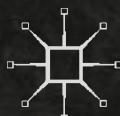


EDITED BY
PEDER ROBERTS,
LIZE-MARIÉ VAN DER WATT
AND ADRIAN HOWKINS

ANTARCTICA AND THE HUMANITIES

PALGRAVE STUDIES IN THE HISTORY OF SCIENCE AND TECHNOLOGY



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Editors

Antarctica and the Humanities

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Editors

Peder Roberts
KTH Royal Institute of Technology
Stockholm, Sweden

Adrian Howkins
Colorado State University
Fort Collins, USA

Lize-Marié van der Watt
Arcum, Umeå University
Umeå, Sweden

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FOREWORD

Antarctica and the Humanities is a welcome intervention. My younger postgraduate self would have welcomed such a book when starting my career as a polar geographer and critical geopolitical scholar. On the one hand, I had some colleagues tell me that the Antarctic was not a smart choice in terms of career development, and on the other hand I encountered a polar academic world dominated by people with doctorates in polar sea ice pontificating about Antarctic treaty politics and law. It all seemed very counter-intuitive or perhaps refreshingly open-ended in terms of disciplinary borders.

As I began to understand better the academic landscape of the polar world, however, I realised that there was something peculiar at play. Framed by the presence of the Antarctic Treaty System and a cult-like devotion to the notion that Antarctica was a “continent for science,” it dawned on me that some of those academic contributors did not want social science and humanities scholarship to challenge that place-based view. Aided and abetted by the critical scholarship of people like Peter Beck, Lisa Bloom, Aant Elzinga, and the late Christopher Joyner, I took solace in the fact that such framings did not have to predominate, let alone dominate. Perhaps a better way of seeing things was, I thought at the time, to think of how the humanities, social sciences, and sciences intersect with one another. Without the polar science inspired infrastructures in the Antarctic, many authors, artists, and performers would have never have visited, regardless of what one thinks of those infrastructures.

What does a humanities perspective offer in this book? Well while there is more than one perspective on display, I think there is a shared

commitment to challenge the ideas and practices associated with exceptionality. While there is no shortage of things to highlight Antarctica's distinctiveness, such as the absence of a long-term human population compared to other continental spaces, there is also plenty of evidence here to show how Antarctic intellectual and material cultures were intertwined with global networks of ideas, practices, objects, and technologies. Since earliest human encounters, places like the beach and coastal waters of the region, as Greg Denning noted elsewhere for the Pacific world, was a contact zone and a violent one at that as sealing and whaling turned parts of Antarctica and the Southern Ocean into "killing fields."

Later inland and aerial exploration saw human visitors create, maintain, and administer their highly gendered, racialised, and nationalised inhabited worlds. It was a world of and for white European and North American men, in the main. They brought dogs, scientific equipment, building materials, and even their libraries and made Antarctica home, albeit a domestic space where gendered divisions of labour were arguably quite different to elsewhere. Those men and their sponsors "harvested" the Antarctica as well. They brought back rock samples, whale oil, seal pelts as well as ideas, images, and stories about the polar continent and surrounding seas. Antarctica was embedded in political and representational economies, and ideas and images played their part in "selling" Antarctica to multiple audiences.

As the contributors show, the ideas and representations associated with Antarctica sat uneasily with experiences and practices. While visitors could marvel at the beauty and the sublime of the ice and snow, they could also die most horribly and painfully. The human body of many explorers past and present has borne the brunt of the long polar night and unrelenting katabatic winds. Wonder and awe could also give way to an ambivalence and even disdain for this "empty" landscape. In the 1940s and 1950s, there was in some quarters some interest in using Antarctica as a nuclear waste ground. Who would notice? Southern hemispheric countries such as Argentina and New Zealand were strong supporters of an Antarctic Treaty, which committed signatories to a nuclear-free Antarctica. By 1961, Antarctica was indeed the world's first nuclear free zone and while welcomed by many, this did not mean that other communities in other places were spared the spectre of nuclear testing. While the presence of nuclear weapons was now considered unthinkable in Antarctica, there were still those involved in Antarctic politics and science who would rather have had a world where the (white) man's best and only friend was the Huskie.

Women and ethnic minorities were considered to be contaminants in much the same way dogs are now considered to be “alien” to the Antarctic environment in a post-Protocol of Environment era.

I think what this book achieves is to show what happens when critical scholarship in the humanities comes into contact with Antarctica. In their searching essays, the contributors explore the nature of the human encounter and the interaction with the agency of polar physical environments. One is struck time and time again about how the ice, the water, the wind, and fire have facilitated, blocked, frustrated, excited the dreams, and plans of human communities *in situ* and elsewhere. Reputations have been made and lost. Research stations established and destroyed. Animals butchered and preserved. Babies were made and bodies were and continue to be broken. Ambitions and ambiguities characterise the human condition in Antarctica. We have revered Antarctica and we have plundered Antarctica. It is a complex relationship, which the humanities are well placed to interrogate.

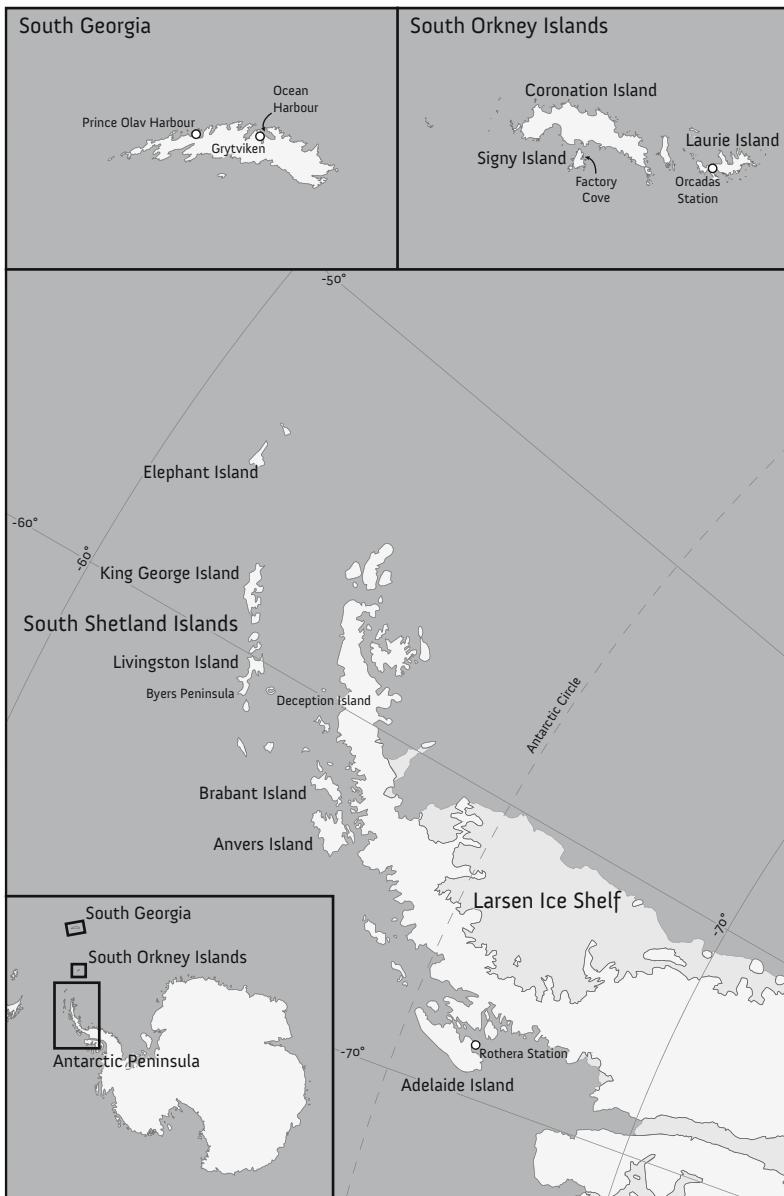
Finally, I hope this work will serve as a source of inspiration for the next generation of scholars and interested readers who wonder about whether the humanities have a future in Antarctica. And I sincerely hope that generation does not have to address, in a way, the kind of questions many other social scientists and humanities have had to tackle from the polar community such as “why are you interested in Antarctica?” and “do you really need to go there?” This book, I think, shows well that what is interesting is not the answers to those questions but why they are framed as questions in the first place.

Klaus Dodds,
Royal Holloway, University of London
Egham, UK



Map 1 Map of Antarctica, showing sovereignty claims made prior to the Antarctic Treaty and indicating important locations referred to in this volume.

Map by Red Geographics. Made with Natural Earth



Map 2 Map of the Antarctic Peninsula and South Georgia with details pertinent to this volume.

Map by Red Geographics. Made with Natural Earth

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NOTES ON CONTRIBUTORS

Alessandro Antonello is a Postdoctoral Research Fellow in the Robert D. Clark Honors College of the University of Oregon. He completed his PhD at the Australian National University in 2014 and works in the fields of environmental history, international history, and the history of science. His research concentrates on contemporary Antarctic and international environmental history, particularly investigating the development of the Antarctic Treaty System's regime of environmental protection and management and attendant environmental sensibilities and scientific concepts. He is also currently researching the history of glaciology and the place of ice in Antarctic science, culture, and politics in the twentieth century. His work has appeared in the *Australian Journal of Politics and History* and *The Polar Journal*.

Dag Avango is a historian at the Division of History of Science, Technology and Environment at KTH in Stockholm. His research mainly deals with the history of large-scale natural resource exploitation and the consequences of resource extraction for communities and the environment, with a particular focus on the polar regions (Arctic and Antarctic). A closely related research interest concerns the legacies of large-scale technological systems for resource extraction and how different stakeholders deal with those legacies when building post-industrial futures. Avango's research is situated at the interface between archeology and history, based on the theoretical assumption that material objects and environments play an active role in society and therefore should be considered in explanations of historical change. Following from this, he has worked with a methodological approach of combining archival studies with archaeological fieldwork.

Stian Bones is Associate Professor at the Department of History and Religious Studies, UiT—the Arctic University of Norway. The subject of his doctoral thesis (2007) is the development of containment strategies in the Norwegian north

during the Cold War. Bones has recently taken part in a large research project on the historical relations between Norway and Russia, and is now working on a project about the history of Norway's polar politics.

Aant Elzinga is professor emeritus at the Department of Philosophy, Linguistics, and Theory of Science at the University of Gothenburg, Sweden. His active engagement in science policy has been important for his integrative take on “social epistemology” combining the history, philosophy, and social studies of science. His research on the International Geophysical Year (1957/58), the Antarctic Treaty System, and the role scientific competition and geopolitics played in these, has been influential in shaping Antarctic social science and humanities research. He participated in the Swedish Antarctic Expedition 1997/98 and also has been active in the International Polar Year (IPY 2007–2009) and its follow-up.

Elena Glasberg writes about visual art, climate, neocolonialism, and how people relate to place and territory. In 2004, she participated in the NSF Antarctic Artists and Writers program. She is the author of *Antarctica as Cultural Critique: The Gendered Politics of Scientific Exploration and Climate Change* (Palgrave Macmillan, 2012). She teaches in the Expository Writing Program at New York University.

Adrian Howkins is Associate Professor at Colorado State University, USA. His previous publications include *The Polar Regions: An Environmental History* (Polity, 2015), as well as articles and essays in *The Journal of Historical Geography*, *Osiris*, and *Environmental History*. He is a PI on the NSF-funded McMurdo Dry Valleys Long Term Ecological Research project in Antarctica.

Associate Professor **Elizabeth Leane** holds an Australian Research Council Future Fellowship split between the School of Humanities and the Institute for Marine and Antarctic Studies, at the University of Tasmania. With degrees in both science and literature, she is interested in building bridges between disciplines, and particularly in bringing the insights of the humanities to the study of the Antarctic. She is the author of *South Pole: Nature and Culture* (2016), *Antarctica in Fiction* (2012), and *Reading Popular Physics* (2007) and the co-editor of *Considering Animals* (2011) and *Imagining Antarctica* (2011). She is a past recipient of an Australian Antarctic Arts Fellowship, and is currently the co-director of the Humanities and Social Sciences Expert Group within the Scientific Committee on Antarctic Research. In addition to her Antarctic work, her research areas include literature and place; popular science writing; and human-animal studies.

Cornelia Lüdecke is a historian of science and affiliated with the University of Hamburg as privatdozent. She is one of the founders of the Scientific Committee on Antarctic Research (SCAR) History of Antarctic Research Expert Group and has chaired it since 2004. In 2010, she received the Reinhard Süring Medal from the German Meteorological Society and in 2012 she was elected as corresponding member of the International Academy of the History of Science in Paris. Her

research focuses on the history of German polar research and on the history of meteorology. She has published more than 160 papers and 15 books and proceedings. Her most recent publications include *Verbogene Eiswelten: Erich von Drygalskis Bericht über seine Grönlandexpeditionen 1891, 1892–1983*, ed. Cornelia Lüdecke (2015) and *Deutsche in der Antarktis. Expeditionen und Forschungen. Vom Kaiserreich bis heute* (2015). She lives in Munich, Germany.

Peder Roberts is a Researcher at KTH Royal Institute of Technology in Stockholm, Sweden. His previous books include *The European Antarctic: Science and Strategy in Scandinavia and the British Empire* (Palgrave 2011) and *The Surveillance Imperative: Geosciences during the Cold War and Beyond* (with Simone Turchetti, Palgrave 2014).

Melisa A. Salerno is a researcher at the National Council for Scientific and Technical Investigations (CONICET, Argentina). She is particularly interested in modernity, the history of silenced groups, corporeality, and dress. She has written and edited a range of books, including *Arqueología de la Indumentaria. Prácticas e Identidad en los Confines del Mundo Moderno –Antártida, Siglo XIX* (2006) and *Coming to Senses: Topics in Sensory Archaeology* (edited with José Roberto Pellini, and Andrés Zarankin, 2015).

Sandra Swart is a Professor of History at Stellenbosch University in South Africa. She recently completed a term as President of the Southern African Historical Society. She completed an MSc in Environmental Change and D. Phil. in Modern History at Oxford University. She has published widely within a socio-environmental paradigm, focusing on the interaction of humans and other animals. Her most recent book is *Riding High—Horses, Humans and History in South Africa* (2010).

Lize-Marié van der Watt is a post-doctoral researcher at the Arctic Research Centre at Umeå University (Arcum), Sweden. Her research publications include socio-environmental and political histories of South Africa and Antarctica. Her current work focuses on the global context of environmental and political change in the Arctic.

Andrés Zarankin is Professor of Archaeology at the University of Minas Gerais (Brazil). He is also a researcher at the National Council for Scientific and Technical Investigations (CONICET, Argentina). His main research interests include Antarctic archaeology, archaeological theory, and historical archaeology. He has written and edited several books, including *Historias de un Pasado en Blanco* and *Arqueología Histórica Antártica* (with María X. Senatore—Argumentum, 2007); *Global Archaeological Theory: Contextual Voices and Contemporary Thoughts* (edited with Pedro Paulo Funari and Emily Stovel, 2005) and *Memories from Darkness: Archaeology of Repression and Resistance in Latin America* (edited with Pedro Paulo Funari, and Melisa Salerno, Springer, 2009).

LIST OF ACRONYMS

AAE	Australian Antarctic Expedition (1911–1914)
AARI	[Russian/Soviet] Arctic and Antarctic Research Institute
AIDJEX	Arctic Ice Dynamics Joint Experiment
AMCAFF	Agreed Measures for the Conservation of Antarctic Fauna and Flora (1964)
ANT	Actor Network Theory
APECS	Association of Polar Early Career Scientists
ASMA	Antarctic Specially Managed Area
ASOC	Antarctic and Southern Ocean Coalition
ASPA	Antarctic Specially Protected Areas
AT	Antarctic Treaty
ATBR	Antarctic Conservation Biogeographic Region
ATCM	Antarctic Treaty Consultative Meeting
ATS	Antarctic Treaty System
AUIP	American Universities International Programs
BAS	British Antarctica Survey
CRAMRA	Convention on the Regulation of Antarctic Mineral Resource Activities
CSIR	[South Africa] Council of Scientific and Industrial Research
ESRO	European Space Research Organization
FIDS	Falkland Islands Dependencies Survey
GKNT	[Russian/Soviet] State Committee for Science and Technology
GPS	Global Positioning System
HASSEG	[SCAR] Humanities and Social Sciences Expert Group
IASC	International Arctic Science Committee
IPCC	International Panel of Climate Change
IPHC	International Polar Heritage Committee

IAWG	[US State Department] Interagency Arctic Working Group
ICSU	International Council of Scientific Unions
ICOMOS	International Council on Monuments and Sites
IGY	International Geophysical Year (1957–1958)
INACH	Chilean Antarctic Institute
LASHIPA	Large Scale Historical Exploitation of Polar Areas
LTER	Long Term Ecological Research
LTS	Large Technological Systems
MFA	[Norwegian] Ministry of Foreign Affairs
NASA	National Aeronautics and Space Administration (United States)
NATO	North Atlantic Treaty Organization
NBSX	Norwegian-British-Swedish Antarctic Expedition
NEH	[US] National Endowment for the Humanities
NP	[South African] Purified National Party
NPI	Norwegian Polar Institute
NSF	National Science Foundation
RDP	[South African] Reconstruction and Development Programme
SANAE	South African National Antarctic Expedition
SANCAR	South African National Committee for Antarctic Research
SAP	South African Party
SCAAR	Scientific Committee on Arctic and Antarctic Research
SCAR	Scientific Committee on Antarctic Research
SPRI	Scott Polar Research Institute
STEM	Science, Technology, Engineering, and Mathematics
STS	Science and Technology Studies
UFO	Unidentified Flying Object
WMO	World Meteorological Organization

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CHAPTER 1

Antarctica: A Continent for the Humanities

*Peder Roberts, Adrian Howkins,
and Lize-Marié van der Watt*

Antarctica is almost always described as a space defined by its uniqueness. The continent is colder and more arid than any other. Its interior is covered by ice and snow—over four kilometers thick in places, pushing the bedrock below sea level and compressing ice into great sub-glacial lakes. Antarctica has no indigenous human population, and the brief history of human activity on its surface (and within its waters) has failed to dispel a pervasive image of an alien frontier imimical to human presence.

The Antarctic Treaty System (ATS), which came into force following the Treaty's ratification in 1961, regulates activity in and around Antarctica and reifies this conception by demarcating Antarctica from the rest of the globe, aiming to limit who and what may enter the Antarctic and what people may do once they are granted access. The natural sciences

P. Roberts (✉)

Division of History of Science, Technology and Environment, KTH Royal Institute of Technology, Stockholm, Sweden

A. Howkins

Department of History, Colorado State University, Fort Collins, CO, USA

L.-M. van der Watt

Arctic Research Centre at Umeå University (ARCUM), Umeå University, Umeå, Sweden

have become privileged within this framework. Antarctica is a “natural reserve devoted to peace and science,” in the words of the Protocol on Environmental Protection to the Antarctic Treaty (ratified in 1998).¹ The implication is clear: unlike the rest of the world, with its complicated relations between people and nature, Antarctica is governed by an enlightened political order that acts both through and for science.²

Defining Antarctica in this way has left little space for the humanities. But it is precisely the naturalization of a very particular and contingent set of choices and values that make it important to consider Antarctica as a continent for the humanities. The task is both necessary and overdue. For a continent that is often depicted as paradigmatically non-human, it has generated a great deal of art and literature (as well as science), testament to a significant presence in cultural imaginations. The Antarctic region is ripe for investigation from the perspective of the humanities, to subvert its status as a space without a human element by considering how the Antarctic has been explored, represented, and imagined over time.

The human history of Antarctica may be short, but much of it is massively over-documented, with visitors often feeling compelled to record their experiences. But silences in the written historical record ought not to be equated with absence. For many early nineteenth-century sealers, the desolate islands of the Antarctic Peninsula were a place of work rather than a site for ostentatious heroism, their presence recorded only through ruins that must speak for the totality of a lived experience.³ The experiences of many workers on the continent today—the multinational crews of tourist vessels, for example, or enlisted South American military servicemen—tend to be overlooked as not being representative of what is “really” important to understanding the Antarctic—and perhaps even more importantly, to representing it.

There are many ways of knowing Antarctica, not only through the sense-making of science, but also through imagination—and most prosaically, through work.⁴ These processes have always revealed as much about the people doing the working or the imagining as about Antarctica itself. In the time of the ancient Greeks an Antarctic continent was presumed to exist in order to counterbalance the landmasses of the northern hemisphere, its existence both natural and necessary—but its precise nature entirely unknown.⁵ For Captain James Cook in the 1770s, Antarctica was sufficiently remote and icebound to be presumed useless,⁶ even though a boom and bust in fur seal hunting would ensue around the Antarctic Peninsula within 50 years of his gloomy pronouncement—followed more

than a century later by the dramatic rise and fall of the Antarctic whaling industry. For explorers of the so-called “Heroic Age” (stretching roughly from 1895 to the First World War), Antarctica’s harsh and seemingly monolithic remoteness made it a perfect setting for races to traverse territory and obtain scientific data in the service of personal and national glory.⁷ For interwar empire-builders such as Leo Amery of Great Britain, Antarctica was another swathe of the earth awaiting European annexation and dominion, science working hand in hand with development.⁸ For earth scientists in the post-1945 years, Antarctica represented a treasure trove of geological and geophysical data (and in many imaginations, of treasure in the form of uranium and other strategically important minerals), ultimately becoming a space for Cold War competition without recourse to guns or missiles.⁹ And during much of the 1980s, dissenting opinions on whether Antarctica ought to be governed by the states who were part of the ATS, or by a genuinely global body such as the United Nations, brought to the fore the continent’s status as a colonized space in addition to a potential natural resource base.¹⁰

Antarctica’s present-day status as a continent for science and peace is merely the latest in a series of frames for understanding what kind of space the Antarctic is—and what kind of space it ought to be. This raises another set of questions. How did this particular conception of Antarctica become so dominant? Why are science and peace envisaged as almost self-evidently suitable for a space imagined as a “natural reserve”?¹¹ What values are coded within those terms—and what exactly are they presumed to mean? How have they changed through time and across space? Many political geographers now take space as the product of narrative rather than the setting for it, inverting the older view of the environment as the fixed frame in which humans act.¹² The point is not to deny the reality of the world around us, but rather to stress that places are always embedded in narratives, that living and acting in the world always involves constructing it in some way.

To assume that the status quo of today is an ideal state rather than the consensus of a particular historical moment—however much that status quo has to commend it—is to mistake the contingent for the necessary. Antarctica has been imagined and experienced in many ways in the past, and there are at least as many possibilities for the future. The conflation of ecological preservation with science might seem logical considering the important role Antarctic data has played in research into the ozone layer and climate change. But this has not always been the

case: scientists such as the Norwegian Johan Hjort considered science and Antarctic whaling as a natural partnership (a position still articulated in the Japanese Whale Research Program), while the creation of an infrastructure to support the United States Antarctic science program in the 1960s helped justify the rather unsuccessful operation of a nuclear reactor at McMurdo Station.¹³ Dogs, now banned from Antarctica and labeled as ecological contaminants, were once indispensable aids to field science in addition to inspiring memoirs and literary narratives.¹⁴ Nor has the perception of Antarctica as a lode of data with relevance to understanding marine and atmospheric systems in the past and present completely replaced a perception of Antarctica as an Aladdin’s Cave of rare and valuable minerals.¹⁵

A DIFFERENT PERSPECTIVE

The humanities can help us to think more clearly about Antarctica, but encounters (imagined or otherwise) with Antarctica can also prompt insights of more general relevance to the humanities. Natural scientists rightly point to the relevance of Antarctica as a source of data for questions with global implications—most notably concerning climate change.¹⁶ Can Antarctica also offer a conceptual space for humanists to probe the limits of the imagined world for different cultures at different points in time? Not only does a humanistic approach offer useful ways of critiquing the existing political and scientific status quo in Antarctica; it can also offer insights into the “human condition” more broadly.

The question of the utility or non-utility of the humanities creates a tension that runs through this collection. Words like “relevant” and “useful” can quickly raise red flags for humanities scholars, for whom the study of art, literature, and history is often assumed to be intrinsically valuable. To demand utility is to make the humanities a pale imitation of the sciences—social as well as natural. But in the Antarctic context, it is precisely the fact that humanities scholarship is not an obvious part of the standard toolbox for interrogating the far south that makes it so important. By offering different ways to imagine Antarctica, the humanities subvert the idea that Antarctica is by its very nature a “continent for [natural] science.” While we recognize the intrinsic worth of humanities scholarship, we also emphasize the value of investigating the Antarctic from a range of disciplinary and epistemological perspectives.

Indeed, the question of utility today confronts the humanities as a whole. As we write this essay, we are aware of finding ourselves in a time in which “*insert-adjective-generally-recognized-as-socially-important* humanities” are proliferating. This is by and large a good thing. The environmental humanities have pushed scholars to think critically about how discourses and practices concerning physical environments embody—or even naturalize—particular sets of values or beliefs. The medical humanities remind us that healthcare is fundamentally about people, and that wellness and illness have social dimensions that stretch far beyond the clinical status of particular individuals under treatment. The digital humanities are concerned with how information technology shapes (and is shaped by) cultural production rather than viewing technology as a deterministic driver of change. What these new formations have in common is a desire to bring the human back into domains often perceived as naturally belonging to the STEM fields (science, technology, engineering, and mathematics). Each of these fields, or sub-disciplines, recognizes that suffixing such terms with “humanities” is more a means of bringing the humanities—and indeed humanity—into a broad conversation than a statement of the primacy of one particular mode of inquiry. (There is also a recognition that disciplinary boundaries provide fascinating subjects of analysis in their own right.)¹⁷

Should we therefore start to think in terms of “Antarctic humanities”? While leery of disciplinary frames based on geography—especially as so much activity in Antarctica may be read as projections of cultural and scientific power from much further north—we nevertheless see value in the term if it prompts reflection about why Antarctica is relevant to disciplines beyond the natural sciences, and how the concept of a “continent for science” has shaped knowledge production even in the humanities. Perhaps the most striking case is history. For many years histories of Antarctic activity were dominated by the scientists or explorers themselves (whose memoirs of specific expeditions are in many cases still cited today as benchmark sources) or by individuals without professional historical training. This is not to say that all such works were without merit. Some explorers wrote with remarkable insight and eloquence.¹⁸ Scholars such as Hugh Robert Mill, a physical geographer who became widely recognized as the first historian of Antarctic exploration, painstakingly compiled sources and often consulted closely with the explorers themselves—a common trait for the time.¹⁹ Yet that same desire to produce accurate and faithful accounts of exploration inevitably gave the explorers themselves a

decisive role in determining which historical narratives became dominant, and what values ought to be encoded within them.²⁰ This perpetuated a sense that Antarctica was a subject best pronounced upon by those who had experienced it directly. Vestiges of this attitude persist into the present, and the question “have you been there?” continues to be asked with a frequency that we do not think would be true for most other geographical areas.²¹ We might add that the fact so much of the material considered canonical is by white, male, and native English-speaking voices is in itself indicative of the opportunities that remain for scholars.

A more rigorous approach to Antarctic humanistic scholarship started to gain traction in the mid-1980s. Historians and geographers traced the historical continuities and discontinuities that influenced contemporary controversies and challenges to the Antarctic Treaty System, critically examining how nation states framed Antarctica depending on their political goals, goals that often had little to do with the continent itself.²² This was followed by works that drew on post-colonial theory, both in discussing Antarctica itself as well as the way actors related to each other in terms of Antarctica.²³ As national Antarctic science programs expanded in the 1980s, schemes such as the National Science Foundation’s Antarctic Artists and Writers Program gave historians such as Stephen Pyne the opportunity to accompany national expeditions, producing scholarship that explored the epistemological engagement of humans with Antarctica. It took another few years before gender, class, and race were considered serious categories of analysis in Antarctica,²⁴ notably through the pioneering work of Lisa Bloom on white masculinity.²⁵

The metaphor of an expedition strikes us as imperfect but nevertheless worth considering: if the good ship Antarctic Humanities can house voyagers with diverse backgrounds, and with the will to pose probing questions across disciplinary boundaries, then so much the better. The silver lining of a strong geographic framing is that it can encourage a disciplinary omnivorousness within those parameters. The dominant position of science within the Antarctic Treaty System is perhaps part of the reason why political and legal theorists have been joined by natural scientists in discussions of what the Treaty means (and what it should mean).²⁶ A long tradition of interdisciplinary cooperation in the natural sciences in Antarctica, or at least the exchange of ideas across disciplinary boundaries,²⁷ has perhaps influenced how natural scientists perceive their role as actors in Antarctic politics more broadly. This is evident not only in the breadth of interests of particular individuals—which often range across

history, the natural sciences, and politics of Antarctica—but increasingly also in pedagogy. Undergraduate level courses on polar history, science, and exploration have been taught since the 1920s.²⁸ With every year, more courses emerge that approach Antarctica from a humanistic perspective. Specialized studies of Antarctica from the perspectives of anthropology, cultural studies, literary theory, archaeology, and more have begun to appear in ever-greater numbers, strengthening the sense of an Antarctic humanities community and reflecting a shared belief that the continent and its surrounds can be understood in new ways that complement and challenge, rather than invalidate, existing perspectives.

DECONSTRUCTING THE CONTINENT FOR SCIENCE

In his 1986 book *The Ice: A Journey to Antarctica*, Stephen Pyne famously described Antarctica as an “information sink,” a space that confounded rather than stimulated its human interlocutors.²⁹ The mental equipment for interrogating Antarctica could no more be obtained from the continent than the material equipment needed for surviving in the harsh environment. With its focus on Antarctica as a space of intellectual as well as physical sterility, Pyne’s observation invites critical reflection on the relationship between how humans imagine spaces and how they experience them. The two can never be fully separated; preconceptions frame encounters, but those encounters also frame what can be imagined. According to Pyne, Antarctica challenges, confuses, and resists humans, but it does not welcome them. The fundamentally alien nature of the place is reaffirmed by the effect it has on those who attempt to interrogate it.

This difference has long been taken as evidence that the natural sciences provide the privileged means of encountering and understanding Antarctica. Yet the natural sciences are human endeavors, even if the tools they deploy derive their power from a rhetorical separation between the subjective realm of the human and the objective realm of the natural. The growth of the sociology of science and of science and technology studies (STS) as prominent disciplines during the past generation reflects a widespread acceptance of this fact. It is no longer particularly controversial to accept that describing scientific knowledge as socially constructed is a statement about it being produced by people and not an accusation that scientific claims are incapable of meaningful evaluation.³⁰

What other forms of human engagement with the Antarctic are worthy of scholarly consideration? There is Antarctic literature and creative

arts, resulting from the encounter of the artist with the continent and its environs, but also from the encounter between descriptions of the Antarctic and the imaginations of individuals who may never have been anywhere near the continent. At the more quotidian level, ethnographers have considered forms of Antarctic culture with gradated levels of initiation and belonging, particularly at the stations that dot the continent and collectively house several thousands of individuals.³¹ The sense that each of those individuals has experienced something special is reflected in the strength of “veterans associations” for individuals who have overwintered at one of these stations.³² Beyond the world of modern scientists, the many working-class actors—sealers, whalers, and especially sailors—who made Antarctic exploration possible have long been ignored by most historians.³³ For many of these individuals, Antarctica was simply an unusually difficult place in which to work, with their lack of cultural production a consequence of having less to say in addition to having less of a voice to say it with. One might recall that Roald Amundsen, leader of the first expedition to reach the geographic South Pole, described his venture as a ski race writ large.³⁴ Is it really a surprise that his rival Robert Falcon Scott, a gifted writer who died with his comrades on the return journey from the Pole, became a more potent cultural icon?³⁵ Who you are and what you are doing substantially determines how you encounter Antarctica—but also how the products of that encounter resonate within wider cultural and social contexts.

We suggest this is true also for the natural sciences. Few would doubt the value of the many forms of scientific inquiry that have taken place in and around Antarctica, or the fact that some of those findings have challenged and stimulated research agendas with global relevance. But science is also an activity performed by humans in response to human needs, despite its characterization by many as the paradigmatically appropriate activity for a non-human continent. As historian of science Lewis Pyenson once noted, states generally prefer to send scientists rather than symphony orchestras or sculptors to claim authority over Antarctica.³⁶ The reason seems intuitively obvious: scientists engage with the space and explain it; symphony orchestras perform upon it. The scientist’s subject is merely the musician’s stage. Yet science is a means of performing values in addition to acquiring knowledge. Doing science is useful in its own right in addition to the results that such activity might produce. It is quite possible for science to be a source of political capital by demonstrating effective engagement from a nation with Antarctic territory without the content

of that science being tainted.³⁷ On the contrary: as contributing through science is a central means of demonstrating adherence to the Treaty, the political value of scientific findings are enhanced through their quality as recognized by the peer group of scientists. We see a clear need for critical analysis of what science means in terms far broader than describing and understanding the physical geography of the earth (and indeed the universe as a whole).³⁸

The idea that the natural sciences are uniquely powerful modes of understanding and knowing Antarctica has long been linked to judgments about the qualities of particular people or collectives. When the sealing entrepreneur Charles Enderby pushed his Antarctic workers to chart coastlines in addition to obtaining skins, he gained prestige within learned circles—including the nascent Royal Geographical Society (founded in 1830).³⁹ Yet many other sealers kept geographical discoveries hidden for commercial reasons—a rich sealing ground was obviously a valuable trade secret—and a considerable number left no written records at all. The idea that contributing to knowledge of the world was an almost sacred task, rather than a practical act related to practical gains, became stronger toward the end of the nineteenth century. The accomplishment of geographic “firsts” at the turn of the century was combined with the rise of a nationalistic belief that civilization and national honor could be won through feats of symbolic conquest, in exploration as well as science.⁴⁰ A blank space at the end of the earth became an insult to human progress.⁴¹

The all too common practice of assessing the value of particular expeditions by reference to their commitment to science is a consequence of this mindset. Scott’s place in history was assured through the heart-wrenching manner of his death, but also through his construction as a martyr for science, symbolized by the 16 kilograms of geological specimens that he carried to the bitter end.⁴² Little wonder that these and other specimens from the expedition became venerated “relics.”⁴³ The Australian geologist Douglas Mawson created a niche for his 1911–1914 expedition by depicting it as more scientific than Scott’s through its disavowal of the geographic South Pole as a goal. The expedition was best remembered for Mawson’s own remarkable survival after a sledging journey went catastrophically wrong, but this did not diminish his success in portraying himself as a serious scientific figure. It is no coincidence that Amundsen’s comparative lack of interest in science was cited in the Anglo-Saxon world to diminish his victory in the South Pole race.⁴⁴

Mawson's image again became useful in 1929 when he sought to differentiate his British Australian New Zealand Antarctic Research Expedition (a new expedition under his leadership, intended largely to bolster the British Empire's claim over Antarctic territory) from a rival Norwegian venture associated with the whaling industry. For 20 years the Southern Ocean had hosted the world's most profitable whaling grounds. The question of which state had the right to control Antarctica and its surrounding waters attained a moral dimension when linked to the concept of responsible stewardship. Commitment to science was a badge of legitimacy that turned a "grab [for] land," in the phrase of John King Davis (captain of the expedition vessel), into a progressive contribution to knowledge in opposition to the atavistic exploitation of Norwegian whalers.⁴⁵ Science was an instrument of politics rather than an alternative to it, and claims to be acting in the name of science were pieces of political rhetoric rather than bald statements of fact.⁴⁶

The idea of Antarctica as a continent for science became hegemonic in the 1950s. States with existing territorial claims in Antarctica invested heavily in various forms of research, while the USA and the USSR—which altogether rejected the existing division of sovereignty—saw Antarctica as a new front in the global contest for ideological supremacy. Proclamations of fidelity to science were the language through which legitimacy was asserted. The international agreement that activities associated with the International Geophysical Year would not constitute acts of occupation or presence with ramifications for sovereignty did not stop tortuous negotiations and strategic posturing to ensure that undesirable state actors were kept out. When the Antarctic Treaty was negotiated in Washington DC in 1959, the declaration of Antarctica as a demilitarized zone with all sovereignty claims frozen affirmed a particular imagination of the continent in which science, not historical legacy, constituted the currency through which admission to the club of Antarctic states must be paid. Far from being an alternative to politics, science became the most important political instrument available.⁴⁷

The importance of science as the paradigmatic justification for visiting and interrogating Antarctica in the present is closely linked to the success that natural scientists have had in depicting their Antarctic research as useful and valuable, but also to the depiction of science as allied to understanding and protecting the natural environment (globally as well as locally). Paradigmatic examples include the discovery of the southern "ozone hole" by the British Antarctic Survey and the retrieval of long ice cores that illuminate past climates and atmospheric conditions. These

are comparatively recent developments, however, located within the post-1960s emergence of a “green” consciousness that linked environmental knowledge with environmental protection.⁴⁸ The original Antarctic Treaty text banned nuclear explosions and the disposal of nuclear waste in Antarctica, but not nuclear reactors themselves. The United States operated a nuclear reactor from 1962 to 1972 at its McMurdo station, with not much more than tonnes of contaminated soil to show for it (all of which was returned the continental US).⁴⁹

The imagination of Antarctica as a fragile environment requiring rigorous protection is a comparatively recent phenomenon. Antarctica has long been imagined as a potential resource base. Besides seals, whales, and penguins, coal and uranium have been mentioned frequently, and the prospect of mining became sufficiently realistic in the 1980s to spark serious debate on how such activity should be regulated, and by whom. Questions over the legitimacy of the continent’s governance structure (spearheaded by Pakistan and Malaysia) drew attention to the club-like status of the ATS. The failure of negotiations to put in place a mining regime led to the agreement of a protocol to the Treaty known widely as the Madrid Protocol (agreed in 1991, and entered into force in 1998). This document was not the endpoint of an unfolding historical pattern, but rather a response to a particular historical moment where environmentalism carried significant political weight.

The Antarctic Treaty’s privileging of science provided an essential foundation for the Madrid Protocol, but are science and environmentalism natural partners? Greenpeace thought not, going so far as to operate an Antarctic station outside the ATS—the World Park Base. Part of its mission was to expose the poor environmental practices of signatory states at their respective bases, furthering a sense that the ATS could guarantee a continent for science, and potentially mining, but not wilderness. Whether Greenpeace was really as responsible for the Madrid Protocol as it claims is a matter for debate.⁵⁰ But the wider point is clear. To argue that the modern history of Antarctica is a narrative of enlightenment, from rivalry and exploitation to science and environmental responsibility, is naïve. Historians of science have demonstrated at length that military patrons—particularly in the United States, but also in Europe and elsewhere—played key roles in supporting sciences such as physical oceanography, seismology, or atmospheric chemistry that promised to link knowledge of the earth’s environment with the capacity to control it.⁵¹ There is nothing inherently “green” about science. We must look to the humanities to explain the rise

of such conceptualizations, and to help disentangle the contingent from the inevitable.

TOWARD AN ANTARCTIC HUMANITIES

If Antarctica is not self-evidently a continent for science, how might the humanities contribute to imagining it as a richer and more diverse space? Consider for example Kim Stanley Robinson's novel *Antarctica*.⁵² His eclectic and hidden Antarctic community is reliant upon stealing supplies from the American convoys that drive the monotonous path from the coast to the South Pole station, but also lives partly off the land. To be an "Antarctic" in this understanding involves setting down roots and living in an "Antarctic" manner. The alternative Antarctic Treaty that Robinson's characters draft at the end of the book includes recognition of a fundamental right to live in Antarctica that is not tied to affiliation with a national scientific research program. In doing so he raises questions that have deeper significance—and which an Antarctic humanities is well poised to tackle.

The question of Antarctic indigeneity is particularly important. The absence of an indigenous human population in the commonly understood sense only strengthens a feeling that even transient visitation confers privileged status. Yet there have been attempts in the not so recent past to create a sense of Antarctic indigenousness, through transplantation of plants and animals⁵³ but also through a "native" human population. Argentina and Chile have taken leading roles in such efforts, and in 1978 Emilio Palma was born at Argentina's military-run Esperanza base. Palma's mother—the wife of the base's leader—was flown in when 7 months pregnant. Several more births have since followed at both Argentinian and Chilean bases. These native-born Antarctic children are raised in social conditions that are indelibly marked by the culture and politics of their states, furthering a sense that these parts of Argentinian are less of an alien other and more of a natural extension of the Argentinian and Chilean mainlands. Parallels might be drawn with the settlements of Longyearbyen and Barentsburg on Svalbard, which the Norwegian and Russian states respectively maintain as communities rather than outposts, fostering a sense of permanent presence (albeit at the sole discretion of the state authorities).⁵⁴

But however much investment is made to supporting such communities, the Madrid Protocol places limits upon how much of the mainland may be brought to Antarctica—and enunciates a counter-vision of

Antarctica as inherently inappropriate for permanent human settlement. The most famous consequence of the Protocol's ban on alien species was the removal of the husky dogs that had supported Antarctic sledgers ever since the Heroic Age. Yet huskies, like baby Emilio Palma, were often born in Antarctica—sometimes to parents who had never known any other environment.⁵⁵ Antarctica can be imagined as a place without people, an ecosystem in which humans are wholly alien, in a manner that is not realistic almost anywhere else on the earth's terrestrial surface. The privileged status of the scientist is reinforced as the observer of the non-human, a necessary but extraneous presence. The fact that almost all other stations are run on the presumption of transience—people come and go as needed, rather than because they belong—reflects more closely the prevailing conception that Antarctica is fundamentally not a place to settle. What matters in this discussion is that deciding who (or what) belongs in Antarctica is a matter of politics and philosophy as much as science. Imagining an ideal Antarctica is an essential prerequisite to establishing it.

It should therefore not be so surprising that state Antarctic programs have sponsored the visits of creative artists to the continent—an activity that, following Elena Glasberg, we see as fundamentally geopolitical.⁵⁶ For many years the US National Science Foundation has operated an Antarctic Artists and Writers Program to support “writing and artistic projects specifically designed to increase understanding and appreciation of the Antarctic and of human activities on the southernmost continent.”⁵⁷ While the projects supported by these grants have often problematized the Antarctic status quo—Glasberg’s monograph is a fine example (Kim Stanley Robinson was another recipient)—is “understanding and appreciation of the Antarctic and of human activities” a formulation that privileges explication over examination? The dynamic is by no means limited to projects sponsored by the NSF. Consider the symphony composed by Matt Dewey in 2012 in response to a discussion with the oceanographer Nick Roden, with the aim of “bringing ocean sciences to the community,” the music accompanied by a printed “science score.”⁵⁸ Like many of the projects sponsored in recent times by the NSF, the aim of Roden’s project is to create awareness and an imagined bond between the public and an otherwise remote and alien space. While we have no quarrel with this or related projects, we do however insist that the instrumental use of music here (pardon the pun) suggests that while scientists continue to hold privileged status over musicians, the symphonies that Pyenson mentions as a counterpoint are actually part of that same process.

Robinson's novel was a product of his trip to the Antarctic courtesy of the NSF, based upon first-hand experience and deriving authority from proximity to lived reality. Diaries, memoirs, and travel accounts derive authority from their status as representations of direct experience—conveyed with greater or lesser skill. Creative writers can also transport a reader to the scene, creating an emotional bond with the characters and the landscape. But given how few readers have visited Antarctica, how is that authenticity to be guaranteed? And can that gap between the reader and the place being described not open fertile creative territory? Like much of the best science fiction, fictional works set in Antarctica can foreground elemental, even ostensibly innate aspects of human nature.⁵⁹ Having been to Antarctica is perhaps secondary to having been human.

