) economists in the area of innovation studies.

Contemporary economic geography that, particularly in Sweden, takes a dominant position has been developed from two sources. One is the Marxist economic geography of the 1970s, which introduced subjects such as regional inequality, technological development in capitalist societies, and social consequences of industrial closures. The other, related, source is a Nordic variant of what, in Anglo American circles, is known as studies of the regional consequences of industrial restructuring. It was connected to the welfare state and involved a focus on regional policy and the options of local and regional measures in industrial policy. During the latest decades, keywords in the economic geography research have been 'innovation', 'knowledge', and 'learning', in different ways analyzing the importance of territorial agglomerations for the innovativeness and competitiveness of firms and regions in a globalizing economy. This research has been conducted in close cooperation with colleagues from other disciplines, together forming an internationally strong Nordic innovation research. Theoretical and

empirical work has been performed on industrial districts, regional clusters and regional innovation systems. These are all concepts that see innovation as a socially embedded process, underlining the importance of 'noneconomic' factors, such as history, culture, and institutions for economic development. However, after having promoted these ideas of the importance of territorial agglomerations and 'learning regions' to economic growth, the continuous research has as well, generated reflexive questionings of established 'truths'. They particularly concern the understanding of learning, differentiating between various forms of knowledge, their interrelationships, and their relations to space and place.

While the new Nordic economic geography has been extraordinarily engaged in open discussions with international partners and with other economic disciplines, it as a subdiscipline has isolated itself more from the rest of human geography. The consequence is that the emphasis on noneconomic factors of regional development has missed the opportunity of mutual exchange with social and cultural parts of the discipline and that economic geography has lost some of the social engagement characterizing its roots in the critical geography of the 1970s.

### Social and Cultural Geography

One characteristic feature is the existence in all the Nordic countries of a social geography that is concerned with the welfare state. The relationship is a dual one, combining explorations of the role of the welfare state in various aspects of social development and a more direct feeding of research results into welfare policy and planning. The main issue at stake in this group of works is social differentiation/polarization, often related to a theoretical discussion of urban development and urban policy in a globalizing world. This extends, more than anything else, to questions of housing and evolves on the classic urban social geography issue of segregation. Extensive empirical studies on 'social polarization' and 'segregation', often conducted in comparison and cooperation with other European countries, have been framed in the intersection between overarching and local explanations. In particular, the role of the welfare state in this process is addressed, leading to exposure of the paradox that the very pride of Scandinavian housing policy – the provision of social housing – has ended up being part and parcel of processes of 'ghettoization'. When it comes to a 'cultural turn', in particular, two countries have led on, each taking its own specific direction but both seeking a position in between constructionist and materialist perspectives.

Finland was the first Nordic country to open up to 'humanistic' approaches to geography. Eventually, however, the most prominent contribution from Finland is an approach working in the interstices between cultural and

political geography and having 'territoriality' and 'identity' as keywords. Finnish geographers, maybe under the impression of the shifting geopolitical situation of the country, have performed an extensive theoretical and empirical work on the role of boundaries in the construction of territories and territoriality and subsequently theorized the changing meanings of territoriality in the changing social conditions. This development has progressed in critical dialog with 'international' theorization in the field. The question of identity has been a very important one in this stream of works. Originally developed by Anssi Paasi as a theoretical approach to the question of regional identity, it has been extended to a more general approach to space, scale, and identity. For example, it has found expression in a number of studies on nation building processes and national identity. This cultural-political approach has formed the background for a range of empirical studies, both in Finland and other parts of Europe.

In Denmark, social and cultural geography has most prominently been approached through the lenses of social theories of 'practice'. The authors involved in this exercise have taken off from a variety of sources, but what they have largely had in common is a view on subjectivity as primarily derived in practice. The subject's understanding of the world comes from lived experience and dialogical actions, bound together by mutual dispositions and shared understandings which they both take from and contribute to. The 'cultural turn' in Denmark, then, from the beginning took the form of a 'practice turn'. The concern has been with embodied knowledges and their formation in people's everyday lives, with the world of emotions, narratives, and imaginations, and with the multiplicity of encounters through which we make the world and are made by it in turn. An important issue in this stream of works has been the 'spatiality' and 'temporality' of practices. This has found expression in works on cities and urban everyday life, emphasizing the variety of temporalities and spatialities involved in the social construction of the city. Furthermore, different practices of mobility are analyzed in relation to constructions of place and identity. Finally, a research stream exists starting from a range of dissertations on the relationship between work practices, identity, and social change and developing to a more general engagement with the culture-economy interface, theorized as interconnected practices of innovation, social networking, and the formation of cultural identity.

### Landscape and Environment

While the traditional approaches to landscape, in the Nordic countries, were partly influenced by the German *Landschaftsgeographie* and partly relied on intensive historical geographies of material cultural landscape,

lineaments of cultural politics of landscape have come to the center in current renewals of the field. This work has grown in close dialog with 'international' discourses, and some authors argue that besides the British pictorial scenic approach informing the 'new cultural geography' and the layered 'blood from soil' approach originally developed in Germany, a third approach to landscape exists seeing it as 'land shaped by policy'. This third approach, characterized by a concern with history, custom/law, and language and culture as they work together forming a landscape polity and its geographic place, is argued to be strongly, but of course not exclusively, represented in the Nordic countries. Kenneth Olwig uses the term 'platial' to describe this approach, thereby constructing a shorthand for a spatiality in which the polity and its material fabric are constituted through ongoing (place oriented) social practices and ideologies of political representation, including customary law. Of course, these approaches to landscape are neither mutually exclusive nor exhaustive. A creative example on their combination explores how a tension between such a 'platial' notion of landscape and a visual one, based on the possessive spatial rationality of the gazing individual, were pertinent to the protracted struggles over political representation in seventeenth century's the Netherlands. Also, in a more current context, Danish–Swedish regional identity politics are approached in the interface between three different concepts: landscape as a territory with a perceived internal coherence, landscape as scenery, and landscape as changing juxtapositions of assorted entities flowing in time and space.

Another, connected, line of thought more directly addresses the politicization of nature. Here, the culture–nature practices are critically evaluated as questions of domination and empowerment, both within local spheres of intersubjective discourse and in relation to industrial–technological change within local–global interconnections. A representative for this approach is the Finnish geographer Ari Lehtinen. He writes from the tradition of Nordic critical geography, and in his writings on Nordic forest communities, he combines ideas of political ecology with Foucault inspired thoughts of biopolitical power and an inclusion of the local traditions of community based politics.

Thus, what connects all the three groups of work, brought up to characterize current trends in contemporary Nordic human geography, is a combination of

international orientation, particularly Nordic/North European developments and an intrinsic sensitivity to contextuality.