Indeed all encounters with Antarctica, whether in person or through texts, are always acts of interaction between imaginations. Tourists *expect* landscapes different from any they have seen elsewhere (and invariably come already enchanted by the descriptions of others). There is reason to consider whether Antarctica has become commodified, whether that very quality of difference is now packaged in such a way that it is a known and expectable quantity. The tourism industry is regarded with something approaching disdain by many whose connection to the continent is through science—an activity regarded as central rather than peripheral, and drawing upon the aforementioned conceptualization of the scientist as an observer rather than a threat to the wilderness.⁶⁰ The vocabulary of images and scenes that are drawn upon to represent Antarctica is limited not only by physical geography, but by conceptions of what the essence of Antarctica really is (or ought to be).

An Antarctic humanities can contribute to this understanding that the Antarctic is a series of representations that are always selected, distilled, and packaged by humans. The process of representing Antarctica is inseparable from the process of imagining it. The Antarctic Treaty itself is a case in point. Even if much of its architecture was carried over from the IGY, the ATS has evolved through the years to incorporate new values and anxieties, and its structure must be considered in terms of what humans want rather than what is natural (or inevitable). The recent debates about the demarcation of conservation areas—and whether or not they should include large ecologically defined biogeographic areas, rather than limited, culturally defined areas—are a good example.⁶¹

We might think of Antarctica as a particularly apt space to consider how knowledge of environments is related to the legitimacy of the structures

that govern them. Nowhere in the world is the relationship between science and representations of place more obvious, and nowhere is the linkage between governance and the maintenance of a specific environmental order clearer. To analyze the processes of imagining, encountering, and representing Antarctica is to address the deeper issue of how humans construct spaces—whether those processes invoke science or the arts—and how those spaces are administered and governed. The continent for science is also a continent for the humanities

THE STRUCTURE OF THE BOOK

The book is divided into four thematic sections. The first, “The Heroic and the Mundane,” uses diary writing and medicine to reveal connections between activities that were firmly situated in Antarctica and the wider world to which Antarctic visitors were connected. The second, “Alternative Antarctics,” explores how taking the perspective of illiterate sealers, systemically overlooked ethnic minorities, or even devotees of Nazi survival mythology provides radically different views of the Antarctic that illuminate the society from which they arose as much as the continent itself. The third section “Whose Antarctic?,” considers how concepts of ownership and belonging have been attached to the Antarctic through material heritage, imperialistically-inflected cultural production, and concepts of “communing.” The final section, “Valuing Antarctic Science,” examines the relationship between science, politics, and the humanities in recent (and contemporary) Antarctic history.

The collection begins with Elizabeth Leane’s chapter on diary writing during the “heroic era” of Antarctic exploration at the beginning of the twentieth century. Antarctic literary scholars are forced to confront the peculiar genre of the expedition diary, which, despite its often monotonous and repetitive nature, has become one of the dominant narrative forms of the southern continent. Rather than revisiting the familiar stories of man against nature or the minutia of sledging rations and miles hauled per day, Leane instead focuses on the way the physical act of writing shaped many explorers’ perceptions of the Antarctica and helped to create a daily routine. Men who never wrote diaries at home would write daily about their experiences in Antarctica, believing that this was the correct response to such an unusual experience in an unknown environment. In this way Leane shows that diary writing was not just a way of representing the Antarctic experience, but a fundamental part of that experience.

In this way the chapter opens the way for the diaries themselves to be historical sources at the same time as emphasizing the centrality of the humanities to the act of experiencing Antarctica.

Continuing with the theme of the heroic era, Cornelia Lüdecke's chapter narrates the history of an outbreak of the disease beriberi during the German Antarctic expedition of 1901–1903. Beginning with the illness and death of several members of the expedition on the sub-Antarctic Kerguelen Islands, the story quickly develops into a medical whodunit that played a major role in the understanding of a disease typically associated with the tropics. Attempts to understand beriberi have been well studied by historians, with these efforts fitting neatly into the history of colonial medicine.⁶² By looking at the disease from the perspective of Antarctic history, Lüdecke clearly demonstrates the racial dimensions of the theory and practice of early twentieth century medicine. There was little surprise or concern within the contemporary medical community when unnamed Chinese sailors contracted the disease, but when German explorers began to succumb to beriberi this provoked a great deal of interest and inquiry. This history connects to many of the underlying ideas of Antarctic “purity,” which were an underlying motivation for the heroic era more generally.

If a focus on the heroic era and the politics of imperialism tends to privilege the dominant voices in Antarctic history, humanities scholarship also has tremendous potential to expose less familiar episodes. Building on previous work to “expose the silences” in Antarctic history, Andrés Zarankin and Melisa Salerno's chapter on nineteenth century sealers in the South Shetland Islands sets out a methodology that aims to put contemporary archaeologists as close as possible in the circumstances encountered by nineteenth century sealers, even going as far as crawling inside what remains of the shelters that to give themselves a sealer's eye view of the world. Alongside a traditional archaeological approach, these efforts at “experiential” understanding draw upon a wide range of the imaginative potential of the humanities, offering a provocative methodology for doing historical archaeology.

Peder Roberts' chapter explores another alternative Antarctica: Antarctica as a space for conspiracy theories. The chapter focuses in particular on the myth that Nazi Germany constructed an Antarctic base in the late 1930s, which Adolf Hitler subsequently fled to in the aftermath of the Second World War, becoming a staple in neo-Nazi survivalist beliefs. Rather than simply setting out to debunk this story empirically

(something that is not at all difficult to do), Roberts instead explores the more profound question of why Antarctic lends itself to such conspiracy theories. In making a case based on the fact that most people have no first-hand experience of the continent as a place, the chapter returns to question of how culture interacts with the Antarctic environment. Moving into the second half of the twentieth century, Lize-Marié van der Watt and Sandra Swart study another unpleasant regime with an interest in Antarctica. Their chapter on race in the South African National Antarctic Programme in the second half of the twentieth century makes further connections between the materiality of the Antarctic environment and cultural constructions of that environment, as well as exploring how the dominant narrative of Antarctica as a white continent reinforced a sense of white racial exclusivity in the far south.

The following three chapters explore different approaches to the question of Antarctica, territoriality and ownership. In his chapter on industrial archaeology in the South Shetland Islands, Dag Avango uses actor-network theory as pioneered by Bruno Latour, showing how the Antarctic environment has played an active role in the human history of the region. In turn, Alessandro Antonello explores the idea of ‘place’ in Antarctica in contrast to dominant visions of a uniform Antarctic space. He historicizes and critiques the idea of Antarctica as a whole or unified space, illuminating the imperial, Cold War, and geopolitical projects behind such visions, and the implications of “global commons” projects for Antarctica. Using the concept of proto territory, Elena Glasberg’s chapter makes provocative connections between the heroic era expeditions of Captain Scott and others and the imperial politics that followed. Rather than being a “safe” subject in Antarctica’s past, historical narratives of the heroic era continue to resonate into the present. Focusing in particular on concepts of Antarctic “orientalism” and geopower, Glasberg makes a convincing case that the imperial politics that motivated the early twentieth century exploration of Antarctica remain largely in place today. Referring to an image of camels at Concordia Station, the chapter raises interesting questions about who belongs in Antarctica, and how these discursive inclusions and exclusions have been created. Even contemporary documentaries such as Werner Herzog’s *Encounters at the End of the Earth* reveal much about the ongoing fascination with the heroic era, and the militarized attempts to control space, time, and human bodies that accompany these ideas. Glasberg’s chapter offers an excellent example of the potential for the Antarctic humanities to offer different perspectives on rarely challenged subjects.

Finally, the volume addresses different valuations of Antarctic science. Stian Bones' chapter on Norwegian Antarctic policy in the second half of the twentieth century suggests that engagement with scientific internationalism in Antarctica played an important role in the country's recovery from the trauma of the Second World War and the new uncertainties of Cold War conflict. The myth of Antarctica as a continent for peace and science can thus hold value not only for the sake of the continent, but for the states that participate in its governance. In the chapter that follows, Adrian Howkins considers the role of humanities scholarship in recent Antarctic history and argues that the dominant scientific paradigm of the ATS has served to marginalize non-scientific ways of understanding the southern continent. On the one hand, scientific organizations such as SCAR and national organizations such as the National Science Foundation and the British Antarctic Survey exert a degree of influence on the writing of Antarctic history by dominating funding, controlling archives, and often having a say in who gets to travel to Antarctica in various artists and writers programs. On the other hand, much of the critical humanities scholarship that has been written tends to get ignored by the scientists and policy makers who hold much of the power. Howkins calls for historians and humanities scholars to do more to acknowledge the power structures that shape their writing and suggests a model for collaborative engagement that leaves space for conflict and disconnection.

Aant Elzinga concludes the collection with reflections on the past 20 years of Antarctic humanities scholarship, and the way forward. As a whole, this collection not only makes a significant contribution to Antarctic scholarship, but also reflects on the potential impact of the Antarctic humanities on the fields of humanistic scholarship more generally.

NOTES

1. *Protocol on Environmental Protection to the Antarctic Treaty*, 1996. The full text of this document, also known as the Madrid Protocol, is available online at http://www.ats.aq/documents/recatt/Att006_e.pdf
2. Aant Elzinga, "Antarctica: The Construction of a Continent by and for Science," in *Denationalizing Science: The Contexts of International Scientific Practice*, ed. Elisabeth Crawford, Terry Shinn, and Sverker Sörlin (Dordrecht: Springer Netherlands, 1993).
3. For a powerful example, see Zarankin in this volume, which offers an interesting contrast to the preserved huts of Robert Falcon Scott, Douglas Mawson—none of which need to speak for themselves.

4. On the concept of knowing nature through work, see in particular Richard White, “Are You an Environmentalist or Do You Work for a Living?: Work and Nature,” in *Uncommon Ground: Rethinking the Human Place in Nature*, ed. William Cronon (New York: Norton, 1996).
5. Elena Glasberg, *Antarctica as Cultural Critique: The Gendered Politics of Scientific Exploration and Climate Change* (Basingstoke: Palgrave Macmillan, 2012), 8.
6. John C. Beaglehole, *The Life of Captain James Cook* (Stanford: Stanford University Press, 1992), 428–429.
7. See for example Edward J. Larson, *An Empire of Ice: Scott, Shackleton, and the Heroic Age of Antarctic Science* (New Haven: Yale University Press, 2011).
8. Peter Beck, “Securing the Dominant ‘Place in the Wan Antarctic Sun’ for the British Empire: The Policy of Extending British Control over Antarctica,” *Australian Journal of Politics and History* 29, no. 3 (1983): 448–61; Peder Roberts, *The European Antarctic: Science and Strategy in Scandinavia and the British Empire*, (New York: Palgrave Macmillan, 2011).
9. Stephan Pyne, *The Ice: A Journey to Antarctica* (Iowa City: University of Iowa Press, 1986); Klaus Dodds, *Geopolitics in Antarctica: Views from the Southern Oceanic Rim* (Chichester, New York: J. Wiley, 1997); Simone Turchetti et al., “On Thick Ice: Scientific Internationalism and Antarctic Affairs, 1957–1980,” *History and Technology* 24, no. 4 (December 2008): 351–76, doi:[10.1080/07341510802357419](https://doi.org/10.1080/07341510802357419).
10. Lize-Marié van der Watt, “Return to Gondwanaland: South Africa, Antarctica, Minerals and Apartheid,” *The Polar Journal* 3, no. 1 (June 1, 2013): 72–93, doi:[10.1080/2154896X.2013.790198](https://doi.org/10.1080/2154896X.2013.790198).
11. *Protocol on Environmental Protection to the Antarctic Treaty*.
12. See Gearóid Ó Tuathail, *Critical Geopolitics: The Politics of Writing Global Space*, Borderlines, v. 6 (Minneapolis: University of Minnesota Press, 1996); For Antarctic-specific examples see Klaus Dodds and Lara Manóvil, “A Common Space? The Falklands/Malvinas and the New Geopolitics of the South Atlantic,” *Geopolitics* 6, no. 2 (September 2001): 99–126, doi:[10.1080/14650040108407719](https://doi.org/10.1080/14650040108407719); Klaus Dodds, *Pink Ice: Britain and the South Atlantic Empire* (London: I.B. Tauris, 2002).
13. Owen Wilkes and Robert Mann, “The Story of Nukey Poo,” *Bulletin of the Atomic Scientists*, no. 34 (1978): 32–36.
14. Perhaps most famously the Sakhalin Huskies Taro and Jiro, who survived a winter alone in Antarctica following the 1957–1958 Japanese Expedition. The dogs had a cult following in Japan. Yoshida Yoshio, “Japan and the Antarctic Treaty after World War II,” in *Science Diplomacy: Antarctica, and the Governance of International Spaces*, ed. Paul Arthur Berkman et al. (Washington, DC: Smithsonian Institution Scholarly Press, 2011).

15. In 2013, for instance, the press reported widely on “diamond deposits” in Antarctica. Matt McGrath, “New Findings Hint at Diamond Deposits in Antarctica,” *BBC News*, December 17, 2013, <http://www.bbc.com/news/science-environment-25417441>
16. Stephen Bocking made the case that polar scientists are also wrestling with this question and that this might be an area where the humanities can make a significant contribution. Stephen Bocking, “Situated yet Mobile: Examining the Environmental History of Arctic Ecological Science,” in *New Natures: Joining Environmental History with Science and Technology Studies*, ed. Dolly Jørgensen, Finn Arne Jørgensen, and Sarah B. Pritchard (Pittsburgh: University of Pittsburgh Press, 2013), 164–78.
17. Thomas F. Gieryn, *Cultural Boundaries of Science: Credibility on the Line* (Chicago: University of Chicago Press, 1999).
18. Apsley Cherry-Garrard is an oft-quoted example. Apsley Cherry-Garrard, *The Worst Journey in the World 1910–1913* (London: Constable and Company, 1922).
19. Particularly notable is Hugh Robert Mill, *The Siege of the South Pole: The Story of Antarctic Exploration* (London: A. Rivers, 1905).
20. See for example Peder Roberts, “Heroes for the Past and Present: A Century of Remembering Amundsen and Scott,” *Endeavour* 35, no. 4 (December 2011): 142–50, doi:[10.1016/j.endeavour.2011.08.002](https://doi.org/10.1016/j.endeavour.2011.08.002).
21. One of us—Howkins—has considered this question at some length. Adrian Howkins, “Have You Been There? Some Thoughts on (Not) Visiting Antarctica,” *Environmental History* 15, no. 3 (July 1, 2010): 514–19, doi:[10.1093/envhis/emq060](https://doi.org/10.1093/envhis/emq060).
22. Peter Beck, *The International Politics of Antarctica* (London: Croom Helm, 1986); Dodds, *Geopolitics in Antarctica*; Elzinga, “Antarctica.”
23. Sanjay Chaturvedi, *Dawning of Antarctica: A Geopolitical Analysis*, (New Delhi: Segment Books, 1990); Dodds, *Pink Ice*; Adrian Howkins, “Defending Polar Empire: Opposition to India’s Proposal to Raise the ‘Antarctic Question’ at the United Nations in 1956,” *Polar Record* 44, no. 01 (January 2008), doi:[10.1017/S0032247407006766](https://doi.org/10.1017/S0032247407006766); Adrian Howkins, “The Science of Decolonization: The Retention of ‘Environmental Authority’ in the Contest for Antarctic Sovereignty between Britain, Argentine, and Chile, 1939–1959,” in *Science and Empire: Knowledge and Networks of Science across the British Empire 1800–1970*, ed. Brett M. Bennett and Joseph M. Hodge (Hounds mills: Palgrave Macmillan, 2011), 232–52.
24. Brigid Hains, *The Ice and the Inland: Mawson, Flynn, and the Myth of the Frontier* (Carlton South: Melbourne University Press, 2002); Christy Collis, “Mawson’s Hut: Emptying Post-Colonial Antarctica,” *Journal of Australian Studies*, no. 23 (1999): 22–29; Glasberg, *Antarctica as Cultural Critique*.

25. Lisa Bloom, *Gender on Ice: American Ideologies of Polar Expeditions* (Minneapolis: University of Minnesota Press, 1993).
26. For example Paul Arthur Berkman, *Science into Policy: Global Lessons from Antarctica* (San Diego: Academic Press, 2002); John R. Dudeney and David W.H. Walton, “Leadership in Politics and Science within the Antarctic Treaty,” *Polar Research* 31 (April 12, 2012), doi:[10.3402/polar.v31i0.11075](https://doi.org/10.3402/polar.v31i0.11075).
27. G.E. Fogg, *A History of Antarctic Science* (Cambridge: Cambridge University Press, 1992).
28. Roberts, *The European Antarctic*, 8.
29. Pyne, *The Ice: A Journey to Antarctica*, 68.
30. See, for example Barry Barnes, David Bloor, and John Henry, *Scientific Knowledge: A Sociological Analysis* (Chicago: University of Chicago Press, 1996); Sheila Jasanoff, ed., *States of Knowledge: The Co-Production of Science and Social Order* (London: Routledge, 2010).
31. See for example Bernadette Hince, *The Antarctic Dictionary: A Complete Guide to Antarctic English* (Collingwood: CSIRO Publishing, 2000); Nicholas Johnson, *Big Dead Place: Inside the Strange and Menacing World of Antarctica* (Los Angeles: Feral House, 2005).
32. Lize-Marié van der Watt, “Out in the Cold: Science and Environment in the History of South Africa’s Involvement in the Sub-Antarctic and Antarctic in the Twentieth Century” (PhD Thesis, University of Stellenbosch, 2012), 22, <http://hdl.handle.net/10019.1/20055>
33. Very recently researchers started to address the issue of labor and class in Antarctica. See for example Lance van Sittert, “‘Ironman’: Joseph Daniels and the White History of South Africa’s Deep South,” *Polar Record* 51, no. 05 (September 2015): 501–12, doi:[10.1017/S0032247414000576](https://doi.org/10.1017/S0032247414000576); Ben Maddison, *Class and Colonialism in Antarctic Exploration: 1750–1920* (London: Pickering & Chatto, 2014); Andrés Zarankin and María Ximena Senatore, “Archaeology in Antarctica: Nineteenth-Century Capitalism Expansion Strategies,” *International Journal of Historical Archaeology* 9, no. 1 (March 2005): 43–56, doi:[10.1007/s10761-005-5672-y](https://doi.org/10.1007/s10761-005-5672-y).
34. Roland Huntford, *The Race for the South Pole: The Expedition Diaries of Scott and Amundsen* (London: Continuum, 2010), 14.
35. See especially Max Jones, *The Last Great Quest: Captain Scott’s Antarctic Sacrifice* (Oxford: Oxford University Press, 2003).
36. Lewis Pyenson, “Why Science May Serve Political Ends: Cultural Imperialism and the Mission to Civilize,” ed. Fritz Krafft and Christoph J. Scriba, *XVIIth Congress of the History of Science, Hamburg Munich, 1–9 August 1989*, 1993, 43–44. Thanks to Aant Elzinga for bringing this reference to our attention.

37. See for example Jacob Darwin Hamblin, *Oceanographers and the Cold War: Disciples of Marine Science* (Seattle: University of Washington Press, 2005); Stuart W. Leslie, *The Cold War and American Science: The Military-Industrial-Academic Complex at MIT and Stanford* (New York: Columbia University Press, 1993).
38. Pyenson, “Why Science May Serve Political Ends: Cultural Imperialism and the Mission to Civilize.” The South Pole gravity wave experiment, BICEP (Background Imaging of Cosmic Extragalactic Polarization) is a good example. See <http://bicep.caltech.edu/public/>, (accessed 8 October 2014).
39. Alan Gurney, *Below the Convergence: Voyages toward Antarctica 1699–1839* (New York: Norton, 1997).
40. For a thoughtful discussion of this dynamic in a Norwegian context see Robert Marc Friedman, “Civilization and National Honour: The Rise of Norwegian Geophysical and Cosmic Science,” in *Making Sense of Space: The History of Norwegian Space Activities*, ed. John Peter Collett (Oslo, Stockholm, Copenhagen and Boston: Scandinavian University Press, 1995), 3–40.
41. See notably Clements Markham, “Opening Address,” in *Report of the Sixth International Geographical Congress, Held in London 1895* (London: Murray, 1896), 7–25.
42. Jones, *The Last Great Quest*.
43. Roberts, *The European Antarctic*, 79.
44. Roberts, “Heroes for the Past and Present.”
45. Quoted in Philip J Ayres, *Mawson: A Life* (Carlton: Melbourne University Press, 2003), 181.
46. Roberts, *The European Antarctic*; Larson, *An Empire of Ice*.
47. Turchetti et al., “On Thick Ice”; Aant Elzinga, “Through the Lens of the Polar Years: Changing Characteristics of Polar Research in Historical Perspective,” *Polar Record* 45, no. 04 (October 2009): 313, doi:[10.1017/S0032247409008316](https://doi.org/10.1017/S0032247409008316); Adrian Howkins, “Melting Empires? Climate Change and Politics in Antarctica since the International Geophysical Year,” *Osiris* 26, no. 1 (January 2011): 180–97, doi:[10.1086/661271](https://doi.org/10.1086/661271).
48. For an Antarctic example see Alessandro Antonello, “The Greening of Antarctica Environment, Science and Diplomacy 1959–1980” (PhD Thesis, The Australian National University, 2014).
49. Wilkes and Mann, “The Story of Nukey Poo.”
50. “Antarctic Victories,” *Greenpeace*, accessed April 8, 2015, <http://www.greenpeace.org/usa/en/campaigns/victories/antarctica/>
51. See amongst many others Ronald E. Doel, “Constituting the Postwar Earth Sciences: The Military’s Influence on the Environmental Sciences in the USA after 1945,” *Social Studies of Science* 33, no. 5 (October 1, 2003):

635–66, doi:[10.1177/0306312703335002](https://doi.org/10.1177/0306312703335002); Hamblin, *Oceanographers and the Cold War*; Simone Turchetti and Peder Roberts, ed., *The Surveillance Imperative: Geosciences During the Cold War and Beyond* (New York: Palgrave Macmillan, 2014).

52. Kim Stanley Robinson, *Antarctica* (New York: Bantam Books, 1999).
53. Pablo Fontana, *La Pugna Antártica, El Conflicto Por El Sexto Continente: 1939–1959* (Buenos Aires: Guazuvira Ediciones, 2014).
54. See for instance Adam Grydehøj, Anne Grydehøj, and Maria Ackrén, “The Globalization of the Arctic: Negotiating Sovereignty and Building Communities in Svalbard, Norway,” *Island Studies Journal* 7, no. 1 (2012): 99–118.
55. Kevin Walton and Rick Atkinson, *Of Dogs and Men: Fifty Years in the Antarctic: The Illustrated Story of the Dogs of the British Antarctic Survey 1944–1994* (Malvern Wells: Images, 1996).
56. Glasberg, *Antarctica as Cultural Critique*.
57. “Antarctic Artists and Writers Program|NSF—National Science Foundation,” accessed September 5, 2015, http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=503518&org=PLR&from=home
58. Peter Cochrane, “Contemporary Symphony Adds New Depth to Ocean Science,” *University Tasmania Research to Reality*, December 2013, <http://www.utas.edu.au/research-to-reality/archive/online/edition-17-december-2013/contemporary-symphony-adds-new-depth-to-ocean-science>
59. This is explored more in Roberts’ chapter in this volume.
60. Jane Verbitsky, “Antarctic Tourism Management and Regulation: The Need for Change,” *Polar Record* 49, no. 03 (July 2013): 278–85, doi:[10.1017/S003224741200071X](https://doi.org/10.1017/S003224741200071X); Kees Bastmeijer and Machiel Lamers, “Reaching Consensus on Antarctic Tourism Regulation: Calibrating the Human-Nature Relationship?,” in *New Issues in Polar Tourism: Communities, Environments, Politics*, ed. Dieter K. Müller, Linda Lundmark, and Raynald H. Lemelin (Dordrecht: Springer, 2013).
61. Also see Antonello in this volume.
62. See, for example, David Arnold, “British India and the ‘Beriberi Problem’, 1798–1942,” *Medical History*, 54 (2010), 295–314, <http://dx.doi.org/10.1017/S0025727300004622>

PART I

The Heroic and the Mundane

Antarctic Diaries and Heroic Reputations: Changing the Subject

Elizabeth Leane

I don't want to defame him, but I guess his journey will appear before the limelight as the principal journey. I may be wrong, we shall see.

I had better change the subject.¹

Writing in his diary² in 1913, while living with six companions in a hut on the coast of Adelie Land, Antarctica, 23-year-old geologist Cecil Madigan is constantly anxious about the consequences of criticizing his expedition leader, Douglas Mawson. His comments evince a lack of certainty about the purpose of the document he is producing: private reflection, personal communication, public record, some hybrid of all three? At one point near midwinter, he recounts reading an “excellent” short story in an illustrated newspaper that took the form of a girl’s diary: “it was her only intimate friend, to which she could tell everything.”³ It is hard not to read a certain wistfulness into the comment. While Madigan occasionally suggests such an intimacy with his own diary—he writes of “talk[ing]” to it for a full hour; it is his “old pal”⁴—he felt no corresponding freedom of expression. He is always writing *for* someone else, although he is not always sure

E. Leane (✉)

School of Humanities/Institute for Marine and Antarctic Studies,
University of Tasmania, Hobart, TAS, Australia

exactly *whom*. “As soon as I write the date I want to put ‘Dear Someone,’” he observes;⁵ he also imagines someones—potential readers—who would be less dear. Just after his reference to the fictional girl’s diary, he records his lack of respect for Mawson, based on “reasons which I cannot put down in this book.” He worries about the whereabouts of his diary’s previous volumes, sent on the relief ship to his mother to be passed on to his informal fiancée, Wynnis. Although he realizes belatedly that his current diary need never leave his hands—“I can write it for whom I like”—this does not affect his concerns about readership: “To show resentment to [Mawson’s] treatment and gain his disfavor is against all policy in my own interests, and will probably be judged harshly by others if they get to hear of it.”⁶ One of his most feared potential readers is his future self: multiple times Madigan anticipates being “ashamed” by what he might write.⁷

The expedition diary has been integral to histories of early twentieth-century Antarctic exploration, both received and revisionist. The leader’s diary, composed with half an eye to posterity, would normally be used as a source for the official narrative, sometimes supplemented by other members’ contributions. Diary excerpts would be included to lend a sense of immediacy to the published story, and might themselves also be reproduced in newspapers and magazines. The diary might *become* the narrative, either by accident (as in the case of Robert F. Scott’s *Terra Nova* diary) or by design (Jean-Baptiste Charcot’s account of the Second French Antarctic Expedition, for example, is presented as a version of his journal).⁸ As decades passed, the diaries of various expedition members might be deposited in archives and, where public interest or family enthusiasm were sufficient, published in edited form. The editing process itself could come under question, as in Roland Huntford’s description of the “purg[ing]” of Scott’s diaries of anything deleterious to a “perfect image.”⁹ The more famous diaries would find their ways into museum and library displays, functioning as both material metonyms and textual authenticators of the expeditions, bringing a sense of intimacy that few other artifacts could convey. Eventually, new perspectives on expeditions would emerge from publication (in book or article form) of “B-list” diaries: those written by followers rather than leaders, “men” rather than officers, members of ships’ crews rather than shore parties. Diaries would even be pitted against each other, so that their writers could “finally confront each other across the printed page.”¹⁰ Handwritten originals deemed important enough would be digitized and made available online, democratizing access to now-fragile documents. The genre of the edited expedition diary would become familiar enough to be parodied: Carolyn Alexander’s *Mrs.*

Chippy's Expedition (1997) comprises the personal records of a cat travelling with Ernest Shackleton's *Endurance*, complete with scholarly notes and an introduction from a suitably important authority.

Despite its centrality to Antarctic history and heritage, as well as the general rise of interest in autobiographical sources (or “ego-documents”) within historical studies over recent decades, the Antarctic expedition diary has received little critical attention. This is not to suggest that these texts have until now been naïvely treated as unmediated “windows” on reality. Biographers and historians are usually conscious of both the advantages and limitations of diaries as source documents, although individual assessments of these may differ. “The diaries are preferred here, as they were composed on the spot,” writes Philip Ayres at the beginning of his account of Mawson’s most famous sledging journey.¹¹ Beau Riffenburgh, however, considers Madigan’s diary account of Mawson, also written “on the spot,” to be untrustworthy because it contradicts those of the other main diarists—Mawson and Archie McLean—as well as the official expedition narrative, *The Home of the Blizzard* (itself written by Mawson with substantial help from McLean).¹² David Day, by contrast, considers Madigan’s diary along with McLean’s to comprise “the best descriptions of hut life.”¹³ Those publishing specific diaries are necessarily aware of the issues—ethical and editorial—they raise, and often include expiatory and contextualizing (though rarely analytical) introductions. Other disciplinary contexts produce further uses: Antarctic diaries have been examined as sources (again limited) of insight into expeditioner psychology,¹⁴ their records of weather conditions can provide historical data for climate change analysis.¹⁵ However, Antarctic diaries have been missing from the growing historiographical interest in diaries as source material evident in recent years.

The discipline of literary studies has seen a parallel rise of interest in all forms of life writing and travel writing; yet the Antarctic diary, which could convincingly be placed in either category, remains absent here, too. Antarctic autobiographies and biographies have been the subject of just a few articles, with recent travel memoirs by women a particular focus.¹⁶ Scott’s *Terra Nova* diaries, unsurprisingly, have drawn attention, but usually in terms of their aesthetic worth (Scott’s ability as a writer is about the only thing that all those discussing him agree on) or the extent to which they encode cultural values associated with the expedition (such as masculinity and heroism). In the latter case, the edited diary is typically considered (following Huntford) purely in terms of the construction of

the explorer's reputation.¹⁷ The text is examined in isolation, rather than in relation to contemporaneous diary-writing, editing, and publishing practices (including issues of privacy, libel, and impact on living people). The repeated focus on Scott to the exclusion of other Antarctic diarists reinforces his text as a work of exceptional literary, cultural and/or historical value, leaving the task of contextualizing it within the conventions of a genre largely undone.¹⁸

In summary, with few exceptions, researchers have (to adapt Irina Paperno's words¹⁹) been more interested in learning *from* Antarctic diaries than *about* them. A focus on the diary *qua* diary is largely absent in Antarctic studies, both in regard to individual examples and the broader genre.

A central difficulty of studying the diary as a genre is its formal elasticity. There is little consensus about which features all diaries share. Paperno, attempting a "minimal definition," points to three: form—first-person voice, in separate installments; function—"ostensibly ... giving an account of the writer's personal experience in a given day"; and addressee—"not necessarily ... someone other than the diarist."²⁰ As the qualifiers suggest, even this basic definition is open to question. Moreover, concepts that might be held up as integral to the diary, such as temporality, subjectivity, and privacy, are, as Jochen Hellbeck points out, "constructions of an age".²¹ Much recent research into the genre has focused on historicizing these categories.²² And, as a number of commentators have emphasized, the diary is not simply text—it is also material artifact. "The diary as physical object constitutes a natural sign of presence," suggests Roger Cardinal, "an unfeigned, indexical record of a person's physical actuality."²³ At the same time, it is a sign of absence: if you have the opportunity to read someone else's diary, it is most likely because that person is no longer there.²⁴ The diary can also be approached as practice: the habitual act of diary-keeping—its rhythms, locations, purposes—is significant apart from the textual content.

These generic and functional ambiguities, in turn, lead to an indeterminate disciplinary framing. Lying "between literary and historical writing, between fictional and documentary, spontaneous and reflected narrative," the diary has "bedeviled literary and historical scholars alike."²⁵ Hellbeck concludes that the "different sensibilities" displayed by literary and historical scholars are required to understand the "levels of meaning that may inhere in a given self-narrative."²⁶ Paperno argues that the question of "how to read a diary" can only be answered through "scholars"

self-conscious and reflexive reading of specific diaries.”²⁷ My aim here is to start a conversation about such critical analysis of diaries within the “Antarctic humanities,” using the Australasian Antarctic Expedition (AAE)—Madigan’s expedition—as my example.

“HEROIC ERA” DIARIES

While the body of humanities-based research within Antarctic studies is fairly small, what does exist often concentrates on the “Heroic Era” (roughly the late nineteenth century to the early 1920s), with the consequence that this period is comparatively over-researched. Moreover, those who continue to focus on it, however critically, are in danger of seeming in thrall to its narratives of imperial adventure and masculine endeavor. Why not look at the blogging practices of contemporary station personnel or nineteenth-century whalers’ and sealers’ diaries, to name only two of many possibilities? My overall purpose here is to encourage, rather than foreclose such diverse analyses.

The “Heroic Era,” however, seems a good place to start simply because the diary is so fetishized within the period. Again, Scott’s diary is the prime example. While there are more famous diary keepers, such as Samuel Pepys and Anne Frank, it is hard to think of another historical individual whose fame, although resting on other achievements, is so reliant on their extant diary. And while diaries of other expedition leaders and members, most of whom lived to tell their stories in more polished forms, have not been such a point of focus, they are nonetheless often objects of intense interest, to the point where archivists are reluctant to allow researchers access to the century-old originals, due to the impact of over-handling as well as age. Diaries—and particularly, sledging diaries—are central to the reputations of early twentieth-century polar heroes to a degree that is unusual in more familiar situations, where a whole community can testify to an individual’s behavior and achievements. The continuing obsession with the “Heroic Era” diary makes its critical neglect even more problematic.

Alongside this question of period is a question of place—of whether *Antarctic* diaries deserve to be studied as a separate category. Madigan’s anxieties and self-conscious remarks (described above) are far from unusual in a diary writer; in fact, they are typical. His sense that his document is simultaneously private and public; his worries that his entries might later cause him shame; his tendency towards revelations that are simultaneously concealments (“reasons which I cannot put down”)—these are all char-

acteristic of the genre.²⁸ There is nothing peculiarly *Antarctic* about any of this. A focus on the diary runs the same risk as other recent work on the “everyday” in Antarctic expeditions:²⁹ bestowing special meaning on events or texts simply because they happen at a high southern latitude. This danger is exacerbated by the tendency of the few scholars (myself included) who do reflect analytically on Antarctic diaries to publish in specialist Antarctic or polar journals, rather than mainstream literary or historiographic forums.³⁰

I would argue that while Antarctic diaries (and other everyday matters) should not be treated as exceptional—and must, of course, be situated within broader national, gendered, or periodized contexts—they are nonetheless worthy of study as a distinct group. To ignore or dismiss them is to apply a negative exceptionalism. This has indeed been the attitude of the scholarly community to date: diaries produced in Antarctica—and this is a place that seems to produce an excess of diarizing of all forms—are all but ignored by life-writing scholars. One possible reason for this is that recent scholarship on diaries has focused strongly on women’s historical diaries, with far less work on the relationship between masculinity and the diarist, and it is difficult to find a diary of an Antarctic visit written by a woman prior to the mid-twentieth century.³¹ A broader explanation is that the Antarctic, for many humanities scholars, is an unfamiliar subject that does not fit into recognized categories of analysis. The Arctic, with its long-term presence of human communities, both indigenous and colonial, is more readily approached. Life-writing scholarship correspondingly examines diaries written in the far north more frequently (and not only the diaries of famous explorers).³² A critical focus on Antarctic diaries thus does not assume the continent’s exceptionality, but rather makes the opposite move, treating the far southern region as a geographical context no more, but also no less worthy of consideration than any other.

If Antarctic diaries are a distinct (rather than exceptional) group, what are their typical characteristics? Most obviously, there is the role of the diary in mediating the relationship between the writing subject and the Antarctic environment. With the exception of those written by the few people born in the region, every Antarctic diary can be considered a travel diary. Andrew Hassam suggests that “one of the main motives for keeping a diary of travelling comes from the novelty of being transported into an alien environment,” meaning that “the decision to keep a travel diary entails not only the projection of the diarist as protagonist into an alien geographical environment, but the projection of the diarist as nar-

rator into an equally unsettling and potentially embarrassing narrating environment.”³³ The “Heroic Era” diarist as narrator—the subject who writes—simultaneously constructs himself as a particular kind of protagonist: an explorer in the making, or the unmaking. Hassam argues that self-referential moments, which might seem to collapse narrator and protagonist, actually bring this division to the fore.³⁴ Madigan’s line, “I had better change the subject,” in which the “I” who writes censures the “I” whose reputation is in danger, is a case in point.

Although “Heroic Era” diaries can be read as travel diaries, one of their most revealing features as examples of the genre is the long periods of stasis they incorporate. The claustrophobia suffered by a number of expeditions combines with the diarist’s evident sense of “making history” to produce a paradoxical situation. The expeditioner-diarist typically felt obliged to give an account of his unusual experience, and was often writing specifically to provide family and friends with a vicarious sense of his presumably heroic adventures, perhaps with a view to eventual publication of a narrative or memoir. However, in the crowded conditions of a hut (or ship, or ice-cave, or makeshift shelter), there was very little privacy or means through which to escape from others. The diary was a much-needed space in which the diarist could achieve the seclusion and intimacy otherwise denied him. This dual purpose—the diary as both record of achievement and an emotional outlet—created a tension, not least in the sense of an implied addressee. “It is an embarrassing thought that others are to read this,” writes Madigan on the sea voyage down to Adelie Land, “a diary must be about one’s self.”³⁵ Two years later, returning on the same ship, he concludes, “this diary writing is not the simple problem it disguised itself as. One must decide at once whether it is to be a private log for one’s own use, or a sort of magazine story.”³⁶ The diary was a site of contradiction: simultaneously a discreet confidant and an instrument in the self-fashioning of a heroic—or at least adventurous—reputation.

Another paradox existed between the need to describe events and the lack of events to describe. In the period between the first land journeys in Antarctica and the coming of reasonably reliable long-distance communications technology, the expeditioners not only lived together in very confined spaces, they also sometimes had very little to do, especially over winter, and what they did do was highly repetitive. Isolated for months or years, they had little or no outside contact to provide news on which to comment. Expedition members thus experienced an odd combination of circumstances in which they considered themselves—or at least the expe-

dition—historically significant, but had nothing of note to record. “30 May–1 June [1913],” reads Mawson’s diary, “Continuance of weather—nothing special happens.” Another entry simply reads “Ditto.”³⁷ “Same old story; a diary of Hut life is very monotonous,” writes Madigan in February 1913, deciding a month later, “I will not try to keep a diary for every day, there is not enough to warrant it.” By April, he states that he “must keep up some pretence of a diary.” His diary “is meant mainly to interest others, though I am afraid it will fail in its object this year.” The novelty of the Antarctic scenery could wear off fairly quickly: “[Adelie Land] is a strange and wonderful country, but in one week enough of it has been seen”³⁸

While a “diary of Hut life” might be expected to be repetitive, a sledging diary at least promised movement and progress: the expedition diary here becomes an exploration diary proper. Again, however, the Antarctic conditions could interfere. As Hassam (drawing on Paul Carter) notes, “diary writing is dependent on moments of stasis, moments when the traveller can actually put pen to paper … the travel diary gives us a record of stopping places.”³⁹ For the Antarctic sledger, writing often occurred in a small tent with two companions. And even when one was on the move, the scenery did not always provide much on which to comment retrospectively: “God damn this country,” wrote Madigan’s hut-mate Charles Leron while exploring country to the east, “Held up this day again by drift. Blowing a hurricane with drift as thick as pea soup … Talk about exploring, all we have seen so far is a few hundred yards of uneven snow surface stretching at a low grade upwards to the south (this in the clearer moments) or else the inside of a small tent.”⁴⁰

Related to the “Heroic Era” diarist’s isolation and lack of external input is his unusual relationship with time. The use of time as a formal principle is one the few features of the diary that can be identified with reasonable confidence: “time is [its] organizing framework, the dated entry is the essence of the genre.”⁴¹ Researchers have linked the diary’s historical development not only to changing understandings of subjectivity but also to changing notions of temporality, pointing (for example) to also the genre’s use since the mid-eighteenth century as a way of imposing a sense of order, control, and continuity in the face of rapidly expanding perceptions of past and future.⁴² The Antarctic diarist had specific needs regarding temporality. In an environment where familiar diurnal patterns could be absent, routines very repetitive, and topography sometimes monotonous, having a hold on time was important for both logistical and psychological

purposes. This need produced the inevitable celebratory marking of occasions, both personal and historical, to puncture “featureless interval[s].”⁴³ The maintenance of a diary, with dated entries, not only provided a sense of simultaneity with the world to the north—a connection to “the time of History”⁴⁴—but also of control over the homogenous flow of time in Antarctica: at the point when Scott “lost track of dates” in the diary of his polar journey, it was clear that he had also lost control of the expedition’s future.⁴⁵ However, as I discuss below, the diary—if used excessively or for the wrong purposes—could also be perceived as a means of letting time “get away,” a *waste* of time.

Another characteristic feature of the Antarctic diary is the heightened significance of the material artifact produced by the remote, unfamiliar, and sometimes extreme conditions in which it is written. Like those composed in periods of war, oppression or imprisonment, original diaries written in the Antarctic bestow on the reader a sense of presence—of immediate contact with an experience considered physically as well as socially remarkable. Historian Meredith Hooper reflects on the “privilege” of working with the diaries of Scott’s Northern Party, who were forced to winter in an ice cave in 1912: “Seeing where blubber stained fingers held open the pages, the whorl of thumb prints, the pencilled words written in the small pool of light from the carefully guarded flame of a man’s improvised lamp, wick suspended over blubber in an Oxo tin. Smelling, very faintly, the whiff of blubber smoke.”⁴⁶ The biological identity of the diarist here is imprinted on the text through his fingerprints; the Antarctic environment, in the form of seal blubber, is inhaled by the reader. Any analysis of Antarctic diaries needs to be cognizant of this sense of material connection with the continent evoked by the holograph manuscript.

For Hooper, the ice cave diaries offer an important advantage to the historian: “being able to draw on a range of diaries is invaluable. What one writer leaves out, another may describe.”⁴⁷ Early Antarctic expeditions offered the unusual situation of a group of active diary-writers living together in the same small space for an extended period. There are analogous historical situations, most obviously the crew and passengers of ships. Some of the characteristic features of shipboard diaries, such as the frequency of self-referential entries that record “the lack of events to record” and “the material conditions in which the diary is written,”⁴⁸ are also typical of the “Heroic Era” Antarctic diary. Indeed, all of the early Antarctic expeditions began and ended on board ships, and sometimes

the majority of the expedition was spent on a ship, deliberately or by accident. However, the Antarctic experience had its own specific characteristics. Not only were the expeditioners living together in much the same conditions, reading the same set of books, often writing for the same house newspaper, they were self-similar in other ways. Most obviously, they were all men, but they were also roughly the same age (neither very old nor very young), and largely racially homogenous.⁴⁹ Their diaries as a collective provide an unusual opportunity to look at points of convergence and disparity, including the way that differences, such as class, nationality, and personality found expression in diary-keeping practices. In this sense, Antarctic diaries are perhaps less interesting in what they can tell us about individuals, than in what we can learn from them about groups.⁵⁰

The AAE is one such case. The expedition (1911–1914) comprised three bases—a “Main Base” in Adelie Land, another further west in Queen Mary Land, and a third on the subantarctic Macquarie Island. As with any Antarctic expedition of the period, a ship’s crew was also involved, some of whom kept diaries. While the expedition innovatively introduced radio communication to Antarctica, between the Main Base and Macquarie Island, this was unsuccessful during the first winter (1912) and very intermittent during the second (1913). The Main Base—my primary focus in the rest of this article—consisted of 18 men in 1912, but in the following year, due to the delayed arrival of a sledging expedition led by Mawson, only seven men remained (one new to the expedition, having arrived on the relief ship). Many questions can be asked about the role that diaries, as a related group, played during and after the expedition. Who kept them, and who didn’t? What did they look like? How was diary-writing as an activity perceived, by the diarist and by his observing companions? Where did the diaries end up, and to what uses have they been put? Which have been published, and why? Which languish unread or under-read, and what difference does this make?

The following is an attempt to address some of these questions. My aim here is not so much to use the AAE example to identify formal features of the Antarctic diary (an ambitious undertaking, given the problems of definition plaguing the genre more generally), or to textually analyze any one diary (although I draw heavily on Madigan’s), but rather to bring attention to the diaries as a collective—the work they do, their different fates, their peculiar insights, and their significant absences.

THE AAE DIARIES

All but a few of the 31 men involved in the three AAE bases are known to have kept diaries for at least some of the expedition. Physically, these documents took a number of forms: Mawson's own AAE diary comprises six different volumes, in three different sizes and formats.⁵¹ Some chose to use blank notebooks; others opted for pre-purchased diaries with dated pages. A smaller, lighter sledging diary might be taken on long journeys, sometimes copied into the "hut" diary on the diarist's return. Some men kept diaries only while sledging, presumably considered a more remarkable experience than hut life. Not all of the diaries take a tidy form; cartographer Alfred Hodgeman's consists of pencil scrawls on a collection of narrow slips of paper, often cut off at the bottom. Some AAE diaries are detached and factual, religiously noting temperatures, distances and activity, with relatively little reflection; some are exuberant and artistic, including drawings, poetry, and song-lyrics (the diarist's and others'); some, like Madigan's, are intensely personal and self-conscious. Some were written with outside readers (such as family and friends) clearly in mind, others are more ambiguous: the editors of Mawson's Antarctic diaries suggest they were "probably not intended to be read by others."⁵² The diaries not only featured marks made in pencil or ink: items of special value, particularly midwinter menus or concert programs, would also be glued in. In the case of the Macquarie Island men, botanical samples, brown and spidery, might even be pressed between the leaves, ready to discomfort the unsuspecting archival researcher.

Entries could be regular or sporadic, one line or several pages; as with most diaries, quantity and frequency varied with time, as well as between diarists. "I hardly ever write up my diary regularly now," reflected Madigan nearly a year after his first entry, "so am usually several days in arrears when I sit down to it. This time I'm only at tomorrow, but already forget most of today."⁵³ Long breaks could occur; Madigan, by his own account, could not write in his diary for about a month due to grief over the deaths of his close friends, Xavier Mertz and Belgrave Ninnis.⁵⁴ The men would occasionally discuss or even read each other's diaries. Frank Bickerton asked Madigan whether he featured in the latter's diary;⁵⁵ Ninnis, an established diary-keeper prior to the expedition, let Madigan look at part of his.⁵⁶ In addition, the expedition library included famous published diaries—Pepys' and John Evelyn's—that could serve as models.⁵⁷

While there was no presumption that the expedition "owned" the diaries, some of the men would be required to write narratives of their sledg-

ing journeys for the official account *The Home of the Blizzard*, a task for which their diaries came in very useful. There must also have been the possibility, with everyone living in one hut, that a diary could be surreptitiously read by someone other than the writer; alternatively it might—as Madigan seems to have feared—mysteriously go missing in transit and arrive in the wrong hands.⁵⁸

Until the later twentieth century, none of the diaries kept by the land-based AAE men were published, except occasionally in the form of extracts.⁵⁹ Many of the originals were available publicly, donated to an established AAE archive at the State Library of New South Wales, although Mawson's and others went to what is now the Australian Polar Collection in the South Australian Museum, and a few to archives further afield. Some remained in private hands (Riffenburgh reports being able to read Madigan's, on request to his family, but not to take notes or quote from it).⁶⁰ Publication of diaries, in the case of Antarctic expeditions at least, tends to be determined by three factors: the fame and noted achievements of an individual; the perceived interest of the diary, in terms of its style or information provided; or the presence of a persistent champion, often a family member, willing to edit and find a publisher (possibly themselves).

The diary of the AAE leader, Mawson, appeared (in edited form and combined with the diaries from his other two Antarctic expeditions) in 1988, the year that Australia marked its bicentenary of European settlement, with reprints in 1991 and 2008. The next publication had to wait until the AAE's own centenary, in 2011, when Frank Hurley's sledging diary appeared, edited by two literature scholars, and promising the kind of “intimate encounter with Hurley himself” that four biographies had been unable to provide.⁶¹ Hurley had a long and prominent career as a photographer and film-maker, and was better known for his work on Shackleton's *Endurance* expedition than on the AAE; the diaries stretch from 1912 to 1941. Amid centenary celebrations—including symposia, a flotilla reenactment, and the construction of a replica hut on the Hobart waterfront—five more published diaries appeared:⁶² Frank Stillwell's, John Hunter's, Charles Harrisson's, Belgrave Ninnis's, and Madigan's.⁶³

This flurry of diary publications was produced by and contributed to an emerging (and belated) revisionist history of the AAE that drew focus away from its leader. For Australians, Mawson has long been the key—if not the sole—emblematic figure on whom the nation's Antarctic connections rest. His name is “almost as iconic and sacred” as famous cricketers and war heroes;⁶⁴ he is, to use cultural geographer Christy Collis's terms, “a

nationally-metonymic vehicle, a physical ligature symbolically binding the claimed land to the nation.”⁶⁵ Even left-leaning publications such as the *Monthly* magazine happily gather Mawson in a post-heroic embrace,⁶⁶ juxtaposing his “entirely scientific” efforts against Scott’s self-evident “glory hunt.”⁶⁷ Perhaps not coincidentally, the centenary of Mawson’s expedition occurred alongside a renewed focus on Australia’s national interest in the Antarctic—one embodied in forums as different as an independent think-tank’s brief recommending “policy changes and capability investments to protect Australia’s interests” in the region⁶⁸ and the radical environmental group Sea Shepherd’s protests against Japanese whaling in “Australian waters.”⁶⁹ The stakes involved in revising the reputation of the national Antarctic hero are clear.

The author of one of the most prominent centenary publications, determined that the internationally neglected Mawson should enter the ranks of his famous northern-hemisphere counterparts, unabashedly adopted a “Great Man” view of Antarctic history: Peter Fitzsimons’s popular history was entitled *Mawson and the Ice Men of the Heroic Age: Scott, Shackleton and Amundsen* (2011). Others, however, tried to widen the narrative scope, largely by bringing to light primary documents such as diaries. Riffenburgh’s *Aurora: Douglas Mawson and the Australasian Antarctic Expedition, 1911–1914* (2011)—the first detailed account of the AAE since *The Home of the Blizzard* nearly a century before—noted that while “Mawson’s story” had been told “numerous times,” the AAE “was not simply one man’s tale.” Including the “voices” of other expedition members by drawing on their original sources—diaries, letters and reports—“in conjunction” for the first time, Riffenburgh offers a “new story.”⁷⁰ Heather Rossiter, biographer of one AAE expeditioner (Herbert Dyce Murphy) and editor of another’s diary (Harrisson’s), complains in her introduction to the latter that only Mawson’s name “survives in the public memory.” She rails against a “reductionist view” of the expedition and calls on Antarctic historians to “discard their monocentric narratives.”⁷¹

The readerships for both Riffenburgh’s detailed academic history and Harrisson’s lovingly presented diary are likely to have been fairly small. Historian David Day’s *Flaws in the Ice: In Search of Douglas Mawson* (2013)—a Huntford-esque revisionist biography—was far more prominent, drawing coverage in national and international media. Diaries play an important and explicit part in Day’s reassessment. One reason for the one-sided view of Mawson, Day argues, is his terse diary, “frustratingly devoid of much description or emotion.” Another is the “paucity of alter-

native primary material,” with other expeditioners’ diaries “hidden away for the last century.”⁷² One of the most controversial issues Day tackles is Mawson’s leadership of the Far-Eastern Sledging Journey. This journey saw the deaths of his two companions, Ninnis and Mertz, the first from a fall into a deep crevasse, and the second seemingly from a combination of hunger, exposure, exhaustion, and Vitamin A poisoning (from the consumption of dog livers). Mawson trekked about a hundred miles back to base alone on very low rations, arriving in a dangerously depleted state. Although in many respects the journey was a disaster, Mawson’s feat of remarkable solo endurance claimed “the limelight,” as Madigan had predicted, cementing the leader’s fame more firmly than any particular scientific achievement. Day’s criticisms of Mawson include the discrepancies between his diary version of the Far-Eastern Journey and his first-person narrative account in *The Home of the Blizzard*. The two differ significantly, he suggests, even while the diary acts as a supposed anchor for the latter: the narrative includes a quotation from the diary that is “heavily embellished.”⁷³ Given that his diary would be “kept under wraps until long after his death,” notes, Mawson had no need to worry about inconsistencies.⁷⁴ As Tom Griffiths points out in a review of *Flaws in the Ice*,⁷⁵ Day’s construction of a narrative of secrecy and revelation around the AAE diaries is overplayed—many of them have been accessible in archives for decades. My point here, however, concerns not the persuasiveness of Day’s account, but rather the centrality of diaries to his and other responses to the centenary. Diaries matter in the ongoing construction of national relationships with Antarctica.

While Antarctic diaries feature most prominently in scholarship as primary sources, the practice of diary-keeping—where and when it happened, how it was viewed—can be equally revealing. Himself such an economical diarist, Mawson seems to have connected others’ more expansive diary-writing with inactivity. In October 1912, Madigan records with relief that Mawson has allowed the men more leisure, so that he (Madigan) will feel “justified in making a little spare time for myself, my diary, etc.,” without knowing that his leader is “worrying round and hinting that I should be doing something else, as he usually does.”⁷⁶ Mawson, if Madigan’s perceptions are fair, considered excessive diary-writing self-indulgent. Mawson’s own entries back up this view: they are those of a “man of action,” according to his diary editors, and might better be described as “field notes”; they contain “almost no introspection or reflection about relationships.”⁷⁷ They also avoid self-referentiality; not one entry refers to the document itself—

its nature, purpose, or practice. The tone is not completely homogenous: Day argues that, after the deaths of Mawson's companions, the previously dry, technical entries become "more self-consciously those of an explorer writing, albeit in a rather forced manner, for a general audience about his heroic struggle to get through against the odds."⁷⁸ Even at this point, however, the text is comparatively devoid of introspection and emotion; Mawson rarely displays, on the page, the vulnerability evident everywhere in Madigan's diary. Heroic reputations are best built, it seems, on terse diaries.

Two men who no longer had control of their reputations were Mertz and Ninnis. Their diaries—alternative versions of the Far-Eastern Journey, one in German—were also sitting in the hut, ready to be sent to grieving relatives. Both men had kept diaries at the Main Base and while sledging, which Mawson had retrieved after their deaths. For the grief-stricken men in the hut, these diaries were intimate material reminders of their authors' absence. Although both were returned to the respective families, neither the original Mertz diaries nor Ninnis's sledging diary survived—or rather, their whereabouts are unknown.⁷⁹

This points to the significance of the *missing* diary. Diaries may be missing for a range of reasons: some have been destroyed (Murphy's was apparently caught in a bushfire⁸⁰); some are lost, at least to the research community; others are not readily accessible. While Madigan's descendants followed the thrust of the diary itself in keeping his negative comments out of the public realm for a century, its absence gave rise to speculations well in excess of its actual content. Rumors of Mawson's possible cannibalism of Mertz, triggered by the US yellow press while the explorer was undertaking lecture tours after the return of the AAE, were bolstered by later rumors that the leader had confessed his secret—in emotional extremis or in sleep—while in the hut and that the evidence was in Madigan's withheld diary. As Day writes at the end of a review of the long-awaited published diary, there is "no direct evidence" of this supposed scandal,⁸¹ although Madigan does assert that all are "disgusted" over the way the leader talks about their two dear, dead friends.⁸² What *is* revealed is frequent, scathing criticism of Mawson. In the title of his review, Day makes Mawson himself the not-so-dear "someone" whom Madigan's diary posthumously addresses: "From Cecil, With Loathing."

At a micro-level, absences could be apparent *within* the diary (itself usually a collection of notebooks rather than one object)—materially, as well as textually. Hodgeman's slips of paper appear to be severed simply

in the interest of efficiency, but might this pruning have answered a different purpose? Mawson ripped out the remaining blank pages of Mertz's sledging diary to save weight on his journey back to base.⁸³ To Mertz's family and friends, the absence of those pages must have been a loss: the blankness stretching after his last entry would have had a poignancy of its own. Instead, Mawson's act of violence, understandable in the circumstances, gave the material object an abrupt truncation. One of Madigan's notebooks ended with a pen malfunction. The edited version reads: "A sledging journey with dogs is so arranged that the dogs are killed off for dog food ... (*a large ink blot obscures the last words.*)"⁸⁴ The phrasing suggests an accidental blotting out, but the reader can't help but wonder what Madigan might have written here about the Far-Eastern Sledging Journey—particularly given the coming controversy over a different kind of cannibalism.⁸⁵ And the inability of the reader to see the ink blot, to judge its nature for him or herself, points to another kind of absence: the signifiers—handwriting, smudges, stains, creases, tears (both kinds)—that disappear when a singular material artifact is transformed into a published text. (Moving from published text to holograph manuscript also involves losses, not the least legibility.)

In other cases, diaries are missing simply because they do not appear to have been written. This is not always remarkable, but occasionally circumstances make the question of who did and didn't keep diaries highly significant. The AAE Main Base, in its second winter, provides an outstanding case. In July 1913, Madigan's diary entries, normally focused on the weather, the dogs (whose care he was responsible for by this stage), his dreams, Wynnis, Mawson, or his diary itself, suddenly becomes single-minded: "there is nothing to write except the one all-absorbing question."⁸⁶ One of his companions, Sidney Jeffryes, who had previously rated few mentions in the diary, is suddenly "a queer fellow," then "very peculiar," "mentally deranged," "most strange," "gone insane."⁸⁷ The wireless operator, according to Madigan, became paranoid, "constru[ing] everything to have a direct bearing on him." including an article in the expedition newspaper.⁸⁸ It is hard to imagine that Jeffryes was not similarly suspicious about the diaries kept by his companions; and, indeed, Madigan notes that he himself is writing "as evidence," presumably anticipating some sort of future inquiry.⁸⁹ The topic almost exclusively dominates Madigan's diary for three weeks.

While several letters Jeffryes wrote during and after this period are accessible in archives, he left no diary account of his own—or, at least,

none that has been located. The AAE diary collective at this point consisted of four men writing about a silent companion.⁹⁰ The sudden emergence of this topic of intense focus provides a useful point of comparison between the styles and attitudes of the diarists: Madigan's fulsome, almost sensationalist accounts; Mawson's detached, less excitable reports; Hodgeman's telegraphic notes on his fragments of paper ("Jeff serious case");⁹¹ and base physician Archie McLean's reticence—he writes nothing about the issue until a week after Madigan's first remarks, when he gives a regretful and measured summary of Jeffryes's "delusional insanity."⁹² But Jeffryes's absent diary means that his story, on the face of it an intriguing subject for the Antarctic historian or psychologist, is largely untold. While many factors might have contributed to his mental instability—such as his arrival as the sole newcomer in a group of men who had already spent a year together in Antarctica and were mourning two friends he had never met, and the expectation that he should work at the wireless late into the night, when reception was clearest—without any regular personal record only speculation is possible. Jeffryes's own letters and the others' detailed diary entries all concentrate on the period of his paranoia, so there is little insight into the time that led up to it. Thus, Jeffryes appears (his name often misspelled) in passing in various Antarctic accounts as a case of midwinter "madness," but his outsider's perspective on the expedition is unavailable.⁹³

CONCLUSION

My examination of the AAE diaries has focused on the way in which these documents can contribute to the making or unmaking of heroic reputations: this is evident not only in the impact that the retrospective revelations of a newly published diary might have on an established narrative, but also in the diarist's own attempts to negotiate the contradictory pressures of being a "man of action" in a confined space with little privacy and few events on which to remark.

My larger aim, however, is to point to the potential productiveness, in an Antarctic context, of critical analysis of diaries, and more generally of the wider categories of life writing (to use a literary term) and ego-documents (to use a historical one). These categories—overlapping but not self-similar—encompass diaries, letters, blogs, tweets, memoirs, travel narratives, autobiographies, and biographies. In the case of the diary, such analysis must entail, as I have suggested, examination not only

of textual content, but also the materiality of the document, its conditions of production (and publication), and the significance of the repeated acts of its creation.

Ego-documents provide a sense of how human visitors to Antarctica fashion identities in relation to the region. The uses to which these documents are put in (for example) educational forums, exhibitions, and promotional material give an indication of the relationship that national, scientific, environmental, commercial, and other interests wish to foster. Here I have focused on the contradictory pressures on the “Heroic Era” diarist, conscious of constructing his own reputation but also needing a space for emotional expression. Other periods and contexts produce new pressures, such as tourists keen to experience the “pristine environment,” but highly conscious of their own impact on that environment, or scientists acutely aware of the political nature of their presence in the continent. Diaries and other ego-documents will always form a key part of the Antarctic historian’s source material, but a critical turn towards these texts within the humanities more broadly could change the subject in unpredictable ways.

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NOTES

1. Cecil Madigan, *Madigan’s Account: The Mawson Expedition: The Antarctic Diaries of C.T. Madigan 1911–1914*, ed. J.W. Madigan (Hobart: Wellington Bridge Press, 2012), 9 March 1913.
2. I am bypassing here a debate over whether ‘diary’ or ‘journal’ (terms that some researchers use interchangeably and others distinguish between) is best suited to the context of the expedition. I have adopted ‘diary’ primarily because that is the word that expeditioners such as Madigan themselves tended to use to describe what they were writing. My use of the singular term ‘diary’ refers to the combined document kept during the expedition, which may consist of many notebooks. Even for published diaries, I have given references as dates, for ease of access over different editions, as well as context.
3. Madigan, *Madigan’s Account*, 20 June 1913.
4. Madigan, *Madigan’s Account*, 12 September 1913; 2 January 1914.
5. Madigan, *Madigan’s Account*, 20 December 1911.

6. Madigan, *Madigan's Account*, 2 June 1913.
7. Madigan, *Madigan's Account*, 19 April 1913; 2 June 1913; 10 September 1913.
8. Jean Charcot, *Le Pourquoi-Pas? Dans l'Antarctique: Journal de La Deuxième Expédition Au Pole Sud 1908–1910* (Paris: Ernest Flammarion, 1910).
9. Roland Huntford, *Scott and Amundsen*, Revised edition (London: Abacus, 1983), 527.
10. Roland Huntford, *The Race for the South Pole: The Expedition Diaries of Scott and Amundsen* (London: Continuum, 2010), 1.
11. Philip J Ayres, *Mawson: A Life* (Carlton: Melbourne University Press, 2003), 71.
12. Beau Riffenburgh, *Aurora: Douglas Mawson and the Australasian Antarctic Expedition, 1911–1914* (Norwich: Erskine Press, 2011), 352–3.
13. David Day, *Flaws in the Ice: In Search of Douglas Mawson* (Guilford, Connecticut: Lyons Press, 2014), 244.
14. Jane S.P. Mocellin and Peter Suedfeld, 'Voices from the Ice: Diaries of Polar Explorers', *Environment and Behaviour* 23, no. 6 (1991): 204–722; Gary Steel, "Mirabile Vision": The Development of Bernacchi's Evaluative Image of Antarctica during the BAE (1898–1900) Expedition to Cape Adare' (Antarctic Visions: Cultural Perspectives on the Southern Continent, Hobart, 2010).
15. Ursula Rack and Adrian McDonald, 'Modern Science and Historical Data: Ship Journals and Diaries' (International Polar Heritage Committee Conference: Conservation Challenges, Solutions and Collaboration Opportunities in Uncontrolled Environments, Hobart, 2012).
16. Elizabeth Baigent, "Deeds Not Words": Life Writing and Early Twentieth-Century British Polar Exploration', in *New Spaces of Exploration: Geographies of Discovery in the Twentieth Century*, ed. Simon Naylor and James R. Ryan, Tauris Historical Geography 2 (London: Tauris, 2010), 23–51; Victoria Rosner, 'Gender Degree Zero: Memoirs of Frozen Time in Antarctica', *A/b: Auto/Biography Studies* 14, no. 1 (1999): 5–22; Kate Douglas, "Blurb-ing" Biographical: Authorship and Autobiography', *Biography* 24, no. 4 (2001): 806–26.
17. See e.g. Scott Freer, 'The Lives and Modernist Death of Captain Scott', *Life Writing* 8, no. 3 (September 2011): 301–15, doi:[10.1080/1448452.2011.579238](https://doi.org/10.1080/1448452.2011.579238).
18. Francis Spufford and Scott Wylie both adopt a diary-like structure to provide an examination of the expedition (and Spufford offers stylistic analysis of Scott's diary at certain points) but neither is primarily focused on the diary itself. Francis Spufford, *I May Be Some Time: Ice and the English*

Imagination (London: Faber and Faber, 1996); Scott Wylie, ‘Becoming-Icy: Scott and Amundsen’s South Polar Voyages, 1910–1913’, *Cultural Geographies* 9 (2002): 249–65.

19. Irina Paperno, ‘What Can Be Done with Diaries’, *The Russian Review* 68 (October 2004): 573.
20. Paperno, ‘What Can Be Done with Diaries’, 562.
21. Jochen Hellbeck, ‘The Diary between Literature and History: A Historian’s Critical Response’, *The Russian Review* 68 (October 2004): 621.
22. Paperno, ‘What Can Be Done with Diaries’, 573.
23. Roger Cardinal, ‘Unlocking the Diary’, *Comparative Criticism* 12 (1990): 72.
24. Of course, people (like Charcot) have published edited versions of their own diaries in their lifetimes, as well as shared them privately with companions. ‘Heroic-Era’ explorers would sometimes send diaries home for their families and friends to read in their absence, as Madigan did. But more commonly diaries are read, in published or manuscript form, after their authors are dead.
25. Hellbeck, ‘The Diary between Literature and History’, 621.
26. Hellbeck, ‘The Diary between Literature and History’, 828.
27. Paperno, ‘What Can Be Done with Diaries’, 573.
28. See Rachel Cottam, ‘Diaries and Journals: General Survey’, in *Encyclopedia of Life Writing: Autobiographical and Biographical Forms*, ed. Margareta Jolly (London: Fitzroy Dearborn, 2001).
29. See Michael Pearson, “‘No Joke in Petticoats’: British Polar Expeditions and Their Theatrical Presentations”, *TDR* 48, no. 1 (2004): 44–59; Kerry McCarthy, Jacky Bowring, and Bryan Storey, ‘A Working Man in Wonderland: Ernest Joyce, Photographs and Antarctic Exploration’, *The Polar Journal* 1, no. 2 (December 2011): 155–75, doi:[10.1080/2154896X.2011.626620](https://doi.org/10.1080/2154896X.2011.626620); Carolyn Strange, ‘Reconsidering the “Tragic” Scott Expedition: Cheerful Masculine Home-Making in Antarctica, 1910–1913’, *Journal of Social History* 46, no. 1 (Fall 2012): 66–88, doi:[10.1093/jsh/shs032](https://doi.org/10.1093/jsh/shs032).
30. For example, Meredith Hooper, ‘Raymond Priestley as Diary-Keeper’, *Nimrod: The Journal of the Ernest Shackleton Autumn School* 6 (October 2012): 111–18; Anna Lucas and Elizabeth Leane, ‘Two Pages of Xavier Mertz’s Missing Antarctic Diary: A Contextualization and Reconstruction’, *Polar Record* 49, no. 3 (July 2013): 297–306, doi:[10.1017/S0032247412000460](https://doi.org/10.1017/S0032247412000460).
31. Jesse Blackadder, in the Afterword to her novel *Chasing the Light* (2013), suggests that the ‘lively diary’ of the Norwegian Lillemor Rachlew, who travelled on a whaling fleet owned by Lars Christensen, provides ‘possibly the only surviving female descriptions of visiting Antarctica prior to 1947’

(418). The diary itself does not appear to be extant, but extensive quotations are provided in Christensen's *Such is the Antarctic* (1935). If there are other exceptions, they would make a productive research area. Jesse Blackadder, 'Afterword,' in *Chasing the Light: A Novel of Antarctica* (Sydney: HarperCollins Publishers, 2013), 413–26.

32. See e.g. L.H. Neatby, 'Arctic Journals', *Queen's Quarterly*, no. 66 (Winter 1960): 575–88; Linda S. Bergmann, 'Women against a Background of White: The Representation of Self and Nature in Women's Arctic Narratives', *American Studies* 34, no. 2 (Fall 1993): 53–68; Edward Parkinson, "All Well": Narrating the Third Franklin Expedition,' in *Echoing Silence: Essays on Arctic Narrative*, ed. John Moss (Ottawa: Univ. of Ottawa Press, 1997), 43–52; Sherrill Grace, "Hidden Country": Discovering Mina Benson Hubbard', *Biography* 24, no. 1 (2001): 273–87; Elizaveta Khachaturyan, 'The North Seen by People from the South: Italian Explorers about the Arctic: The Journal of Giacomo Bove', *Nordlit: Arbeidstidsskrift I Litteratur* 23 (Spring 2009): 205–16.

33. Andrew Hassam, "As I Write": Narrative Occasions and the Quest for Self-Presence in the Travel Diary,' *Ariel* 21, no. 4 (October 1990): 37.

34. Hassam, 'As I Write', 40.

35. Madigan, *Madigan's Account*, 2 January 1912.

36. Madigan, *Madigan's Account*, 2 January 1914.

37. Douglas Mawson, *Mawson's Antarctic Diaries*, ed. Fred Jacka and Eleanor Jacka (Crows Nest, NSW: Allen & Unwin, 2008), 30 May–1 June 1913; 29 April 1913.

38. Madigan, *Madigan's Account*, 17 February 1913; 14 March 1913; 9 April 1913; 1 August 1913; 25 March 1913.

39. Hassam, 'As I Write', 33.

40. Charles Lasseron, 'Sledging Diary 8 November 1912–6 January 1913', 14 November 1912, MLMSS 385/3, Mitchell Library. State Library of New South Wales.

41. Katie Holmes, 'Marking Time: Australian Women's Diaries of the 1920s and 1930s', in *Controlling Time and Shaping the Self: Developments in Autobiographical Writing since the Sixteenth Century*, ed. Arianne Baggerman, Rudolf Dekker, and Michael Mascuch (Leiden; Boston: Brill, 2011), 173, <http://dx.doi.org/10.1163/ej.9789004195004.i-541>

42. Arianne Baggerman, Rudolf Dekker, and Michael Mascuch, 'Introduction', in *Controlling Time and Shaping the Self*, ed. Baggerman, Dekker, and Mascuch, 5.

43. Douglas Mawson, *The Home of the Blizzard: Being the Story of the Australasian Antarctic Expedition, 1911–1914*, vol. 1 (London: Heinemann, 1915), 146.

44. Holmes, 'Marking Time: Australian Women's Diaries of the 1920s and 1930s', 173.
45. Robert Falcon Scott, *Journals: Captain Scott's Last Expedition*, ed. Max Jones (Oxford: Oxford University Press, 2006), 26–27 March 1912.
46. Hooper, 'Raymond Priestley as Diary-Keeper', 112.
47. Hooper, 'Raymond Priestley as Diary-Keeper', 117.
48. Hassam, 'As I Write', 34.
49. There were sometimes racial minorities within expeditions: the Ainu dog-drivers who formed part of Nobu Shirase's Japanese Antarctic Expedition, for example.
50. Not all Antarctic diarists considered their writing to be private—that is, off limits to the expedition community. Raymond Priestley, one of Scott's stranded Northern Party, would read from past entries to entertain his companions. He also put considerable effort into making copies of his own diaries while in Antarctica. See Elizabeth Leane, 'Isolation, Connectedness and the Uses of Text in Heroic-Era Antarctica: The Cases of Inexpressible and Elephant Islands', *Island Studies Journal* 2, no. 1 (2007): 52–53.
51. Fred Jacka and Eleanor Jacka, 'Introduction', in *Mawson's Antarctic Diaries*, by Douglas Mawson (Crows Nest, NSW: Allen & Unwin, 2008), ix–x at xiii–xiv.
52. Jacka and Jacka, 'Introduction', ix.
53. Madigan, *Madigan's Account*, 31 October 1912.
54. Madigan, *Madigan's Account*, 13 February 1913.
55. Madigan, *Madigan's Account*, 6 February 1912.
56. Madigan, *Madigan's Account*, 8 March 1912; 4 July 1912.
57. 'List of Books Presented by Campbell Mackellar', n.d., ML MSS 171/3, item 15, Mitchell Library, State Library of NSW, Sydney; Day states that some of the AAE men used Pepys's diary as 'an exemplar for their own'. Day, *Flaws in the Ice*, 244.
58. Madigan sometimes writes brief phrases in classical Greek or Morse code (his first diary cover features a declaration of love to Wynnis in Morse), but these would not have been hard for his fellows to interpret. Some of Scott's men wrote in private code when recording something particularly personal. See Hooper, 'Raymond Priestley as Diary-Keeper', 116.
59. I am leaving aside here diaries of AAE members (such as Captain John King Davis) who were part of the ship's company but did not stay at the three bases.
60. Riffenburgh, *Aurora*, 479. Researchers were also given a second-hand glimpse of Madigan's diary in D. C. Madigan's *Vixere Fortes: A Family Archive* (Kingston: David Cecil Madigan, 2000), as it forms a basis for the narrative given in the final chapter.

61. Robert Dixon and Christopher Lee, eds, 'Introduction', in *The Diaries of Frank Hurley, 1912–1941*, by Frank Hurley (London; New York: Anthem Press, 2011), xii.
62. Centenaries of national expeditions are often the occasion of diary publishing. For example, the Fram museum published the expedition diaries of Amundsen and 14 of his crewmembers as a contribution to centenary celebrations. See Geir O. Kløver, 'The South Pole Expedition of Roald Amundsen—How Did He Prepare for the Expedition and What Do His Crewmembers' Diaries Tell Us about It?', *Nimrod: The Journal of the Ernest Shackleton Autumn School* 6 (October 2012): 28.
63. Frank L. Stillwell, *Still No Mawson: Frank Stillwell's Antarctic Diaries 1911–1913*, ed. Bernadette Hince (Canberra, ACT: Australian Academy of Science, 2012); John George Hunter, *Rise and Shine: Diary of John George Hunter, Australasian Antarctic Expedition 1911–1913*, ed. Jenny M. Hunter (Hinton, NSW: Hunter House Publications, 2011); Charles Turnbull Harrisson, *Mawson's Forgotten Men: The 1911–1913 Antarctic Diary of Charles Turnbull Harrisson*, ed. Heather Rossiter (Sydney: Pier 9, Murdoch Books, 2011); Belgrave E. S. Ninnis, *Mertz and I ...: The Antarctic Diary of Belgrave Edward Sutton Ninnis*, ed. Allan Mornement and Beau Riffenburgh (Eccles, Norwich: Erskine Press, 2014).
64. Tom Griffiths, 'The AAT and the Evolution of the Australian Nation,' in *Australia's Antarctica: Proceedings of the Symposium to Mark 75 Years of the Australian Antarctic Territory*, ed. Julia Jabour, Marcus G. Haward, and Tony Press, Occasional Paper 2 (Hobart: Institute for Marine and Antarctic Studies, 2012), <http://www.imas.utas.edu.au/research/ocean-and-antarctic-policy/publications/75-years-of-antarctica>
65. Christy Collis, 'The Proclamation Island Moment: Making Antarctica Australia', *Law Text Culture* 8 (2004): 52.
66. My use of the term 'post-heroic' draws on Elena Glasberg's characterization of the move in which 'The language of achievement... has passed from imperial registers to those of science' Elena Glasberg, *Antarctica as Cultural Critique: The Gendered Politics of Scientific Exploration and Climate Change*, Critical Studies in Gender, Sexuality, and Culture (Basingstoke: Palgrave Macmillan, 2012), xx.
67. Shane Maloney and Chris Grosz, 'Douglas Mawson and Scott of the Antarctic', *Monthly*, July 2010, 74.
68. See brief by Ellie Fogarty, 'Antarctica: Assessing and Protecting Australia's National Interests'. Lowy Institute for International Policy, Policy Brief (Sydney: Lowy Institute for International Policy, August 2011), http://www.lowyinstitute.org/files/pubfiles/Fogarty%2C_Antarctica_web.pdf. The quotation is from the same site.

69. AAP, 'Tony Burke Defends Australian Action on Whaling', *The Australian*, February 16, 2013, <http://www.theaustralian.com.au/news/nation/tony-burke-defends-australian-action-in-whaling/story-e6frg6nf-1226579517199>. I'm grateful to Alan Hemmings for pointing me to this example of nationalist discourse.
70. Riffenburgh, *Aurora*, 2.
71. Heather Rossiter, 'Preface', in *Mawson's Forgotten Men: The 1911–1913 Antarctic Diary of Charles Turnbull Harrisson*, by Charles Turnbull Harrisson, ed. Heather Rossiter (Sydney: Pier 9, Murdoch Books, 2011), xi.
72. Day, *Flaws in the Ice*, 2–3.
73. Day, *Flaws in the Ice*, 203.
74. Day, *Flaws in the Ice*, 205.
75. Tom Griffiths, 'Debunking Mawson'. Review of *Flaws in the Ice: In Search of Douglas Mawson*, by David Day. *Inside Story*, December 3, 2013, <http://insidestory.org.au/debunking-mawson/>
76. Madigan, *Madigan's Account*, 3 October 1912.
77. Jacka and Jacka, 'Introduction', xviii.
78. Day, *Flaws in the Ice*, 209.
79. Two typed transcripts of Mertz's diary, in German, were made before the holograph manuscript disappeared, although analysis shows their limited reliability. For this and other details given here, see Lucas and Leane, 'Two Pages of Xavier Mertz's Missing Antarctic Diary'.
80. Mark Pharaoh to Elizabeth Leane, Personal Communication, August 8, 2013.
81. David Day, 'From Cecil, With Loathing'. Review of *Madigan's Account: The Mawson Expedition: The Antarctic Diaries of C.T. Madigan 1911–1914. The Monthly*, March 2013, 46.
82. Madigan, *Madigan's Account*, 16 April 1913.
83. Lucas and Leane, 'Two Pages of Xavier Mertz's Missing Antarctic Diary', 304.
84. Madigan, *Madigan's Account*, 31 October 1912.
85. For a discussion of the cannibalism controversy in relation to the treatment of the dogs, see Elizabeth Leane and Helen Tiffin, 'Dogs, Meat and Douglas Mawson,' *Australian Humanities Review* 51 (November 2011), <http://www.australianhumanitiesreview.org/archive/Issue-November-2011/home.html>
86. Madigan, *Madigan's Account*, 23 July 1913.
87. Madigan, *Madigan's Account*, 4 July 1913, 6 July 1913, 7 July 1913, 12 July 1913.
88. Madigan, *Madigan's Account*, 6 July 1913; 9 July 1913.
89. Madigan, *Madigan's Account*, 17 July 1913.

90. Neither Robert Bage nor Frank Bickerton kept diaries in the second winter. For details on the location and provenance of Bage's AAE diary, see Chris Elmore, 'One of Mawson's "Forgotten Men": Robert Bage and His Antarctic Diary', *The La Trobe Journal* 90 (December 2012): 125–35.
91. Alfred Hodgeman, 'Diary,' 10 July 1913, MI.229, Australian Polar Collection, South Australian Museum, Adelaide.
92. Archibald Lang McLean, 'Diaries 2 December 1911–26 February 1914', 11 July 1913, MLMSS 382/1, Mitchell Library, State Library of New South Wales.
93. 'One could argue,' Tom Griffiths suggests, 'that Jeffryes' madness made him a privileged witness to the hauntings of a winter hut.' Tom Griffiths, *Slicing the Silence: Voyaging to Antarctica* (Cambridge, MA: Harvard University Press, 2007), 174.

CHAPTER 3

Beriberi at Kerguelen: A Sub-Antarctic Case Study of a Tropical Disease, 1901–1903

Cornelia Lüdecke

INTRODUCTION

Before the discovery of vitamins, beriberi and scurvy were feared diseases that plagued ships during long sailing voyages. Although the origins of these diseases were still unknown, lemon juice and sauerkraut were used as a standard treatment against scurvy. Beriberi, however, was a disease without remedy connected to the rice-based diet of populations in South and Southeast Asia. In preparation for the four international Antarctic expeditions that sailed south in 1901, several precautions were taken to avoid these diseases through a careful selection of food. However, when the first German South Polar Expedition established a station on Kerguelen in the South Indian Ocean with help from the *Tanglin*, a supply vessel, two of the ship's Chinese crew members succumbed to so-called sailing ship beriberi. Later, two of the five European station members fell ill from beriberi, with one dying from the disease. The remaining scientists were convinced that the infection's origin could be traced to the Chinese crew members, even though no direct transmission path was evident.

In the medical community, these beriberi cases served as perfect laboratory experiments in an extreme and closed environment, consisting of

C. Lüdecke (✉)
SCAR History Expert Group, Munich, Germany

an exposed group on Kerguelen Island, and a control group on board the ship *Gauss*, which was trapped by pack ice close to the Antarctic coast. Moreover, the scientists had detailed knowledge of the nutritional intake of the expedition's members and crew. This chapter analyzes these cases within the context of contemporary medical knowledge in Germany, with reference to the people and institutions with the power to conduct such analyses. In the one camp, there was the Nobel prize-winning physician and pioneer microbiologist Robert Koch and his student in Berlin, and in the other camp was Bernhard Nocht, director of the Institute for Ship and Tropical Diseases in Hamburg and his collaborator Heinrich Schaumann, who supported the hypothesis that it was a nutrition-related disease.

An analysis of unpublished correspondence between the leader of the German South Polar Expedition, Erich von Drygalski, the expedition surgeon, Hans Gazert, and the medical experts Koch and Schilling, reveals the importance of the German beriberi data. Because of personal circumstances, Gazert was not able to publish his medical results before 1914. This chapter demonstrates how the “little polar doctor,” Gazert asserted himself against Koch's overwhelming power of institutional authority, by putting forward a very specific case study that supported the still developing theory of vitamin deficiency diseases, which was recognized only years later.

EUROPEAN KNOWLEDGE OF BERIBERI AROUND 1900

At the end of the nineteenth century, European scholars became interested in a disease called beriberi or tropical polyneuritis, which was typical of Japan, Dutch East and West Indies,¹ Brazil, and other tropical coasts where European colonies were found. One of the first physicians to investigate beriberi on the spot was Christiaan Eijkman (1858–1930), a Dutch physician sent to Batavia (present-day Jakarta, Indonesia). Eijkman had worked at the Hygienic Institute of the Friedrich-Wilhelms-Universität at Berlin in 1885, soon after it had been founded under the directorship of Robert Koch (1843–1910), who had an established reputation as a leading bacteriologist. At “Koch's Institute,” as it was called, Eijkman studied Koch's bacteriological methods, his laboratory experiments, observations, and the analysis of data, before he moved to Batavia in 1886. In 1897, Eijkman published the results of his experiments with chickens and doves in the Berlin journal *Virchows Archiv für pathologische Anatomie*

und Physiologie und für klinische Medizin (known as *Virchows Archiv*) after beriberi broke out in the chicken-house at his laboratory.² The birds fell ill with polyneuritis similar to human beriberi when, for a short time, they were fed polished rice used by the military. The birds recovered when fed with the silver husk of the rice itself. It seemed that the silver husk of the unpolished rough rice could serve as an antidote to the illness. Eijkman hoped that this might become an effective treatment of human beriberi.³

In a follow-up publication, Eijkman reported some observations made by the civilian medical inspector for the island of Java, Adolphe Vorderman (1844–1902). It functioned as a control experiment for the effectiveness of the treatment of beriberi with rough unpolished rice.⁴ In this case, the nutritional experiment was conducted on about 300,000 human subjects, incarcerated in about 101 prisons. Due to regional differences, rice was served in two versions. Twenty-seven prisons served rough unpolished rice, with beriberi found in only one prison.⁵ However beriberi was found in 36 out of 72 prisons where polished rice without the silver husk was served. In one of these prisons, the authorities switched to rough rice and the beriberi soon disappeared. Eijkman concluded that “[t]he results agreed so unequivocally with those of the chicken experiments that the possibility of coincidence could not seriously be considered.”⁶ The nutrition provided by polished rice influenced the occurrence of beriberi, and rough or unpolished rice was proving to be an effective treatment of the disease. Eijkman could, however, not explain why and how this treatment worked, and his contemporaries did not recognize his results at the time.⁷ Although Koch should have known Eijkman’s striking results, he still held to his infection theory, on which he built his renowned expertise in tropical diseases.

At a joint meeting with authorities of Hamburg, Berlin, and the German Reich on January 31, 1899, Koch, now in his capacity as director of the Royal Prussian Institute for Infectious Diseases, proposed to establish a special institute connected to the university in Berlin for the investigation of tropical diseases.⁸ In spite of Koch’s reputation for enthusiasm and scientific authority in promoting research in tropical medicine, a proposal of the naval physician Bernhard Nocht (1857–1945) in Hamburg was adopted instead. The Institute for Maritime and Tropical Diseases was established close to the port in Hamburg under Nocht’s directorship. The Institute was inaugurated on October 1, 1900. Nocht was better known in public health circles than in the science world. From 1887 to 1890 he had worked at Koch’s Institute in Berlin and studied cholera pathogens,

discovered by Koch in 1884. In 1892, Nocht was seconded to Hamburg, where a cholera epidemic broke out. He helped to stem the epidemic and subsequently recommended a medical monitoring service for the port. This led to the establishment of a port physician and a new job for Nocht in 1893, where he made use of the opportunities to observe what were perceived as strange diseases, possibly originating in the tropics. For instance, at that time, about 500 ships per year visited the port, carrying around 15,000 seamen, of which up to a ninth were ill with malaria. Nocht's institute had the task to educate tropical surgeons, and to study and treat exotic diseases. It was the only institution in Germany operating concurrently with Koch's Institute.

When the Imperial Public Health Department wanted to print a new edition of *Instructions for Health Care on Board of Merchant Ships*, Nocht was asked to update the first edition. One paragraph dealt with beriberi, which mostly affected Chinese or Japanese seamen sailing in the tropics, but seldom affected European crewmembers.⁹ The book recommended that seamen should not be given only rice, fish, and tea, but also served fat, meat, and vegetables in sufficient quantities. The treatment recommended for beriberi included the intake of preserved meat, fresh bread, and soups with peas or beans. In 1900, when the German nautical journal *Hansa* published some results of the Maritime Board's research on beriberi cases on board German ships during long voyages, the disease's origin was identified as a contagion through human contact, nutrition, drinking water, and so on.¹⁰ These cases were cured after eating fresh vegetables at the first stop in a port. This led to Nocht's assumption that it would be a good prevention to serve fresh food as often as possible. However, the origin of beriberi remained unclear.