**See also:** Economic Geography; Innovation; Landscape; Radical Geography; Regional Development Theory; Situated Knowledge, Reflexivity; Territory and Territoriality; Time and Historical Geography.

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# Nordplan and Nordregio

G. Olsson, Uppsala University, Uppsala, Sweden

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## Introduction

From the 1960s to the present both Nordplan and Nordregio have played major, yet distinctly different, roles in the theory and practice of spatial and regional planning in the Nordic countries. Both institutes were established by the Nordic Council of Ministers, Nordplan (the Nordic Institute for Studies in Urban and Regional Planning) in 1968 and Nordregio (the Nordic Centre for Spatial Development) in 1997. As political children of their respective times, the shared roots reach deeply into the mixed soil of social welfare theory and social engineering practice. The differences between the two are nevertheless considerable, for whereas the emphasis of Nordplan was on graduate training and basic research, Nordregio's main mission is to serve as a clearinghouse for data collection and officially commissioned investigations. Common to both is the ideological mantra that intentional action should be doubly anchored; one fluke in the facts of scientific knowledge, the other in the norms of utilitarian ethics – in essence, a social democratic re-formulation of the Marxian maxim that while the philosophers are trying to understand the world, the real point is to change it.

## Nordplan

### One-Year Program

In the early years of post war Europe there was a strong determination to build a new and better society, a democratic world free of dictatorial fascism, albeit not always of dictatorial communism. In that move from abstract ideas to concrete implementation, a key role was to be played by a cadre of bureaucrats with an ear sensitive to the political tunes of the day and a professional hand equipped for the task. From the very beginning, however, this ideal created its own problem, for there were simply not enough experts around to meet the growing demand. In addition, those who actually did get recruited into the professional ranks (primarily architects, engineers, economists, and geographers) often lacked the necessary experience and interdisciplinary background. The situation was essentially the same in all the Nordic countries (Denmark, Finland, Iceland, Norway, and Sweden) and since the numbers were too small for the creation of separate national schools, it was agreed that here was an ideal case for internordic cooperation.

Thus, after a decade of gestation, Nordplan was eventually born – an organization sprung from the Olympian heads of a small group of concerned architects and determined social engineers. Through the political connections of Lennart Holm – longtime chairman of the board – the institute was placed in Stockholm, not because the ideas were particularly Swedish, but merely because it had to be somewhere.

A number of teachers were recruited, including a troika of full professors, one in physical planning (Per Andersson, a Norwegian architect and consultant), one in transportation planning (Stig Nordqvist, a Swedish engineer and consultant, in addition the institute's first and longest serving director), and one in economic geography and planning (Tor Fr. Rasmussen, a Norwegian geographer with his doctorate from Lund). The students (really not students at all, but a group of 50 mid career bureaucrats) came from all of the five countries. The majority enrolled for a 1 year program of continuous education split into three intense periods of 2 months of lectures and seminars in Stockholm and 1 month of fieldwork in one of the other countries.

The languages of instruction were Danish, Norwegian, and Swedish, which after some initial difficulties could be understood by all. Since everyone (some Finns excluded) spoke and wrote his/her own mother tongue, the practice of conversing in a foreign language quickly changed from a deafening handicap into a whispering opportunity. This form of language training was in fact one of the major assets of the program, for it bore directly on the principles of teaching and learning. The reason is that even though the political, social, economic, and planning issues are essentially the same in all the five countries, the attempted solutions tend to be slightly different. In the numerous group meetings it was therefore natural that each participant initially argued for the particular approach into which he/she had been socialized. After a while, however, and often in confrontation with the beliefs and practices of the others, many began to question their own taken for granted. With those doubts as keys, the dialectical door of self conscious reevaluation was unlocked; indeed, it was normal that after the Nordplan experience a fair number left the planning profession for good. Although no formal degrees were offered, the accumulated impact was remarkable, individual lives profoundly changed in the process. In total about 1500 searching professionals went through the experience of going to the limits, by definition the only way to learn.

The months away were personally demanding and socially dangerous, for it was impossible for the practitioners not to experience their own activities as a power filled game of ontological transformations, a conception of action in which ideology turns to paragraphs, paragraphs to stone, stone to people. In addition, the teaching taught them that a basic tenet of utilitarianism is that the goodness of a given act should be judged in terms of its consequences, not in terms of the actor's intentions; tragedy in the making, reification, and alienation as well. But do the ideologues get lost because they are scientifically naïve or because they are morally wrong, obsessed by power for the sake of power? Little wonder that the discussions stretched into the nights, the trickling down tilting the bottoms up.

Over the years the course content and the ideological debates underwent considerable change, and it was often difficult to know whether the discussions said more about the times or whether the times revealed more about the discussions. The turns and twists were many, but while most of the early traffic was confined to the well paved highways of social engineering, the issues of the 1980s and 1990s were frequently found scattered around the swarming pathways of social movements. Throughout there was a penetrating focus on the relations between structure and event, large systems and human existence, power and counterpower. In the process, the role of planning got so seriously questioned that in the long run the institute could not survive. What nevertheless remains is a large invisible college, a tightly knit network of social and professional relations.

### Doctoral Program

Although Nordplan began and ended as an institute devoted to continuous education, the founders realized that in the long run not even the most goal oriented teaching can do without free and basic research. The idea of a doctoral program was therefore explored and a series of seminars and examinations were conducted. In 1977 Gunnar Olsson was appointed as the new professor of economic geography and planning, and it was under his directorship (increasingly with the help of Kerstin Bohm, adjunct professor of sociology, and José L. Ramírez, teaching assistant) that the program found its characteristic form and content. Most crucial was the decision by the Nordic Council of Ministers to grant the institute the right to offer doctoral degrees in planning, an unprecedented event that effectively turned Nordplan into a miniscule but independent university.

The program was divided into two overlapping phases, the first organized as a 3 year long series of intensive seminars, readings, and excursions, the second of the writing and public defense of a dissertation. New students were accepted every third year and participation in

the seminars was obligatory. Normally, each cohort consisted of about 16 members evenly divided between Denmark, Finland, Norway, and Sweden. The participants' professional background varied widely, but the majority were architects or social scientists, including a small number of geographers. Roughly, equal proportions were university teachers, centrally placed administrators, and active scholars from a range of national research institutes. No applicant with less than 10 years of professional experience was ever accepted, about half of them already holding the equivalent of a British or American PhD. Given these requirements, and since most participants kept their ordinary jobs throughout the study period, the average age was considerably higher than in conventional programs.