When beriberi occurred on the sub-Antarctic Island of Kerguelen in 1901 during the first German South Polar Expedition, it could have influenced the discussion. At the time, however, the analyses of these cases were not published before 1914. These case studies supported the actual and final conclusion that beriberi was a nutritional disease caused by vitamin B₁ (thiamine) deficiency and not by infection.¹¹ While these beriberi cases were discussed partially in a recent paper on polar anemia, they deserve a much closer look through the lens of the contemporary medical knowledge in Germany, the authority of people and institutions to disseminate the knowledge and a potential cure, as well as the scientific tug-of-war between two generations of physicians and the subsequent paradigm shift in the scientific understanding of the disease.¹²

LITTLE INTERNATIONAL POLAR YEAR IN ANTARCTICA (1901–1903)

At the end of the nineteenth century, the international geographical community aimed to investigate the proverbial last blank spot on the globe, sending out expeditions to explore the remaining unknown regions around the South Pole. Was it a continent covered by ice or an ice-covered ocean like the Arctic, surrounded by islands along the South Polar Circle?¹³ During a “little International Polar Year” in Antarctica (1901–1903), four expeditions sailed south to take coordinated meteorological and magnetic measurements according to the same instructions given during the first International Polar Year in the Arctic of 1882–1883. In addition to these Antarctic expeditions, research bases were established in a region close to Antarctica, but not directly influenced by it. While the British expedition (1901–1904) under the leadership of the naval officer Robert Falcon Scott (1868–1912) established a base station at Lyttleton (New Zealand) and continued to Victoria Land at the Ross Sea, the German South Polar Expedition (1901–1903), under the leadership of the geographer Erich von Drygalski (1865–1949) aimed to set up their base station on Kerguelen and to enter the Antarctic region from the southern Indian Ocean at 90° E. The Swedish expedition under the leadership of the geologist Otto Nordenskjöld (1869–1928) set up a base station on Staten Island (Argentina) and overwintered on the Antarctic Peninsula. Finally, the Scottish surgeon and natural scientist William Speirs Bruce (1867–1921) linked a research base at Cape Pembroke on the Falkland Islands to his expedition to the eastern Weddell Sea. Additionally, the French physician Jean Charcot (1867–1936) prepared a rescue expedition for Nordenskjöld, whose ship was crushed by sea-ice in the Weddell Sea, which Charcot turned into a scientific expedition (1903–1905), when he learnt that Nordenskjöld’s expedition was already saved.¹⁴

NUTRITION OF THE FIRST GERMAN SOUTH POLAR EXPEDITION

Those sailing expeditions had to prepare for long distances and long time periods spent on board. They had to plan for living arrangements in an unknown and harsh environment in an extreme climate, including having the right equipment for traveling on ice and snow, appropriate clothing and, of course, a nutritious diet. The expedition leader or the person

responsible for food (mostly the surgeon) needed to provide sufficient food supplies, both for overwintering, plus another extra year as a safety precaution. If the person responsible had no polar experience, he had to rely on the precedent set by previous expeditions. Hans Gazert (1870–1961), surgeon of the planned first German South Polar Expedition, took his information from travel accounts of the Second German North Polar Expedition to East Greenland (1869–1870), John Ross' Arctic expedition (1829–1833), Adolf Eric Nordenskiöld's Northeast Passage (1878–1880), and especially Adolphus Washington Greely's expedition to Ellesmere Island (1881–1884) during the International Polar Year of 1882–1883.¹⁵ Gazert calculated each type of food used for breakfast, lunch, and dinner on a daily, and also, weekly basis, and expanded it for one and two years for all expeditions members on the expedition ship *Gauss*.

Gazert also took scurvy into account, ordering 70 kg sauerkraut, 114 kg various dried fruits, 25 kg lemon juice, 29 kg other fruit juices, as well as 2 $\frac{3}{4}$ kg lemon candies and 1 kg citric acid.¹⁶ They also had 65 kg of fresh fruit and planned to buy more at each stop in a harbor. At the time, the conservation of fresh goods was difficult, and most of the fruit had to be eaten before the ship arrived at its final destination in the south. For the station on Kerguelen, Gazert ordered 4 $\frac{1}{2}$ kg various dried fruits, as well as $\frac{1}{2}$ kg lemon candies and $\frac{1}{2}$ kg citric acid for the five station members. Gazert did not include a supply of sauerkraut, nor lemon juice or other fruit juices, because he knew that the only large plants of the archipelago, Kerguelen cabbage, had an anti-scorbutic effect. Drygalski also had a good deal of polar experience based on his expedition to Greenland in 1892–1893, where he investigated the movement of inland ice and local glaciers, relying on help from Greenlanders in terms of hunting, fishing, and traveling. He was aware of the importance of eating fresh meat, even though he lacked a medical background.

ESTABLISHMENT OF A GERMAN BASE STATION ON KERGUELEN

Kerguelen is an archipelago in the Southern Indian Ocean, discovered by the Frenchman Yves-Joseph de Kerguelen-Trémarec (1734–1797) in 1772. De Kerguelen-Trémarec took possession of the archipelago on behalf of France. The island was visited by James Cook (1728–1779) in 1876 and by James Clark Ross (1800–1862) in 1840. Ross remained there for some time to conduct scientific investigations. On December 9, 1874,

American, British, and German scientists observed the transit of Venus at different locations on the main island. Kerguelen's later visitors included whalers, sealers, and shipwrecked persons. Other than the temporary settlement by scientists and whalers during summer, the islands were uninhabited. In 1893, France formally occupied the Kerguelen Archipelago.

Only a few installations from the transit of Venus expeditions survived, which meant that for any overwintering expedition, all equipment, including houses, had to be transported to that isolated place. The support ship *Tanglin* with the physicist Karl Luyken (1874–1947), the meteorologist and station leader Josef Enzensperger (1873–1903), and seaman Georg Wienke as assistant arrived at Observatory Bay on Kerguelen on November 9, 1901 to set up a meteorological and magnetic base station for the main expedition.¹⁷ The Chinese seamen were supposed to help build the living quarters and the magnetic observatories. Soon it became clear that they were too weak to be of any help due to a disease called beriberi, which already claimed two lives on the journey (the names and histories of these victims seem to have been of little interest to the German expedition). On December 21, 1901 *Tanglin* left Kerguelen, while the main expedition on board *Gauss* arrived at Observatory Bay on January 2, 1902 with the assistant Josef Urbansky and Emil Werth (1869–1958), a pharmacist, who was in charge of biology and medical care.¹⁸ The carpenter and seamen of *Gauss* helped to finish the buildings. When *Gauss* left on January 31, 1902, five men were left alone at Kerguelen and prepared to stay for a year until they would be picked up again.

BERIBERI CASES AT KERGUELEN: AN UNINTENTIONAL EXPERIMENT

Tanglin was a steamer of the East-Asian Coastal Line of North Germany's Lloyd (Ostasiatische Küstenlinie des Norddeutschen Lloyd) and chartered by the German Reich to transport the equipment to Kerguelen.¹⁹ Usually it operated in East Asia, with German officers and a crew of 40 Chinese seamen. Tough laboring conditions in the southern Indian Ocean, cold weather and poor clothing weakened the ordinary seamen, who were ill provided for compared to the German officers. Usually eight to ten seamen were ill with beriberi, while the others had little energy, and were unable to work on land. Excavations for the dwelling house and observatories, their construction and furnishing had to be undertaken by the German station members and the German carpenter of *Tanglin*. In the

end, two Chinese stokers died on November 15 and December 15, 1901. The stokers were buried on Kerguelen a certain distance from the base station. Again, their names and origins were of unimportant to the members of the expedition. Two more died after the *Tanglin*'s departure from Kerguelen.²⁰ Drygalski was curious as to why the Chinese seamen were too weak to work and why they lacked resistance to the cold and stormy climate at Kerguelen, since this belied their reputation as tough workers.²¹ It was a special case where a tropical disease was brought to the sub-Antarctic, to an uninhabited area surrounded by the ocean, and exposed to an extreme windy and cold climate. But even though the environment was not tropical, imperial perceptions about environmental determinism and race, which pathologized Asian bodies, was brought into this island environment. Kerguelen became an ideal laboratory serving as a control for an unintentional experiment.

Twelve days after *Tanglin* left Kerguelen, the main expedition on *Gauss* brought Werth, the pharmacist and the second assistant, Urbansky to the island. The surgeon of the expedition, Gazert, stayed at the dwelling house for three weeks and helped to install the meteorological station.²² In addition to being the medic, he was also in charge of bacteriological investigations of ocean water in cold regions.²³ On August 1, 1902, Werth showed the first symptoms of illness.²⁴ He became weak, short of breath, and his feet and body swelled. He diagnosed the symptoms as resulting from beriberi. However, at the end of August, he began to recover slowly. In February 1903, Werth complained of increasing heart trouble, which decreased, but came back strongly, together with depression, towards the end of March, when the station was finally relieved on March 31 by the steamer *Straßburg*. On board he immediately was treated with good food and the cardiac drug digitalis, which ran out on Kerguelen. It brought his heart palpitations to an end and reduced pulse fluctuations. However, he only recovered slowly when he stayed at a hospital in Sydney, before he was able to return to Germany in 1904.

Station leader Enzensperger suffered a more unfortunate fate. From October 12 onward, he became weak and ill, but kept the symptoms secret. Nevertheless, everyone suspected that something was wrong with him, since he stopped drinking beer and smoking cigars and his heart started pounding at night. Only on November 14 did he admit to experiencing the symptoms of beriberi, developing swollen feet. Luyken thought that it was an ironic fate, "that the Antarctic pure and fresh air of the Island, which even did not allow a harmless cold to appear, must have been infected by

germs of such an unknown and for them so horrible tropical disease.”²⁵ His comment echoed the re-emergence of environmental determinism at the time. In its simplified form, environmental determinism entailed the European perception that colder, temperate latitudes induced superiority—and an environment that white Europeans could control. The tropical regions, in contrast, were believed to be a discrete space: degenerate, physically, and morally unhealthy and resisting European settlement.²⁶

From December 15, Enzensperger stayed in bed permanently and Luyken had to take over his meteorological observations. Due to the storage of water in his body, Enzensperger had to change his position in bed every 30 minutes, which prevented him from sleeping well. Werth tried to treat him with a special diet, laxatives, and sweating procedures to reduce the water in his body, which did not help. Since the middle of January, Enzensperger’s body became so weak that the outlook for a recovery disappeared and his colleagues hoped that he at least would survive until the ship arrived to pick them up. They also knew that fresh food was essential and so they daily served cooked meat from rabbits and ducks, together with stewed fruit, green vegetables, rice, and other easily digestible food, which Luyken called unbalanced. However, Enzensperger’s decline continued unabated. Finally he died at the age of 30 years on February 2, 1903. There was no explanation as to why Enzensperger died but Werth did not, despite becoming ill first.

Drygalski summarized all explanations in his travel account. Beriberi might have been caused by rice serving as a vector and bought from the *Tanglin*.²⁷ However, not all members became ill and in cooked rice, all germs should have been killed. It seemed to be much more probable that the timber of the accommodation hut was infected during its transport on the *Tanglin*. This idea was supported by the prevailing assumption that an infection may be also caused indirectly by germs transmitted to the accommodation (air, tapestry, floors).²⁸ Nevertheless, only two men became ill and one of them was physically the strongest member of the team. Another possibility was germs in the drinking water, which had been detected as a carrier of cholera in Munich in 1854 by Max von Pettenkofer (1818–1901). However, once again the question was left open as to why not all station members fell ill from the drinking water sourced at a nearby lake.

Robert Koch was an expert of experimental laboratory medicine on the basis of bacteriology, through combining practical work at the clinic with experiments in a laboratory.²⁹ Additionally, he partook in several expedi-

tions to Africa, India, and other parts of the world to investigate various tropical diseases such as cholera, pest, malaria, or sleeping sickness on the spot where these deadly epidemics occurred. Doing so, he changed from a European type of clinical laboratory to a tropical laboratory in nature, where he investigated tsetse flies and other carriers of communicable diseases.

The beriberi cases of the first German South Polar Expedition were exceptional, because in this case, a tropical disease was present in the sub-Antarctic. They served as a case study in a perfect laboratory experiment, taking place in an extreme environment of a usually uninhabited island. The climate was rough with low absolute humidity, cold temperatures coupled with strong winds resulted in a high wind chill,³⁰ and station members were totally isolated with no communication to the outside world. The baseline conditions were rather simple. We know exactly which food was used by the Kerguelen group of five people exposed to the experiment and by the control group of 32 men aboard *Gauss* trapped by pack ice 80 km off the Antarctic coast. The chronology of the experiment is traceable through published and unpublished diaries, letters, and reports. With this information, we can survey the contributing factors, the unintentional experiments, and the outcomes after a year under defined conditions.

PAPERS ON BERIBERI IN THE EARLY TWENTIETH CENTURY

In Hamburg, Nocht observed an increase of beriberi cases on ships, from eight or nine each year at the beginning of his job as port physician to thirteen per year in the period 1895–1902.³¹ After ten years, he summarized his experiences in a paper on “Sailing Ship Beriberi,” which was mostly of the *alimentary polyneuritis* type.³² In preceding years, beriberi had become a threat mostly on Norwegian ships followed by German ships, both sailing with European crews. Nocht distinguished two forms of beriberi originating from the toxic effects of bad vegetable or animal nutrition: the “real” Asian beriberi caused by bad rice and the European sailing ship beriberi caused by bad canned meat. He described the fate of 33 ship crews of the period between 1890 and 1903.³³ Out of 486 crew members in total, 225 became ill by beriberi (46%), including 12 captains, (36% of all captains), while 9% of the crew died, including 10 captains, (30% of all captains). Nocht observed that this kind of sailing ship beriberi was cured within eight to fourteen days when fresh food, especially fresh vegetables, were available at the next port or from another ship during the voyage.

In contrast, “real” beriberi was only found among crews of Japanese, Chinese, and Indian descent, who were employed on European ships sailing in East Asia. Recovery from this type of beriberi took a long time. Sailing ship beriberi seemed to affect all crew members, regardless of ethnicity. Nocht explained that “real” beriberi occurred when the Asian crews fed themselves. Often, the front man for the Asian crew received a fixed amount of money for the crew’s provision, which was prepared and served separately from the food of the European crew, which was supplied by the shipping company, and likely with much better resources than their Asian counterparts. Both groups used the same drinking water. “Real” beriberi was connected to the regions where it was endemic, while sailing ship beriberi could occur anywhere and depended on the duration of the voyage. Sometimes ships did not call in port for three to four months at a time, and when fresh provisions were expensive, like at the west coast of Central America, crews saved money by continuing to live on seamen’s food, a provision which kept for a long time consisting of flour, peas and beans, and salted meat. Sometimes these ships had to wait for favorable winds at Cape Horn, before they could return home with a long delay.

A Norwegian Commission was set up to investigate beriberi on Norwegian ships, where the disease had been recorded since 1890. The commission noted an increased occurrence of beriberi where dietary supplies consisted of canned food and freshly baked bread. Very often bacteria in canned meat led to the development of toxins. Moreover, only few cooks understood how to bake good bread and the flour used often became wet and moldy. On most Norwegian ships, the captain, officers, and crew became ill with beriberi at the same time because the same cook prepared the same food for everyone. However, the captain and his officers usually received more canned food and daily baked fresh bread. Nocht was far from explaining the origin of beriberi, but he was convinced that sailing ship beriberi was a nutrition-based disease, closely related to scurvy. He argued that captains should forget the “nightmare of the infectious nature of beriberi”³⁴ and rather supply as much fresh provisions as possible.

Upon the return of the German South Polar Expedition, Gazert stayed in Berlin to analyze the medical data of the expedition and to publish a preliminary health report of the expedition soon after.³⁵ In the following year, he received the medical report of the physician of the Swedish Antarctic Expedition, Erik Ekelöf (1875–1936) that, in addition to his handwritten dedication, contained a second report on poisoning through

contaminated canned food used in Antarctica.³⁶ Ekelöf summarized that beriberi is an intoxication caused by canned protein-containing animal food, which already carried the scurvy toxin, which he interpreted as a chemical base for the beriberi toxin.³⁷ New results had shown that beriberi and scurvy were related to each other. Ekelöf also mentioned the beriberi cases on Kerguelen to underline the world-wide distribution of the disease.

Gazert was not able to focus on the research because his new job at the Imperial Public Health Department in Berlin took all his time.³⁸ Finally in 1907, he found a permanent job and moved to Partenkirchen in Upper Bavaria to become chief physician at the local hospital. The report on provisions and nutrition, which he nearly had finished in Berlin, was not printed before 1908. It was obvious that a good state of health was connected to ample and fresh food, while a deficiency of fresh food mostly resulted in scurvy.³⁹ In polar regions, polar animals were the main sources of fresh food. Gazert was not sure whether or not there was a correlation between nutrition and the chronic-hydropic type of beriberi of Enzensperger and Werth. The analysis of the medical experiences of the German South Polar Expedition still had to wait, since Gazert had to pursue this research during his holidays, with the publication only ready in 1914.

RESEARCH OF THE YOUNGER GENERATION

The time gap between Gazert's first report of 1908, and his medical analysis of 1914 proved crucial for the development of a theory to explain the origin of beriberi. In 1906, Nocht prompted Heinrich Schaumann to investigate the origin of beriberi as a freelancer at Nocht's Institute in Hamburg,⁴⁰ treating animals with provisions from ships where sailing ship beriberi occurred.⁴¹ Nothing similar happened in Berlin at that time. Koch retired from his directorship of the Institute for Infectious Diseases in 1904 as leading bacteriologist and main supporter of the infection theory.⁴² In 1905, he received the Nobel Prize for medicine, based on his tuberculosis research. Afterwards, he left Berlin for an eighteen-month long research expedition to East Africa to investigate sleeping sickness. Finally, he fulfilled his youthful dream to go on a world round trip, which ended with his participation in the Sixth International Congress on Tuberculosis in Washington DC early October 1908, before he returned to Berlin at the end of the month.⁴³

Before the International Congress on Tuberculosis, Koch stayed in Japan for more than two months, arriving on June 1908, where he visited his best student Shibasaburo Kitasato (1853–1931). Kitasato had come to Berlin in 1886 and first worked in Koch's institute at the university, moving on to the newly founded Institute for Infection Diseases in 1892.⁴⁴ Koch also met the army doctor, Mori Ogai (1862–1922), who studied with Koch and Kitasato in Berlin in 1887–1888.⁴⁵ When they all met they discussed the important and still unsolved problem of beriberi in Japan. Koch convinced them that it was a contagious disease, but might be different than the Japanese version called “kakke” and advised an expedition to study beriberi in Southeast Asia. Following the meeting in Japan, Koch remembered the beriberi cases at Kerguelen and asked the head of the expedition bureau in Berlin, the biologist Ernst Vanhöffen (1858–1918), “rather arrogantly,” as Drygalski called it, for the German material.⁴⁶ Vanhöffen was to go to the Institute of Infectious Diseases on short notice to be introduced to Koch and to report on the Kerguelen cases. But Vanhöffen declined to go, following Drygalski's instructions that all communication had to pass through Gazert. Drygalski advised Gazert immediately to refuse any demands for the material in the interest of the expedition, and to inform Werth accordingly.⁴⁷ Drygalski acknowledged that Koch was a “mighty man,” but added that Koch deserved no kindness from them. Besides, Drygalski was skeptical about Koch's objectivity.⁴⁸ As a result, Gazert wrote to Werth that the beriberi case was part of his own work on the expedition and that he already invested much time in it.⁴⁹ Moreover, he did not want to be pushed in a corner by the known scholar.

A month later, Koch's former student Claus Schilling (1871–1946), who served as head of the department for tropical medicine at Koch's institute since 1905, asked Gazert in a kind letter to send him his manuscript on beriberi for his book on “Tropical Hygiene” before the first of March. He flattered Gazert: “The aetiology of the mysterious disease will possibly now experience a decisive addition by the communication of both cases from Kerguelen.”⁵⁰ At the end of his letter, Schilling made clear that these cases would serve to support Koch's infection theory. Gazert sent him some general information, and Schilling thanked him for his obligingness.⁵¹

In the same letter with the letterhead of the Institute of Infectious Diseases, Schilling asked for Werth's and Luyken's addresses and added a list of 14 more detailed questions about the hygienic circumstances at

Kerguelen. He would need Gazert's answers to decide whether Werth and Enzensperger became ill by infectious or by alimentary beriberi. However, Schilling's opinion did not change. On the same day, he also thanked Drygalski for his information and informed him that his and Gazert's details supported the conclusion that the illness was not due to feeding or poor quality of nutrition.⁵²

Two months later, Schilling contacted Gazert again and sent him galley proofs of his chapter on beriberi for potential corrections.⁵³ In the meantime, Schilling had discussed all details with Luyken and Werth and his final analysis indicated that Werth and Enzensperger were infected by Chinese ill with beriberi. Why Werth became ill first was still unclear. Schilling blamed personal disposition to disease. Then he mentioned that Koch was very interested in these cases and urged Gazert to publish his analysis as soon as possible. He wondered what caused the publication's delay. He even offered to help with his own knowledge of the literature—which would likely have been filtered to support the infection theory. Two days later, Werth reported to Gazert that he refused to meet Schilling in March due to a bad bout of influenza.⁵⁴ But after Schilling's meeting with Luyken in April, he accepted Schilling's invitation. Both went to Koch together, whom Werth knew personally from his time in East Africa in 1888, where Koch investigated malaria. Koch was well informed about the Kerguelen cases and he was of the opinion that: “[i]n no other case you could say with such a certainty that it was a genuine infectious beriberi.”⁵⁵ After the review of the galley proofs, Gazert thanked Schilling for his collegial restraint when writing about the Kerguelen cases.⁵⁶ Gazert also thought that they were a valuable contribution to infection theory, but when he came across Nocht's paper, amongst others, about sailing ship beriberi, he became more doubtful about Koch's theory. On May 25, 1909, Gazert reported to Drygalski that the Kerguelen material has been partly handled.⁵⁷ In a second private letter of the same day he told Drygalski that Schilling called the beriberi cases an experiment and he, as well as Koch, attributed them considerable evidential value in favor of infection theory.⁵⁸ Schilling definitely excluded poor nutrition as a cause. Mice and cockroaches were referred to as possible vectors.⁵⁹

NEW EXPERIMENTS

Several papers dealing with beriberi were published in *Beihefte zum Archiv für Schiffs- und Tropenhygiene* (Supplements of Archive for Ship and Tropical Hygiene). In 1908, Nocht was first to pronounce that polished

rice might lack a vital substance.⁶⁰ In the same year, Schaumann presented preliminary results of his experiments at Nocht's institute at the first conference of the German Society of Tropical Medicine.⁶¹ He said that scurvy, and possibly also beriberi, were metabolic deficiencies caused by a poor supply of organic bound phosphorus.⁶² In 1910, Schaumann published his results on the etiology of beriberi taking into account the full phosphorus balance, which showed that beriberi must be a nutrition-related disease appearing as a result of a shortage of organic phosphorus in polished or uncured rice. The silver husk of cured rice contained five times more phosphorus than white uncured rice, and people who ate it stayed healthy.⁶³ During the fourth conference of the society, which took place at Dresden at the same time as the International Hygienic Exhibition (September 17–20, 1911), Schaumann gave a talk about his experiments with animals at polyneuritis, which stressed his earlier findings that beriberi was a metabolic disease caused by a deficiency of a certain, but still undefined, phosphorus combination.⁶⁴ He excluded toxins or infection as causes of beriberi. At the end of his talk, he emphasized that priority rights to the phosphorus theory lay with him and the institute in Hamburg.⁶⁵ The following morning, Schauman illustrated his talk with slides, as well as a live experiment, in which he took an exhausted, seemingly dead dove the evening before and cured it a half day later with 1 gram "Phosphatid" as antidote, which he had extracted from rice bran.⁶⁶ Although new ideas had been developing until 1914, Schauman insisted that phosphorous metabolism played a key role.⁶⁷

The conferences of the German Society of Tropical Medicine were also a site for an exchange of ideas with scholars from Japan, the leading country in beriberi research.⁶⁸ During the fifth conference at Hamburg in 1912, army doctor Jinnosuke Tsuzuki (1869–1933) spoke about his anti-beriberi therapy.⁶⁹ Two years previously, he had left the Japanese Beriberi Research Council, which was a strong supporter of the infection theory, and founded a private Beriberi Research Institute to conduct independent nutritional studies.⁷⁰ Without being aware of Schaumann's experiments, he also investigated rice bran and extracted a special substance called "Anti-beriberi" as antidote. Finally in 1913, Casimir Funk (1884–1967) of the Cancer Research Institute in London published about his discovery of a phosphorus-free beriberi vitamin (today called B₁), which helped counter "vitamin deficiency" as he called the effect.⁷¹

Not knowing of Funk's experiments, Schilling prompted Max Moszkowsky (1873–1939), a certified physician in Berlin, to conduct an experiment on himself, while Wilhelm Caspary (1872–1944) of the

Institute of Animal Physiology at the Royal Agricultural College, investigated Moszkowsky's metabolism.⁷² For 138 days, Moszkowsky lived on a low protein diet and polished rice. When he could not withstand his weakness any longer, he was cured by eating rice bran. Caspary and Moszkowsky explained the origin of beriberi, not only with reference to a missing component as Funk did, but also by pointing towards a toxic component resulting from the massive decay of protein. Their interpretation supported Ekelöf's theory of poisoning through food. At that time, Koch's infection theory receded into the background.

ANALYSIS OF THE KERGUELEN CASES

Gazert asked a colleague from Augsburg, Otto Renner (1879–1954), to support him with the analysis of the beriberi cases since the publication would otherwise have been delayed even more.⁷³ Drawing on the results of the recent beriberi experiments, their analysis of the Kerguelen cases contradicted Koch's infection theory. In their analysis, they found a connection between beriberi and deficient nutrition, which was characterized by a shortage of fresh food.⁷⁴ They realized that fresh meat was best against scurvy and beriberi as well, but the reason why was unknown. Consequently, Gazert speculated that the ill person was disposed to the disease and subsequently, interpreted beriberi as a metabolic disease. Finally, they concurred with Funk that beriberi was caused by a vitamin deficiency. Later research would prove that the B₁ vitamin is provided in unpolished cereals, yeast, peas and beans, liver, and meat.⁷⁵

Since the Chinese seamen's diet consisted mainly of peeled rice they were predisposed to beriberi. But why did Enzensperger die? Gazert pointed out that Enzensperger, whom he also knew personally through the Academic Alpine Club in Munich, was a fit mountaineer.⁷⁶ After finishing his university studies in 1900, Enzensperger was appointed as assistant of the Royal Bavarian Central Meteorological Station in Munich, with his first posting to the recently established meteorological station on top of the highest peak in Germany, the Zugspitze (2962 m high). With only his dog Putz for company, Enzensperger spent seven months there, living on canned food only. According to his diary, the variety of food changed as the overwintering period proceeded. On March 3, 1901, for instance, he had two cigarettes, a ham pancake, (one egg) cranberry, one can of meat and rice, one pipe, one soda, one box of sponge cake, while six weeks later on May 13th, he had ten cigarettes, one pipe, one Soda, a ham leg, one

white bread, consommé, one bottle sparkling water, and one can of green peas.⁷⁷

Enzensperger left the Zugspitze only one month before his departure to Kerguelen, and his already low level of vitamins was not replenished before or during the journey to Kerguelen. Moreover, Werth's treatment with laxatives and sweating procedures weakened Enzensperger even further. Werth, who had no medical background, did not know any better, relying on his pharmacologic and biological background.

In 1914, Gazert could explain Enzensperger's death quite well, but he had difficulties with Werth's illness. From 1896 to 1899, Werth worked and traveled in East Africa and graduated in 1900 in Berlin.⁷⁸ Perhaps he did not feed himself properly, relying solely on canned food. If he had beriberi, he might have recovered much sooner if he could have taken in sufficient quantities of fresh meat, liver, eggs, or dairy products containing vitamin B₁, but whether he did can only be speculated. Gazert could only find time for his interpretation of the Kerguelen ten years after the expedition's return, and shortly before he completed his analysis, the link between beriberi and vitamin deficiency was discovered.

The scientists who survived at the base station on Kerguelen, Luyken and Werth, remained convinced that beriberi was introduced to Kerguelen by infected Chinese seamen, with mice and cockroaches as vectors.⁷⁹ Their conviction could perhaps be explained by the authoritative influence exercised by Schilling, Koch's former student, whom they met personally. In their view, the diet of the Chinese seamen differed so much from the German station member's diet that infection was the only explanation for beriberi. Werth corresponded with the editor of the expedition results, Drygalski, over a period of two months to arrange for a publication of their statement, which the expedition leader admitted only after Gazert's review was published.⁸⁰

FINAL CONSIDERATIONS

Funk described the origin of beriberi as a particular problem of colonialism.⁸¹ Before European colonialism, beriberi only rarely occurred in rice-eating countries, but it spread very quickly as new mechanized means of polishing rice were introduced and adopted. Usually the local people used hand mills to polish rice, which still left parts of the silver husk on the rice corn. When Europeans introduced machines, the husks were completely removed. White rice reached a better price on the market for human con-

sumption, whereas rice bran sold well as animal feed. White rice was also considered culturally superior.⁸² As mechanized means of polishing rice spread, so did beriberi. Eijkman was first to point to the curing effect of rice bran.⁸³ Then Schaumann's idea of a metabolic disorder caused by organic phosphorus deficiency dominated the etiology of beriberi through the last years. Only the chemical investigation of the nature of the curing substances led to the discovery of vitamin B. Funk complained that even in 1914, there were still supporters of the infection theory and the new results were accepted only very slowly. It "will take some time, until they will finally have overcome the natural lethargy of the human brain."⁸⁴ In other words, Funk was arguing for a paradigm shift.

The case is also illustrative of the power authoritative figures in science held. Historian Alexander R. Bay described how "bonds of personal attachment tied Japanese students to their professors" and how "they maintained feudal-like allegiances to the ideas of their professors."⁸⁵ This bond was probably newly strengthened on the occasion of Koch's meeting with his students in Japan in 1908. Similarly Koch's power of authority as a Nobel prizewinner and head of his Institute likely influenced his younger colleague Schilling to support the infection theory as explanation for beriberi. The "thought collective" created by Koch's teaching and supervision resulted in "shared scientific beliefs" or "thought style" "determining the approach to a certain problem," not only in Germany, but also in Japan.⁸⁶ Even beyond his death, Koch's reputation blocked the development of new ideas and theories among the younger generation of scientists.⁸⁷ It is no wonder that Schilling convinced the surviving scientists of the Kerguelen station of the infection theory, although no direct transmission was observed.

Koch did not influence Gazert to the same extent, since Gazert was working far away from Berlin and because he could only publish what turned out to be the accurate explanation for the Kerguelen case when decisive findings had been published in the intervening years. Finally the "little polar doctor" as Gazert called himself,⁸⁸ could settle the controversy with Schilling in his own favor through challenging the authority with actual evidence.⁸⁹

NOTES

1. Present day Indonesia (Dutch East Indies); Caribbean Netherlands, Curacao and Sint Maarten (Dutch West Indies, previously also known as the Netherlands Antilles).

2. Christiaan Eijkman, "Eine Beri Beri-ähnliche Krankheit der Hühner," *Vichows Archiv* 148, no. 3 (1897): 523–32; Christiaan Eijkman, "Antineuritic Vitamin and Beriberi," (Nobel Lecture, Stockholm, 1929), http://www.nobelprize.org/nobel_prizes/medicine/laureates/1929/eijkman-lecture.html (Accessed March 13, 2014).
3. Eijkman, "Eine Beri Beri-ähnliche Krankheit der Hühner," 532.
4. Christiaan Eijkman, "Ein Versuch zur Bekämpfung der Beri-Beri," *Vichows Archiv* 149, no. 1 (1879): 187–94; Eijkman, "Antineuritic Vitamin and Beriberi."
5. Eijkman, "Ein Versuch zur Bekämpfung der Beri-Beri," 190, 194.
6. Eijkman, "Antineuritic Vitamin and Beriberi."
7. Eijkman, "Ein Versuch zur Bekämpfung der Beri-Beri," 193.
8. Erich Mannweiler, *Geschichte des Instituts für Schiffs- und Tropenkrankheiten in Hamburg, 1899–1945*, Abhandlungen des Naturwissenschaftlichen Vereins in Hamburg (Kettern-Weiler: Goedcke & Evers, 1998), 13, 18, 25, 213, 230–231; Bernhard Nocht, "Das neue Institut für Schiffs- und Tropenkrankheiten," in Festschrift zur Eröffnung des neuen Instituts für Schiffs- und Tropenkrankheiten zu Hamburg am 28. Mai 1914, *Beihefte zum Archiv für Schiffs- und Tropenhygiene* 18, no. 5 (1914):24.
9. Bernhard Nocht, *Anleitung zur Gesundheitspflege an Bord von Kauffartheischiffen*, 2. abgeänderte Auflage (Berlin: Julius Springer, 1899), 73–75.
10. Bernhard Nocht, "Ueber Segelschiff-Beriberi," in *Festschrift zum sechzigsten Geburtstage von Robert Koch von seinen dankbaren Schülern* (Jena: Gustav Fischer, 1903), 203–204.
11. Hans Gazert and Otto Renner, "Die Beriberifälle auf Kerguelen," in *Deutsche Südpolar-Expedition 1901–1903 im Auftrage des Reichsamtes des Innern*, ed. Erich von Drygalski, vol. VII, 4 (Berlin: Verlag Georg Reimer, 1914), 353–86.
12. H.R. Guly, "'Polar Anaemia': Cardiac Failure during the Heroic Age of Antarctic Exploration," *Polar Record* 48, no. 02 (April 2012): 157–64, doi:[10.1017/S0032247411000222](https://doi.org/10.1017/S0032247411000222).
13. Cornelia Lüdecke, "Scientific Collaboration in Antarctica (1901–1903): A Challenge in Times of Political Rivalry," *Polar Record* 39, no. 208 (2003): 25–48.
14. Jean Charcot, *Towards the South Pole Aboard the Français : The First French Expedition to the Antarctic, 1903–1905* (Huntingdon: Bluntisham Books and Erskine Press, 2004).
15. Hans Gazert, "Speech on the Occasion of the 50th Anniversary of the Meteorological Observatory on Top of the Zugspitze," July 1950, Gazert's Estate (private), Partenkirchen.
16. "Rechnung," July 17, 1901, Box 86, Item 4, Institute for Regional Geography, Leipzig.
17. Johann Josef Enzensperger, "Die Kerguelen-Station. Bericht über die Reise der Mitglieder und die Begründung der Station," *Veröffentlichungen des Instituts für Meereskunde und des Geographischen Instituts an der Universität in Berlin, Terra Marique* 1 (1902): 101–8; Erich von

Drygalski, "Aufenthalt auf den Kerguelen-Inseln," *Veröffentlichungen des Instituts für Meereskunde und des Geographischen Instituts an der Universität in Berlin, Terra Marique* 1 (1902): 19–21.

18. Erich von Drygalski, *Zum Kontinent des eisigen Südens. Die erste deutsche Südpolarexpedition 1901–1903* (Berlin: Verlag Georg Reimer, 1904); Erich von Drygalski, *The Southern Ice-Continent: The German South Polar Expedition Aboard the Gauss 1901–1903* (Norfolk: Bluntisham Books and Erskine Press, 1989); Erich von Drygalski, *Zum Kontinent des eisigen Südens. Die erste deutsche Südpolarexpedition 1901–1903*, ed. Cornelia Lüdecke, (Wiesbaden: Edition Erdmann, Marix Verlag, 2013).

19. Enzensperger, "Die Kerguelen-Station. Bericht über die Reise der Mitglieder und die Begründung der Station"; Johann Josef Enzensperger, *Josef Enzensperger. Ein Bergsteigerleben. Reisebriefe und Kerguelen-Tagebuch*, ed. Akademischer Alpenverein München (Munich: Kommissionsverlag der Vereinigten Kunstanstalten A.-G., 1905 posthum), 224.

20. Newspaper Clip, Sydney: "Deutsche Südpolar-Expedition," January 14, 1902.

21. Drygalski, "Aufenthalt auf den Kerguelen-Inseln," 21.

22. Gazert, "Speech on Zugspitze."

23. This was a new area of research, triggered by Victor Hensen's (1835–1924) famous Plankton Expedition of 1889. Gazert took some water samples from Observation Bay and Royal Bay, where he found only less than 35 germs per cm³ while denitrifying as well as nitrite changing bacteria were totally absent. The bacteriological investigation of the area where the station was set up was not part of his research program. Hans Gazert, "Untersuchungen über Meeresbakterien und ihren Einfluß auf den Stoffwechsel im Meere," in *Deutsche Südpolar-Expedition 1901–1903 im Auftrage des Reichsamtes des Innern*, ed. Erich von Drygalski, vol. VII, 3 (Berlin: Verlag Georg Reimer, 1912): 255, 276.

24. Karl Luyken, "Allgemeiner Bericht über die Tätigkeit der Kerguelen-Station," *Veröffentlichungen des Instituts für Meereskunde und des Geographischen Instituts an der Universität in Berlin, Terra Marique* 5 (1903): 59–66; Gazert and Renner, "Die Beriberifälle auf Kerguelen," 376–377.

25. Luyken, "Allgemeiner Bericht über die Tätigkeit der Kerguelen-Station," 61.

26. Paul S. Sutter, "The Tropics: A Brief History of an Environmental Imaginary," in *The Oxford Handbook of Environmental History*, ed. Andrew C. Isenberg (Oxford; New York: Oxford University Press, 2014).

27. Drygalski, *Zum Kontinent des eisigen Südens. Die erste deutsche Südpolarexpedition 1901–1903*, 574–575; Drygalski, *The Southern Ice-Continent: The German South Polar Expedition Aboard the Gauss 1901–1903* (Norfolk: Bluntisham Books and Erskine Press, 1989), 325.

28. W. Prausnitz, *Grundzüge der Hygiene unter Berücksichtigung der Gesetzgebung des Deutschen Reichs und Österreichs*, 6. erweiterte und vermehrte Auflage (Munich: J.F. Lehmann's Verlag, 1902), 465.

29. Ragnhild Münch and Stefan S. Biel, "Expedition, Experiment und Expertise im Spiegel des Nachlasses von Robert Koch," *Sudhoffs Archiv* 82, no. 1 (1998): 1, 15.
30. Gazert and Renner, "Die Beriberifälle auf Kerguelen," 360.
31. Mannweiler, *Geschichte des Instituts für Schiffs- und Tropenkrankheiten in Hamburg, 1899–1945*, 12.
32. Nocht, "Ueber Segelschiff-Beriberi."
33. Ibid., 205–207; Walter A. Kozian, "Skorbut und Beriberi auf deutschen Schiffen im Spiegel der Seeamtsentscheidungen. Teil 2: Beriberi," *Deutsches Schifffahrtsarchiv* 23 (2000): 143–62; Mannweiler, *Geschichte des Instituts für Schiffs- und Tropenkrankheiten in Hamburg, 1899–1945*, 107.
34. Nocht, "Ueber Segelschiff-Beriberi," 218.
35. Hans Gazert, "Bericht über den äußeren Verlauf. III. Gesundheitsbericht," *Veröffentlichungen des Instituts für Meereskunde und des Geographischen Instituts an der Universität in Berlin, Terra Marique* 5 (1903): 46–54.
36. Erik Ekelöf, "Die Gesundheits- und Krankenpflege während der Schwedischen Südpolar-Expedition, Oktober 1901–Januar 1904," in *Wissenschaftliche Ergebnisse der Schwedischen Südpolar-Expedition 1901–1903*, vol. 3, 1 (Stockholm: Ethnographisches Institut des Generalstabs, 1904) In possession of the Gazert Estate (private), Partenkirchen; Erik Ekelöf, "Über 'Präserven-Krankheiten,'" in *Wissenschaftliche Ergebnisse der Schwedischen Südpolar-Expedition 1901–1903*, vol. 4, 1 (Stockholm: Ethnographisches Institut des Generalstabs, 1904).
37. Ekelöf, "Über 'Präserven-Krankheiten,'" 22.
38. Hans Gazert, "Gazert to Schilling," May 10, 1909, Gazert's Estate (private), Partenkirchen.
39. Hans Gazert, "Proviant und Ernährung bei der Deutschen Südpolar-Expedition," in *Deutsche Südpolar-Expedition 1901–1903 im Auftrage des Reichsamtes des Innern*, ed. Erich von Drygalski, vol. VII, 4 (Berlin: Verlag Georg Reimer, 1908), 7–9.
40. Heinrich Schaumann, "Die Ätiologie der Beriberi unter Berücksichtigung des gesamten Phosphorstoffwechsels," *Beihete zum Archiv für Schiffs- und Tropenhygiene* 14, no. 8 (1910): 164.
41. Hans Gazert, "Ärztliche Erfahrungen und Studien auf der Deutschen Südpolar-Expedition," in *Deutsche Südpolar-Expedition 1901–1903 im Auftrage des Reichsamtes des Innern*, ed. Erich von Drygalski, vol. VII, 4 (Berlin: Verlag Georg Reimer, 1914), 322; Mannweiler, *Geschichte des Instituts für Schiffs- und Tropenkrankheiten in Hamburg, 1899–1945*, 107–108.
42. Arthur Ignatius, *Robert Koch. Leben und Forschung* (Stuttgart: Franckh'sche Verlagsbuchhandlung, 1965), 69–70, 75–80.
43. "Robert Koch," *Robert Koch Institut*, April 26, 2012, http://www.rki.de/DE/Content/Institut/Geschichte/robert_koch_node.html (Accessed March 5, 2014).
44. "Freund und Mitstreiter—Shibasaburo Kitasato und Robert Koch," *Robert Koch Institut*, August 14, 2012, <https://www.rki.de/DE/>

Content/Institut/Geschichte/Dokumente/RK_und_Kitasato.html
 (Accessed March 5, 2014).

45. Alexander R. Bay, “Beriberi, Military Medicine, and Medical Authority in Prewar Japan,” *Japan Review* 20 (2008): 126–127; “Lexikon Japans Studierende—Listenansicht,” *Staatsbibliothek zu Berlin*, September 13, 2010, <http://crossasia.org/digital/japans-studierende/index/show/page/44>. (Accessed March 27, 2014).
46. Erich von Drygalski, “Letter to Gazert,” January 15, 1909, Gazert’s Estate (private), Partenkirchen.
47. Erich von Drygalski, “Letter to Gazert,” January 4, 1909, Gazert’s Estate (private), Partenkirchen.
48. In his travel account of the expedition Drygalski mentioned after their return to Germany that “Robert Koch felt himself called upon to remark at a medical conference that the whole expedition was useless, and without purpose, because other plans for it had been neglected.” Drygalski, *The Southern Ice-Continent: The German South Polar Expedition Aboard the Gauss 1901–1903*, 372.
49. Hans Gazert, “Letter to Werth,” January 7, 1909, Box 85, Item 15, Institute for Regional Geography, Leipzig.
50. Claus Schilling, “Letter to Gazert,” February 10, 1909, Gazert’s Estate (private), Partenkirchen.
51. Claus Schilling, “Letter to Gazert,” March 5, 1909, Gazert’s Estate (private), Partenkirchen.
52. Claus Schilling, “Letter to Drygalski,” March 5, 1909, Box 85, Item 69, Institute for Regional Geography, Leipzig.
53. Claus Schilling, “Letter to Gazert,” May 4, 1909, Gazert’s Estate (private), Partenkirchen.
54. Emil Werth, “Letter to Gazert,” May 6, 1909, Gazert’s Estate (private), Partenkirchen.
55. Ibid.
56. Gazert, “Gazert to Schilling.”
57. Hans Gazert, “Gazert to Drygalski,” May 25, 1909a, Box 85, Item 16, Institute for Regional Geography, Leipzig.
58. Hans Gazert, “Gazert to Drygalski,” May 25, 1909b, Box 85, Item 17, Institute for Regional Geography, Leipzig.
59. Claus Schilling, *Tropenhygiene* (Leipzig. Georg Thieme, 1909), 439–440.
60. Bernhard Nocht, “Über den gegenwärtigen Stand der Beriberifrage,” *Beihefte zum Archiv für Schiffs- und Tropenhygiene* 12, no. 5 (1908): 15.
61. The German Society of Tropical Medicine was founded in 1907. In 1912 Nocht was Vice Chair and Schilling one of eight members of the board of the society (“Verhandlungen 1912,” *Beihefte zum Archiv für Schiffs- und Tropenhygiene* 16, no. 1 (1912): 8).
62. Schaumann, “Die Ätiologie der Beriberi unter Berücksichtigung des gesamten Phosphorstoffwechsels,” 162.
63. Ibid., 336–338, 356.

64. Heinrich Schaumann, "Weitere Beiträge zur Ätiologie der Beriberi," *Beihefte zum Archiv Für Schiffs- und Tropenhygiene* 16, no. 1 (1912): 137–170.
65. Ibid., 164.
66. Ibid., 160–161, "Verhandlungen 1912," 16.
67. Heinrich Schaumann, "Die Ätiologie der Beriberi II," *Beihefte zum Archiv für Schiffs- und Tropenhygiene* 18, no. 6 (1914): 230–231.
68. Bay, "Beriberi, Military Medicine, and Medical Authority in Prewar Japan," 128.
69. Jinnosuke Tsuzuki, "Antiberiberitherapie der Beriberikrankheit," in Verhandlungen der Deutschen Tropenmedizinischen Gesellschaft, *Beihefte zum Archiv für Schiffs- und Tropenhygiene* 16 No. 1 (1912), 209–213. Tsuzuki studied medicine in Marburg and Berlin and received his PhD from the Hygenic Institute in Germany in 1900. "Lexikon Japans Studierende."
70. Bay, "Beriberi, Military Medicine, and Medical Authority in Prewar Japan," 128–129.
71. Casimir Funk, "Fortschritte in der experimentellen Beriberiforschung in den Jahren 1911–1913," *Münchner Medizinische Wochenschrift* 60, no. 38 (1913): 1997; Casimir Funk, "Über die physiologische Bedeutung gewisser bisher unbekannter Nahrungsbestandteile der Vitamine," *Ergebnisse der Physiologie* 13 (1913): 136; Gazert, "Ärztliche Erfahrungen und Studien auf der Deutschen Südpolar-Expedition," 114; Gazert and Renner, "Die Beriberifälle auf Kerguelen," 372–373.
72. Wilhelm Caspari and Max Moszkowski, "Zur Beriberifrage," *Deutsche Medizinische Woche* 39 (1913); Wilhelm Caspari and Max Moszkowski, "Weiteres zur Beriberifrage," *Berliner Klinische Wochenschrift* 50, no. 33 (1913); Wilhem Caspari and Max Moszkowski, "Weiteres zur Beriberifrage, Diskussion," *Berliner Klinische Wochenschrift*, 1913.
73. Gazert and Renner, "Die Beriberifälle auf Kerguelen."
74. Gazert, "Ärztliche Erfahrungen und Studien auf der Deutschen Südpolar-Expedition" 321–324; Gazert and Renner, "Die Beriberifälle auf Kerguelen," 378, 386.
75. Kozian, "Skorbut und Beriberi auf deutschen Schiffen im Spiegel der Seeamtsentscheidungen. Teil 2: Beriberi," 146.
76. Deutscher Alpenverein (ed.), *Josef Enzensperger. Meteorologe und Kletterer, Alpine Klassiker* (Munich: J. Berg, 1990): 9–19.
77. Johann Josef Enzensperger, "Zugspitztagebuch," 1900–1901, Copy from Lore Prasch Filmproduktion, Munich.
78. Emil Werth, "Curriculum Vitae," April 18, 1900, Box 98, Item 7, Institute for Regional Geography, Leipzig.
79. Emil Werth, "Letter to Drygalski," May 9, 1914, Box 85, Items 492, Institute for Regional Geography, Leipzig.
80. Ibid., Emil Werth, "Letters to Drygalski," June 9, June 20, July 1, 1914, Box 85, Items 493–495, Institute for Regional Geography, Leipzig; Gazert and Renner, "Die Beriberifälle auf Kerguelen," 385.

81. Casimir Funk, *Die Vitamine, ihre Bedeutung für die Physiologie und Pathologie mit der besonderen Berücksichtigung der Avitaminosen: (Beriberi, Skorbut, Pellagra, Rachitis)* (Wiesbaden: J. F. Bergmann, 1914): 1–2.
82. David Arnold, “British India and the ‘Beriberi Problem’, 1798–1942,” *Medical History* 54, no. 03 (July 2010): 295–314, doi:[10.1017/S0025727300004622](https://doi.org/10.1017/S0025727300004622).
83. Funk, *Die Vitamine, ihre Bedeutung für die Physiologie und Pathologie mit der besonderen Berücksichtigung der Avitaminosen: (Beriberi, Skorbut, Pellagra, Rachitis)*, 28.
84. Funk, *Die Vitamine, ihre Bedeutung für die Physiologie und Pathologie mit der besonderen Berücksichtigung der Avitaminosen: (Beriberi, Skorbut, Pellagra, Rachitis)*, 1.
85. Bay, “Beriberi, Military Medicine, and Medical Authority in Prewar Japan,” 126.
86. Ludwik Fleck, *Genesis and Development of a Scientific Fact*, ed. Robert K. Merton, trans. Thaddeus J. Trenn and Fred Bradley, *Sociology of Science* (Chicago, IL: University of Chicago Press, 2008) cited in Bay, footnote 44.
87. On Mori Ogai’s refusal to accept that beriberi is a vitamin deficiency see (http://de.wikipedia.org/wiki/Mori_%C5%8Cgai) (Accessed March 19, 2014); see also Katarzyna Cwiertka, *Modern Japanese Cuisine: Food, Power and National Identity* (London: Reaktion Books, 2006), 69.
88. Otto Abs, “Sanitätsrat Dr. Hans Gazert im Alter von 91 Jahren gestorben,” *Polarforschung* 32, no. 1/2 (1962): 162–66.
89. Saul Newman, “Derrida’s Deconstruction of Authority,” *Philosophy & Social Criticism* 27, no. 3 (May 1, 2001): 1–20, doi:[10.1177/019145370102700301](https://doi.org/10.1177/019145370102700301).

PART II

Alternative Antarctics

So Far, So Close. Approaching Experience in the Study of the Encounter Between Sealers and the South Shetland Islands (Antarctica, Nineteenth Century)

Andrés Zarankin and Melisa Salerno

INTRODUCTION

Of all the continents, Antarctica was the last to be visited by human beings. In the beginning of the nineteenth century, sealing vessels representing the interests of capitalist companies ventured beyond the edge of the known world. Their goal was to find new sources of oil and skins for supplying the international market. It was in this context that sealers first arrived at the South Shetlands (the closest Antarctic archipelago to South America). The islands were exploited at various times over the

A. Zarankin (✉)

Department of Anthropology and Archaeology, Federal University of Minas Gerais Belo Horizonte, Belo Horizonte, Brazil

M. Salerno

Multidisciplinary Institute of History and Human Sciences, National Scientific and Technical Research Council (IMHICIHU-CONICET), Buenos Aires, Argentina

course of the century. As time went by, the territory stopped being visited by sealers. However, it began receiving scientists from different disciplines (including archaeologists).

When sealers first arrived at the South Shetlands, they found a region without cultural markings. It is easy to imagine that the archipelago presented challenges and opened up new experiences for the hunters. Sometime later, the islands became associated with an ever-increasing set of references. Yet despite this, they never stopped presenting challenges and opening up new experiences for people. The South Shetlands, just like the rest of Antarctica, were not inhabited (and are still not inhabited) by people born and raised there. On the contrary, they were inhabited by people born and raised in other regions of the world, who went there to work for varying periods of time. For these people, visiting the islands implied meeting a place that was still unknown in person.

These ideas presented above bring the notion of “encounter” to the forefront. From our standpoint, the encounter refers to an ongoing process of active and dynamic relationships between people and the space, where experience (that is to say, bodily, sensory, and affective experience) plays a significant role. Until now, researchers approached the encounter between the sealers and the South Shetland Islands in a traditional fashion. We argue that, in a significant number of cases, scholars seem to have underestimated the role of experience. Here we present an alternative way of addressing the encounter between the sealers and the archipelago. The work is organized in two sections. In the first section, we critically assess previous research on the encounter. In the second section, we draft an experimental proposal, using a framework that integrates embodiment.

FIRST SECTION: TRADITIONAL PERSPECTIVES

In this section, we explore the ways in which researchers have traditionally approached the encounter between nineteenth century sealers and the South Shetland Islands. We consider the work carried out by historians and archaeologists (including the production of our own research project). The section is divided into three subsections. In the first subsection, we present some lines of inquiry, paying attention to disciplinary interests. In the second and third subsections, we discuss why so much research dealing with the encounter could have underestimated experience. On the one hand, we reflect on a series of principles that historians and archaeologists occasionally shared, although not always explicitly or consciously. On the

other, we discuss how these principles had an impact on the research conducted. Researchers' positions are informative of how they handled their own experience in the context of their work. Furthermore, the ways in which researchers defined the relationship between social actors and the surrounding world offer insights into the place they gave to experience in the past.

Brief Outline of Previous Studies

Most of the information we have on the encounter between sealers and the South Shetlands has resulted from research conducted by historians, who were the first to study the topic. While some scholars have started to develop different perspectives (see the introduction to this volume), a majority of scholarship approached the issue of the encounter focusing on the idea of "discovery."¹ Together with this concept, the emphasis was placed on the "great" events and characters of the early history of the region.² Some researchers attempted to determine which vessels first arrived on the South Shetlands, where the discoverers were from and when exactly they arrived. Considering "master narratives" (such as log-books and diaries), historians approached the encounter from the viewpoint of captains and other characters of "historical relevance." For this and other reasons, they paid particular attention to the course of the vessels, surveys, and descriptions of the region, how names were assigned to specific places, etc.³

Some other works approached the encounter through chronicling sealing voyages.⁴ Even though this kind of scholarship basically reproduced the search for "great" events and characters, it also broadened the scope of studies interested in discovery. Using journey dates, vessel names, and the names of the captains in charge of them, historians gathered information on landing points and the outcomes of hunting and processing (expressed in specific amounts of oil and skins).⁵ In contrast to the research interested in the discovery as such, the encounter is approached as a process of exploitation carried out throughout the century. In this framework, social actors are weighed as less important than more abstract constructions, such as the economic system. This is why the exploitation of the South Shetland Islands has been conceived as a succession of cycles depending on the availability of animals, the demand for products in the international market, and the profitability of the business.

Archaeological contributions are far more recent and fewer in number (even though archaeologists have worked on the South Shetlands for more than two decades now). Following the work of historians, some projects have approached the encounter through focusing on the idea of “discovery.”⁶ These projects depended on a particular understanding of archaeology, because they tried to confirm or reject—by means of material evidence—what written sources could have said about the past (for instance, pinning down which vessel first arrived in the region). Other researchers focused on the idea of “occupation.” As a result, archaeologists started to survey different islands of the archipelago, locate nineteenth century seasonal camps, and excavate some of the sites.⁷ Undoubtedly, the research was accompanied by a significant interest in historical processes and people “without history” (meaning those who had not written the master narratives, and whose lives were not abundantly recorded on those sources).⁸

In some cases, the archaeological study of the early “occupation” of the islands integrated two projects. First, it was worth considering the analysis of the strategies used by capitalist companies to establish the sealers on the islands, maximizing productivity and reducing costs. Among other variables (such as the supplies provided by companies and the demands made upon sealers), archaeological investigations considered the location of possible hunting grounds and sealers’ camps.⁹ Second, it was considered important to include an analysis of sealers’ living and working conditions on the South Shetlands (and whether they were responding or not responding to capitalist strategies). In order to do this, archaeologists decided to discuss the materiality of the sites and interpret sealers’ daily practices (including hunting and processing activities, the construction of shelters, eating, and dressing).¹⁰

Underlying Principles of the Studies

Even though historians and archaeologists investigating the encounter between sealers and the islands proceeded from different frameworks, they mostly shared a series of broader principles, deeply rooted in social sciences. Here we are referring to the fundamentals of modern thought, frequently expressed in Cartesian positivism. Modern thought was basically organized around dichotomies: the result of dividing a whole into two opposing segments. Although their existence depended on their mutual presence, the terms making up the pairs entailed asymmetrical

relationships.¹¹ In this section, we refer to some dichotomies which have been regarded as relevant in modern thought but which could have had a negative impact on the development of an experience-based approach.¹² We focus on the opposition between body and mind, as well as on that between subject and object.

The dominant definition of “being” in Western philosophy dates back to ancient times. However, its modern conception was systematized by René Descartes in the seventeenth century. Descartes stated that human beings were made up of two distinct substances: body and mind. The body was part of the physical, external, natural, and material objects with which we interacted. It was regulated by the law of cause and effect; it had quantifiable modes of expression; and it could be divided into parts. Furthermore, the body extended through space, having clear boundaries, and occupying a single place at a single time. Meanwhile, the mind was part of the subject itself. It was defined by psychic, internal, immaterial, and spiritual/cultural traits. Therefore, it was not regulated by the law of cause and effect; nor had it involved a substance which could be quantified, divided into parts, or located in space.¹³

For Cartesian positivism, the body and the mind were in an asymmetrical relationship, and they were associated with different values. While reason was the exclusive possession of human beings, the materiality of the body could be found among inert objects and the rest of the living things (providing the basis for action).¹⁴ As social sciences were interested in human beings, they were expected to focus their attention on reason and its products. Meanwhile, the body was of special interest to some other disciplines influenced by physics (like biology). Subsequently, when social sciences decided to approach the body, they frequently did so from an anatomic-physiological perspective.¹⁵

Descartes stated that objects and subjects had contrasting characteristics (stemming from his definitions of body and mind).¹⁶ However, they could be in contact during perception. Modern thought assumed the existence of an objective, explicit, and determinate world made up of differentiated, external, and independent things. In this context, experience represented a derivative and secondary phenomenon.¹⁷ The body and the mind played different roles. Empiricism or realism understood that the body responded to external stimuli through reflexes. Therefore, the objects were defined as repeated associations of sensations. Intellectualism or idealism argued that empiricism could not provide an adequate explanation for perception. Descartes considered that the stimuli captured by the body should

be given sense. To put it simply, the mind needed to construct objects as internal representations of the outside world.¹⁸

Even though modern thought accepted the role of perceptual experience to seize the world, it also stressed that it was not as important to humans as reason. Experience could be deceptive.¹⁹ The senses and emotions were valued according to the role they were said to play in the construction of objective knowledge. In general, the sense of sight (only followed by hearing) held a privileged position.²⁰ That was because it kept the distance between subjects and objects, and it was traditionally connected with philosophical contemplation and abstraction. The other senses (smell, taste, touch), which encouraged the proximity between subjects and objects, were regarded as subservient and complementary.²¹ Finally, emotions were described in a negative way, as capable of distorting reality.²²

The Role of Experience in the Studies

To understand how the principles of modern thought influenced the work of both historians and archaeologists of the South Shetlands, we start by discussing the position of the researchers themselves and what they did, or tried to make of their own experience in their context of production. In most research focusing on the encounter, the researcher was implicitly associated with the category of an active subject, regarded as a knowing entity. This position was built in opposition to a passive object, most generally identified with the social actors of the past and their relationships with the world. The distinction between subject and object was considerably strengthened by the binary opposition between past and present. If researchers distanced themselves from what they tried to understand, setting it in the past, then they could be sure that the distance creating the dichotomy was safe.

In the framework of modern thought, coming to know the past was an important challenge. The present was regarded as “that which simply existed” and the past as “that which no longer was.” From this perspective, the only thing that remained from the past was a set of traces; for instance, the written documents and the material remains with which historians and archaeologists worked.²³ Even though these traces of the past only existed in the present, researchers seemed to understand them as a sort of time capsule.²⁴ If the written documents and material remains were conceived as fragments of the past, then the assistance that experience could provide

to researchers was limited. Even when archaeologists did their research, spending long fieldwork seasons on the South Shetlands, their experience in the place was not used for anything else other than identifying and describing material remains. In this sense, the bridge between the present of the subject and the past of the object only depended on contemplation and abstraction.

In traditional research into the encounter, historians and archaeologists—consciously or not—embraced the modern ideal of an objective and neutral science. The latter has been clearly relayed in the production of texts which seemed to run counter to narrative styles.²⁵ The distinction between a past object and a present subject, allowed focusing on the first one without making too many references to the second. Researchers kept themselves hidden in their own discourse. Most texts dealing with the encounter were written in an impersonal style, while those which were written in the first person assimilated the “I am” or the “we are” to some sort of legitimizing body represented by science. The relative absence of the researcher sought to reflect a rational procedure which could be repeated by any other subject.

Earlier, we referred to the position of the researchers. Now we would like to examine how these researchers defined the relationship between the sealers and the South Shetlands (that is to say, the space of the islands). Doing this, we hope to get an insight into the place they gave to the experience in the past. Many historians and archaeologists projected the procedures guiding modern science onto the past.²⁶ Even though during the nineteenth century the principles of Cartesian positivism could have spread throughout society, not all groups were equally affected by them. Furthermore, the people who were actually influenced by these principles did not use them as the sole or primary way to establish relationships with the world. From our standpoint, thinking otherwise is part of a “scholastic fallacy”:²⁷ a reification of science constructions (as if they were an expression of an explicit and determinate world).

Works interested in the “discovery” presented sealers and space as opposing categories of knowing subjects and passive objects. They stressed sight to the point that they provided an interesting case of ocularcentrism.²⁸ The distance imposed by sight was frequently exacerbated by descriptions of the islands from the sea, without there being too many considerations of an immersion in the territory. The objectivation of space was emphasized through constant references to the efforts made by sealers to locate geographical features.²⁹ Transformed into dots on a map,

these references made it easy to grasp places through the power of sight, and integrate them into the orbit of knowledge.³⁰ We cannot deny that historians' perspectives could have been influenced by the same records they chose to work with; that is to say, the historical documents written by captains who frequently remained on board the vessels, and who had a good command of scientific methods. However, the exclusion of other experiences beyond sight could probably also be explained as resulting from researchers' decisions.

Works interested in the "occupation" of the South Shetlands also reproduced the idea of an abstract space, conceived as pure extension: a sort of container waiting to be "occupied" by people and things. Accordingly, these works reinforced the distinction between the sealers as active subjects and the space as a passive entity. On the one hand, archaeological investigations of companies' strategies accounted for a rational approach to the islands. Even though the focus was on the territory (shifting away from the gaze from the sea), the actions on space where analyzed from a cost-benefit perspective on where, when, and for how long to work.³¹ On the other hand, archaeological studies concerned with sealers' daily life also referred to a series of rational actions which encouraged people's relationships with space. Regardless of the emphasis placed on the concept of practice, the actions were frequently presented as rather disembodied and detached from experience—even in those cases when researchers approached practices intimately bounded to the body, like eating and dressing.³²

SECOND SECTION: A NEW PROPOSAL

In this section, we present an alternative and experimental proposal for approaching the encounter between the sealers and the South Shetland Islands, emphasizing the role of experience. The use of the terms "alternative" and "experimental" is by no means accidental. In saying "alternative," we want to stress that our work plan (even though starting from different principles) is just one among others, and that we do not intend to deny the contribution of other kinds of projects. Furthermore, in referring to the experimental character of our proposal, we do not try to assimilate it to a traditional experiment, where researchers intend to accept or refuse a hypothesis. Here, the term "experimental" is connected with the idea of exploring the possibilities of interpretation given by a new consideration of experience.

In the context of our work team, the idea of developing a new approach involved a profound reflection on the ways in which we had previously conducted the investigations, and a decision to rethink some research problems. Two different circumstances were crucial: the work of Melisa A. Salerno on sealers' dressing practices, and her theoretical approaches to body and embodiment,³³ and the more than twenty years of work on Livingston Island by Andrés Zarankin. Salerno's interest in dress led her to wonder about the ways in which regarding the body as a methodological starting point could have an impact on her own work and the understanding of past experience. Zarankin's perceptions and emotions during numerous fieldwork seasons on the South Shetlands led him to consider his own experience in scholarly production, questioning some of the writing conventions of archaeology.³⁴

This subsection includes three different, but interrelated parts. In the first part, we present some of the principles which started guiding our research in the last few years. Specifically, we draw on Maurice Merleau-Ponty's phenomenology and Thomas Csordas' theory of embodiment.³⁵ In the second part, we refer to the ways in which the above-mentioned principles had a direct impact on the investigations. We focus on the relationship with what we study, a relationship that we as researchers have decided to engage in; and the ways we propose to understand sealers' experience in the past. Finally, in the third part we tell a story that reflects some of the steps we are currently taking in the context of the project.

Underlying Principles of the Studies

In the late nineteenth and early twentieth centuries, Edmund Husserl contended that Western philosophy was based on a series of problematic principles. From his standpoint, all of these principles were part of a "natural attitude" that was seldom challenged. Husserl tried to approach "things themselves": the phenomena that presented immediately to perceptual experience.³⁶ Somewhat later, Maurice Merleau-Ponty (1993), in an effort to continue the work of Husserl, pointed out that the denaturalization of the ideas of body and experience could break down the principles of modern thought.³⁷ Merleau-Ponty stated that phenomena did not present themselves to experience as binary pairs. The creation of dichotomies was, in his opinion, the result of an objective process of categorization.³⁸

Merleau-Ponty held that human existence was embodied.³⁹ Human beings did not “have” a body, but “were” one instead.⁴⁰ The body was an ever-present term, a continuous experience of oneself which could not be abandoned. It was the original locus of perception, intentionality, and meaning. Therefore, it was a necessary condition to seize the world.⁴¹ Despite bringing the body to the forefront, Merleau-Ponty did not seek to undermine the importance of the mind.⁴² The body and the mind were part of the unity of human existence; and perception was a bodily experience that gave sense and projected the being to the world.

Phenomenology held that perception had a pre-objective character. As the original world was no other than the world experienced, perception could not be described as a derivative phenomenon.⁴³ Merleau-Ponty stressed that the world was indeterminate, and that the boundaries between phenomena were blurred.⁴⁴ On the one hand, he argued that perception could not be reduced to reflexes, nor were the objects ordinary associations of sensations. On the other, he stated that experience was not an internal representation of the outside world. Perception did not presuppose the existence of two separate objects: one in the world, and another one in the mind. As a result, the world could not be divided into knowing subjects and passive objects.⁴⁵ Our own body, as a “sensible” and “sensitive” reality, experienced the possibility of being subject and object at the same time.⁴⁶

Merleau-Ponty maintained that existence should not be understood as an “I think,” but as an “I can.”⁴⁷ This intentionality allowed people to explore the world and respond to its request. Human beings and things played active and passive roles during their interaction. The body could understand the world without making use of any power of objectivation. If understanding supposed an agreement between the object of our intentions and the object of our actions, then meaning needed people to achieve some degree of familiarity between the world and the body.⁴⁸ In this way, the body could understand the world to the extent that it acquired a new habit. Both in intentionality and in pre-objective meaning, sight, movement, and the rest of the senses became relevant.

If awareness involved a series of internal representations of the outside world, the subjects would only have access to their private worlds. Merleau-Ponty believed that there were no multiple subjective and independent realities.⁴⁹ On the contrary, people shared a common scenario where they developed their perception (although they did not experience the same things). The boundaries between the subjects became eventually

blurred. Intersubjectivity thus referred to the experience of the “other” in me, and of me in the “other.” Even though Merleau-Ponty did not go deeper into this issue, he accepted that the “know-how” that was part of our involvement with the world presented culturally specific forms.⁵⁰

Csordas’ theory of embodiment touched precisely on this point, arguing that embodied experience was a starting point for understanding people’s participation in the cultural world.⁵¹ Csordas connected Merleau-Ponty’s phenomenology with Bourdieu’s theory of practice to discuss how actions compromising our involvement with the world were defined. For Bourdieu, social practices were specific ways of acting, which were learned and performed by means of a culturally informed body.⁵² The disposition towards certain practices responded to a habitus.⁵³ The latter was the result of social life conditions, and it had an impact on the constitution of differences (including personhood and identity). The habitus was acquired throughout people’s lives and it entailed the “in-corporation” of some aspects of reality.⁵⁴ Accordingly, it formed a matrix that guided perception and intention.

The Role of Experience in the Studies

Given the underlying principles of phenomenology and embodiment, first we would like to consider our position as researchers and the relationships we decided to maintain with what we study. It is worth noting that we do not identify ourselves with an active subject defined in contrast to a passive object. As “beings-in-the-world” we feel in contact with other beings who were-in-the-world; and who were-in-the-same-place we can be now (that is, the South Shetland Islands).⁵⁵ Regardless of the time-distance between “us” and “them,” the sealers demand our attention, shape our intentions, they ask for specific ways to approach them, and impose possibilities and limits upon our work. In this sense, they exert what some scholars would call “agency” over us.⁵⁶

Unlike modern thought, we do not believe that the past and the present are necessarily contradictory. Both terms are in a permanent state of tension and dialogue. The past was other people’s present, and the present constantly turns into past. If in our case, the past exists in the form of traces of what once existed, then these traces are just present, and they need to be approached from that context.⁵⁷ As long as they coexist with us, the ways in which we can meet the traces are based on experience. The long fieldwork journeys, the hours we spend at the library, the office,

or the lab are the moments when we establish a deep and intimate bond with the archaeological remains, the historical documents, and so on. Our system of acquired meanings is “around us,” and it is “at hand” to pre-objectively approach the things to which we orient ourselves.⁵⁸

Although modern science usually denied the role of subjectivity, we believe that it is something we cannot (or would not like to) avoid. This decision will eventually lead us to write papers, not necessarily guided by the conventions of scientific texts, but inspired by other forms of narrative that do not pretend to be neutral.⁵⁹ If subjectivity turns out to be relevant, then the presence of the researcher should become evident in the context of the work. However, this decision should not be limited to identifying the researcher as the author of a text. Quite the contrary, it should also refer to her or his position, as well as her or his encounter with the world. After all, we have no intention of only recording experience in the marginal notes of a fieldwork diary, or anywhere else than in our memories or informal talks.

Setting aside our position as researchers, we would like to consider our understanding of past experience, and the encounter between the sealers and the South Shetland Islands in the nineteenth century. In contrast to objective thought (informed by modern science), all sealers (as all people) visiting the islands had an experiential commitment with space. While physical space can be regarded as pure extension, lived space cannot be considered an empty space.⁶⁰ When talking about an inhabited place, it becomes relevant to discuss the ways in which the sealers oriented themselves to the material conditions of the landscape, responded to their request, and acquired an increasing familiarity with it. The inhabited place involved a network of relationships between the sealers, the landscape and its features.

The First Steps

To start considering experience in our research is not an easy task, especially if we remind ourselves that for a long time experience was underestimated, including by ourselves and, as shown earlier in the chapter, through a tradition of research interested in the encounter between the sealers and the South Shetland Islands. Approaches evaluating experience can take various forms. Presently, we are exploring how researchers’ experience of their encounter with the islands can provide additional tools to discuss some aspects of sealers’ experience. In this subsection, we would like to present a brief story commenting on some of these issues. However, before diving into the narrative, we need to make a couple of things clear.

In order to approach researchers' experience, we asked the members of the latest fieldwork seasons (2010, 2011, 2012, and 2014) to describe what they considered most relevant of their stay on the South Shetlands. It was in these stories where some references became repeated. They were associated with common and shared experiences in a variety of settings inhabited by researchers: the archaeologists' camp, the route leading from the camp to the archaeological sites, and the sealers' camps. A number of "sensitive points" emerged in each of the settings. By sensitive points, we refer to some elements of the surrounding world on which we pre-objectively focus attention. They orient us, and we orient ourselves to them.⁶¹ The increasing familiarity with these points is necessary not only to make the world "flesh," but to let the world "incorporate" us.⁶²

We believe that our own experience can lead us to ask some questions and offer some possible answers that we had not yet explored about sealers' life. After all, we share with them some basic things.⁶³ We/they have/had a bodily existence which is/was the original way to establish a relationship with the surrounding world. Furthermore, we/they visit/visited a region where we were not/they had not been born or raised; and where we/they need/needed to respond to extreme conditions, the lack of cultural references, the isolation from the rest of the world, the material reality of working and living in a place for a limited period of time (for instance, the summer season).

But archaeologists' experience is not directly transferable to sealers, of course.⁶⁴ Archaeologists and sealers have endless differences; the most important of which resides in their different cultural backgrounds. In this way, the material equipment, the sensorial regimes, the sets of meanings are/were particular. In order to deepen the study of sealers' experience, it becomes necessary to reconstruct the context of meaning shaping and being shaped by corporeality.⁶⁵ The re-examination of written documents and material remains from the standpoint of experience turns out to be useful. Even though in this chapter we have not reached this point, we are working hard to achieve it in future research (see Salerno for a reconstruction of past experiences connected with clothing and the acquisition of specific abilities for sealing).⁶⁶

A situation which is repeated every time we arrive at Byers Peninsula (Livingston, South Shetland Islands) is a feeling of spatial and time disorientation; a lack of parameters and daily indicators to organize time and space. We need to separate ourselves from our urban experience and

approach a new one. At first, we look for an appropriate place to establish the camp. The criteria used are: protection from cold winds, proximity to fresh water sources, unobstructed floor area, safe distance from animal colonies, and proximity to the work place. The task of setting up the camp for a long stay, which can vary from one to four months, takes two or three days. Even though we are not familiar with the camp and the surrounding landscape, the situation is reversed in a couple of days. In this way, we start experiencing the place as a space for protection (without which we feel lost, anxious and fearful).

Something similar happens with the tents (Fig. 4.1). The larger ones serve as spaces for community activities (eating, drinking, and using the radio), while the smaller ones (where it is impossible to stand upright) serve as individual rooms. The tents encourage different experiences: communication/lack of communication, companionship/solitude, exhibition/privacy, limitation/freedom of movement. Social relationships can be complex. In the case of the Brazilian team, there is a chief scientist (who coordinates the archaeological activities), a logistics leader (a climber), and five or six researchers. Nobody can deny the existence of hierarchies. However, it would not be true to say that social differences have been materialized in



Fig. 4.1 The archaeologists' camp (Photo: Laboratory of Antarctic studies in human sciences (LEACH))

the camp. Everybody enjoys the same comfort (and suffers from the same discomfort) as the rest of the team. Therefore, the degrees of “power” are blurred, creating a feeling of equality and community life.

The cold is felt with more intensity the first ten days and then, little by little, it starts diminishing until the body gets used to it. The wind, sometimes deafening and reaching hundreds of miles per hour, also becomes familiar. We are constantly challenged by the experience of time. On the South Shetland Islands (as in the rest of Antarctica), there is no night during December and January, and daylight lasts all day long. One week after we arrive, we do not know exactly what day it is. We are only worried about the weather and returning home. The passing of hours is not only measured by the watch, but by the amount of work done, the fatigue of our bodies, the organization of “special” dinners.

The materiality of our bodies is transformed. Wearing special suits, our bodies feel thickened and our motor skills are affected. Another unexpected effect is the disappearance of some indicators of identity; far away, or when their backs are turned, it is difficult to say if the members of the team are women or men. Once again, after the first week, we start identifying people by the color of their uniforms, their voice, the way they move, etc. Besides clothing, there are some other important changes. The impossibility of taking a shower as we do in our cities makes us feel uncomfortable. But the feeling of being dirty and the smells of the body tend to magically disappear as the days go by.

Both the circulation and orientation in the landscape deserve special attention (Fig. 4.2). In the case of the novices, the GPS and the maps are essential to move in an unknown landscape, particularly when there is no veteran to follow. This is different for the researchers who had previously visited the area. Even though there are no trails or tracks guiding the march or softening the footsteps, the valleys, the ridges, the streams, and the glaciers become relevant. They mark out the path, and they impose their own conditions to follow them (walk, jump, and climb). These features are eventually transformed into sensitive points, and they end up being connected to a series of experiences and memories.

The body is fully involved in work activities. We walk around the archaeological sites; we take views from the shelters and from different points of the sealers’ camps; we get into the structures; we touch and handle the things we find in the places. Sealers’ camps encourage specific experiences, which tend to be compared—in a more or less conscious manner—with some of the experiences we referred to above. The experiences promoted by sealers’ camps are crossed with our previous knowledge on the life of these people. Finally, a series of questions and possible answers about sealers’ experience seems to emerge in the context of the fieldwork.

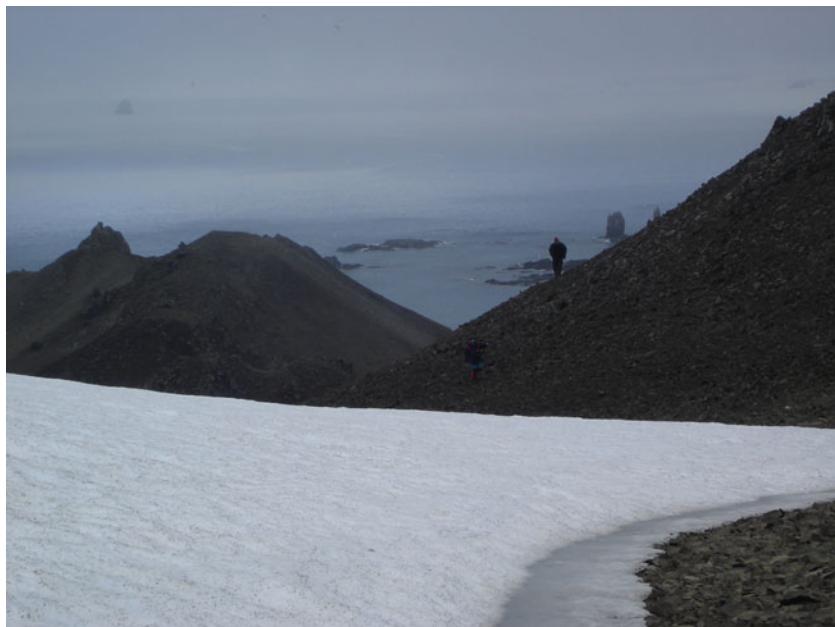


Fig. 4.2 Moving from the archaeologists' camp to the old sealers' sites (Photo: Antarctic Studies in Human Sciences (LEACH))

There are few detailed accounts on sealers' daily life on the South Shetland Islands. Historical descriptions stress some features. Once again, the freezing temperatures, the presence of snow, and the wind can be considered points of attention. Climate studies argue that life conditions were similar (if not harder) in the last two hundred years. The feeling of hostility is reflected in the names given to some places. Devil's Point, Snow Island are not simply nomenclatures. They communicate primary sensations about the environment.

The vessels disembarked gangs of sealers on the beaches, and some days, weeks or even months later returned to pick them up. Did the sealers need to separate themselves from some previous form of corporeality? Is this kind of experience only shocking to us, considering the contrast we feel between living and working on the islands, and working and living in our cities? Were sealers' experiences diverse, considering that the crews were made up of men from different origins, including able-seamen who spent most of their

lives visiting hunting grounds, and a significant number of ‘greenies’ who had no experience in the job? Did changes in embodied experience begin on the islands or during the journey, considering that sealers had to develop specific skills to help sailing the vessels? If this option was valid, what were the differences and similarities between the experiences on board the vessels and on the islands?

Choosing a suitable location for the camp could have been connected with the possibility of reaching the coast, the presence of animal colonies, and—just as in our case—the need to find fresh water and protection against the wind. Even though we do not know it for sure, it is likely that the sealers could have had feelings of estrangement during the first days on the islands, and that as days went by they could have got used to the region. Building a campsite must have been tough. The sealers used local resources (such as stones from the cliffs) to build the shelter and other structures. They covered the roofs with canvas and skins.

Sealers’ camps on Livingston Island frequently had two enclosures. Considering material remains, we have the impression that one of these structures was used as a shelter to sleep, eat and spend leisure hours. Being in the place, we cannot but feel amazed by the size of the shelters (Fig. 4.3). The walls were low and people must have bent over to move around the place. Therefore, it is likely that the most comfortable thing to do there was sitting or lying down. In some cases, we find whale vertebra inside the structures. We believe that sealers could have used them as benches. When we lie on the ground, we realize that only few people fit in the shelters, and that they were necessarily very close to each other.

The gangs of sealers were made up of an officer and a group of hunters who responded to his commands. Just as in our case, social differences do not seem to have materialized in space. Unlike our camp, where everybody has their own tent, sealers shared one single structure, enhancing the sense of group cohesion. In that place, they constantly felt the presence of the others; and everything each one perceived was immediately accessible to the rest of the group. In the center of the shelters we usually find the remains of hearths, and the remains of food, bottles of alcoholic beverages, tobacco pipes, etc. The heat, the smells and the tastes were felt—in one way or another—by everyone present.

We also find numerous remains of clothing and shoes. As in our case, clothing was critical for surviving in such an extreme environment. Unlike today, sealers did not have clothes especially designed for this kind of conditions. For this reason, they could have worn many layers of the clothes they carried with them. Were these clothes comfortable? Did they hamper sealers’ movements? Clothing and shoes did not stand living and working conditions on the islands, being discarded in huge quantities. The items show



Fig. 4.3 Archaeologists at a sealers' shelter. (Photo: Antarctic Studies in Human Sciences (LEACH))

traces of repairs such as patches and stitches, from which we can guess that keeping warm on the South Shetlands was a constant challenge.

Lastly, we would like to refer to sealers' work. Considering that a single group of hunters could kill and process thousands of animals before the vessels returned for them, it is likely that the work was harsh and tiresome.

When we find clubs, knives, melting pots, pellets, etcetera, we wonder about the slaughter and the processing conditions. According to some narratives, the ‘greenies’ were strongly impressed by the blood bath. Furthermore, they frequently understood the grease separation and the oil production as a dirty, nauseous process. Anyway, as time went by, people also ended up becoming familiar with this work.

FINAL WORDS

This research presents only the beginning of an experimental line of enquiry. There are many variables that we still need to include or rethink with an aim to broaden the discussion. We think that the exploratory exercise produces what Deleuze called “resonances”—fragments of the present in the past that allow introducing new ideas and perspective on a particular issue.⁶⁷ In other words, what we are trying to do is to include other voices that were not always given a special place (including researchers and sealers’ voices).

Once again, we want to make it clear that being in the place does not turn us into sealers. However, it allows for a different understanding of the experience of being in a place that is not our place of origin (and neither was it the sealers’). We believe that experience brings us closer to the people we study, while traditional procedures keep us distant. The distance from which we supposedly need to write, the language we supposedly need to use, lead us to think that we know the people we study without the risk of being criticized.

We know that from an orthodox perspective it is difficult, if not impossible, to accept these kinds of proposals, as long as they break with a series of principles which dominated science for centuries. We believe that the attempt to develop a new proposal is never in vain, as long as the goal of social sciences should be to produce critical knowledge, and to bring us closer to the people we study.

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NOTES

1. J. Miers, “Account of Discovery of New South Shetland, with Observations on Its Importance in Geographical, Commercial and Political Point of View: With Two Plates,” *Edinburgh Philosophical Review* 3 (1920): 367–80; L. Martin, “Antarctica Discovered by a Connecticut Yankee, Captain Nathaniel Brown Palmer,” *The Geographical Review* XXX, no. 4 (1940): 529–52; R. Gould, “The Charting of the South Shetlands, 1819–1828,” *The Mariner’s Mirror* XXII, no. 3 (1941): 206–42; E. Stackpole, “The First Recognition of Antarctica,” *Boston Public Library Quarterly*, 1952, 3–19; E. Stackpole, *The Voyage of the Huron and the Huntress. The American Sealers and the Discovery of the Continent of Antarctica* (Mystic, CA: The Marine Historical Association, 1955); E. Fitte, *El Descubrimiento de la Antártida. Crónica de los Hombres y Barcos que Exploraron las Aguas de las Shetland del Sur* (Buenos Aires: EMECE, 1962); E. Fitte, *Crónicas del Atlántico Sur. Patagonia, Malvinas y Antártida* (Buenos Aires: EMECE, 1974); Armando Braun Menéndez, *Pequeña Historia Antártica* (Buenos Aires: Ed. Francisco de Aguirre, 1974); O. Pinochet de la Barra, “El Misterio del San Telmo. ¿Naufragos Españoles por Primera Vez en Antártida?,” *Boletín Antártico Chileno*, April 2, 1992.
2. A. Zarankin and M. X. Senatore, *Historias de un Pasado en Blanco. Arqueología Histórica Antártica* (Belo Horizonte: Argumentum, 2007).
3. Melisa A. Salerno, Andrés Zarankin, and María Ximena Senatore, “La visión cartográfica: Expansión territorial y poder en el mundo moderno.,” in *Arqueologías Históricas, Patrimonios Diversos*, ed. Diogenes Patiño Castaño and Andrés Zarankin, Serie Estudios Sociales (Popayán: Sello Editorial Universidad del Cauca, 2010).
4. Robert Headland, *Chronological List of Antarctic Expeditions and Related Historical Events*, Studies in Polar Research (Cambridge [England]; New York: Cambridge University Press, 1989); Robert Headland, *A Chronology of Antarctic Exploration* (London: Bernard Quaritch Limited, 2009).
5. See for example B. Berguño, “Las Shetland del Sur: El Ciclo Lobero. Primera Parte,” *Boletín Antártico Chileno*, April 5, 1993; B. Berguño, “Las Shetland del Sur: El Ciclo Lobero,” *Boletín Antártico Chileno*, October 2, 1993; Bjørn Basberg and Robert K. Headland, “The 19th Century Antarctic Sealing Industry. Sources, Data and Economic Significance,” Discussion Paper (Oslo: Institutt for samfunnsøkonomi, Norges Handelshøyskole, September 2008), <http://www.nhh.no/files/filer/institutter/sam/discussion%20papers/2008/21.pdf>
6. See for example M. Martín-Bueno, “Proyecto San Telmo,” in *Informe sobre Actividades Científicas de España en la Antártida durante la*

Campaña de 1994–95 (Madrid: Comisión Interministerial de Ciencia y Tecnología, 1995), 249–62; M. Martín-Bueno, “Proyecto San Telmo: Arqueología Terrestre y Subacuática en la Isla Livingston e Isla Desolación, Antártida,” in *Informe sobre Actividades Científicas de España en la Antártida durante la Campaña de 1994–95* (Madrid: Comisión Interministerial de Ciencia y Tecnología, Madrid, 1996), 173–78.

7. María Ximena Senatore and Andrés Zarankin, “Arqueología Histórica Antártica. Informe Presentado al Instituto Antártico Argentino” 1996; María Ximena Senatore and Andrés Zarankin, “Arqueología Histórica en Antártida. Avances en la Investigación,” in *Actas del II Congreso Argentino de Americanistas Tomo II* (Buenos Aires, 1997), 585–603; Zarankin and Senatore, *Historias de un Pasado en Blanco. Arqueología Histórica Antártica*; *Ibid.*
8. E. Wolf, *Europa y la Gente sin Historia*. (Mexico: Fondo de Cultura Económica, 1982).
9. María Ximena Senatore and Andrés Zarankin, “Arqueología Histórica y Expansión Capitalista. Prácticas Cotidianas y Grupos Operarios en la Península Byers, Isla Livingston, Shetland del Sur,” in *Sed Non Satiata. Teoría Social en la Arqueología Latinoamericana*, ed. Andrés Zarankin and F. Acuto (Buenos Aires: Del Trídente, 1999), 171–88; Andrés Zarankin and María Ximena Senatore, “Estrategias y Tácticas en el Proceso de Ocupación de la Antártida—siglo XIX” (Río Gallegos: Universidad Nacional de la Patagonia Austral, 1999); Andrés Zarankin and María Ximena Senatore, “Archaeology in Antarctica: Nineteenth-Century Capitalism Expansion Strategies,” *International Journal of Historical Archaeology* 9, no. 1 (March 2005): 43–56, doi:[10.1007/s10761-005-5672-y](https://doi.org/10.1007/s10761-005-5672-y); Zarankin and Senatore, *Historias de un Pasado en Blanco. Arqueología Histórica Antártica*.
10. Zarankin and Senatore, “Estrategias y Tácticas en el Proceso de Ocupación de La Antártida—siglo XIX”; Zarankin and Senatore, “Archaeology in Antarctica”; Zarankin and Senatore, *Historias de un Pasado en Blanco. Arqueología Histórica Antártica*; A. Stehberg, *Arqueología Histórica Antártica. Aborígenes Sudamericanos en los Mares Subantárticos en el Siglo XIX*. (Santiago: Centro de Investigaciones Diego Barros Arana, 2003); A. Stehberg and V. Lucero, “Arqueología Histórica de la Isla Desolación. Evidencias de Coexistencia entre Cazadores de Lobo de Origen Europeo y Aborígenes del Extremo Sur Americano en la Segunda Década del Siglo Pasado,” *Serie Científica del Instituto Antártico Chileno*, no. 45 (1995): 67–88; Melisa A. Salerno, *Arqueología de la Indumentaria: Prácticas e Identidad en los Confines del Mundo Moderno* (Buenos Aires: Del Trídente, 2006); Melisa A. Salerno, “‘Identidades Extremas’: Moda, Vestido e Identidad en los Confines de la Sociedad Moderna (Antártida, Siglo

XIX)," *Arqueología* 13 (2007): 185–211; Andrés Zarankin et al., "Historias bajo Cero; Arqueología de las Primeras Ocupaciones Humanas en Antártida," in *Arqueología del Extremo Sur de Sudamérica*, ed. L. Borrero and N. Franco (Buenos Aires: Dunken, 2008), 251–83.