Many factors influenced the design of the program, but none was more important than this issue of age; every day in fact confirmed Aristotle's observation that "each man judges well the things he knows, and of these he is a good judge.... Hence a young man is not a proper hearer of lectures on political science; for he is inexperienced in the actions that occur in life." And so it is that comparing the dissertations of a 28 and a 60 year old involves a double insult, first to the young, whose potential is denied, and then to the old, whose experiences are ignored.

The heart of the program lay in the seminars, which met for a full week 7 times a year, approximately 20 times for each cohort (1978–80, 1981–83, 1984–86, and 1986–89). As a rule, three of the yearly meetings were held in Stockholm, one in Denmark, Finland, and Norway, respectively, and the seventh in a non Nordic country. Especially noteworthy among the latter events were the several meetings in St. Petersburg (Leningrad), Paris, Cambridge, Paris, Milan, Bologna, Berkeley, Los Angeles, Andalusia, Toledo, and Madrid. The pedagogic idea was to introduce the students to the various schools of thought in their original settings, thereby emphasizing the contextuality of everything taken for granted. The long list of lecturers reads as a veritable 'who is who in international social science'.

From the first seminars in 1978 to the last dissertation in 1995 the program was held together by the idea that knowledge is an exercise in translation, the rhetorical art of reformulation in practice. Telling the truth is consequently to say that something is something else and be believed when you do it – a paradigmatic formula so minimalistic that once it has been learned it can never be forgotten. No closure, though, for despite the fact that every serious investigator aims for perfect translation, the structure of the sign itself guarantees that perfect translation is impossible. The circumstance that at least four different languages were always spoken in the same seminar room provided ample proof that even though the Nordic cultures are closely related, they are at the same time drastically different. However, since what

cannot be said can sometimes be shown, the restless feet and the pinching stomach gave clear warning that what is the normal here may well be the deviant there, the logical primitives of identity and difference by necessity separated by the emptiness of the excluded middle, that latter abyss serving as the well guarded home of power itself.

The conclusion came automatically: knowledge is as self referential as its own language, collective action always an encounter not only with Kenneth Arrow's impossibility theorem but also with logical paradox and moral predicament. As illustrative examples of the transdisciplinary nature of the program, the second seminar in Cambridge was built around half day sessions with David Bloor, Denis Cosgrove, Mary Douglas, Anthony Giddens, Derek Gregory, David Harvey, Gillian Rose, Nigel Thrift, and Raymond Williams. Along the same lines, the last Berkeley seminar – significantly entitled 'Languages of power, gender, and mind' – included meetings with James Clifford, René Girard, Donna Haraway, Robin Lakoff, Hanna Pitkin, Allan Pred, Paul Rabinow, Nancy Scheper Hughes, Richard Walker, and Michael Watts.

The radical message was constantly hammered home that the 'taken for granted' cannot, indeed must not, be taken for granted. It follows that the real challenge is not in understanding the other but in understanding oneself, albeit never directly but always via the other. But exactly as knowledge by definition is an exercise in translation, so politics is a struggle between us and them, master and slave, good and evil, here and there, now and then. For that reason – and given the participants' backgrounds and experiences – the case of Nordic planning was used as the central study object.

But what is planning? The answer is that planning is a special case of human action located in the taboo ridden interface between individual and society, a magic performance of ontological transformations through which social meaning is turned into physical matter, use value into exchange value, signifier into signified. And vice versa. Since the overarching purpose of the teaching was to understand rather than interfere, the focus was on the development of theories 'about' planning, not on the establishment of rules 'for' planning, analysis instead of therapy. Since power is the name of the game, many were shocked to discover that it is normally more difficult to understand the world than to change it.

But how can one lay bare the techniques by which we become so obedient and so predictable? Perhaps by writing a drama in which H. C. Andersen's *Emperor* and Goethe's *Faust* are allowed to perform on the same stage. A dance of fragments, a choreography of micro and macro, rings of symbols ruling the waves. And for that reason every seminar week featured a visit to a theater or a museum, a meeting with a poet, painter, or sculptor.

## Dissertations

Participating in a series of advanced seminars is a rare and exciting adventure. Writing and defending a doctoral dissertation, especially if it is done at a mature age, is even more demanding. The reason is – and herein lays the main difference between the two phases of the program – that whereas the seminars were shared experiences, the dissertation is a lonely work undertaken in the best of companies. For how many can spend years on their own self portrait?

In the Nordplan case surprisingly many. To be precise, about 70 curious individuals participated in the obligatory seminars, three quarters of them eventually subjecting themselves to one full day of oral examination. Even more remarkably, a total of 33 middle aged people (some in their late 50s) completed and defended their theses. Although on the surface the chosen topics might seem quite different, most texts shared a particular flavor of interdisciplinary research and philosophical awareness. As a way of guarding the quality – for a young and small institute a matter of crucial importance – the assessment committees were twice as large as in any of the Nordic systems.

## Final Years

What has been politically created may be politically destroyed. And this is exactly what happened with Nordplan, which from the very beginning had been navigating between the political Scylla of social democracy and the professional Charybdis of neoliberalism; while the former forces clearly tried to fit the institute into its own agenda, the latter viewed its activities with great suspicion.

The ideological climate was nevertheless changing and in the wake of 1984 the critique of planning was gaining ground. In addition, the traditionally close ties between the Nordic countries began to weaken as more and more of the bureaucratic business was moving to Brussels. The resistance was strong, but in 1989 the edict was issued that no new doctoral students were to be accepted, albeit with the provision that those who were already enrolled had until the end of 1995 to finish.

With the doctoral program gone, the closure of the institute was a forgone conclusion. On the first of July 1997 Nordplan was no more. A glorious experiment sacrificed on the same altar on which three decades earlier it had been conceived, born, and blessed. A dialectical case of power performed and power disrobed – a once dominant ideology on its deathbed.

A summary of the doctoral program, including personal testimonials from the participants, is in Gunnar Olsson's *Chimärerna. Porträtt från en forskarutbildning*. The title of that report is telling, for according to the dictionary a 'chimæra' is (1) a fire breathing monster of Greek mythology, with a lion's head, a goat's body, and a



serpent's tail, a creature that was killed by Bellerophon, himself the grandson of Sisyphus, the existentialist figure who in life was rewarded for his cunning slyness, in Hades punished for exactly the same traits; (2) an unreal creation of the imagination, a mere wild fantasy, an unfounded conception; and (3) an incongruous union or medley. In addition, 'chimæra' is the botanist's term for a hybrid growth in which a branch of one genetic setup has been grafted onto the stem of another kind. Since the respective genetic setup of the two is not affected, it follows that even though the branch is given new strength, it is not fundamentally altered.