11. E. A. Grosz, *Volatile Bodies: Toward a Corporeal Feminism*, Theories of Representation and Difference (Bloomington: Indiana University Press, 1994); Thomas, "The Politics of Vision and the Archaeologies of Landscape," in *Landscape: Politics and Perspectives*, ed. Barbara Bender, Explorations in Anthropology (Providence: Berg, 1993); Judith Butler, *Cuerpos que Importan: Sobre los Límites Materiales y Discursivos del "Sexo"* (Buenos Aires: Paidós, 2002).
12. Descartes, *Discourse on Method and the Meditations*, Penguin Classics (Harmondsworth: Penguin Books, 1984); For more details see Melisa A. Salerno, "Persona y Cuerpo-Vestido en La Modernidad: Un Enfoque Arqueológico." (PhD Thesis, Facultad de Filosofía y Letras, Universidad de Buenos Aires, 2011).
13. Grosz, *Volatile Bodies*; N. Crossley, "Merleau-Ponty, the Elusive Body and Carnal Sociology," *Body & Society* 1, no. 1 (March 1, 1995): 43–63, doi: [10.1177/1357034X95001001004](https://doi.org/10.1177/1357034X95001001004); K. A. Aho, "The Missing Dialogue between Heidegger and Merleau-Ponty: On the Importance of the Zollikon Seminars," *Body & Society* 11, no. 2 (June 1, 2005): 1–23, doi: [10.1177/1357034X05052459](https://doi.org/10.1177/1357034X05052459).
14. Descartes, *Discourse on Method and the Meditations*.
15. Georges Vigarello and Heber Cardoso, *Corregir el Cuerpo: Historia de un Poder Pedagógico* (Buenos Aires: Nueva Visión, 2005).
16. Descartes, *Discourse on Method and the Meditations*.
17. Sebastian Gardner, "Merleau-Ponty's Transcendental Theory of Perception" (University College London, 2007), http://sas-space.sas.ac.uk/375/1/S_Gardner_Ponty.doc
18. M. Merleau-Ponty, *Fenomenología de la Percepción*. (Buenos Aires: Fondo de Cultura Económica, 1993).
19. Descartes, *Discourse on Method and the Meditations*.
20. Thomas, "The Politics of Vision and the Archaeologies of Landscape."
21. S. Stewart, "Prologue: From the Museum of Touch," in *Material Memories: [Design and Evocation]*, ed. Marius Kwint, Christopher Breward, and Jeremy Aynsley, Materializing Culture (Oxford: Berg, 1999).
22. Sarah Tarlow, "Emotion in Archaeology," *Current Anthropology* 41, no. 5 (December 2000): 713–46, doi: [10.1086/317404](https://doi.org/10.1086/317404).
23. Paul Ricoeur, *Memory, History, Forgetting*, trans. Kathleen Blamey and David Pellauer (Chicago, IL: University of Chicago Press, 2010).

24. Thomas, “The Politics of Vision and the Archaeologies of Landscape”; González-Ruibal, “Reclaiming Archaeology,” in *Reclaiming Archaeology: Beyond the Tropes of Modernity*, ed. Alfredo González-Ruibal, Archaeological Orientations (Milton Park, Abingdon ; NY: Routledge, 2013), 1–29.
25. Andrés Zarankin and María Ximena Senatore, “Storytelling, ‘Peixe Grande’ e Arqueología; Repensando o Caso da Antártica,” in *Tempos Ancestrais*, ed. W. Fagundes and F. Prado, 2012, 281–301.
26. Salerno, Zarankin, and Senatore, “La visión cartográfica: Expansión territorial y poder en el mundo moderno.”
27. In the sense of Pierre Bourdieu, *Outline of a Theory of Practice*, (Cambridge: Cambridge University Press, 2010).
28. Martin Jay, “The Rise of Hermeneutics and the Crisis of Ocularcentrism,” *Poetics Today* 9, no. 2 (1988): 307–26, doi:[10.2307/1772691](https://doi.org/10.2307/1772691); David Levin, “Introduction,” in *Modernity and the Hegemony of Vision*, ed. David Michael Kleinberg-Levin (Berkeley: University of California Press, 1993).
29. Salerno, Zarankin, and Senatore, “La visión cartográfica: Expansión territorial y poder en el mundo moderno.”
30. In the sense of Thomas, “The Politics of Vision and the Archaeologies of Landscape.”
31. Salerno, Zarankin, and Senatore, “La visión cartográfica: Expansión territorial y poder en el mundo moderno.”
32. For an extensive discussion, see Salerno, “Persona y Cuerpo-Vestido en la Modernidad: Un Enfoque Arqueológico.”
33. Ibid.
34. Zarankin and Senatore, “Storytelling, ‘Peixe Grande’ e Arqueología; Repensando o Caso da Antártica.”
35. For details see Salerno, “Persona y Cuerpo-Vestido en la Modernidad: Un Enfoque Arqueológico.”
36. David Carr, *Interpreting Husserl Critical and Comparative Studies* (Dordrecht: Springer Netherlands, 1987), <http://dx.doi.org/10.1007/978-94-009-3595-2>; Michael Jackson, ed., “Introduction. Phenomenology, Radical Empiricism, and Anthropological Critique,” in *Things as They Are: New Directions in Phenomenological Anthropology* (Bloomington: Indiana University Press, 1996), 1–50; C. J. Throop and K. M. Murphy, “Bourdieu and Phenomenology: A Critical Assessment,” *Anthropological Theory* 2, no. 2 (June 1, 2002): 185–207, doi:[10.1177/1469962002002002630](https://doi.org/10.1177/1469962002002002630).
37. Merleau-Ponty, *Fenomenología de la Percepción*.
38. Crossley, “Merleau-Ponty, the Elusive Body and Carnal Sociology.”

39. Merleau-Ponty, *Fenomenología de la Percepción*.
40. Margaret Lock, “Cultivating the Body: Anthropology and Epistemologies of Bodily Practice and Knowledge,” *Annual Review of Anthropology* 22, no. 1 (October 1993): 133–55, doi:10.1146/annurev.an.22.100193.001025; Steven Van Wolputte, “Hang on to Your Self: Of Bodies, Embodiment, and Selves,” *Annual Review of Anthropology* 33, no. 1 (October 2004): 251–69, doi:10.1146/annurev.anthro.33.070203.143749.
41. P. Alves and M. Rabelo, “Significacao e Metáforas na Experiencia da Enfermidade,” in *Experiencia de Doenca E Narrativa*, ed. M. Rabelo, P. Alves, and I. Souza, (Rio de Janeiro: Fiocrus, 1999), 173–87.
42. Merleau-Ponty, *Fenomenología de la Percepción*.
43. Gardner, “Merleau-Ponty’s Transcendental Theory of Perception.”
44. Merleau-Ponty, *Fenomenología de la Percepción*.
45. Crossley, “Merleau-Ponty, the Elusive Body and Carnal Sociology”; N. Crossley, “The Phenomenological Habitus and Its Construction,” *Theory and Society* 30, no. 1 (February 2001): 81–120, doi:10.1023/A:1011070710987.
46. S. Citro, “Variaciones sobre el Cuerpo: Nietzsche, Merleau-Ponty y los Cuerpos de la Etnografía.,” in *Incertidumbres del Cuerpo. Corporeidad, Arte y Sociedad*, ed. E. Matoso (Buenos Aires: Letra Viva, 2006).
47. Merleau-Ponty, *Fenomenología de la Percepción*.
48. Bourdieu, *Outline of a Theory of Practice*.
49. Merleau-Ponty, *Fenomenología de la Percepción*.
50. Ibid.
51. T. Csordas, “Embodiment as a Paradigm for Anthropology,” *Ethos* 18, no. 1 (1990): 5–47.
52. Bourdieu, *Outline of a Theory of Practice*.
53. Ibid.
54. Jean-Piere Warnier, “A Praxeological Approach to Subjectification in a Material World,” *Journal of Material Culture* 6, no. 1 (2001): 5–24.
55. In the sense of Martin Heidegger, *El Ser y el Tiempo* (Mexico City, Mexico: Fondo de Cultura Económica, 2007).
56. Bruno Latour, *Reassembling the Social: An Introduction to Actor-Network-Theory*, (Oxford: Oxford University Press, 2007); Alfred Gell, *Art and Agency: An Anthropological Theory* (Oxford ; New York: Clarendon Press, 1998).
57. Thomas, “The Politics of Vision and the Archaeologies of Landscape”; Victor Buchli and Gavin Lucas, “Between Remembering and Forgetting,” in *Archaeologies of the Contemporary Past*, ed. Victor Buchli, Gavin Lucas, and Margaret Cox (London ; New York: Routledge, 2001), 79–83; González Ruibal, “Reclaiming Archaeology.”

58. Csordas, “Embodiment as a Paradigm for Anthropology”; Merleau-Ponty, *Fenomenología de La Percepción*.
59. Zarankin and Senatore, “Storytelling, ‘Peixe Grande’ e Arqueología; Repensando o Caso da Antártica.”
60. Thomas, “The Politics of Vision and the Archaeologies of Landscape”; Christopher Y. Tilley, *A Phenomenology of Landscape: Places, Paths, and Monuments* (Oxford, UK ; Providence, R.I: Berg, 1994); Barbara Bender, “Introduction: Landscape—Meaning and Action,” in *Landscape: Politics and Perspectives*, ed. Barbara Bender, *Explorations in Anthropology* (Providence: Berg, 1993), 1–17.
61. Tilley, *A Phenomenology of Landscape*; Jean-Marc Besse, “Las Cinco Puertas del Paisaje; Ensayo de una Cartografía de las Problemáticas Paisajeras Contemporáneas,” in *Paisaje y Pensamiento* (Madrid: Adaba, 2006), 145–86.
62. Merleau-Ponty, *Fenomenología de la Percepción*.
63. Rosemary A. Joyce, “Archaeology of the Body,” *Annual Review of Anthropology* 34, no. 1 (October 2005): 139–58, doi:[10.1146/annurev.anthro.33.070203.143729](https://doi.org/10.1146/annurev.anthro.33.070203.143729).
64. Matthew H. Johnson, “Phenomenological Approaches in Landscape Archaeology*,” *Annual Review of Anthropology* 41, no. 1 (October 21, 2012): 269–84, doi:[10.1146/annurev-anthro-092611-145840](https://doi.org/10.1146/annurev-anthro-092611-145840).
65. T. Csordas, “Somatic Modes of Attention,” *Cultural Anthropology* 8, no. 2 (1993): 135–56.
66. Salerno, “Persona y Cuerpo-Vestido en la Modernidad: Un Enfoque Arqueológico.”; Melisa Salerno, “Sealers Were Not Born but Made. Sensory Motor-Habits, Subjectivities and Nineteenth-Century Voyages to the South Shetland Islands,” in *Coming to Senses. Topics in Sensory Archaeology*, ed. J.R. Pellini, Andrés Zarankin, and Melisa Salerno (New Castle upon Tyne: Cambridge Scholars Publishing, 2015).
67. Gilles Deleuze, *Cinema* (Minneapolis: University of Minnesota, 1986).

The White (Supremacist) Continent: Antarctica and Fantasies of Nazi Survival

Peder Roberts

INTRODUCTION

More than any other continent, Antarctica is a space known vicariously. The vast majority of the world’s population has never visited Antarctica—and never will. The “continent for science and peace” is invariably depicted as a forbidding, icy expanse punctuated by coastal populations of photogenic fauna photographed by transient human visitors. Those who have been to Antarctica tend to hew close to this narrative, showcasing the emblematic fauna and the vast, alien landscape more than the settlements. In doing so, these modern visitors echo a powerful historical trope, in which the physical geography of Antarctica provides a challenging arena for feats of exploration, endurance, and above all, science.

For most of us, the Antarctic has therefore come to be understood through a standard set of visual and historical reference markers, from penguins to Scott and Amundsen to the Antarctic Treaty, and climate change research. But these images were never universally dominant. During much of the twentieth century, particularly the years immediately following 1945, Antarctica was associated with potential mineral riches—

P. Roberts (✉)

Division of History of Science, Technology and Environment, KTH Royal Institute of Technology, Stockholm, Sweden

following on from the spectacular rise and fall of the region's whaling industry. And for an uncertain number of others, the Antarctic had (and still has) a vastly different meaning. To them, the ice is the site of a hidden Nazi city, of secret battles between the surviving Nazis (including Hitler) and American forces in the years after 1945, and a base for saucer-shaped spacecraft called *Haunebu*.¹ If perceptions of the continent for science as a continent for commerce can be analyzed as historical phenomena, reflections of cultural attitudes that captured a specific moment, surely fantasies about Nazi activities in Antarctica also reflect something—but what?

With the subtlety of a sledgehammer deployed against a fly, oceanographer Colin Summerhayes and writer Peter Beeching have demonstrated that all the important claims of Nazi Antarctic survival mythology are either unproven or incorrect.² Their hope that empirical rigor will end belief in something transparently ludicrous strikes me as ill-placed.³ I am sure that many hold such ideas out of casual ignorance, rather than deep conviction. But the “travesty of history” that Summerhayes and Beeching bemoan can also signify a choice to interpret the world through a rather different ideological prism as much as a failure of methodological rigor.

In this chapter, I want to think critically about Antarctica's construction within cultural and political geographies in addition to its status as a physical geographical object. Like all good conspiracy theories, from Barack Obama's birth certificate to *The Da Vinci Code*, even the most sensational narrative has to be plausible—and that plausibility is a contingent quality, across time as well as space. As a comment piece in *Nature* inspired by Summerhayes and Beeching's article aptly put it, “the polar regions are a particularly good spot for a conspiracy theory.”⁴

What is it about Antarctica that makes it particularly easy to inscribe alternative historical and political geographies upon it? How does the status of Antarctica as a remote, little-visited space inhabited mostly by researchers and their support staffs shape the construction of narratives the place? I am dissatisfied with answers that attribute error entirely to ignorance of physical geography (“people believe funny things because they don't know what Antarctica is really like”), irrespective of cultural or historical context. Nor am I comfortable with the position that the setting is essentially arbitrary (“Antarctica is just a blank screen upon which any old fantasy can be projected—they could tell this story anywhere”), because it denies the role of specific elements of Antarctica's history and physical geography in underpinning the plausibility of particular narratives. Antarctica is co-constructed as a physical geographical and a political/

cultural geographical object. This chapter explores how and why these processes have created space for alternative histories of Antarctica, and for thinking about how the continent constructed by and for science (in Aant Elzinga's felicitous phrase)⁵ could be constructed rather differently. In so doing, I acknowledge, but also complicate the relationship between the growth of historical and natural scientific knowledge about Antarctica and the range of narratives that are situated within those frames.

The first section of the chapter historicizes the role of human imagination in both anticipating the physical geography of the Antarctic—what kind of things one is thought likely to encounter—and in filling spaces between the stated objectives of Antarctic investigations and popular perceptions of what actually was important or interesting about the continent. Here I attempt to recapture some of the distance between activity and representation, linking the process of constructing a mental image of Antarctica with the process of determining what kind of narratives about that place might be plausible. The second section focuses more specifically on the mythology of Nazi survival in the Antarctic, invariably in concert with advanced technology. Here I build on observations made by Joscelyn Godwin and Nicholas Goodrick-Clarke concerning the construction of the Antarctic as a peculiarly Aryan space, drawing connections between the mental geography upon which Nazi fanatics drew, and the specific physical geography of Antarctica in order to go beyond a simple explanatory model of projection upon an interchangeable screen.

Is ANTARCTICA REALLY A BLANK SCREEN?

There is a long tradition of describing Antarctica as a screen upon which values, commitments, and desires are projected, from nationalism and imperialism to personal gain and—more recently—environmental protection, and science. Yet as Elena Glasberg has pointed out, the image of the blank Antarctic screen is itself a construction, a choice that obscures or forecloses alternative representations—and downplays the agency of humans to leave imprints upon the continent.⁶ Attempts to inscribe alternative historical narratives upon Antarctica are attempts to subvert the political geographies inherent within depictions of Antarctica as a continent for science.

Moreover, the metaphor of the screen misses the element of interpretive encounter. Stephen Pyne has described Antarctica as an “information sink,” a space devoid of stimuli that cannot produce a mental architecture

capable of interpreting it.⁷ Antarctica thus presents an extreme example of a universal truth: that perceptions of novel environments are always framed by personal experience, in terms of culture and politics, in addition to specialized scientific knowledge. When representations of the Antarctic are consumed at a spatial and conceptual distance (how many people have been anywhere near Antarctica, or even know someone who has?), spaces open for creatively deploying Antarctica within historical narratives, and perhaps also for thinking about the agency of the space being encountered as well as the interlocutor who describes and represents it.

What did the first visitors to Antarctica expect to find? The sealers who worked in the islands around the Antarctic Peninsula in the early nineteenth century do not appear to have anticipated a radically different environment from the Arctic. Carsten Borchgrevink included ammunition to deal with polar bears or other large terrestrial predators when he led the first expedition to overwinter on the Antarctic continent (1898–1900). As Tom Griffiths notes, the responses of Borchgrevink and his men to the landscape instead featured such descriptions as “solitude,” “silence,” and “sterility.”⁸ The Swedish expedition that overwintered just a few years later did not seem to expect charismatic terrestrial fauna, but when a group of expedition members sighted a scruffy-looking person walking towards them, the visitor (soon revealed to be a member of another party from the same expedition) was momentarily suspected to be an Antarctic native.⁹

Such illusions passed quickly. The icy, seemingly biologically dead terrain encountered by early explorers of the continent’s interior was almost immediately extrapolated to represent the continent as a whole. Even Australia’s arid interior, which Brigid Hains has compared to the Antarctic as a space for Australian colonial ambitions, was (sparsely) populated with conditions that were hardly worse than deserts elsewhere in the world.¹⁰ When Arthur Conan Doyle in 1912 imagined a “lost world” high on an Amazonian plateau, the conceit that a flourishing enclave of dinosaurs could exist undiscovered was made plausible by the combination of fertility and hostility that characterized the deep jungle.¹¹ The discovery of Antarctica’s apparent sterility very quickly made it less a space where races of peoples could be *discovered* as an autochthonous element, and more a space where they might be *hidden*.

The sheer expense and difficulty of getting to Antarctica meant that even in the late nineteenth century, expeditions to the continent required a compelling justification. As the twentieth century progressed, the commercial imperative that attracted private individuals to the Antarctic

faded with the decline of the whaling industry, reinforcing the dominant role of states in Antarctic activity. Justifications for states to make that investment were, in turn, harder to make. The German Antarctic expedition of 1938–39, which lies at the heart of most alternative histories of the continent, sailed south in its ship *Schwabenland* under a veil of secrecy, ostensibly to determine whether a whaling supply base could be established on a slice of coastline that the expedition would claim for the Reich. Lüdecke and Summerhayes have thoroughly described the details of this expedition,¹² which was known to the outside world only sketchily. The Norwegian geologist and polar administrator Adolf Hoel, an admirer of both Germany and its rulers (he would ultimately be disgraced for wartime collaboration), recalled in his autobiography that when he became aware of the expedition’s nature he frantically contacted the Norwegian authorities in order to ensure his nation’s potential territorial claim was not extinguished by German rivals.¹³ This, in turn, prompted the formal Norwegian annexation of Queen Maud Land on January 14, 1939.

While it was common knowledge that the German government wanted a stake in the Antarctic whaling industry, there had been no serious talk of building a whaling base on the Antarctic continent since the shift a decade prior to “pelagic” whaling, conducted entirely on the high seas and hence making shore stations—and sovereignty considerations—unnecessary. The German rationale thus appeared confusing even at the time, especially as there was such a focus on aerial reconnaissance of inland areas (which presumably had no relevance for whaling). If the motive was protection of whaling interests, claiming a slice of territory might establish a form of moral right to participate in governance of the whaling industry. But Germany was already an active participant in international whaling regulation—a system that produced very little in the way of hard regulations and posed no realistic threat to Germany’s ability to do as much whaling as it desired. Conducted in secret with a stated aim that was at best curious, and focused on areas seemingly without relevance to whaling, the *Schwabenland* expedition opened an explanatory vacuum in which alternative explanations could grow.

Rumors and conjecture soon sprouted to answer the question of why the Antarctic had suddenly become such an interesting space, assisted by the revival of Britain’s sovereignty dispute with Argentina. The appearance of two Nazi U-boats in Argentina shortly after the end of the Second World War immediately sparked rumors that Hitler had escaped from his bunker in Berlin. While Summerhayes and Beeching show that there was noth-

ing particularly unusual about the submarines or their cargo, Argentina certainly was an attractive destination for Nazi figures and sympathizers, from Adolf Eichmann to Adolf Hoel, who considered moving there after his release from prison in 1947.¹⁴ The territory Germany had explored and claimed in 1938–39,¹⁵ named in Germany as Neu-Schwabenland, was adjacent to the increasingly contested Antarctic Peninsula. A long-running territorial dispute between Britain, Argentina, and Chile reopened in 1940, and was considered sufficiently serious by the wartime British government that a covert mission—named Operation *Tabarin*—was dispatched in 1943 to shore up Britain’s claim by occupying territory. Argentina’s wartime neutrality did not prevent it being an important supplier of beef for Britain, but links between Argentinian nationalists and German Nazis were already apparent before 1945.¹⁶ During the time of Juan Perón’s populist government, elected in early 1946, Argentina became a favored destination for Nazis and their sympathizers fleeing disgrace (or worse) in Europe. The narrative of territorial conflict between Argentina and Britain thus meshed with the existing narrative of dissonance between the Nazi-defeating Britons and the Nazi-hiding Argentinians. If Argentina was a haven for escaped war criminals, could it not perhaps be using its Antarctic claims as a hiding place for the worst criminal of them all?

The *Schwabenland* expedition had returned with apparent evidence of unfrozen lakes and ice-free mountains deep in the Antarctic hinterland, including a set of photographs that caught the attention of the Swedish geographer Hans Ahlmann. Convinced that the photographs were evidence of modest warming (over a period of years and decades), and thus, evidence for his theory of a global climatic improvement (*klimatförbättring*), Ahlmann used his political connections in Norway to instigate what became the Norwegian-British-Swedish Antarctic Expedition (NBSX, 1949–52). In the lead-up to the expedition’s departure, the photographs were frequently cited not only as evidence for climate change, but evidence that the monolithically harsh Antarctic might not be so uniformly impossible. Fanciful allusions to an austral Shangri-La in turn evoked the mystical source of arcane wisdom already associated with the more esoteric brands of Nazism—not least through another myth, that of the Nazi quest for Aryan cultural roots in Tibet.¹⁷ The NBSX ultimately failed to find evidence that there had been warming in recent times, while noting that the German maps were severely defective (especially regarding the height of the mountains) due to their lack of ground control. Most responses to speculations of warm Antarctic oases were characterized by amusement—

laced with irritation, in the case of the expedition's organizers—but the more subtle point remained, that Antarctica might be neither as awful nor as homogeneous as presumed. The concept of climatic variability has since become a facilitating factor, not only in myths of Nazi survival, but in far-fetched accounts of lost civilizations (which also seem quite popular in Russia—a place Summerhayes has identified as a particularly strong site of belief in Nazi Antarctic survival).¹⁸

Claims that Hitler had fled to Antarctica were overshadowed by another matter that the war had brought to prominence: the global search for uranium that was well underway with the birth of the nuclear age. Yet little was known about either the distribution or volume of the world's reserves. While mandarins from Whitehall to Washington seemed entirely oblivious to the potential presence of Nazis in Antarctica, rumors of uranium reserves were taken very seriously, and the possibility of their discovery was floated as realistic by authorities such as Douglas Mawson. Operation *Tabarin* raised further suspicions that Antarctica was important for reasons beyond prestige.¹⁹ These deepened when a member of a follow-up expedition was quoted in the British media as claiming he was forbidden from speaking about the search for uranium—a wink that really was better than a nod.²⁰

Speculation about Antarctica as a space bearing strategically valuable minerals also drew upon the increasingly visible importance of geophysical methods to investigating the continent, often with the assistance of militaries (or even under their control). Britain, Argentina, and Chile carefully documented, and then eradicated evidence of the presence of unauthorized visitors while recording meteorological conditions and conducting geological investigations. Intense speculation in the news media reflected a public belief that the worldwide quest for uranium stocks was also underway in Antarctica, a belief shared by some in the British government who thought it the likely motive for the United States' sudden interest in the continent.²¹

If the conflict between Britain, Argentina, and Chile demonstrated the persistence of territorial concerns, the United States Navy's Operation *High Jump* (1947–48) symbolized the coming of superpower muscle. Thirteen ships and around four thousand personnel set out to chart the Antarctic while testing cold weather military gear. No expedition remotely similar in size had ever sailed south, and with tensions between the nascent superpowers growing, the justification of cartographic surveying and (stated more discreetly) cold weather warfare training seemed oddly inad-

equate even at the time. The key factor in getting the expedition approved was the persistent lobbying of the famed polar aviator Richard Byrd, who commanded sufficient respect within the Navy to get the mooted cold weather warfare training program shifted south instead of north, largely for reasons of personal interest. But while the Arctic was clearly a potential front between the nascent superpowers, the Antarctic was far from the sites where conflict might break out. This helps to explain how speculation about uranium finds continued to rumble, and how *High Jump* soon became woven into Nazi survival myths through a reinterpretation of its mission as the quest to destroy Hitler's secret Antarctic hideout.

HOW DID ANTARCTICA BECOME A SPACE FOR NAZI SURVIVAL MYTHOLOGY?

From the vantage point of the resource-obsessed present, rumors of spectacular mineral finds and covert quests to secure them seem eminently plausible. My task in this section is to ask how and why the rumors of Nazi survival in the Antarctic that emerged almost as soon as the Second World War ended took hold, and what constructions of Antarctica made those conspiracy theories seem plausible to certain eyes. Put another way: why Hitler, and why Antarctica?

The burst of interest in UFOs that followed Kenneth Arnold's sighting of "flying saucers" during a private flight in Washington state in 1947 added a new element—advanced aerospace technology—that could be ascribed to hidden Nazis as well as visiting extra-terrestrials.²² A flourishing literature exists alleging that the Nazis somehow found time to develop flying disk technology, and to deploy it from Antarctica after 1945.²³ This twist on Nazi Antarctic survival mythology has been advanced by the infamous Holocaust denier Ernst Zündel (who has also published under the pseudonym Christian Friedrich, his two middle names). Zündel has allegedly confessed that he invented much of that narrative essentially as publicity for his anti-Semitic political agenda.²⁴ (The fact his *Secret Nazi Expeditions* solemnly described the *Schwabenland* expedition's members examining walruses should really have been a giveaway, unless of course the hapless pinnipeds traversed the same secret subterranean channel from the Arctic that he claimed German submariners had discovered.)²⁵ Yet the story flourishes anyway, and if anything, knowing that it is fictional begs the question of why Zündel thought a story set in Antarctica would be particularly useful for his nasty propagandizing. I am inclined to agree

with Goodrick-Clarke's characterization of Zündel's Antarctic UFO material as "a potent myth of apocalyptic Nazi revival backed by astonishing resources," part of a "strategy designed to entice new audiences with the neo-Nazi message."²⁶ The plausibility of the congress between physical and political geographies was an essential prerequisite for its purpose as an ideological advertisement.

If Summerhayes is right that significant numbers of people continue to believe what is an entirely false story, it clearly resonates for reasons beyond empirical evidence. Here I find value in Tamotsu Shibutani's classic study *Improvised News*, which examined rumor formation as a social process. Rather than characterizing rumors as inherently irrational—deviations from truth—Shibutani described them as attempts to make sense of an uncertain environment.²⁷ Part of the answer is undoubtedly the "I want to believe" mindset made famous by Special Agent Fox Mulder in *The X-Files*. The psychotherapist Carl Gustav Jung noted as much already in the 1950s, when he complained that a "distorted" record of an interview was gleefully picked up by the world's media to indicate his belief in flying saucers—but that his rather more prosaic opinion was not. Jung concluded "that news affirming the existence of UFOs is welcome, but that skepticism seems to be undesirable."²⁸ This is true, but it does not determine the form that such enthusiasm will take, just as a worldview rooted in Aryan supremacy is a necessary, but not a sufficient condition for accepting narratives of Nazi Antarctic survival as plausible. Zündel did not merely draw Antarctica as it appeared through his warped eyes: he used the images provided by others as active, indeed essential, components of a narrative that reinforced rather than simply reflected his worldview.

Goodrick-Clarke has made the important point that alternative histories of Nazis surviving (and indeed thriving) in the Antarctic must be located within the cultural and social context of the discombobulated post-1945 world.²⁹ The utter destruction of the existing global order, and the resultant geopolitical and cultural flux, were accompanied by a corresponding sense that the boundaries of scientific and technological possibility had significantly expanded. The awesome power of the atomic bomb was augmented by rockets, submarines, and other vehicles that promised to make remote spaces ever more accessible. Antarctica was no exception. Within this historical moment, the possibility of a highly sophisticated elite withdrawing from the carcass of the defeated Germany—like the James Bond villain Ernst Stavro Blofeld fleeing the scene of his latest dashed attempt at world chaos—could be readily imagined.

Antarctica soon became the destination for this imagined escape for three reasons. First, it provided an alternative motive for the *Schwabenland* expedition, especially its focus on the inland regions. The physical geography that the expedition revealed, with hints of topographic and climatic variation in the hinterland, provided a basis for such speculation. Given that millions of square kilometers of its territory had never been traversed (or even charted), the Antarctic inland comprised a space where activities might be hidden—especially if the obvious and considerable logistical difficulties could be elided through reference to unspecified advanced technologies. Zündel later added his own wrinkle by claiming that German U-Boat expertise led to the discovery of a shortcut between the polar regions beneath the seabed, trading on the fact that even in the 1970s, the depths of the ocean floor were hardly exhaustively charted (and newly-explored features such as the Mid-Atlantic Ridge were difficult for laypersons to visualize). The cartography, and in Zündel's case also the hydrography, of the Antarctic were clearly still fields where speculation could be rooted.

Indeed, even the process of charting Antarctica's physical geography could be allied to a myth of Nazi survival. Operation *High Jump* was different in scale but not intent from similar activities in the second half of the 1930s, as both the *Schwabenland* expedition and Lars Christensen's final Norwegian expedition in 1936–37 focused on aerial photography on order to strengthen cartographic knowledge of specific parts of the Antarctic. The IGY placed further swathes of the continent under intense surveillance, employing new techniques such as seismic refraction in addition to photogrammetry. Goodrick-Clarke noted that *High Jump* became a staple of Nazi Antarctic survival myths, rather than a challenge to them, because it could be imagined as a massive military response to a Nazi Antarctic base—dealt with in secrecy, of course, in order to preserve the narrative of Allied success.³⁰ Summerhayes and Beeching note that the three nuclear explosions of Operation *Argus*—a 1958 testing program conducted by the US in the South Atlantic—have been reinterpreted as the final attack on Hitler's hideout.³¹ In a similar vein, hollow earth thinking—drawing on geodetic conceptions that were never mainstream, but which have now become useful again through providing a site for UFOs to emerge from—provided a further conceptual tool for reimaging Antarctica's physical geography, and for rejecting the mass of geophysical research there after 1945 as obfuscatory.³²

Second, myths of Nazi survival drew upon the utter certainty of devotees that a regime they held to exemplify a higher level of being could

not possibly be extinguished. One aspect of this belief was spiritual and esoteric, locating Hitler and his ideology on a higher, mystical plane of consciousness.³³ But there was also a sense that even apparently total military defeat could be reconceptualized as a temporary setback, a tactical retreat to a hidden place from which the inevitable triumph of Nazism would be plotted. Assumptions of cultural and intellectual supremacy permitted an almost limitless imagination of logistical and technical prowess. Consequently, the seemingly impassable obstacles to establishing a permanent base in Antarctica and building it up in complete secrecy and isolation could be rendered plausible. The *Schwabenland* expedition could be re-inscribed with a covert purpose, in this case laying the foundations for a secret underground base, aided by its hazy public justification and status as an official Nazi project. Interrogating a distant and forbidding continent, rich in potential for hiding things, but difficult to conquer, could in turn function as a validation of the supremacy of Nazi German science and technology. Domination of the world, which the Nazi regime was presumably planning, framed conceptions of their capacity and desire to dominate this one particularly inhospitable space. Who else could master this environment? Who else would want to? Ultimately, what more appropriate expression could there be of Nazi superiority over environments, as well as peoples, than the subjugation of the most alien space on the planet?

The existence of advanced German military technology provided a further basis from which a more fantastic narrative of superiority over nature could be established. The V-2 rockets that rained destruction upon cities in Allied Europe from September 1944 to March 1945, and to an extent also jet aircraft such as the Messerschmitt Me 262, displayed a remarkable level of sophistication within certain (highly visible) domains of military power. Lack of access to human and natural resources meant that these objects were symbolically striking rather than decisive military interventions—not dissimilar to the Zeppelin raids of a generation earlier. The fact that a number of key figures in the Nazi rocket program were spirited to the United States after the war³⁴ did not deter speculation that the “real” geniuses behind such technologies remained hidden—along with the infrastructure they needed to pursue further developments. More exotic claims of direct contacts between Nazi leaders and alien races affirmed both the privileged racial status of the Nazis (the aliens presumably wished to deal with the foremost representatives of the human species) and the possibility that even the most outlandish technological advances might be plausible.

As Goodrick-Clarke correctly noted, the emergence of flying saucers as a phenomenon of considerable public (and not inconsiderable military) interest from 1947 was a necessary condition for the narrative of Nazi survival in the Antarctic. During the war, Allied pilots occasionally reported being accompanied by strange glowing objects while flying missions over Germany, which became collectively known as “foo fighters.” While insufficiently concrete to gain serious attention from military leaders, foo fighters could easily be integrated into narratives of advanced (and barely imaginable) aerospace technology. When Arnold claimed to have seen a series of disk-shaped objects flying over the Cascade Mountains in 1947, he sparked a craze that became a major part of mid-century popular culture in the United States (and beyond). The hypothesis that strange objects in the skies were of extraterrestrial origin quickly became dominant, but in the uncertain and paranoid post-war America, either the secretive Soviet Union or ingeniously wicked Nazis were also popular suspects. Scattered evidence for German interest in flying disk designs resonated with Arnold’s description (or at least, with the version that dominated public discourse). Disks quickly became the dominant image of unidentified flying objects.³⁵ Sources of both awe and anxiety, flying saucers represented symbolic validation of the potential for technology to be far more advanced than the average person knew—and likewise, the gulf between the realms of the known and the secret.

Third, the German esoteric tradition of associating racial purity and higher levels of civilization with the polar regions made Antarctica a logical site for that civilization to be continued. The Thule Society, a Munich-based group founded in 1918, and devoted to the occult origins of Germanic race and culture, took its title from the ancient Greek name for the earth’s northernmost land. Hitler is generally thought to have been somewhere between contemptuous and dismissive of such occultism (and the Thule Society was, in any case, no more by 1930).³⁶ But the link in the popular imagination between Nazi cultural supremacy and mystical knowledge persisted, not least because prominent Nazis such as Hitler’s deputy Rudolf Hess *had* been members of the Society. The polar regions were invested with particular significance as the symbolic source of Germanic purity (despite the rather equatorial origins of Aryan cultures in India). Godwin has pointed out that the polar regions have always been refracted through particular prisms of “national, racial, or religious consciousness,” which is of course true of all spaces.³⁷ Nevertheless, he argues, the existence of a tradition that invested the polar regions with particular

meanings created a frame in which an alternative historical narrative could be plausibly inscribed upon the physical geography of the Antarctic. The fact this tradition drew from mystical rather than empirical bases lessened the power of geophysics and geodesy to undermine its credibility. It might even explain how a regime known to be obsessed with expanding control of territory could have retreated (or should that be returned?) to the end of the earth.

More generally, the authoritarian, racially exclusive nature of the Nazi regime could be easily inscribed upon the environment that perhaps most closely reflected its own characteristics: the harsh, icy Antarctic. This is what Goodrick-Clarke was getting at when he linked the physical geography of Antarctica with the concept of Aryan superiority, the landscape peculiarly suited to the projection of a particularly brutal form of society.³⁸ The idealized image of the Nazi regime—characterized by discipline, violent conquest, hyper-masculinization, technology, and a fetishization of purity—could be distilled into a cultural essence suited to Antarctica. Not only did this construction serve to naturalize Nazi presence within the Antarctic, it could also address the obvious question of how any individual could cope with life in such a difficult place. Zündel's description of “tough, hardy” German submariners who “could supply the technological brains and backbone for any twentieth century colonization of the polar regions” drew upon this idealization.³⁹ The city of “New Berlin” still occasionally appears in fringe literature, an incarnation of Nazi supremacy beneath the Antarctic ice speculated by one author to have over 300,000 inhabitants.⁴⁰ Such a conceit clearly relies upon the marriage of a particular conception of both the Antarctic as an environment and its imagined inhabitants as a culture, in addition to a remarkable level of technological sophistication. The continent Pyne described as “utterly inhuman”⁴¹ is entirely appropriate for a group defined as *Übermensch*.

The construction of a narrative in which Hitler and other Nazis could have transplanted and continued their culture in the Antarctic relies upon a particular worldview in which Nazi supremacy in both technology and culture is accepted *a priori*. As Goodrick-Clarke rightly argued, there would have been no *Haunebu* theorizing without the flourishing world of conspiracy and novelty that quickly built up around UFOs in general from 1947.⁴² Zündel and his ilk wove UFOs into their stories because they were attractive vehicles through which the Nazi story could be sold. Nevertheless, the physical geographical characteristics of Antarctica were invoked as components of the narrative, and Antarctica depicted as a

uniquely suitable space for that narrative to unfold. Antarctica was not like an imagined planet, where literally almost anything could be imagined. Rather, the continent permitted speculation within limits, those limits in turn strengthening the sense of plausibility through resonance with the idealized cultural characteristics attributed to (and articulated by) Nazism and its adherents.

Crucially, direct experience of Antarctica is not necessarily sufficient to destroy an individual's belief in Nazi Antarctic survival. I have already touched on how technological and logistical skill far in excess of the known may be postulated in order to make the apparently impossible possible, and personal experience of an environment does not in itself dictate what things the individual may conceive to exist within it. The ranks of UFO believers include at least one astronaut—Apollo veteran Edgar Mitchell—whose experience in space (and perhaps also his experience with NASA and related organizations) lends credibility to his opinions on extraterrestrial visitors to earth, and their concealment by government agencies.⁴³

In this context, the Chilean journalist, diplomat, and Nazi survivalist Miguel Serrano provides a salutary example. Godwin has explicated Serrano's biography and worldview in some detail.⁴⁴ The young man's fierce leftism swung to a radical fascism and enthusiasm for the Axis powers in the Second World War, allied to an increasing fascination with Aryan esotericism. As Serrano's diplomatic career developed during the Cold War years, he sought a posting in India specifically to expand his esoteric knowledge. His mastery of this tradition grew alongside a fascination for Nazi ideology that came to include holocaust denial and polemical calls for South American salvation through National Socialism.⁴⁵ Like Savitri Devi—whom Goodrick-Clarke dubbed “Hitler's priestess”—Serrano came to see Hitler as an avatar of the god Vishnu, charged with leading Aryans toward their racial destiny. Hitler's flight to the Antarctic bunker, like his military setback in 1945, was simply one step in a mystical journey that culminated in a departure from the earth itself.

Serrano actually visited Antarctica in 1948 as part of a Chilean state expedition, one of a series of army-run missions that the Chilean government hoped would secure its sovereignty claim against British and Argentinian rivals.⁴⁶ Visiting Antarctica and experiencing the continent first-hand did not provide any kind of inoculation against belief in Nazi survival. On the contrary, it appears that he experienced an Antarctica that conformed rather well to his worldview. Conceiving Hitler as a higher form of being, and the Nazis as on a higher plane of existence, Serrano

had no need to reconcile the parameters of his own Antarctic experience to those he attributed to his Aryan idols. The harsh physical geography did not rule out a Nazi flight to Antarctica as much as it confirmed the exceptionality of the Nazis. Truth was found in the texts of the Aryan esoteric tradition rather than the ice and snow of Antarctica.

Even today's visitors to Antarctica have their experiences mediated by authorities that impose political frames upon the physical geographies of the continent. As Glasberg has pointed out, living in and traveling from a modern Antarctic base is an exercise in submission to control and surveillance, as the filmmaker Werner Herzog found to his great annoyance.⁴⁷ Tourist vessels operate within tightly controlled parameters and private visitors are required to notify state authorities. The justifications for this regime, namely Antarctica's status as a continent for science rather than a continent for human habitation, make sense within the context of a consensus that access must be restricted to those with reasons to visit—or in the case of tourists, the resources to visit. The means by which the physical geography of Antarctica is defined, its terrain mapped and its scientific secrets revealed, are inextricably bound up with the political framework within which that knowledge is produced, and its function not only as a source of empirical knowledge but as a performance of allegiance to the norms of the Antarctic Treaty (and demonstrating good international citizenship). In the case of Antarctica, scientific investigations have highlighted anthropogenic changes to global atmospheric systems, producing facts inescapably linked to political debates. Today more than ever, a preponderance of empirical data cannot guarantee consensus.

CONCLUSIONS

Antarctica remains a space where the unexpected and the unknown may be encountered. Lake Vostok, a subglacial body of liquid water with a volume of over 12,000 cubic kilometers, is the largest and most striking of a suite of subterranean geographical features that may even support unique ecosystems. But the realm of potentially existing objects is by no means limited to the purview of the many national Antarctic science programs. Following the publication of the Summerhayes and Beeching article, the *Polar Record* published a letter from another Antarctic veteran—Rubens J. Villela, whose extensive Antarctic experience included being an official observer with the United States Antarctic program in 1960–61. Villela concurred enthusiastically with the contempt shown for peddlers of “such

obviously faked stories of Nazi activities in Antarctica,” while nevertheless claiming that he had himself seen a UFO in the Antarctic, and that “the matter of UFOs is a serious business and merits much more attention by scientists. Antarctica itself is the scene of many and well-documented UFO sightings and related phenomena.”⁴⁸ (He did not elaborate further beyond reference to the work of Timothy Good, an enthusiastic champion of various UFO-related conspiracies, including United States government involvement in hiding evidence of extraterrestrial visitors.)⁴⁹ Even the possibility of hidden human settlement persists in modern fiction, as evidenced by Kim Stanley Robinson’s novel *Antarctica*.⁵⁰ Robinson’s imagination of an Antarctic culture, a community living secretly and (nearly) independently, stimulates reflection on whether the Antarctic Treaty System is really the natural form of governance for the continent. The manifesto his characters create is well worth reading by any student of Antarctic geopolitics.

We might also reflect more deeply upon the construction of historical narratives as expressions of political ideologies. Referring in 1993 to the appearance of Holocaust denial within pockets of UFO culture, the journalist Sherry Baker lamented the corruption of “pristine” UFO research by anti-Semitic bile.⁵¹ As far as I can see, there is no way to articulate an alternative history of Nazi survival in Antarctica without accepting the political ideology and concomitant worldview that such a belief demands, and no way that such stories can be other than forms of wish fulfillment. Nazi ideology is a necessary, rather than a sufficient condition.

John Whitfield’s question of why Antarctica should be a logical site for conspiracy theories, with which I began this essay, is more interesting than the rather open and shut question of whether the Nazi survival events actually took place. My answer is to return to the mutual reinforcement provided by political and physical geographies. The construction of Antarctica as a physical geographical environment played a crucial role in framing the possible narratives that could be inscribed upon the continent, just as the representation of the history of human activities in Antarctica provided a frame that both limited and fueled imaginations.

The articulation of Antarctica as a continent for science and peace, through text and performance, should ultimately be considered an example of what Gerard Toal has described as the construction of spaces through geopolitical discourse.⁵² The fact that the Antarctic Treaty System has persisted for over fifty years masks the contingency of its origins (and the gravity of the challenges it has faced, particularly related to debates over

mining in the 1980s and early 1990s), and also the fact that there are alternative ways of articulating Antarctica—as a space for commerce, industry, urbanization, or even militarization. These have all relied upon narratives that frame histories and geographies of Antarctica, making the continent rather than simply finding it. Hitler survives in Antarctica because he survives in the imagination of individuals—and removing him from historical narratives of Antarctic survival will require shifts in ideological rather than geographical understanding.

NOTES

1. A cursory search of the internet reveals all manner of credulity-straining material, including a growing number of computer-aided renderings of flying saucers with Luftwaffe insignia.
2. Colin Summerhayes and Peter Beeching, “Hitler’s Antarctic Base: The Myth and the Reality,” *Polar Record* 43 (224), 2007, 1–21.
3. See also Colin Summerhayes and Cornelia Lüdecke, *The Third Reich in Antarctica: the German Antarctic Expedition 1938–39* Norwich: Erskine Books, 2012.
4. John Whitfield, “Did Hitler Have a Base in the Antarctic?” *Nature* 30 March 2007 doi:[10.1038/news070326-14](https://doi.org/10.1038/news070326-14).
5. Aant Elzinga, “Antarctica: The Construction of a Continent By and For Science,” in Terry Shinn, Elisabeth Crawford, and Sverker Sörlin, eds, *Denationalizing Science: The Contexts of International Scientific Practice* (Dordrecht: Kluwer, 1993), 73–106.
6. Elena Glasberg, *Antarctica as Cultural Critique: The Gendered Politics of Scientific Exploration and Climate Change* (New York: Palgrave Macmillan, 2012), Chap. 5.
7. Stephen Pyne, *The Ice: A Journey to Antarctica* (Iowa City: University of Iowa Press, 1986).
8. Tom Griffiths, *Slicing the Silence: Voyaging to Antarctica* (Cambridge, MA: Harvard University Press, 2007), 168.
9. Otto Nordenskjöld, Johan Gunnar Andersson, Carl Skottsberg, and Carl Anton Larsen, *Antarctica, or, Two Years Amongst the Ice of the South Pole* (London: Hurst and Blackett, 1905).
10. Brigid Hains, *The Ice and the Inland: Mawson, Flynn, and the Myth of the Frontier* (Melbourne: Melbourne University Press, 2002).
11. Arthur Conan Doyle, *The Lost World: Being an Account of the Recent Amazing Adventures of Prof. George E. Challenger, Lord John Roxton, Prof. Summerlee, and Mr. E.D. Malone of the “Daily Gazette”* (London: Hodder and Stoughton, 1912).

12. Lüdecke and Summerhayes, *The Third Reich in Antarctica*.
13. Adolf Hoel, *Mit liv i og for polartrakterne* (Oslo: John Griegs forlag, 1977), 50–51.
14. Frode Skarstein, *Men så kom jo den 9. April i veien... Adolf Hoel: den glemte polarpioneren* (Bergen: Happy Jam Factory, 2009).
15. The claim was not recognized by other states and definitively extinguished in 1945.
16. Adrian Howkins, “Frozen Empires: A History of the Antarctic Sovereignty Dispute Between Argentina, Britain and Chile,” PhD dissertation (University of Texas at Austin, 2009), 51.
17. Isrun Engelhardt, “Nazis of Tibet: A Twentieth Century Myth,” in Monica Esposito (ed.), *Images of Tibet in the 19th and 20th Centuries* (Paris: École française d’Extrême-Orient [EFEO]), coll. Études thématiques 22, vol. 1, 2008), 63–96.
18. Summerhayes is quoted to this effect in Whitfield, “Did Hitler Have a Base in the Antarctic?” See for instance “Ancient Pyramids, Possibly Man-Made, Discovered in Antarctica,” 18 June 2013, http://voiceofrussia.com/news/2013_06_18/Ancient-pyramids-possibly-man-made-discovered-in-Antarctica-5371/
19. See for instance Howkins, “Frozen Empires,” 87–94.
20. Peder Roberts, *The European Antarctic: Science and Strategy in Scandinavia and the British Empire* (New York: Palgrave Macmillan, 2011), 130.
21. Juxon Barton, Colonial Office memorandum, 30 December 1946. The National Archives of the United Kingdom at Kew, Colonial Office file 537/2459 “Internationalization of the Antarctic.”
22. Kenneth Arnold described his encounter in *The Coming of the Saucers: A Documentary Report on Sky Objects that have Mystified the World* (with Ray Palmer) (Boise: self-published, 1952). Other notable books on the UFO phenomenon from this time include Donald Menzel, *Flying Saucers* (Cambridge, MA: Harvard University Press, 1953); and Carl Gustaf Jung trans. R.F.C. Hill, *Flying Saucers: A Modern Myth of Things Seen in the Skies* (Princeton: Princeton University Press, 1978). The social milieu of flying saucer research at the time is recalled in James W. Moseley and Karl T. Pflock, *Shockingly Close to the Truth! Confessions of a Grave-Robbing Ufologist* (Amherst: Prometheus Books, 2002).
23. See for instance Frank E. Stranges, *Nazi UFO Secrets and Bases Exposed* (Van Nuys [CA]: IEC Publishers, 1982); and Henry Stevens, *Hitler’s Flying Saucers: A Guide to German Flying Disks of the Second World War* (Kempton, IL: Adventures Unlimited Press, 2003). More scholarly accounts include Joscelyn Godwin, *Arktos: The Polar Myth in Science, Symbolism and Nazi Survival* (London: Thames and Hudson, 1993); and most

importantly Nicholas Goodrick-Clarke, *Black Sun: Aryan Cults, Esoteric Nazism, and the Politics of Identity* (New York: NYU Press, 2002).

24. Zündel is alleged to have made this confession in a telephone call to the American journalist Frank Miele—himself no stranger to controversy, thanks to his justifiably criticized views on race, heredity and intelligence. Frank Miele, “Giving the Devil His Due: Holocaust Revisionism as a Test Case for Free Speech and the Skeptical Ethic,” *Skeptic Magazine* 2 (1994): 58–70.
25. Christof Friedrich, *Secret Nazi Expeditions*, (Toronto: Samisdat, 1978).
26. Nicholas Goodrick-Clarke, *Hitler’s Priestess: Savitri Devi, the Hindu-Aryan Myth, and Neo-Nazism* (New York: NYU Press, 1998), 3.
27. Tamotsu Shibusaki, *Improvised News: A Sociological Study of Rumor* (Indianapolis: Bobbs-Merrill, 1966).
28. Jung, *Flying Saucers*, 3.
29. Goodrick-Clarke, *Black Sun*.
30. Goodrick-Clarke, *Black Sun*.
31. Summerhayes and Beeching, “Hitler’s Antarctic base,” 17.
32. See most notably Raymond W. Bernard, *The Hollow Earth: The Greatest Geographical Discovery in History Made by Admiral Richard E. Byrd in the Land Beyond the Poles, the True Origin of the Flying Saucers* (New York: University Books, 1969).
33. See Godwin, *Arktos*; Goodrick-Clarke, *Hitler’s Priestess*.
34. For details of this project—Operation Paper Clip—see for instance Tom Bower, *The Paperclip Conspiracy*. Nazi scientists were also claimed by the USSR, see for instance Norman Naimark, *The Russians in Germany: A History of the Soviet Zone of Occupation, 1945–49* (Cambridge, MA: Harvard University Press, 1979).
35. See for instance the taxonomy of UFO types described in Ian Ridpath, “Flying Saucers Thirty Years On,” *New Scientist* 14 July 1977: 77–79.
36. For a well-known example, see Hitler’s speech in Nuremberg on 6 September 1938 (archived at <http://www.hitler.org/speeches/09-06-38.html>).
37. Godwin, *Arktos*, 178.
38. Goodrick-Clarke, *Black Sun*.
39. Friedrich, *Secret Nazi Expeditions*, 122.
40. Bret Lueder, *A UFO Hunter’s Guide: Sightings, Abductions, Cover-Ups, Hotspots, the Identified and Unidentified, and More* (San Francisco: Weiser Books, 2012).
41. Pyne, *The Ice*, 69.
42. Goodrick-Clarke, *Black Sun*, Chap. 8.
43. See most recently <http://uk.askmen.com/entertainment/right-stuff/ed-mitchell-interview-2.html>

44. Godwin, *Arktos*. Serrano's biography is also covered in Goodrick-Clarke, *Hitler's Priestess*.
45. Godwin, *Arktos*, 70–73.
46. See for instance Eduardo Villalon Rojas, Consuelo Leon Wöppke and Mauricio Jara Fernandez, *Jalonando Chile Austral Antártico. El Ejército en la Antártica, 1948* (Santiago: the Printing Office of the Military Geographical Institute, 2010).
47. Glasberg, xxi.
48. Rubens J. Villela, "A Further Antarctic Myth," *Polar Record* 44 (228): 84.
49. See most notably *Above Top Secret: The Worldwide UFO Coverup* (New York: Morrow, 1998).
50. Kim Stanley Robinson, *Antarctica* (New York: Bantam Books, 1998).
51. Sherry Baker, "UFO Update: Can the Poison of Anti-Semitism Wreck Years of Pristine Research into UFOs?" *Omni* 7 1993: 75. I dispute that there is any such thing as "pristine" research of any kind, though researchers in fringe endeavors such as Bigfoot research can take great pains to establish demarcation between a serious and a non-serious group. See for instance Brian Regal, *Searching for Sasquatch: Crackpots, Eggheads, and Cryptozoology* (New York: Palgrave Macmillan, 2011).
52. Gerald Toal, *Critical Geopolitics: The Politics of Writing Global Space* (Minneapolis: University of Minnesota Press, 1996).

CHAPTER 6

The Whiteness of Antarctica: Race and South Africa's Antarctic History

Lize-Marié van der Watt and Sandra Swart

INTRODUCTION

Since the Antarctic Treaty entered into force in 1961, nation-states seeking to prove their interests in Antarctica have had to maintain a scientific presence there. For the most part, this scientific presence has to be embodied—by humans *doing* science. Not all men (and, much later, a few women) who made the journey to Antarctica were scientists, indeed, most of them were not. Yet they were there with the explicit purpose to *perform* research. Being in Antarctica has necessitated capital and technological sophistication. If Antarctica were imagined as a kind of “state,” it would appear to be the type that is associated, rightly or wrongly, with the ultimate post-industrial developed state. In this Antarctica, there is no unemployment, there is no indigence,¹ and the crime rate is negligible.² The air is the cleanest in the world. Medical care and literacy are universal. The cost of living is possibly the highest in the world but, at least in the case of National Antarctic Programs, heavily subsidized by the state. Antarctica

L.-M. van der Watt (✉)

Arctic Research Centre at Umeå University (ARCUM), Umeå University, Umeå, Sweden

S. Swart

Department of History, Stellenbosch University, Stellenbosch, South Africa

seems a wholly elite space—gazed upon only by a privileged few—a place of vast and terrible white emptiness where history might be written *tabula rasa* by Great (White) Men.

Whiteness is also prevalent in describing the continent—to the extent that the color has become almost metonymic. It is the White Continent. This whiteness extends beyond merely being descriptive of an achromatic mixture of all visible frequencies—it is often imbued with cultural connotations of purity, fragility, and even superiority. It is an aesthetic that only recently came under the critical scrutiny of some artists, novelists, and playwrights, although it still prevails in popular media and much historical writing about Antarctica.³

The assumption underlying the observations above is, of course, that a place of such technological sophistication would naturally be associated with great white men. It is an assumption that is as deeply wrong in Antarctica as elsewhere—as at least half a century of social history demonstrates.⁴ In this chapter we seek to render the ubiquity of whiteness visible through focusing on how, in apartheid South Africa, Antarctica was constructed as a white continent, particularly a white continent of and for men.⁵

As outlined in the introduction to this volume, there is a growing body of scholarship that interrogates the conventional narratives of who has been involved in Antarctica, why, and who has had the power to narrate this history. Of the conventional three categories of analysis in social history—gender, race, and class—gender seems to have captured the most interest.⁶ This includes both the experiences of women in Antarctica, as well critical discussions of Antarctica and masculinity. The intersection between science and gender has also been scrutinized.⁷ Critical scholarship on class, especially labor, has been less common although there have been some exceptions, notably in archaeological studies.⁸ Both gender and class have often been part of or framed by post-colonial studies of Antarctica. Studies of race and the complexities of race in Antarctica are, however, less common. Yet, even though there are some articles on India's and Malaysia's challenges to the Antarctic Treaty System, for example, the potentially underlying race-constructions had not been explored as such.⁹ One exception has been Klaus Dodds' and Kathryn Yusoff's discussion of the role of race and the post-colonial in Aotearoa/New Zealand's Antarctic place-making.¹⁰ Race and racism are also largely absent from South Africa's Antarctic history, a country saturated in race politics. Lance van Sittert discussed the role of institutionalized racism in the death and afterlife of Joseph Daniels, a black stevedore who lost his life due to a

workplace accident during South Africa's occupation of Marion Island in 1948. It has been one of the very few studies anywhere that exclusively focuses on the intersectionality of race, labor, and nationalism in an (sub) Antarctic context.¹¹

Much revisionist work can and should be done on race and Antarctica. What we would like to do here, for now, is to refract some of the whiteness of Antarctica through the prism of apartheid South Africa. In the first section, we discuss how apartheid South Africa's engagement with Antarctica was embedded in the apartheid narratives of white supremacy and paternalism. We reflect on how a variety of actors used the whiteness of Antarctica and its dichromatic charismatic fauna—penguins—to comment on apartheid South Africa. In the second section we look at labor, whiteness, and black people in Antarctica. This a history that is intended as a lever under nationalism's carapace to uncover a quotidian, everyday history of South Africa's Antarctica.

APARTHEID, COLONIES, AND PENGUINS

South Africa's engagement with Antarctica and the sub-Antarctic has not garnered the same level of domestic or foreign policy interest as that of other larger southern hemisphere states contiguous with the continent. Despite some enthusiastic attempts by individuals, it has been a rather reluctant actor in the region.¹² After some lackluster attempts by external actors to encourage the South African government to show a more active interest in the sub-Antarctic and the Antarctic, the government eventually occupied the sub-Antarctic Prince Edward Islands (consisting of two islands) on December 29, 1947 and January 4, 1948, respectively. Publically, the state's sole aim in acquiring the islands was to gather meteorological data. However, the occupation and eventual extension of sovereignty really took place for military-strategic concerns, especially protection against the Soviet communist threat (which, in the South African case, was also seen as a threat to the minority white government). It also took place in the run-up to a closely fought national election, which pitted the commonwealth statesman Jan Smuts of the South African Party (SAP) against the Purified National Party ('Gesuiwerde Nasionale Party') (NP)'s anti-imperialist candidate, D.F. Malan. Malan, who won, campaigned for the implementation of *apartheid* as the key national policy.¹³

The press mostly reflected the preoccupations of white South Africa: its place in the British Empire, the threat of communism, and race politics.¹⁴

The newspapers speculated over the activities of the Soviet whaling fleet and over British-Argentine tensions over the Falklands. It was also noted that the annexation may be part of an “Antarctic Race.”¹⁵ Although most of the press followed a discourse of the Union’s new “empire,” it was not the case throughout. One editorial contended that to think of the Prince Edward Islands as “colonies” was to take “derisory liberties with language.” Due to their “uninhabitable” nature, they were not “likely to rank high among the Union’s assets for any intrinsic advantages of their own.”¹⁶ Another headline read: “South Africa takes over Island where nobody lives.”¹⁷ The *Cape Times* noted with a hint of irony that those who did eventually man the outposts of South Africa’s “empire” would be voteless nationals, with time and tide against them.¹⁸

The run-up to the 1948 election saw a bitter fight for the hearts and minds of whites, and the occupation provided useful material for the press arsenals. The annexation itself elicited much less comment than the Smuts’ government’s motivation for extending sovereignty over the islands. *Die Burger*, the mouthpiece of the National Party (of which Malan had been an early editor), acknowledged the possibility, “made explicit in the English press,” that the annexation flowed from a wider imperial strategy. It also pointed out that it could have been a purely practical move. The objection reflected the fluid domestic white politics of the time. *Die Burger*’s editorial did not criticize annexation *per se* but rather the secrecy in which it was veiled, accusing the “British Field-Marshall”[Smuts] of implementing a new foreign policy without consulting the parliament. They hinted that the Union might have been acting in the covert interest of Britain.¹⁹

It was through the visual narrative of cartoons, especially of penguins, that commentators found proxies for the disenfranchised masses in South Africa. It was a device that was also used when South Africa acceded to the Antarctic Treaty, as we demonstrate later in this chapter. Elder et al. convincingly argued that animal bodies are a “site of struggle over the protection of national identity and the production of cultural difference.”²⁰ In the case of penguins, one could argue, their bodies were useful proxies as indigenous inhabitants—with anthropomorphizable gaits, and, usefully, conveniently drawn in black and white contrasts. Thus, instead of writing about the islands themselves, there was a ubiquitous political humor attached to them, with both sides of the (white) political spectrum using it in cartoons and speeches to heckle the other side. *Die Burger*, for instance, carried a cartoon that showed Smuts looking for United Party supporters among the Marion Island penguins; another

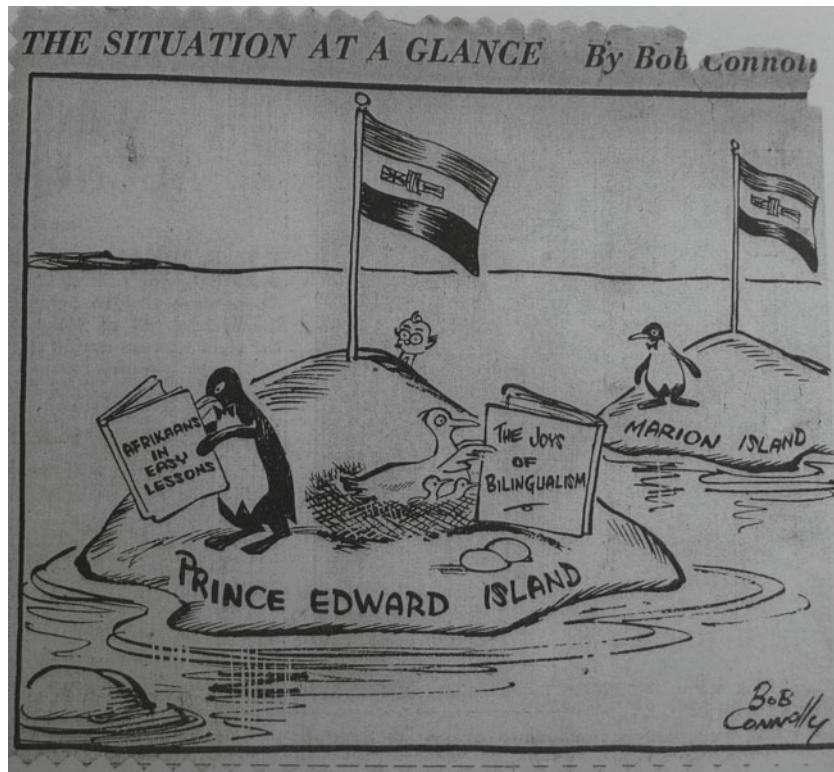


Fig. 6.1 Penguins and bilingualism (Source: Newspaper clipping in DGAF 542/48/1, South African National Defense Force Archives, Pretoria. Likely from *Rand Daily Mail*)

showed him searching for a place for his parliament to retreat to after the election.²¹ On the other side of the political spectrum, Bob Connolly of the *Cape Times* and *Daily Mail* and who was famous for his caricatures of nationalist Afrikaners,²² used the islands as an incongruous reference point to comment on the political issues of the day. These cartoons draw on penguins as characters in enacting political issues. This included regulations to enforce bilingualism (Afrikaans and English) in the civil service (Fig. 6.1). The cartoon “for philatelists only” showed a character resembling Malan on a soapbox, pontificating about apartheid to a befuddled

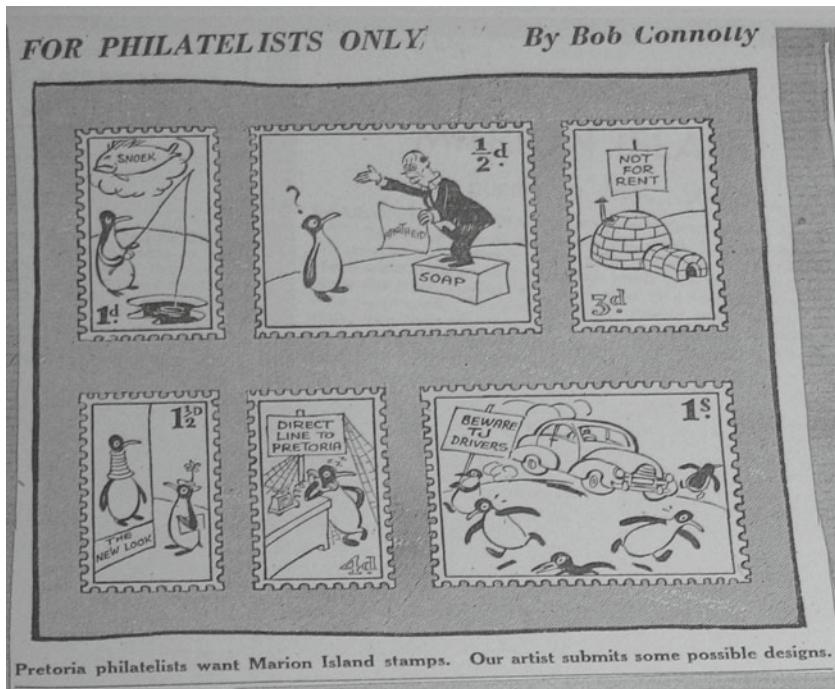


Fig. 6.2 Penguins and philately (Source: Newspaper clipping, manuscript collection of Allan Crawford, MS 1531/15, Scott Polar Research Institute, Cambridge, UK. Likely from *Rand Daily Mail*)

penguin (Fig. 6.2). A third cartoon directly addressed the franchise question, with a seal and a penguin asking for the vote. It reflected more the obsessions of the white electorate than the actual plight of the black majority, a situation in which it was as unlikely for the vast majority of South Africans to be enfranchised as these animals (Fig. 6.3).

In 1959, South Africa became one of the founding signatories of the Antarctic Treaty. While apartheid South Africa's initial commitment to research on the Antarctic continent and the Antarctic Treaty instruments were largely driven by military-security concerns and geopolitics, what kept South Africa politically active in Antarctic research and the Antarctic Treaty System, was its isolation elsewhere.²³ Although the Treaty was signed before the British Prime Minister Harold Macmillan heralded changes in



Fig. 6.3 Penguins and enfranchisement (Source: *Rand Daily Mail*, 21 January 1948)

British colonization policy with his 3 February 1960 “Wind of Change” speech in Cape Town, South Africa, the milieu of the Antarctic Treaty was one of decolonization. The Mau-Mau rising in Kenya took place in 1955 and both Ghana and Malaysia became independent in 1957.²⁴ If not yet quite the winds of change, the breeze of nationalism was certainly noticeable in colonies around the world. Interestingly, it was the language of apartheid policy mixed with the rhetoric of colonization that permeated the South African press’ reaction to South Africa’s signing of the Antarctic Treaty, especially in the English papers. A *Star* article entitled “Far south of the Limpopo,” referred to the conference on Antarctica as a “scramble for a slice of this vast, frosted cake.” It foregrounded what it saw as the security implications in Antarctica: “We wish [Erik Louw—South Africa’s Minister of External Affairs] luck, for we are in full agreement that the Union needs a “toehold” in these barren lands. And if our military strategists are worried about the implications, they ought to be able to find comfort in the

fact that any territory we may acquire will be well south of the Limpopo.”²⁵ The significance of the reference to the Limpopo lay in South Africa’s main international relations issue at the time—what was happening north of the Limpopo in neighboring states such as (then) Rhodesia, for example.²⁶

In South Africa, strong linkages were made between the negotiation of the Antarctic Treaty and the image of the “Scramble for Africa.” The “Scramble for Africa” imagery was to recur, used by the Non-Aligned Movement and the Group of 77 at the United Nations General Assembly to portray the ATS as an elitist club that welcomed apartheid South Africa and sought to divide whatever resources Antarctica might yield among themselves.²⁷ The International Geophysical Year (IGY) had shown, however, that it was unlikely that exploitable resources would be found any time soon. In reference to the British “abandonment” of another great desert, the Sahara, to the French, a *Star* editorial commented that “[i]t is of course unlikely that Antarctica hides under its ice all that the Sahara has been hiding under its sand.” The editorial continued to focus on the “possibilities in the fields of strategy, politics, meteorology, and commercial aviation” and ended on a triumphal note, saying that whilst “we may never see the ripening fruits of our Antarctic policy, but our children certainly will.”²⁸ A *Natal Mercury* editorial was also positive about South Africa’s participation in the Treaty, saying that the Treaty was a “heartening first step in the realm of common sense and understanding and South Africans may take pride in the fact that the Union Government [of South Africa] has been alive to its responsibilities by taking an active part in negotiations and signing the pact.”²⁹ That South Africa signed such a Treaty was seen a prestigious a symbol that South Africa was an internationally acknowledged “western power.”

Die Transvaler editorial also saw the Treaty as a more grandiose historical achievement, a sign of how the human race progressed, and accumulatively gathering knowledge about the “earthly home he inhabits.” In their assessment, the fact that the continent was uninhabitable, yet valuable for science, led to its being the “only part of the world not inculpated into international politics.”³⁰

The broader implications of the Antarctic Treaty, especially with regards to the relationship between the superpowers, their allies, and disarmament were also recorded. The *Natal Mercury*, for instance, wrote that diplomats had been heard to say that the Treaty was a “hopeful augury for East–West disarmament negotiations.”³¹ *Die Burger* opined that the Treaty signaled that the Soviet Union was at least willing to accept the principle of international inspections, even if international inspections of Antarctic bases were

still a far cry from international weapons inspections within the Soviet borders. Reflecting on the ‘Rooi Gevaar,’ (“red” or communist peril), it declared that the main significance of the Treaty for South Africa was that Antarctica would be kept free of military bases, as South Africa could be within striking distance from Antarctica.³²

The references to the tumult at South Africa’s northern borders and to the Scramble for Africa were more useful metaphors than deep ideological statements. The ideological substance beneath them was much rather one of South Africa wanting to align itself with the (white) Western world in the face of the communist threat, which they feared would take over the countries to their north once the Europeans left.

Domestic issues remained, however, the preferred trope for commentary. One of the wittier illustrations of how the Treaty was used to illustrate a domestic point, was a *Cape Times* cartoon that showed a South African team member contemplating a hole in the ice, the caption reading: “He is going to send it a Commissioner-General. He says it is the only black spot in Antarctica.”³³ Thousands of Africans were dispossessed of their homes in what the government called “Black spots” – areas of African settlement surrounded by zones that the government had defined as part of “white” South Africa.³⁴ Other (mainly English) cartoons could not resist the possibilities the White Continent with its black and white penguins had for incongruous commentary on racial issues. In *The Natal Mercury* a “chief penguin” informed two white men (Louw and Verwoerd) that there was no apartheid on Antarctica and that “we are a black *and* white race in a white land” (Fig. 6.4).³⁵ *The Friend* carried a cartoon depicting men in penguin suits and remarking that Antarctica is “a remarkable place for overcoming racial differences.”³⁶ There were, however, not much self-awareness in using penguins—seen as comic, primitive animals—as proxies for the oppressed majority. While it demonstrated the absurdity of “black spots,” or portrayed a delegation of polar animals reminding Verwoerd and Louw that their policies were not acceptable everywhere, it remained very much a skin-deep commentary, penguin suits for equality.

THE 1963 SCAR CONFERENCE IN CAPE TOWN: FOR WHITES (AND JAPANESE) ONLY

South Africa’s Antarctic activities in the 1960s were characterized by performances of banal nationalism, the “ideological habits which enable... nations...to be reproduced.”³⁷ The trappings of such nationalism have

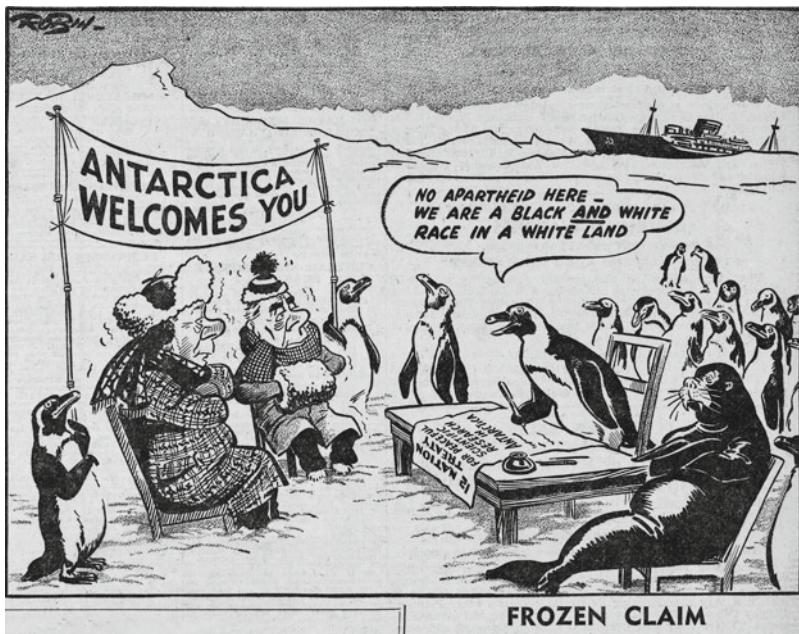


Fig. 6.4 Penguins and apartheid (Source: *Natal Mercury*, 3 December 1959)

been well documented by Billig: flag raising, naming, issuing stamps—initiatives embraced by the South African state. Hosting meetings formed part of this exercise. The Scientific Committee on Antarctic Research (SCAR) pre-dates the Antarctic Treaty by a couple of months and was the eminent vehicle through which science on the continent was coordinated. Later, it also became instrumental in providing scientific advice to the Treaty. As the body representing Antarctic science, and given the importance of scientific research as a legitimizing tool in Antarctic politics, hosting these meetings carried a certain political prestige within the ATS.

After the 1960 SCAR symposium in Cambridge, the South African representative, J.J. (Jan) Taljaard, noted that South Africa was the only Southern Hemisphere country apart from Chile which had not yet hosted a SCAR conference or specialist group. They proposed that South Africa offer to host the meeting at the latest in 1962/63. Pragmatically, the South African National Committee for Antarctic Research (SANCAR)

also pointed out that the longer South Africa waited to host the SCAR meeting, the more danger there would be of the attendance of non-white scientists—"apart from the Japanese."³⁸ It was also pointed out in a memorandum to the minister that so-called "non-whites," except for the Japanese, did not care much about Antarctica and that they were therefore relatively sure that they would not have to "deal with non-white representatives."³⁹ SCAR accepted the invitation for its biennial general meeting to be held in Cape Town in 1963 (SCAR VII), along with the meeting of its specialist symposium on geology. As it was, the upmarket and expensive Mount Nelson was the only hotel in Cape Town "that would take whites and non-whites."⁴⁰ Realizing the stature of the scientists who would be visiting and their potential influence in their home countries, the Ministry of Foreign Affairs arranged for the *per diem* of the South African scientists to be raised so they too could stay in the hotel as "closer personal ties are more likely to develop in such circumstances and this [is] important in the context of the efforts being made today to isolate South Africa."⁴¹

Initially, everything proceeded well for the conference organizers, and everyone accepted (even the Soviet delegation made hotel bookings).⁴² The Foreign Affairs and Transport Departments approached Treasury for extra funds to upgrade the formal conference dinner to a state dinner in the Castle of Good Hope, the first fort of white settlement at the Cape, because "the privilege of hosting so many influential personalities in the Republic rarely occurs and it is essential that a good impression is made."⁴³ Then, a month before the conference, the USSR informed the SCAR secretary that they would be boycotting the meeting in light of the UN resolution calling for sanctions against apartheid South Africa. They urgently requested SCAR to consider moving the meeting. The president of SCAR, French Colonel Georges Laclavère, who orchestrated the "gentlemen's agreement" to put sovereignty issues aside for the duration of the IGY, found the Soviet attitude a disconcerting intrusion of politics into science. Laclavère replied that the UN resolution was inapplicable in this case and the suggested change impracticable. Moreover, it would "conflict with the spirit of...non-discrimination" of the International Council of Scientific Unions (ICSU), of which SCAR formed part. He urged them to send a representative to Cape Town "to maintain the flow [of] ideas between Antarctic scientists."⁴⁴ The Soviets retorted that South Africa was hardly upholding the ICSU code of nondiscrimination themselves.⁴⁵ Gordon Robin, SCAR secretary, also tried convincing South Africa to move the meeting from government buildings to university buildings, indicating "it will look much better if we are seen to be as independent of Government as possible."⁴⁶

The possibility that South Africa's racial policies might interfere was foreseen by the SCAR executive and as an additional measure to uphold the sanctity of science, some of the letters between SCAR and the South African authorities passed verbally through the Council for Scientific and Industrial Research (CSIR)'s scientific liaison office in London to avoid the issue being on ICSU files.⁴⁷ South Africa, for its part, was ready to boycott the meeting should it be moved.⁴⁸ Wary of creating a precedent that SCAR could be used as a conduit for political pressure, the meeting continued in Cape Town as planned, with only the Soviets absenting themselves.⁴⁹

The SCAR meetings consisted largely of coordinating scientific programs, exchanging data, building on scientific collaborations, and having stimulating conversations. There was a genuine interest in the pursuit of knowledge among the scientists. There was, however, undeniable opportunity for the politics of prestige to surface. Politicians used these occasions to pass along viewpoints and warnings. For example, South Africa's racial policies were linked to the frontier trope in Antarctic research by Minister Ben Schoeman, who hosted the state dinner for the SCAR delegates. He said that he admired the men willing to go to the outposts, "because it is not for money that they go there, but because they are rendering a service to their fellow human being—to enrich humankind's knowledge." He continued:

The South African nation also knows lonely places, because our forefathers were pioneers. Today South Africa is slandered by people who want us to relinquish our birth right. This is because we want to bring about an order of peaceful togetherness for all races in this country, to help those who have not yet reached this stage in their development and lead them to maturity.⁵⁰

Thus Schoeman underlined two key political points: South Africa did not take kindly to those who criticized their domestic affairs and also that its scientific pursuits in Antarctica were further proof of what they wanted to sell as benevolent white paternalism.

WHITE LABOR

Up until now, our story mostly covered the dead white men referred to in our introduction. The Edwardian explorers remain the dominant human face of Antarctica. The image of the individual (upper-class man battling

the elements for the sake of empire and nation) has gained such traction in the scholarly and public imagination that it has affected academic periodization. Indeed, a whole era has been named after them—the so-called “Heroic Age.”⁵¹ These “heroes” were, however, preceded by whalers and sealers, who had lived and worked on the peninsular islands since the middle nineteenth century and well up until the first half of the twentieth century. Little cultural history has been essayed on the nineteenth century sealing communities in the Cape Colony and Natal (South Africa only became involved in Antarctic whaling in the twentieth century), but the involvement of Maoris in the southern ocean whaling trade has been better documented.⁵² Nor were all these heroic frontiersmen white. Men of color participated in some of the earliest voyages to the Antarctic. The most infamous polar example is that of Matthew Henson, Robert Peary’s marginalized African-American team member in his quest for the North Pole who was only recognized for the role he played almost 50 years after the expedition. Antarctic exploration had similar actors, often Maoris. For example, Louis Potaka travelled with Richard Byrd in 1935 and Te Tou raised the flag at the official opening of New Zealand’s Scott Base during the IGY in 1957/58. They too received public recognition much later, and then mostly in a restorative context, in terms of their being overlooked as black pioneers.⁵³

Nevertheless, very few South Africans had ever (or will ever) visit Antarctica or have any direct connection to the continent. Even fewer will ever participate in what is one of the most prestigious roles in Antarctica: overwintering as part of the national team. Christy Collis has noted that, for much of its history, the key requirement for overwintering in Australian Antarctic Territory was a penis.⁵⁴ Moreover, for nearly the first half-century of a permanent South African presence in the sub-Antarctic and Antarctic, that penis also had to be white. But the physical absence of female and black bodies from overwintering teams is exactly what makes it such a revealing community for historians to study. It foregrounded the idealized and stereotypical constructs against which the normative white masculinity was constructed. As historians have shown in other contexts, gender is not an essential, reified concept. As Raewyn Connell and James Messerschmidt wrote: “gender is always relational, and patterns of masculinity are socially defined in contradistinction from some model (whether real or imaginary) of femininity.”⁵⁵ Like in other extreme environments, the “domination of nature and the ability to survive in a challenging landscape” became and remained a key sign of masculine fitness in

Antarctica.⁵⁶ The hyper masculine is palpable on the Antarctic continent and in Antarctic politics, making Antarctica fertile ground for exploring hegemonic masculinities.⁵⁷ If hegemonic masculinity is partly the most honored way of *being* a man and requires other men to position themselves in relation to it, a research base full of “ice-world pioneers” serves as an interesting case study. Furthermore, class and race factors, as South African gender theorist Robert Morrell has shown, are “constitutive of the form that masculinity takes.”⁵⁸ Who were the South Africans that went to Antarctica for the sake of science or for the sake of geopolitical strategies? This section focuses specifically on the division of labor in South Africa’s sub-Antarctic and Antarctic, and the intersection with race. Antarctica was the one place where white South African men in service of the apartheid government could not relegate hard manual labor to a black underclass. This section draws partly on Van der Watt’s ethnographic fieldwork experience, including interviews and artifacts gathered at the bases, some of which are privately held.

In the South African case, class distinctions and the heterogeneity of the “middle-class” became particularly pronounced in the isolation of Antarctica, where people whose paths would rarely cross otherwise, not only shared working lives, but also domestic lives. Usefully for historians, the micro-politics of place shone an intense light on the interrelationship between class and status.⁵⁹ For most of the twentieth century, South Africa’s Antarctic teams were small and seemingly homogenous: white young males mostly drawn from either the civil service or academia. Antarctica’s peculiar environment called for relatively highly skilled—rather than manual—labor. In the case of South Africa, where hard manual labor was typically relegated to blacks, black laborers were not included in the South African complement. This could be because they simply did not believe black people to be able to withstand the environment, but much more likely is that black people could simply not be included in something that was redolent with the language of prestige and technological progress.⁶⁰ Moreover, petty apartheid—which dictated measures such as separate public spaces (down to park benches)—would not have been practicable in the intimacy of a research base.

Of course, South Africa’s Antarctica was never really just white. The men who served as crew on the RSA and later, the S.A. *Agulhas*, were mostly drawn from the colored population, the seamen of South Africa’s fishing industry. At least one, Joseph Daniels, died in the service of South Africa’s Antarctic interests.⁶¹ Inhabitants from the remote south Atlantic island of

Tristan da Cunha helped build the first accommodation on Marion Island. They were treated as oddities by the press and classified as colored by the apartheid government, living in separate quarters to the white occupation party.⁶² They were invisible visitors to Antarctica, not interviewed in the contemporary press and receiving very little attention or recognition for the often high-risk role they played in getting the scientists there.

During apartheid, race was conflated with class in South Africa through the concerted efforts of the state. A variety of apartheid structures, including job color-bars and 'Bantu-education' (which gave blacks a limited and second-class education) meant that very few blacks would have had the opportunity to become scientists, let alone represent the country in Antarctica. It was already seen how the Soviets made the point that scientific universalism did not apply within South Africa, even though the country was included on an international platform on the basis of scientific universalism. In the context of South Africa then, the exclusion of blacks, colored, and Indians from the South African Antarctic program in any other potential role than laborer was taken for granted. An extreme example of how this was articulated in Antarctica can be drawn from a notebook from the early 1980s. The jotter, held at the bar, was used by team members to write down witticisms. The inscription read: "Nick (while doing some unaccustomed manual labour): 'Now I know why kaffirs are so lazy, their work is fucking horrible.'"⁶³

From the 1960s to the mid-1980s, the participation of black people surfaced in discussions only as metaphors or superficial references to (physical) color, as the apartheid-penguin cartoons illustrated earlier. Early team members, when asked about race, remembered how they joked about how black people would "melt" into Antarctica, like black plastic bags absorbing heat from the sun would cause the surrounding snow to melt. This was often recounted in interviews off-the-record in a manner that implied that van der Watt, a white Afrikaans-speaking woman, would agree with the "humor" behind the anecdote. In informal conversation, white interviewees (scientists as well as technical personnel) would also surprisingly often allege that black people are prone to feel cold easier and therefore would not have liked going to Antarctica anyway. There is, of course, no scientific or even cultural basis for this assumption.

The white men at these stations were, however, not necessarily accustomed to white labor, especially not if they had middle-class roots. Lamenting the men's loutish behavior on the islands, one of the early government inspectors on Marion Island wrote a report revealing the con-

temporaneous natural order of things. He suggested, for instance, that in order to enable a more civilized way of life on the island, they should be supplied with a hothouse, around a 100 sheep and colored domestic workers.⁶⁴ Distinctions between human and animal, as post-colonial studies of human-animal relationships show, are closely related to other distinctions, including male and female, civilized and primitive.⁶⁵ Colored domestic workers—second-class citizens in South Africa at the time—could serve as a buffer between the white men and the animality of “going native.” It would not only prevent them from doing tasks that were perceived as demeaning, but also remind the white men of their supposedly natural and superior place in human society.⁶⁶

What did the ideal white man representing South Africa in Antarctica look like? Initially, the “pioneers” received a specific mandate to represent the nation. The Department of Transport arranged for the first expedition to meet Prime Minister H.F. Verwoerd.⁶⁷ At the SCAR meeting in 1963, the Minister of Transport told the team members that “South Africa is watching you.”⁶⁸ The men were also made aware in a visceral sense of their both belonging to and representing their nation state by eating their meals with a picture of the state president staring down at them from the dining room wall, and celebrated public holidays days with strong nationalistic connotations, such as “Paul Kruger day” and the “Day of the Vow.”⁶⁹

In the Antarctic, there was “a peculiar mix of frenetic feats of physical endurance... during the summer season on the one hand, and a world of artificial domesticity in the hut on the other.”⁷⁰ This domesticity took on a very real physical form in terms of men having to share cooking duty. Unlike most other countries, South Africa never included chefs or cooks in their overwintering teams on Antarctica. It was assumed most of the team members would have to learn how to cook, which was indeed the case for many of the men interviewed. Until then they would have been provided for (on the surface) by wives or mothers, and on a more socially subterranean level by black domestic workers, which was also mostly the case. These cooking classes were often commented on in interviews as the most memorable part of team training, because they asked something extraordinary of white men. Fire-fighting on the other hand, was a taken-for-granted lesson. Cooking as an act of domesticity may be a small example of patterns of masculinity in South Africa itself, but in the Antarctic it was amplified to something newsworthy. Nor was Antarctica seen as a place where celibate men live monastic lives. Unmarried (white) women were

sometimes invited to write to the single men and “warm their hearts.”⁷¹ Homosexuality or homosexual experiences were relegated to the realm of the unspeakable, and a psychological screening process put in place to prevent the appointment of “unsuitable” team members.