Such was the dream come true: an educational grafting. Not a factory for the production of pre-designed copies, but the home of some unique originals. Not a group of brainwashed apparatchiks, but a set of individuals who knew that in order to change the world you must first understand yourself. Little wonder that by the year 2007 a total of 30 former doctoral students had been appointed to full professorships in a range of disciplines, seven in Denmark, one in Estonia, five in Finland, one in Germany, one in Ireland, eight in Norway, and seven in Sweden. The vast majority of the others are holding leading positions in (inter)national research, administration, and politics.

## Nordregio

Since power never sits still, it refuses to be caught in the net of logical categories and empirical observations. Deconstruction in practice.

Thus it was that when the Nordic Council of Ministers in 1997 concluded that the independence of Nordplan was not to their liking, they at the same time created Nordregio, a phoenix out of the ashes. According to one of its own websites:

Nordregio is an institute for applied research and development. Our fields of study include regional development, urban policy and spatial planning, as well as the cross cutting aspects of spatial and regional policies. Sustainable development and territorial cohesion are among the most important policy issues in this respect. The geographical focus of the Institute is on the Nordic countries, the Baltic Sea region and the European institutional dimension. Our main clients are the Nordic Council of Ministers, the European Union, and the governments and regions of the Nordic countries. The

institute is located in attractive surroundings in the City of Stockholm, Sweden.

How telling that the only thing to remain is the building. But the house that was once open for anyone to enter is now an edifice locked up behind a secret code, and yet, through the efforts of Hallgeir Aalbu, Nordregio's first director, the center has in fact become a most successful organization of flexible accumulation, an extension of systems thinking to policy making. The genuinely interdisciplinary staff consists of about 30 internationally recruited research fellows all governed by a board whose members come from the Aaland Islands, Denmark, the Faeroe Islands, Finland, Greenland, Iceland, Norway, and Sweden.

Like the two institutes, these representatives are necessarily children of their own time, a typical instance of text and context intricately interwoven into a system without exits. For that reason it must be stressed that whereas Nordplan was financed directly over the Nordic budget, hence relying on relatively hard money with long range commitments, Nordregio is largely dependent on soft money from temporary research projects. Equally important is the fact that whereas the full professors of Nordplan were granted tenure by the Swedish state, the fellows of Nordregio are footloose hirelings on temporary and nonrenewable contracts. The conditions for basic research and fundamental critique are obviously distinctly different. To be precise, the focus is no longer on the growth of individual students but on the presumed needs of the political clients. Sustained development of another kind, the principle of self reference disguised.

Viewed together, Nordplan and Nordregio presents a fascinating case of organizational adjustment and ideological reorientation. As Søren Kierkegaard used to put it: "we live forwards and understand backwards."

See also: Nordic Geography.

## Further Reading

- Mariussen, Å. and Juhlin, Å. (eds.) (2006). *Transnational Practices: Systems Thinking in Policy Making*. Stockholm: Nordregio.
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# North–South

A. McGregor and D. Hill, University of Otago, Dunedin, New Zealand

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## Glossary

**Keynesian-Style Economies** A term originally used to designate the method of analysis developed by John Maynard Keynes as an explanation of the Great Depression. It later came to denote a state-interventionist style of economic policy. Keynesian-style economies have an emphasis on controlling aggregate demand and thus regulating fluctuations in the economy.

**Kyoto Protocol** An agreement undertaken under the United Nations Framework Convention of Climate Change. If this protocol is ratified, signatory countries are obliged to reduce their emissions of six greenhouse gases, including carbon dioxide, methane, nitrous oxide, and three groups of fluorinated gases. These signatory countries are able to maintain or increase their emissions of these gases only if they engage in emissions trading.

**ODA** Official Development Assistance: A term referring to funds transmitted from the countries of the Global North to the Global South as foreign aid, usually in the form of a bilateral agreement. The nature and purpose of ODA has shifted over time as new priorities have emerged in donor–recipient relationships.

**Structural Adjustment** Generally consists of both short-term stabilization and medium to long-term adjustment programmes. The first priority of stabilization is to control rates of inflation and the budget deficits caused by both external and internal budgetary imbalances. The adjustment phase, intended to bring about longer-term structural changes to the economy, includes a wide variety of measures aimed at increasing economic competitiveness and efficiency, including increasing export performance.

**Washington Consensus** A term coined to describe the package of measures instituted in most countries of the Global South from the 1980s onward and reinforced through conditionalities attached to loans and aid. These measures are generally taken to include fiscal discipline, public expenditure priorities, tax reform, financial liberalization, exchange rates, trade liberalization, foreign direct investment, privatization, deregulation, and property rights.

## Introduction

The terms north and south are commonly used to denote directions governed by the Earth's poles. North is the

direction of the pole indicated by the pointer on a magnetic compass, while south is the direction of the opposite pole, or 180° from the zero point of a magnetic compass. It is conventional to have north at the top side of a map and south at the bottom, a historical reflection of northern cartographers' preferences. While such directions are important to all forms of geography, the combined and capitalized term North–South is used to refer to an imagined division between countries who share certain 'northern' or 'southern' traits. Northern countries (often referred to as the Global North) are typically assumed to be richer, more developed, and more powerful than those in the south (the Global South), which have become associated with underdevelopment and poverty. North–South also refers to the relationship between the two zones, with the Global North typically seen as exploiting or dominating the Global South through trade relationships and powerful multilateral institutions. The North–South imaginary has become a powerful concept for interpreting and organizing global processes with consequences for all scales of society.

## History

North–South divisions began forming in colonial times when a rapidly industrializing Europe used its wealth and technology to extend its power and influence to other parts of the globe. Very few countries have not been colonized by European powers at some stage of their history and even fewer could claim to have been unaffected by this period of European hegemony. The colonial experience differed across time and space, but was driven, at least in part, by a common desire to strengthen the power of the colonizing country by exploiting the labor and resources of the colonized. This was done through asserting political control, directly or indirectly, to ensure political acquiescence to European demands within particular, and often quite arbitrary, political units. Local economies were reoriented toward Europe's industrial needs by building new ports, road, and rail infrastructure to facilitate the trade of goods from mines, forests, and fields, for example, to European markets. While international trade predated colonialism, this period of change heralded the arrival of a truly global economy arranged to propel European economic growth. The economic and political divides of the colonial period were enhanced by cultural stereotyping in which northern colonizers generally considered themselves more civilized

than their southern subjects, attempting to rearrange and ‘improve’ existing societies, sometimes referring to them as ‘backward states’. While colonial, and subsequent postcolonial experiences varied widely throughout the world the geopolitical scripting and conceptual differentiation that accompanied this period of political, economic, and social domination set the foundations for global North–South divides today.

When direct European control of southern colonies weakened in the aftermath of World War II the need for foreign exchange meant that many exploitative trade relationships were maintained. However, a new period of political optimism embraced former colonial states who were able to pursue their own futures free from colonial oppression, albeit within the difficult geopolitical contours of an emerging East–West Cold War between the former USSR and the USA. The two superpowers competed to convert states to their ideologies of capitalism and communism through aid packages and trade deals as well as through covert operations and warmongering. While many ended up siding with one of the two major powers, there was also very outspoken opposition to Cold War geopolitics, stemming from strong nationalist and anticolonial agendas. This opposition contributed to the formation of particular institutions representing countries in the Global South, such as the Group of 77 in the United Nations and the Non Aligned Movement of over 100 states. Such institutions gave Southern states a distinct political identity within global geopolitics and emphasized their difference from Northern institutions, such as the North Atlantic Treaty Organization (NATO) and the Warsaw Treaty Organization. The Non Aligned Movement talked of a ‘third way’ and were soon known as ‘Third World’ nations, distinguishing them from the Western European, North American, and other ‘First World’ countries aligned with the USA and the Eastern European allies of the USSR in the ‘Second World’.

While the world was aligning itself into separate political entities, the economic divisions inherited from colonialism continued to grow. Those in the so called First World have been the most economically successful with the period from World War II to the early 1970s sometimes referred to as the ‘golden age of capitalism’. Their economic achievements have been institutionalized within powerful organizations like the Organisation of Economic Co operation and Development (OECD) and the G7 which dominate the world economy but have no Global South members. The Second World did not fare as well, with socialist economies struggling to match the capitalist efficiencies of the West. Most Third World countries looked toward the First World when building their economies, initially experimenting with Western Keynesian style approaches which propelled some (predominately Asian) economies forward, but experienced varying levels of success elsewhere. Expanding access to

capital for Southern economies was facilitated by the reinvestment of petrodollars by the oil rich states of OPEC in Northern banks. However, a combination of bad loans and a global recession in the 1970s would eventually force many southern states into spiralling levels of debt. In the 1980s, as a solution to the emerging economic problems of the South, the Bretton Woods institutions (the International Monetary Fund (IMF), the World Bank, and the General Agreement on Tariffs and Trade – later to evolve into the World Trade Organization (WTO)) promoted neoliberal economic theories under what is known as the ‘Washington Consensus’. Neoliberalism promotes closer North–South economic integration through free markets as the solution to growing global inequality. Opposing neoliberal approaches are neo Marxist theorists who believe that global inequality is sustained and necessitated by international economic interaction, with economic growth in the North reliant upon exploitative relationships with the South.

The growing gulf between First and Third World nations has seen the establishment of a development industry, ostensibly designed to assist allied states in other parts of the world to ‘catch up’ with First World standards. Development theorists have attempted to identify the underlying causes of Western success and apply these lessons to other countries. This has brought on a new way of imagining and categorizing the world according to their stages of development. While economic indicators such as gross domestic product (GDP) were originally the core focus of these analytical divisions, these have given way to a combination of social, political, and economic indicators best captured in the United Nations Development Programme’s annual Human Development Reports. There has been impressive progress in many countries with falling infant mortality rates, improvements in education and social services, and longer life expectancies, all being examples of common achievements throughout the South. Ironically, however, despite making progress in diminishing North–South divides, development has simultaneously served to extenuate North–South differences in popular imaginations. Terms like ‘developed’ which is used for countries in the Global North, for example, and ‘developing’ or ‘undeveloped’ for most Global South countries, solidify North–South differences in geographic imaginaries. Postdevelopment writers go a step further to suggest that the terms ‘developed’ and ‘developing’ implicitly encourage people to believe that the developed North is a desirable endpoint for the developing South.

When the Cold War drew to a close in the late 1980s the political and economic divisions within the Global North lessened. The USSR and Eastern Europe collapsed and entered a period of liberal, democratic, economic, and political reforms, lessening the relevance of the

Second World concept. Russia, for example, has resolved many of its ideological differences with the USA, and is now a member of the powerful G8 (formerly the G7). With Northern tensions declining and unity growing within economic and political units the global power and influence of the North has been magnified. Consequently, North-South has replaced East-West as the key tool for interpreting global economic and geopolitical processes.

While ostensibly the global order has become less complex with the end of the Cold War, there remain questions about the extent to which previously used definitions remain appropriate. In particular, there is contention about whether the countries of the ex communist bloc, sometimes referred to as transition economies, should be now classified in the same way as the erstwhile Third World countries or whether they require a different kind of characterization. Certainly, some transition economies now exhibit human development indicators that are of a similar level to those of the old Third World, and it can be argued that in a generic sense they face similar issues. Others suggest that the Asian and European transition economies are undergoing quite different kinds of transformations which demand that we analyze these regions differently.

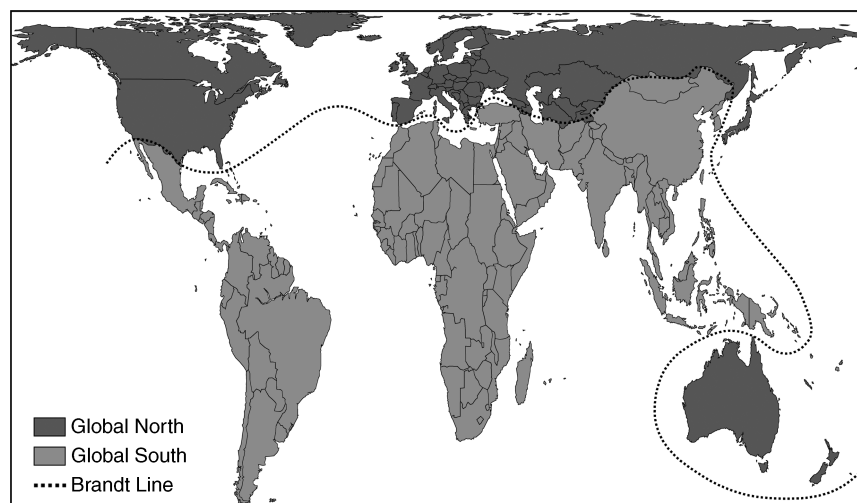
### The Brandt Report

The first significant reference to North-South was in a report chaired by Willy Brandt for the Commission on International Development Issues in 1980. Entitled *North-South: A Programme for Survival*, but commonly known as the Brandt Report, it sought to explain global patterns of inequality, in which the Northern Hemisphere countries were portrayed as much more

economically and politically powerful than their Southern Hemisphere counterparts, and propose means for overcoming these divides. On the cover of the report a line was drawn, now known as the Brandt line, between countries included in the Global North and those included in the Global South (see Figure 1 which uses the Peters projection which some believe more accurately represents the relative size of tropical countries than the more common but Eurocentric Mercator projection). The report used social and economic inequality measures to describe the North-South divide, claiming, as examples, that 75% of the world's population lives in the South but they only earn 20% of the world's income; on average the life expectancy in the North is around 70 years, 20 years more than that in the South; almost everyone in the North receives secondary schooling, whereas 50% of the South are illiterate; 90% of the world's manufacturing is in the North and they control the vast majority of the world's patents and intellectual property rights. Using the analogy of a global community in which the stronger members have a responsibility to assist weaker members, and arguing it is ultimately in their benefit to do so, the report lists a wide range of recommendations in a proposed program of action.

An important component of the Brandt report was a rejection of some of the assumptions underpinning earlier geopolitical imaginaries regarding directions of growth. In a rejection of the linear pathways implicit in First/Third and developed/developing conceptualizations of progress the report writes

We must not surrender to the idea that the whole world should copy the models of highly industrialised countries... Ideologies of growth in the North (and not just the West of the North) have had too little concern for the



**Figure 1** North-South map (using Peter's projection) showing Brandt line. Modified from Brandt, W. (1980). *North-South, A Programme for Survival: Report of the Independent Commission on International Development Issues*. London, Pan Books.

quality of growth... There is no uniform approach; there are different and appropriate answers depending on history and cultural heritage, religious traditions, human and economic resources, climatic and geographic conditions and political patterns of nations... (Willy Brandt, 1980: 23–24)

Unlike earlier development approaches that position Western countries as models which other countries should seek to emulate, the terms Global North and Global South are much more neutral and do not confer superiority to the North. Instead, they are used as analytical tools to identify trends and patterns of global injustice, exploitation, and inequality. In this sense, the term is less loaded than those from which it evolved, such as Third World, underdeveloped, and backward lands and as such has the potential to be a source of positive identity in renegotiating positionalities within emerging geopolitics and global economies.

## Criticisms

A number of criticisms can be directed at the North–South conceptualization. There are geographical problems inherent in the original Brandt line, for example, not just in looping Australia and New Zealand into an imaginary North, but also by accidentally capturing a whole range of additional Pacific Island countries into the North in the process. Notwithstanding the sensitivity to difference intended by Brandt (quoted above), the North–South conceptualization can also be criticized for contributing to a lack of awareness about diversity. Lumping countries as diverse as Sierra Leone and Singapore into the same bloc, or China and Kiribati, risks blurring the very apparent distinctions between such different countries and deflects attention from inequality and exploitation within South–South or North–North relations. That the Asian Tiger economies and wealthy oil producing nations are still commonly grouped within the South, despite having comparable or superior incomes to those in the North, also raises concerns whether the Brandt line is now more reflective of global ethnicities and cultures than economies and politics.

Spatial divisions also risk diverting attention away from exploitative relations within countries, particularly class based relations which may be more pertinent categories for understanding power, exploitation, and wealth. Mobile wealthy classes from around the world, for example, share similar lifestyles irrespective of their spatial location, as do more spatially embedded industrial working classes. Further concerns regarding labor mobility in the form of South–North legal and illegal migration and the vast sums of money sent back to the Global South in the forms of remittances also

problematize simple spatial divisions. Finally, the global shift toward economic regionalism accentuates divides within North or South, such as the distinction between the European Union (EU) and the North American Free Trade Alliance (NAFTA), and blurs boundaries between North and South, with countries from both regions represented in organizations like the forum for Asia Pacific Economic Cooperation (APEC).

A key concern then is that the term Global South promotes an understanding that privileges the nation state as the main focus of analysis. This tends to limit understanding of the evolving economic interactions between different cities and regions. In this sense, the concentration on differences between countries risks overlooking concomitant changes taking place in the global economic system, as flows between nodes of the Global South increase and cities and regions become more intensively connected to each other. Instead, Taylor *et al.* argue that we can best understand this increasingly global economic interconnectivity by utilizing a relational approach that focuses more on the interaction of different cities and regions than sovereign spaces.

## Key North–South Issues

Despite such criticisms, North–South has become an important organizing concept for interpreting international economic and political relations, providing a useful lens for identifying unevenness and inequality at the global scale. The following sections explore how the North–South concept can be applied to reveal divisions and ongoing challenges in political, economic, socio-cultural, and environmental spheres.

## North–South Politics

At the global scale, many of the world's most powerful institutions either exclude Southern states from membership or marginalize them in decision making. The G8 and the OECD, for example, are comprised of countries that dominate the world's economy but have no representatives from the Global South. Other institutions like the United Nations, with a mandate to prevent war, protect human rights, establish international laws, and promote progress and freedom, were consciously set up with principles of equity in mind, yet even there Northern states dominate key components. The UN General Assembly, which determines matters of policy and oversees other UN agencies, is the most democratic structure allocating one vote per state irrespective of population size or economic power. The more powerful UN Security Council, however, with a mandate to maintain international peace through sanctions and peacekeeping operations, is far less democratic. The

Security Council is made up of five permanent members, that is, the USA, France, Russia, the UK, and China, who have the right to veto any decision, and ten rotating members. China is the only permanent member from the Global South despite (or perhaps reflected in) the vast majority of Security Council Resolutions being directed toward Southern states. The current push by Japan, Germany, India, and Brazil for permanent representation only goes part way to rectifying this imbalance. Similarly, other powerful global institutions like the World Bank and the IMF are dominated by Northern states with voting rights allocated according to funds contributed. The North provides the bulk of funding to these institutions, thereby having a disproportionate amount of influence on policy despite the impacts of such policies being felt most intensely in the South.

### North–South Economics

Troubling economic North–South disparities have been the focus of the development industry since World War II. While conditions have changed since the original Brandt report, much manufacturing has moved to the South, for example, and basic incomes have generally improved, Northern economies have generally outperformed those in the South. A variety of theories have evolved to overcome these divisions, such as modernization, neo Marxist, grassroots, and neoliberal theories, yet economic disparities, with a few important exceptions, continue to grow. Some of the contemporary economic North–South challenges include foreign aid, international debt, and agricultural subsidies.

#### Foreign aid

Foreign aid is one of the key mechanisms, along with foreign direct investment, through which the Global North transfers funds, knowledge, and expertise to the Global South. While such transfers may have underlying geopolitical motives, clearly seen in Walt Rostow's influential text on foreign aid *The Stages of Economic Growth* being subtitled *A Non Communist Manifesto*, they are ostensibly designed to lessen North–South economic and social divisions. Some common concerns, however, include that the Global North is not providing enough foreign aid, that the aid is not going to the right places, and that has become tied to particular undesirable conditions. The criticism that the Global North is not providing enough aid derives from a UN General Assembly agreement from 1970 when Northern nations agreed to commit 0.7% of gross national income (GNI) to overseas development assistance (ODA). With a few notable exceptions – Denmark, Luxembourg, Netherlands, Norway, and Sweden (see **Figure 2**) – the vast majority of Northern countries have consistently reneged on this agreement with a country average, in 2004, of only 0.42%

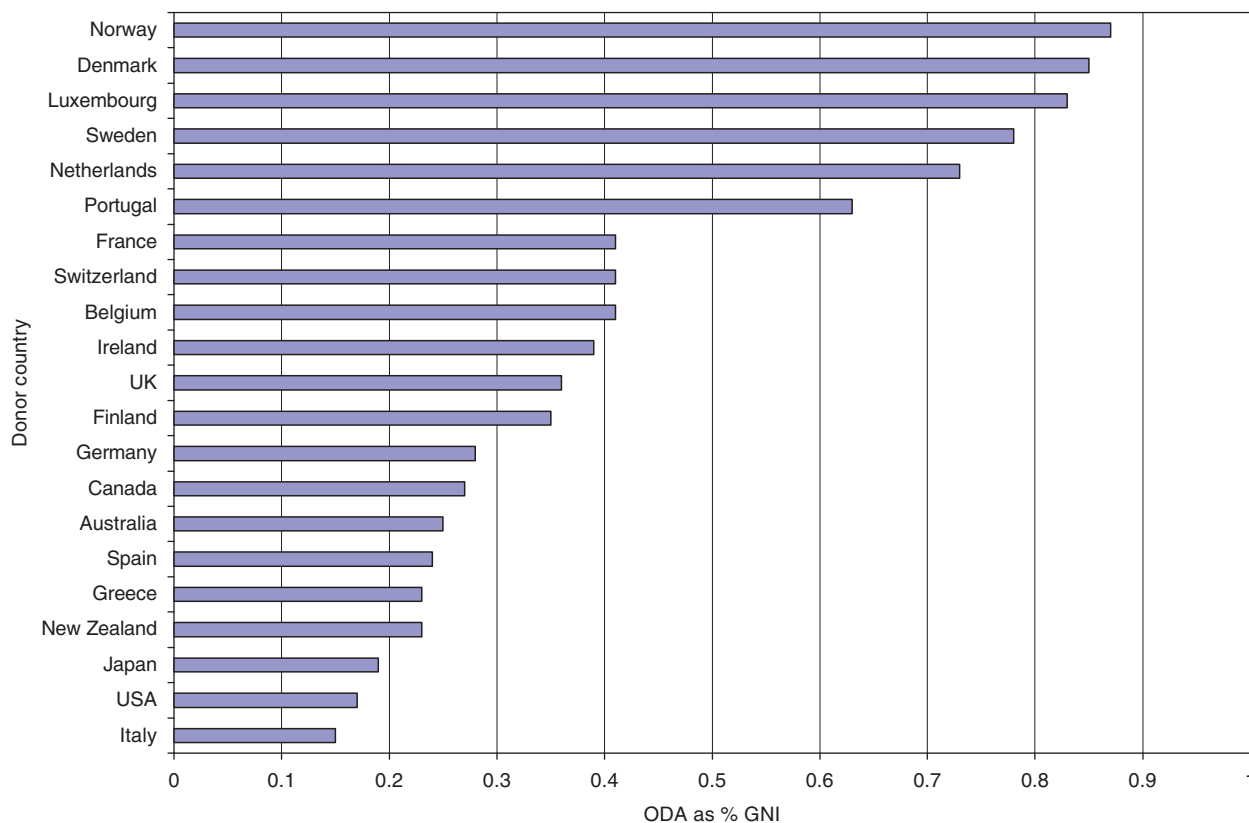
of GNI being committed to ODA. The direction of foreign aid is criticized for reflecting geopolitical interests rather than economic or social needs; strategically important Israel, for example, regularly receives more for foreign aid from the USA than more impoverished Southern nations such as Sierra Leone. ‘Tied aid’ refers to the leverage Northern donors exert when allocating aid, requiring Southern partners to agree to certain conditions, such as undergoing particular institutional reforms or purchasing certain Northern products and/or services with the aid money, before the aid program will go ahead.

#### International debt

One of the biggest obstacles to overcoming economic inequality is the international debt of Southern countries. Debt repayment has become a core expense, often attracting more governmental financial support than social investment in education or healthcare. There are various reasons behind Southern debt, including bad loans for failed initiatives; ‘odious debts’ in which money was lent to corrupt elites who profited privately while their country inherited the debt; increasing costs associated with oil price rises in the 1970s; falling market prices particularly during global recessions; and the devaluation of currencies where some debts have been repaid in the local currency and not in the foreign currency in which it was borrowed. An international campaign by NGOs to provide debt relief to poor countries has succeeded in convincing the IMF to provide debt relief packages to a selection of heavily indebted poor countries (HIPC). However, such relief packages are ‘tied’ to particular conditions, most notably that HIPC qualifying countries must undergo a structural adjustment program (based on an IMF/World Bank Poverty Reduction Strategy Paper) which encourages privatization, currency devaluation, and greater levels of foreign investment. The consequent privatization of basic commodities like water has caused suffering and widespread protests in some states, causing many to criticize the IMF's policies and practices as reflecting the investment concerns of the Global North, rather than the human rights of the Global South. Until debt issues are resolved in the South, debt repayments will continue to stifle social and economic investment in more productive areas of society.

#### Agricultural subsidies

A core conflict in North–South economic relations is borne out in the debates over agricultural subsidies. Southern countries, which are generally more economically reliant upon the agricultural sector, are arguing through the WTO, which is based on consensus decision making, that the Global North, particularly the EU and the USA, should abolish the subsidies they pay to their own farmers. Agricultural subsidies in the North are enormous, exceeding the amount they give as ODA,



**Figure 2** ODA as ratio of Gross National Income (GNI) of OECD donor countries. Source: Management Committee for the Reality of Aid (2006). *The Reality of Aid 2006: Focus on Conflict, Security and Development*. Quezon City: Ibon Books.

protecting uncompetitive Northern industries from Southern producers. Not only are Northern markets protected but the subsidies allow the North to export to the South at prices that local farmers cannot compete with. Such policies go against the neoliberal free market economic theories the North promotes in the South through aid and debt relief packages, adding to Southern frustrations. South-South unity has frozen negotiations within the Doha round of talks at the WTO but true agricultural reform within the North looks to be still some way off.

### North-South Societies and Culture

Two key North-South sociocultural issues relate to international labor movements and debates about globalization and glocalization.

#### *International labor movements*

International labor movements between North and South are carefully controlled by immigration and border protection agencies. Unlike capital, labor is not permitted to freely cross borders; instead, only carefully selected flows are allowed to take place. Due to the improved economic and social living standards in the North there are considerable pools of labor that would like to migrate

South-North. The North chooses which of these workers will be allowed to migrate and under what conditions, ensuring only the most appropriate applicants succeed. The preference for skilled workers raises concerns for Southern nations who may have invested considerable capital into their education and training, only to lose them during their most productive years. Known as the 'brain drain', the Northern country inherits a skilled, educated worker for little or no investment. Some Southern countries, like the Philippines, for example, actively promote these international labor movements as the remittances sent home by migrants can contribute substantial amounts to domestic economies. The emigration of the 'best and brightest', however, is generally thought to depress Southern development.

Unapproved or illegal South-North migration is also common. People may flee their home country for fear of persecution or conflict, while others may simply be attracted to the higher wages of the North. Illegal migrants often fill important gaps in the labor market by finding low paying jobs most Northerners find undesirable. However, illegal immigrants risk their lives and freedom when crossing Northern borders, particularly when being smuggled in overloaded or unsafe boats. Many immigrants are caught and detained or returned to their country of origin where they can be imprisoned. Others,

if escaping from persecution may apply for refugee status which, depending on the policies of the Northern state, can lead to confinement in refugee camps, sometimes for years at a time, or freedom to move and seek work while their claims are processed. As North–South inequalities spiral, it is likely that legal and illegal forms of immigration will continue to grow.

### **Globalization and glocalization**

A common argument today is that sociocultural North–South distinctions are lessening as a consequence of globalization. Across the world, technological developments are compressing both time and space and bringing geographically distant cultures into closer contact than has previously been possible. Globalization proponents believe this is leading to a dilution of cultural diversity as a homogeneous global culture begins to emerge. However, rather than this global culture reflecting the diversity of societies that exist across the world, globalization favors those that have the most sophisticated and economically powerful cultural industries – such as in film, media, fashion, literature, or sport. While there is evidence of cultural traits from the South being represented in this global culture – particularly through food industries, for example – most cultural industries at the global scale are dominated by those in the North. Hence, there is concern that Southern cultures, in particular, are being lost as new generations are attracted to the lifestyles promoted by the Global North.

While evidence of globalization can be found throughout the world, a strong counterview known as glocalization has also emerged. This perspective agrees that time and space are being compressed, but, rather than locals mindlessly substituting global cultures for their own, they are reinterpreting and incorporating them in locally unique and useful ways. Glocalization suggests that hybrid cultures that are emerging integrate the global and the local in place specific ways contributing to greater vibrancy and heterogeneity rather than homogeneity. Such a viewpoint positions the Global South as active rather than passive agents selectively engaging in global trends and processes according to their own cultural norms. The film industries of Bollywood in India and Nollywood in Nigeria are good examples of glocalization where the Global South has engaged with Northern technologies in culturally unique and expressive ways.

### **North–South Environments**

North–South relationships extend beyond social concerns into physical and biological systems. Two key areas of concern relate to global environment management as well as concepts of environmental justice.

### **Global environmental issues**

Global environmental issues are those which are beyond the scope of a single state to address and instead require concerted action from the global community. Some examples derive from sharing a common global resource, such as global warming or ozone depletion, while others emerge from the cumulative impacts of individual state scale acts of degradation – such as global biodiversity loss, fisheries depletion, or deforestation. It is generally accepted that the Global North is causing more environmental degradation than the Global South due to the North's higher rates of consumption. The resources consumed by one urbanized North American, for example, may be hundreds of times that of a rural family living in a remote African or Asian community. As Southern nations develop, however, consumption rates are increasing therefore adding to the pressure being put on the global environment. It remains to be seen, for example, whether the earth is capable of sustaining a global population that consumes resources at the rate of the Global North. Such concerns raise interesting dilemmas about how to reduce Northern consumption levels as well as the direction of Southern development. These concerns are borne out most vividly in contemporary debates regarding global warming with most Northern nations signing the Kyoto Protocol and making a commitment to reduce their emissions. States in the Global South, however, have been reluctant to make such commitments believing conservation priorities are of secondary importance to economic development.

### **Environmental justice**

Environmental justice, in the context of North–South, refers to concerns that environmentally damaging or polluting industries or processes are being transferred from North to South. Within increasingly globalized trading systems, more and more products that are consumed in the North are being sourced from the South. This is partly a reflection of cheaper and more accessible land and labor in the South as well as increasingly stringent environmental regulations in the North. The majority of the world's paper, for example, is consumed by the North but much of it derives from forests in the South causing local environmental degradation. Similarly, the surrounding and downstream pollution of waterways near mining sites in the South often derives from minerals destined for Northern markets. In effect, much of the environmental damage associated with Northern consumption patterns have been placed out of sight of consumers and relocated to Southern locations. Awareness of North–South environmental justice issues is growing through southern activism, consumer awareness campaigns and labeling of eco friendly products, yet there is still much to be done.



## Summary

The Brandt line dividing the world into North and South is very much an arbitrary division replete with problems, yet it has become a useful tool for visualizing, conceptualizing, and analyzing global processes, injustices, and inequalities. The North–South imaginary reveals stark differences in the wealth and power of those in the Global North and those in the Global South. In doing so, it has provided a rallying point for Southern activists interested not necessarily in ‘catching up’ or becoming more like the North, but instead in ensuring that basic human standards are achieved in their own countries, enabling them to pursue their own paths into the future.

See *also*: Debt; Geopolitics; Liberalism.

## Further Reading

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## Relevant Websites

- <http://www.globalpolicy.org>  
Global Policy Forum website Updated statistics relating to global economic and political inequality.
- <http://www.realityofaid.org>  
Reality of Aid website. Annual updates and current information on issues relating to the provision of foreign aid from OECD nations.
- <http://www.brettonwoodsproject.org>  
The Bretton Woods Project website review of critical perspectives on the World Bank, IMF and WTO policies.
- <http://www.undp.org>  
United Nations Development Programme website For annual Human Development Reports and updates on other development issues.
- <http://www.worldbank.org>  
World Bank website portal to one of the world’s most powerful and controversial organizations.