A physician, André le Roux van der Merwe, wrote the only published memoir in South Africa of his year in Antarctica. As the team doctor, he was the person with whom the men “shared secrets, or asked for advice, or commiseration.”⁷² His memoirs provided a window into the lives of these men even if it is more suggestive than representative. When Van der Merwe described the emotional lives of the men, he frequently referred to their relationship with their wives, mothers, and families, the emotional being equated with the feminine and the domestic realm.⁷³ In a chapter entitled “Introspection,” he related a day journey into the field, musing about the nature of Antarctica. His musings were full of incongruities: “You are master of the environment,” he wrote, “and slave to the splendor of the vastness.”⁷⁴ It was when grappling with this contradictory nature of Antarctica that he missed his wife and children—and the way they treated him and served him as the father of the household: his wife experimented with the meals and “building castles in the sky,” his daughter bringing him his slippers, his son contributing to the household through working on the land. Van der Merwe also signed off his letters “Pa”—the Afrikaans term of endearment for father. Afrikaner fathers were addressed as Pa within the family circle—even by their wives—and also (respectfully) always in the third person by children (“Pa, will Pa please hand me Pa’s book?”). It is a good example of the language of patriarchy entering the everyday. Earlier in his book, when describing the role of the male emperor penguin in nesting the egg during the Antarctic winter, Van der Merwe jocularly, but not innocently, wrote that he hoped it was a “custom that will never get a foothold in Western Civilization.”⁷⁵

Fatherhood seemed to have been an important confirmation of status. When another of the first team’s members became a father in Antarctica, the press wrote about it. (The fact that he was in Antarctica whilst the child was born was portrayed as heroism rather than abandonment of paternal duties).⁷⁶ The South Africans on the first team south were cast in a frontier mold—drawing on the narrative of the Voortrekker frontiersman.⁷⁷ Van der Merwe recounts how they celebrated the Day of the Vow, and how Hannes la Grange asked that as “the Lord had answered the prayers of our forefathers 100 years ago, may he answer the prayers of where we sail into the wild.”⁷⁸ The trope of the pioneer was also expressed

in the bodily object of the beard, the growth of which was encouraged by competitions for men with the best beard.⁷⁹ This relic of a particular kind of nineteenth century—and Afrikaner republican masculinity at the turn of the century, was reinvented in Antarctica as part of imagery of the pioneer or the man free from restriction.⁸⁰ In the context of the all-male research base, where men were responsible for traditionally domestic tasks, beards also symbolically reaffirmed men’s status as men, as biologically different from women.

Newspapers variedly referred to returning members as men “who cultivated lush beards and moustaches” (in the 1950s and 1960s) or “hippies” (1970s).⁸¹ In his memoir, Van der Merwe remarked that: “Beards grew some thick and black, other only feathery tufts that blew in the wind like drought stricken blades of grass.”⁸² Van der Merwe, an astute observer of people, also wrote an article on the matter. The article, lightly but not exclusively tongue-in-cheek, was called “Overdressing and overgrowth of beard in Antarctica.” In it, he remarked that, “unfortunately the wildest growth attracts the newspaper photographer and is furthermore encouraged in South Africa which presents a cup for the biggest beard. Such publicity publicizes genetic traits, and not necessarily supremacy in scientific or technological achievement.”⁸³ Thus, for Van der Merwe at least, beards might not be a marker of masculine achievement, but, implicitly, scientific or technological achievement *was*.

One of the more noticeable stratifications in the small Antarctic research communities was between scientific and non-scientific personnel, between the scientists who received the recognition and prestige on the mainland, and the support staff, who often became the main status bearers on Antarctica itself, an occurrence that has not been unique to South African stations.⁸⁴ The “non-scientists” were aware of the status allocated to “the scientist.” Chris de Weerdt, the diesel mechanic on the first South African National Antarctic Expedition (SAAE) team, remembered his interview for the post:

Nevertheless, I sat there, between all the clever guys. And the one guy says he has a BSc in mechanical engineering, and that guy is so and the other guy has that... And they all can go home... But then came the person in the white jacket and says, look, it does not matter if you are the friend of the Minister or the friend of this guy or the friend of that guy, here it is a matter of life and death, the guy who pass this [practical test], is the guy that goes.⁸⁵

Thus—at least on this level—the environment of the Antarctic was seen by some as an equalizer—or even a space where the literal *status quo* could be reversed. This idea of the reversal of the status quo because of the hostile nature of Antarctica has been enduring. In his account of his visit to Antarctica as South Africa's first writer-in-residence, the journalist Don Pinnock retells a conversation with one of the drivers. The drivers were responsible for transporting the cargo from the ship to the base, working long shifts in grueling conditions. Pinnock asked him whether he did not get tired from the job to which he replied: “Ja, sure, but at least we are outside, not sitting in that hotel on the hill. *This is Antarctica [...]* All those scientists and important guys who sit in the base and plan things, they'd be in deep shit without us.”⁸⁶

BLACK ANTARCTICA

By the early 1980s, it was not only the colored men in the forecastle that made the journey to Antarctica, and worked on the ice-shelf, but colored artisans also formed part of the team from the Department of Public Works who did building maintenance in Antarctica.⁸⁷ The fact that colored people were preferred above black African people reflected the racial hierarchies in South Africa. Within the confines of the ship, and especially the base, these workers and the scientists lived in close proximity, but they largely socialized in separate groups. As mentioned above, this pattern, where maintenance personnel formed a different group from scientists, was not unique to the South African base on Antarctica, although researchers that have spent time at different stations remarked that it seemed to be more rigidly observed on South African bases. By the 1980s, the first scientists of color, benefiting from improved education systems and less restricted access to universities, were allowed to work on the South African polar vessel. The first team member of color in a skilled profession was a meteorologist, Gerald Meyer, who was sent to Marion Island rather than Antarctica itself in 1989.⁸⁸

From 1995 onwards, following the first democratic election in 1994, the government actively tried to recruit black South Africans as scientists and maintenance personnel, through adherence to employment equity (or affirmative action) laws, but also through incentives, such as designated scholarships.⁸⁹ Nevertheless, post-apartheid, it was not so much the visits of black South African scientists and maintenance workers that were feted, but rather the exploits of black men who fit into the mold of the white

explorers of the Heroic Age through a series of firsts—including the first to the South Pole, first to do an unassisted trek and so on. They literally had to walk in the footsteps of white men to prove their worth. In keeping with a triumphalist mode of performing masculinity, they received praise for being able to do what was done before and little was made of the fact that they previously were actively excluded from the White Continent. African participation became overtly politicized. In 1996 the *Sowetan* announced that Ronald Maleka would be the first black South African “the go to the South Pole,” chosen as a team of 35 young explorers to represent their country.⁹⁰ Another proposal mirrored the Commonwealth Trans-Antarctic expedition rhetoric of a trek that displayed the masculine vigor of a political entity through the mental and physical challenge of an Antarctic Trek. The chosen team was to be “representative of our racial diversity” and the crossing “symbolic of the on-going struggle to achieve peace and unity in South Africa.” Nelson Mandela, the patriarch of the new nation, was asked to be the patron of this expedition, which, “although recent expeditions have already achieved this goal it would be a first for South Africa and indeed Africa.” The Department of Environmental Affairs, at the time in charge of the South African Antarctic program, was rather skeptical about the environmental and safety risks involved, and recommended that the presidency not support the venture.⁹¹

With the demise of apartheid, South Africa was welcomed back into the international political arena and the function of Antarctica and the islands as a covert means to engage on a multilateral level was rendered redundant. Although military and multi-lateral considerations were foregrounded during the isolation years, the strategic value of minerals and marine resources regained prominence throughout the late 1970s and 1980s. The Madrid Protocol codified environmental concerns.⁹² In 1995, the Department of Environmental Affairs and Tourism presented the cabinet with a memorandum on the continuation of a South African national Antarctic program. The “preservation of potential economic options” and the “utilization and conservation of natural resources” remained strategic considerations. In the context of global warming as a threat to humankind, meteorological, climate, and cryospheric studies were to be encouraged: “With the impacts of desertification in Southern Africa, the greater occurrence of extreme weather events... possible sea temperature rise and its effects on ecosystems, and so on, the money spent on Antarctic research is a small investment to safeguard South Africa’s planning for the survival of its people.” The memorandum also made

explicit mention of the post-apartheid Reconstruction and Development Programme (RDP) and the contribution that an Antarctic program could make to the “development of technology” and the “training of skilled manpower and building capacity.”⁹³

On the ground level, the civil servants in charge initially had less lofty ideals, as was illustrated by the controversy surrounding the colors of a new Antarctic base, SANAЕ IV. Plans to replace SANAЕ III were already announced in 1991.⁹⁴ They were put on hold as uncertainties about funding were raised, but eventually, in 1997, a new base was unveiled. It was, in the words of the team leader to first occupy the base, the “biggest old South African flag ever constructed.”⁹⁵ The base sported the orange, white, and blue of the apartheid-era flag.⁹⁶ Officials tried to argue that the orange, in particular, was ‘Day-Glo’ orange and as such it was chosen for visibility. In retrospect, few denied that there was a political meaning behind the colors, but none wanted to disclose who took the final decision despite warnings that the colors would in all possibility be offensive. The colors were embedded in the fibreglass.⁹⁷ The Department of Public Works was forced to import a special paint to provide a (literal) veneer of transformation.

CONCLUSIONS

When a Soviet official asked her South African counterpart in the 1980s what his country’s plan with Antarctica was, he replied with dark humor, “we are going to keep Antarctica white.”⁹⁸ Antarctica lent itself well to commentary on race relations in South Africa, as demonstrated by the cartoons in the first section of this chapter. Their use of color, however, reflected the domestic situation in South Africa and was not meant as commentary on the fact that black Africans were excluded from the Antarctic.

South African whiteness is a useful point of departure when studying race and Antarctica partly because it has been so obvious. In the words of Melissa Steyn, “the particular historical and political configuration in South Africa has meant that whites have never experienced their whiteness and the advantage it offered them as invisible—one of the key components in the way whiteness is theorized... Throughout the apartheid era white South Africans knew they were racialized, and some of their earliest memories recount differences in how they were positioned relative to “others.” What was taken for granted, however, was the naturalness of being thus privileged.”⁹⁹ The South African case has been extreme, of course,

yet there is little denying that Antarctica was the last continent, the last locality, where fantasies of white masculinities could be played out.¹⁰⁰ The Antarctic environment contrasted with the domestic confinement of the Antarctic research base. It brought to the surface and magnified existing gender tropes. Hegemonic masculinities shifted only glacially: Antarctica remained a space where Africans first had to prove themselves worthy of inclusion, to prove they could withstand the environment just as well as whites did. Sexism and racism was often as blunt as the Antarctic continent was cold.

“Colored” South Africans, on the other hand, were the invisible workers that literally got the white South Africans to Antarctica as ships’ crew. By the 1980s colored South Africans started to move into the passenger deck, one or two as scientists, others as skilled artisans. In some ways, however, Antarctica remained a space where Africans first had to prove themselves worthy of inclusion, to prove they could withstand the environment just as well as white (men) could.

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NOTES

1. Some stations are of course far more luxurious than others, usually reflecting the wealth of the mainland, and the labor conditions within some programs have been questioned in more recent inspection reports.
2. To date, there have been two alleged Antarctic murders, neither leading to a conviction. The more mythic of the two involved an axe and a chess game on a Soviet station in the 1980s. According to some sources, this led the Soviets to ban cosmonauts from playing chess in space. The second involved an astrophysicist who died of poison at the American Scott-Amundsen (South Pole) station. Two people have also been murdered on the SA Agulhas, South Africa’s polar vessel from 1978 to 2013, while it was on relief voyages. Bryan Burrough, “Polar Privation: Antarctic Life Proves Hard Even for Those Who Love Their Work,” *The Wallstreet Journal*, October 12, 1985; Paul Chapman, “Death ‘may Be First South Pole Murder,’” *The Telegraph*, December 14, 2006; Mogamat Isaacs, ALSA interviews, interview by Lize-Marié van der Watt, February 2011, Antarctic Legacy of South Africa, Stellenbosch University; Fouzia van der Fort, “SA Agulhas Murder Charges Withdrawn,” *Cape Argus*, April 7, 2009.

3. See Glasberg in this volume, as well as Elizabeth Leane, "Icescape Theatre: Staging the Antarctic," *Performance Research* 18, no. 6 (December 2013): 18–28, doi:[10.1080/13528165.2013.908051](https://doi.org/10.1080/13528165.2013.908051); Lisa Bloom, "Polar Fantasies and Aesthetics in the Work of Isaac Julien and Connie Samaras," *The Scholar and Feminist Online* 7, no. 1 (Fall 2008), www.barnard.edu/sfonline. A cursory search shows that Amazon lists at least 30 Antarctic-related titles when searching for "white continent."
4. As Kay Anderson pointed out "the ubiquity of whiteness as a cultural norm in the discursive practices of nation-building, place-making and landscape formation, have been demonstrated in many important contributions." She also noted though, that "[despite] all the critical attention to race's contingency over the past decade, it continues to appear like an inexhaustible consistency. Kay Anderson, "'Race' in Post-Universalist Perspective," *Cultural Geographies* 15, no. 2 (April 1, 2008): 155–71, doi:[10.1177/1474474007087499](https://doi.org/10.1177/1474474007087499).
5. Racial categorization in South Africa was everything but black and white. The population classification Act of 1950, that was repealed in 1991, was notoriously ambiguous, for example classifying a white person as someone who "in appearance is obviously a white person who is generally not accepted as a coloured person; or is generally accepted as a white person and is not in appearance obviously a white person." "Colored" referred to people of "mixed race" origin. "Colored" people were largely either Muslim or Christian, spoke Afrikaans or English as mother tongue, westernized and culturally close to white Europeans. Black people referred to black Africans. When used in this chapter, "black," "white" and "colored" are necessarily used in the historical context, and not as universally accepted categories. These categories are still applied in South Africa today in terms of employment equity and redressing past imbalances. A quota-system, whereby each team should have a certain proportion of black (which here includes colored, Indian and Chinese South Africans) members is promoted by the South African Antarctic Programme, but due to a complex set of factors, the program remains rather unrepresentative of the South African demographic. For a discussion of the controversial history of the term 'colored', see Mohamed Adhikari, *Not White Enough, Not Black Enough: Racial Identity in the South African Coloured Community* (Cape Town: Double Storey Books, 2005).
6. This classificatory triumvirate draws on Joan Scott's landmark article on the three categories of analysis. Joan W. Scott, "Gender: A Useful Category of Analysis," *The American Historical Review* 91, no. 5 (December 1986): 1053–57.
7. See, for example Lisa Bloom, *Gender on Ice: American Ideologies of Polar Expeditions*, (Minneapolis: University of Minnesota Press, 1993); Brigid

Hains, *The Ice and the Inland: Mawson, Flynn, and the Myth of the Frontier* (Carlton South: Melbourne University Press, 2002); Christy Collis, “The Australian Antarctic Territory: A Man’s World?,” *Signs: Journal of Women in Culture and Society* 34, no. 3 (March 2009): 514–19, doi:[10.1086/593379](https://doi.org/10.1086/593379); Elena Glasberg, *Antarctica as Cultural Critique: The Gendered Politics of Scientific Exploration and Climate Change*, (Basingstoke: Palgrave Macmillan, 2012).

8. See Zarankin and Salerno in this volume, as well as the references contained therein. Another example is Ben Maddison, *Class and Colonialism in Antarctic Exploration: 1750–1920*, 24 (London: Pickering & Chatto, 2014).
9. Adrian Howkins, “Defending Polar Empire: Opposition to India’s Proposal to Raise the ‘Antarctic Question’ at the United Nations in 1956,” *Polar Record* 44, no. 01 (January 2008), doi:[10.1017/S0032247407006766](https://doi.org/10.1017/S0032247407006766); Klaus J. Dodds, “Post-Colonial Antarctica: An Emerging Engagement,” *Polar Record* 42, no. 01 (January 18, 2006): 59, doi:[10.1017/S0032247405004857](https://doi.org/10.1017/S0032247405004857).
10. Klaus J. Dodds and Kathryn Yusoff, “Settlement and Unsettlement in Aotearoa/New Zealand and Antarctica,” *Polar Record* 41, no. 2 (April 2005): 141–55, doi:[10.1017/S0032247405004390](https://doi.org/10.1017/S0032247405004390).
11. Lance van Sittert, “‘Ironman’: Joseph Daniels and the White History of South Africa’s Deep South,” *Polar Record* 51, no. 05 (September 2015): 501–12, doi:[10.1017/S0032247414000576](https://doi.org/10.1017/S0032247414000576).
12. We have investigated some of the reasons behind this in Lize-Marié van der Watt and Sandra Swart, “Falling off the Map: South Africa, Antarctica and Empire, c.1919–59,” *The Journal of Imperial and Commonwealth History* 43, no. 2 (March 15, 2015): 267–91, doi:[10.1080/03086534.2014.982409](https://doi.org/10.1080/03086534.2014.982409).
13. D.F. Malan, who was elected as Prime Minister of South Africa shortly after the annexation with a mandate to implement apartheid, explicitly linked communist threat to race. Lindie Koorts, *D.F. Malan and the Rise of Afrikaner Nationalism* (Cape Town: Tafelberg, 2014), 376–377; On the annexation itself see Klaus Dodds, “South Africa and the Antarctic,” *Polar Record* 32, no. 180 (1996): 25–42.
14. The vast majority of press was white owned and targeted at a white readership. The few black newspapers made no reference to the islands.
15. “SA Plants Flag in the Antarctic—Island Annexed by Frigate—Air Base to Be Established,” *Cape Times*, January 3, 1948; “Mystery of S.A. Frigate Solved: Union Flag Planted on Island in Southern Indian Ocean,” *Rand Daily Mail*, January 3, 1948; “Polar Air-Bases,” *News Review*, January 15, 1948; “Why Union ‘Planting Flag’ Was Kept a 10-Day Secret: Prince Edward and Marion Islands Occupied,” *Sunday Times*, January 4, 1948.

16. "South Africa Overseas," *South African*, January 10, 1948.
17. "South Africa Takes over Island Where Nobody Lives," *Daily Mirror*, January 3, 1948.
18. "Marion Island Men Will Miss Vote: Time and Tide the Key Factors," *Cape Times*, March 13, 1948. Unsurprisingly the fact that the vast majority South Africans were not considered national citizen enough to vote in the 1948 election was not mentioned. Even today South African citizens on South African territory in the case of Marion, or under South African jurisdiction in Antarctica have never been able to vote, yet strangely no serious attempt has been made to challenge this rather undemocratic state of affairs. Only once an exception was made, when a Marion voyage was delayed during the 1994 elections.
19. "Suidpool-Avontuur," *Die Burger*, January 5, 1948; "Ons Suidpool-Empire," *Die Burger*, January 9, 1948.
20. Glen Elder, Jennifer Wolch, and Jody Emel, "Race, Place, and the Bounds of Humanity," *Society & Animals* 6 (1998): 184.
21. "Cartoon: 'Op Soek Na Sappe?'," *Die Burger*, January 5, 1948; "Cartoon: 'Voorsorg,'" *Die Vaderland*, n.d., DGAF 542/48/1, South African Defence Force Archive, Pretoria; These cartoons can be seen in Susanna M.E. van der Watt, "Out in the Cold: Science and the Environment in South Africa's Involvement in the Sub-Antarctic and Antarctic in the Twentieth Century" (PhD Thesis, University of Stellenbosch, 2012), 172.
22. Andy Mason, "Black and White in Ink: Discourses of Resistance in South African Cartooning," in *Media, Identity and the Public Sphere in Post-Apartheid South Africa*, eds. Abebe Zegeye and Richard L. Harris (Leiden: Brill, 2003).
23. On the state's motivation see Peder Roberts, Klaus Dodds, and Lize-Marié van der Watt, "But Why Do You Go There? Norway and South Africa in the Antarctic during the 1950s," in *Science, Geopolitics and Culture in the Polar Region: Norden beyond Borders*, ed. Sverker Sörlin, *The Nordic Experience* (Farnham: Ashgate, 2013); Lize-Marié van der Watt, "Return to Gondwanaland: South Africa, Antarctica, Minerals and Apartheid," *The Polar Journal* 3, no. 1 (June 1, 2013): 72–93, doi:[10.1080/2154896X.2013.790198](https://doi.org/10.1080/2154896X.2013.790198).
24. David Anderson, *Histories of the Hanged: Britain's Dirty War in Kenya and the End of Empire* (London: Weidenfeld & Nicolson, 2005).
25. "Far South of the Limpopo," *The Star*, October 2, 1959.
26. Nigel Worden, *The Making of Modern South Africa: Conquest, Apartheid, Democracy* (Chichester: Wiley-Blackwell, 2012).
27. First Committee, *General Debate, Consideration of and Action upon Draft Resolutions on the Question of Antarctica* (New York, 1986); For a more

general description of the debate see Dodds, “Post-Colonial Antarctica”; van der Watt, “Return to Gondwanaland.”

28. Editorial, “A Stake in the Antarctic,” *The Star*, January 29, 1960.
29. Editorial, “Peace in Antarctica,” *Natal Mercury*, December 3, 1959.
30. “Sake van Die Dag: Poolstreke Kry Meer Betekenis,” *Die Transvaler*, October 16, 1959.
31. Editorial, “Peace in Antarctica.”
32. Redakteursbrief, “Antarktika,” *Die Burger*, December 3, 1959.
33. “Cartoon,” *Cape Times*, December 1, 1959.
34. Frank Welsh, *A History of South Africa* (London: HarperCollins, 2000), 446.
35. “Cartoon,” *The Natal Mercury*, December 3, 1959.
36. “Cartoon,” *The Friend*, November 12, 1959.
37. Michael Billig, *Banal Nationalism* (London: Sage, 1995), 6–7 Billig coined the term “banal nationalism,” arguing that nationalism is not just an intermittent mood in established nations but rather an endemic condition. He explicitly stated that banal nationalism did not imply benign nationalism. Unlike Argentina and Britain, for example, the South African performance of nationalism on Antarctica was less vigorous and non-militaristic, but its mundanity did not render it meaningless.
38. Memorandum, “Enkele Opmerkings Oor S.A.N.K.A.N Se Voorstel Dat Die Volgende S.C.A.R Vergadering in Suid-Afrika Gehou Moet Word,” March 24, 1961, BTS 102/2/9 vol. 3, Archives of the Department of International Relations and Cooperatio, Pretoria, South Africa (DIRCO). There were no black scientists on any of the other delegations either.
39. Minutes, “SCAR Vergadering En Die Geologiese Simposium, Kaapstad, September 1963,” January 23, 1963, BTS 102/2/9 vol. 3, DIRCO In a spectacular display of the cruel and absurd arbitrariness of racial classifications, Japanese were soon thereafter classified as white, and Chinese as Asian—a second class category under apartheid.
40. The delegates’ race was handwritten onto their visa applications. “Sekretaris van Vervoer Aan Sekretaris van Buitelandse Sake,” July 10, 1963, BTS 102/2/9 vol. 2, DIRCO.
41. “Acting Secretary of Foreign Affairs to Secretary of the Treasury,” July 16, 1963, BTS 102/2/9 vol. 2, DIRCO.
42. “P.A Shuminsky, Vice Chairman, Soviet Committee on Antarctic Research to Eric Boden, Secretary of the South African Committee on Antarctic Research,” July 16, 1963, BTS 102/2/9 vol. 2, DIRCO.
43. “Secretary of Transport to Secretary of the Treasury,” September 30, 1963, BTS 102/2/9 vol. 9, DIRCO.
44. “Copy of Telegram of Laclavère to Scherbakov,” September 2, 1963, BTS 102/2/9 vol. 3, DIRCO.

45. "Totstandkoming van SCAR Vergadering, Kaapstad, September 1963," n.d., BTS 102/2/10 vol. 1: Annex A, DIRCO.
46. "Gordon Robin to Eric Boden," August 30, 1963, BTS 102/2/9 vol. 2, DIRCO.
47. "J.A. King for the South African Scientific Liaison Office to Eric Boden (then Head of the Science Cooperation Division)," December 12, 1962, BTS 102/2/9 vol. 3, DIRCO.
48. Marginalia on "SCAR Conference, Cape Town," August 30, 1963, BTS 102/2/9 vol. 3, DIRCO.
49. In 1986, when South Africa was due to host the SCAR meeting again, it was quietly moved to San Diego to avoid controversy.
50. "Ondersoek Na SA Weerstasie Op Bouvet-Eiland," *Die Volksblad*, September 26, 1963.
51. It is also this era that has been the subject of the most critical discussion during the past two decades. See for example Bloom, *Gender on Ice*; Beau Riffenburgh, *The Myth of the Explorer: The Press, Sensationalism, and Geographical Discovery* (Oxford: Oxford University Press, 1994); Max Jones, *The Last Great Quest: Captain Scott's Antarctic Sacrifice* (Oxford: Oxford University Press, 2003); Stephanie L. Barczewski, *Antarctic Destinies: Scott, Shackleton, and the Changing Face of Heroism* (London: Continuum, 2009); Janice Cavell, "Manliness in the Life and Posthumous Reputation of Robert Falcon Scott," *Canadian Journal of History*, no. XLV (Winter 2010): 537–64.
52. Little has been written about South Africa's role in Southern Ocean whaling and sealing. See Thierry Rousset, "'Might Is Right' A Study of the Cape Town/Crozet Elephant Seal Oil Trade (1832–1869)" (M.A. dissertation, University of Cape Town, 2011), http://www.adu.org.za/index.php?n=Thierry_Rousset; Olivia Walton, "'The Old Story Is Better than a New Story': South Africa's Involvement in Antarctic Whaling in the 1960s Through an Analysis of the Life Story of a Langebaan Whaler" (Honours essay, University of Cape Town, 2010).
53. The earliest documented voyage that included a black person was that of the United States Exploring Expedition led by Charles Wilkes in 1840. They were accompanied by Te Atu (John Sacs), who was born of a Pakeha father and Maori mother Dodds and Yusoff, "Settlement and Unsettlement in Aotearoa/New Zealand and Antarctica"; Turi MacFarlane, "Maori Association with the Antarctic—Tiro O Te Moana Ki Te Tonga" (Graduate Certificate in Antarctic Studies Essay, Canterbury University, 2008).
54. Collis, "The Australian Antarctic Territory," 514.
55. R.W. Connell and J.W. Messerschmidt, "Hegemonic Masculinity: Rethinking the Concept," *Gender & Society* 19, no. 6 (December 1, 2005): 848, doi:[10.1177/0891243205278639](https://doi.org/10.1177/0891243205278639).

56. Maureen P. Hogan and Timothy Pursell, “The ‘Real Alaskan’: Nostalgia and Rural Masculinity in the ‘Last Frontier,’” *Men and Masculinities* 11 (October 2008): 67. While physical fitness was certainly an requirement at least until the 1970s, technology has improved to such an extent that one can spend a very sedentary year on an Antarctic base. Nevertheless, the picture of the adventurous and physically fit man persist in the public sphere. One only needs to think about the press surrounding men like Sir Ranulph Fiennes or more recently the environmental activist and extreme swimmer Lewis Gordon Pugh.
57. Although it falls outside the immediate scope of this chapter, there are energetic debates within men’s studies and masculinity studies on the validity and usefulness of the model of ‘hegemonic masculinity.’ It remains, however, a useful framework for writing history. It specifically allows for change over time and lends itself to drawing on discourse. For an example of this debate see the correspondence between Christine Beasley, James W. Messerschmidt and Richard Howson in *Men and Masculinities* 11 (October 2008).
58. Robert Morrell, “Of Boys and Men: Masculinity and Gender in Southern African Studies,” *Journal of Southern African Studies* 24, no. 4 (December 1998): 697.
59. On the interplay between class and status see David Morgan, “Class and Masculinity,” in *Handbook of Studies on Men & Masculinities*, ed. Michael S. Kimmel, Jeff Hearn, and Raewyn Connell (Thousand Oaks, CA: Sage Publications, 2005).
60. Interestingly, unlike Antarctic nations such as the US, Britain, Norway or Germany, at the time of writing South Africa did not include cleaners and janitors in their summer take-over teams, to the chagrin of some scientists, who feel that not only does the cleaning duties infringe on the limited time they have for research on the island, but that it would be financially more sensible to contract cleaners, creating jobs and giving the workers an opportunity to travel. The reverse side of the argument is that having everyone perform cleaning duties serve as a social equalization strategy, which is arguably more necessary in the case of the highly stratified South African society than post-industrial European states.
61. Van Sittert, “Ironman.”
62. Allan Crawford, *Tristan Da Cunha and the Roaring Forties* (Cape Town: David Phillip, 1982). Apparently, their classification hinged on the fact that during the late 1810s some colored women from the Cape were sent to island to “accompany” the British garrison stationed there, so that the French could not use the islands as a base for a rescue operation to free Napoleon Bonaparte from his prison on Saint Helena.

63. By the 1980s, “kaffir” already had the extremely perjorative connection it has today. “Bar Quote Book,” 1983, Antarctic Legacy of South Africa, Stellenbosch University.
64. Bob Rand, “Marion Island: Report from the Biologist of the Government Guano Islands,” July 30, 1952, Private Collections, ALSA.
65. Molly H. Mullin, “Mirrors and Windows: Sociocultural Studies of Human-Animal Relationships,” *Annual Review of Anthropology* 28 (1999): 201–24.
66. This paragraph draws on work we submitted elsewhere, and which was in review at the time of writing. Lize-Marié van der Watt and Sandra Swart, “The South African Prince Edward Islands and the making of sub-Antarctic environments, 1947–1995.”
67. Maarten du Preez, ALSA Interviews, interview by Lize-Marié van der Watt, March 17, 2010, Antarctic Legacy of South Africa, Stellenbosch University; Chris de Weerdt, ALSA Interviews, interview by Lize-Marié van der Watt, March 1, 2010, Antarctic Legacy of South Africa, Stellenbosch University; Dick Bonnema, ALSA interview, interview by Lize-Marié van der Watt, August 5, 2010, Antarctic Legacy of South Africa, Stellenbosch University. Bonnema was not invited. He felt that he was excluded on purpose because he was a liberally inclined Hollander. He was also asked not to take the Dutch flag along.
68. “Aflosspan Na Suidpool: S.A Se Oë Is Op Julle, Hoor Ekspedisie,” *Die Transvaler*, November 29, 1960.
69. The Day of the Vow commemorates the Battle of Blood River/Ncome River on 16 December 1838 when less than 500 Voortrekkers (seen as a group preceding the Afrikaners) won a battle against an estimated 10,000 Zulus (the Voortrekkers had more sophisticated fire power). Before the battle the religious Voortrekkers made a covenant with God that if they win, they will commemorate the day forever. It is probably the most emotional of all the Afrikaner foundation myths and has been used in political mythmaking ever since. Post-apartheid, the new government reinvented it as the Day of Reconciliation.
70. For a in-depth discussion of polar men and domesticity see Hains, *The Ice and the Inland*.
71. Quote from “Newspaper Clipping in Collection of Gerrie Scholtz. ‘Jongmans in Koue Vra Nooiens Moet Skryf,’” n.d., Private Collections, Antarctic Legacy of South Africa, Stellenbosch University.
72. Du Preez, ALSA Interviews. The other surviving team members interviewed remembered “Dokkie” in similar terms. He was the oldest team member was seen as the patriarch (more so than the team leader, who seemed to have been unapproachable).

73. See for example André le Roux van der Merwe, *Die Wit Horison: Antarctiese Dagboekverhaal* (Cape Town: Human & Rousseau, 1968), 76–82.
74. *Ibid.*, 94.
75. *Ibid.*, 32.
76. “He Got the News in a Radio Call, Daddy Is in the Antarctic,” *Sunday Times*, Undated, Clipping,” n.d., Private Collections, Antarctic Legacy of South Africa, Stellenbosch University.
77. The Voortrekkers were white Dutch-speaking farmers who moved from the British-controlled south into the interior from the 1830s. Their history was popularised by Gustav Preller in the early twentieth century and became one of the foundation myths of Afrikaner nationalism. See Isabel Hofmeyr, “Popularizing History: The Case of Gustav Preller,” *Journal of African History* 29, no. 3 (1988): 521–35.
78. Van der Merwe, *Die Wit Horison*, 19.
79. Lize Swartz, “Suid-Afrika ‘is Soos ‘n Ander Wêreld’ Ná Antarktika,” *Die Burger*, February 17, 2011, Interestingly, this competition was recently revived.
80. In Afrikaans, the expression “hardebaard” that literally translates as “hard beard” (as opposed to “melkbaard, which colloquially translates to ‘fuzz’). It is also used idiomatically to describe ‘men’s men’ or tough men. Sandra Swart, “A Boer and His Gun and His Wife Are Three Things Always Together’: Republican Masculinity and the 1914 Rebellion,” *Journal of Southern African Studies* 24, no. 4 (December 1998).
81. “Manne Met Lang Haarlokke Terug in S.A,” *Die Volksblad*, February 19, 1963; “Suidpoolspan Laat Hawe Soos Hippieland Lyk,” *Volksblad*, February 26, 1972.
82. Van der Merwe, *Die Wit Horison*, 45.
83. André le Roux van der Merwe, “Overdressing and Overgrowth of Beard in Antarctica,” *Antarctic Bulletin*, March 1967.
84. C. Collis and Q. Stevens, “Cold Colonies: Antarctic Spatialities at Mawson and McMurdo Stations,” *Cultural Geographies* 14, no. 2 (April 1, 2007): 248, doi:10.1177/1474474007075356 On the American bases, for example, there are the “outdoor people” (trades), “indoor people” (technicians) and “beakers” (scientists). In MacMurdo the class distinctions are more strictly drawn in terms of accommodation. Mawson, an Australian station, is more egalitarian in its room allocation, there is nevertheless a social-distinction between the “boffins” (scientists) and the “tradies” (maintenance personnel). The more recent order of social status (and not actual authority) on the South African bases were divided into those belonging to an overwintering team, the “drivers” (responsible for transporting the cargo from the ship to the base, usually with a military back-

ground), the helicopter pilots and “PWD.” Depending on who you ask, the bottom rung is shared by DEAT (the administrative personnel the government department in charge), and the “loslappies” (scientists).

85. De Weerdt, ALSA Interviews.
86. Don Pinnock, *Blue Ice: Travels in Antarctica* (Cape Town: Double Storey, 2005), 79. Van der Watt met some of the drivers Pinnock referred to, who felt that they were not informed that they will be quoted and was in any case misquoted. Nevertheless, her experience was that the dominant discourse remained that people who were station-bound, especially the mostly black government bureaucrats, never experienced the “real Antarctica” and that the drivers were the “tough manly men.”
87. Kim Gierdien, ALSA Interviews, interview by Lize-Marié van der Watt, August 17, 2011, Antarctic Legacy of South Africa, Stellenbosch University.
88. “Bruine Eerste Keer Saam Na Marion Eiland,” *Die Burger*, March 30, 1989.
89. Henry Valentine, ALSA interviews, interview by Lize-Marié van der Watt, August 18, 2010, Antarctic Legacy of South Africa, Stellenbosch University.
90. Charity Bhengu, “The First Black S African to Go to the South Pole,” *Sowetan*, August 13, 1996.
91. “Director-General Environmental Affairs and Tourism to Director General, Foreign Affairs, ‘South African Crossing of the Antarctic Continent,’ April 2, 1997, BTS 102/2/7 vol. 40, DIRCO.
92. Van der Watt, “Return to Gondwanaland”; Alessandro Antonello, “The Greening of Antarctica Environment, Science and Diplomacy 1959–1980” (PhD Thesis, The Australian National University, 2014).
93. Department of Environmental Affairs and Tourism, “Cabinet Memorandum: ‘Continuation of the South African National Antarctic Programme, (SANAP),’ Revision 5,” 30 May 1995, BTS 102/2/7 vol. 37, DIRCO.
94. John Yeld, “Show House Down South: South Africa’s New R18m Ice Base Unveiled,” *The Argus*, November 22, 1991; “Nuwe Huis Vir Manne in Die Ys,” *Die Transvaler*, November 22, 1991.
95. The team leader, David Frank, also recounted how he ran into trouble when he insisted the accommodation for the construction workers be desegregated. David Frank, ALSA Interviews, interview by Lize-Marié van der Watt, March 19, 2010, Antarctic Legacy of South Africa, Stellenbosch University.
96. Melanie Gosling, “Old Flag Colours at SAAE IV—a Matter of Vision,” *The Cape Times*, February 10, 1997; Melanie Gosling, “Colours of New Antarctic ‘Sun City’ Make MP See Red,” *The Star*, February 10, 1997.

97. Hennie Stassen, ALSA Interviews, interview by Lize-Marié van der Watt, October 12, 2010; Valentine, ALSA Interviews; Dirk van Schalkwyk, ALSA Interviews, interview by Lize-Marié van der Watt, October 11, 2010, Antarctic Legacy of South Africa, Stellenbosch University; Frank, ALSA Interviews.
98. Anecdote related by South Africa's chief scientific representative at CCAMLR during the 1980s. Apparently she laughed before the translator had a chance to speak, unwittingly demonstrating her grasp of English.
99. Melissa Steyn, "‘White Talk’: White South Africans and the Management of Diasporic Whiteness," in *Postcolonial Whiteness: A Critical Reader on Race and Empire*, ed. Alfred J. López (Albany: State University of New York Press, 2005), 119–35.
100. Also see Roberts, in this volume.

PART III

Whose Antarctic?

Acting Artifacts: On the Meanings of Material Culture in Antarctica

Dag Avango

INTRODUCTION

Remains of human activity in Antarctica are generally treated in two different ways—either as unwanted imprints polluting a pristine natural environment, objects alien to the continent which must be removed, or as cultural heritage which needs to be preserved. For this reason, artifacts of potentially great importance for understanding and explaining the history of Antarctica are removed, while sites of arguably lesser universal value are preserved as heritage. The objective of this chapter is to argue for greater caution when assessing what should be treated as trash or heritage in the Antarctic. Before decisions are made to remove remains of human activities there, greater attention should be paid to the fact that these remains may acquire value in the future. Building on theoretical approaches within the fields of industrial heritage studies, history of technology, and archaeology, my point of departure is an understanding that material culture can be connected with a multitude of meanings and values, depending on who is reading it and when. Remains of human activities can be ascribed values if there are actors who want to include them as part of their networks and in a historical context that works in their favor.

D. Avango (✉)

Division of History of Science, Technology and Environment, KTH Royal Institute of Technology, Stockholm, Sweden

ACTING OBJECTS: A THEORETICAL APPROACH FOR EXPLAINING THE ROLE OF ARTIFACTS IN HISTORY

In recent years, researchers within the field of industrial heritage research and history of science and technology have taken an interest in the history and heritage of the polar regions. There are several explanations for this interest, including the environmental impacts of climate change (which are greater in the polar regions than elsewhere), as well as the growing demands for natural resources that have encouraged extractive industries to turn their eyes to more logically challenging parts of the world. In this context, researchers within the above-mentioned disciplines have tried to seek explanations to these changes from a long-term historical perspective.¹ Why have scientists, researchers, and industrialists taken an interest in the polar regions in the past? How can we, from a historical perspective, explain the current surge of economic and political interest in the polar regions? And what values may the material remains of these past activities hold today or in the future, as heritage and/or resources for new kinds of activities?

Scholars have pursued such questions, not only through traditional historical research based on archival documents, but also by focusing on the material culture remaining from human activities in the polar regions, including the Antarctic.² This approach has grown out of a theoretical trend within these disciplines in which material culture is given a much more significant role in explanations of historical change. The inspiration comes from post-processual archaeology and from “the material turn” in science and technology studies (STS)—fields of research which industrial heritage research developed in close conjunction with. In industrial heritage research, the focus on the materialities of history has been inscribed in the discipline right from the start. The discipline grew out of a broader movement within cultural heritage preservation from the mid-twentieth century, sometimes known as industrial archaeology, which sought to preserve built environments and living memories from the Industrial Revolution, in the wake of post-war modernizations of industrial cities in the western world. The movement expanded through the 1970s and 1980s, broadening its focus to include not only older remains of industry, but also more recently built environments (including scientific stations). When industrial heritage was established as an academic discipline in the early 1990s, this focus on the material lived on in the definition of the subject: to understand social, economic, and ideological drivers of change

in industrial society with a point of departure in the built environment. A historical-archaeological methodology was also a defining feature, striving to combine sources and methods from several disciplines within the humanities—archival research, interviews and archaeological fieldwork.³

The idea of including, if not focusing, on material culture has not only been a methodological preference. It has also been a theoretical statement, based on the assumption that material culture plays an active role in society and in historical processes of change, and consequently, should be taken into account in explanations of such processes. In this respect, the theoretical development of industrial heritage research and history of science and technology have similarities with the post-processual trend in archaeology. From viewing material culture as something passive, representing “adaptions” to changing environmental conditions, material culture is now viewed as an active and even a constitutive element within human society. People design artifacts and build environments both to fulfill practical tasks and to convey symbolic meanings. Actors use them within the framework of social strategies, either to conserve or to change societies, as physical points of reference for ideologies, or for legitimizing or opposing power. In a related manner, the discipline of history of science and technology has, since the 1980’s, understood modern technology as something socially constructed—a result of cultural norms and the preferences, interests, and strategies of different social groups. Scholars have developed schools of theory such as Large Technological Systems (LTS) and Actor-Network Theory (ANT), which to varying degrees include and activate the material as part of the social world.⁴

When trying to understand the potential value of human remains in the Antarctic, these perspectives can be valuable tools. To start with, they are obviously a source for understanding and explaining human interaction with the environment of that continent. During the 2007–2008 International Polar Year, an international group of researchers within history of technology, industrial heritage research, and archaeology studied the long-term development of natural resource exploitation in the polar regions, through the lens of archaeological sites remaining from whaling and research activities there. The name of the project was Large Scale Historical Exploitation of Polar Areas (LASHIPA), which made extensive use of ANT to generate explanations of historical change in which material culture was given a central role.⁵

ANT has its roots within the sociology of science, but from the 1980s, historians of technology and later, also heritage scholars and archaeologists

began deploying it within their own fields. Within history of science and technology, ANT has been used for explaining how actors form and realize scientific, technological, and industrial projects and why these projects are designed the way they are and why they change. The point of departure is that technological and industrial projects are constructions, consisting both of humans and of material objects, which act together within actor networks and thereby influence or even take part in driving historical changes. Actors initiate and build these networks in order to realize their projects, and thus their visions of the future. They build their networks by recruiting strong economic and political actors into global networks, actors who can provide the projects with for example financial resources, or facilitate permits or state protection. With these resources the actors can, in turn, build local networks on site in the polar regions, made up of research stations or extraction sites for resources. These local networks include employees of different sorts (scientists, technical staff or engineers, managers, and various categories of workers) and different material objects—buildings, refuges, infrastructures, harbors, and even elements from the local environment. In order to succeed, the network builders must be able to maintain a flow of resources between the local and global networks and to control all the elements in them.⁶

Of central importance for the argument here is the fact that it is not only humans who are playing an active role in these networks, but also artifacts and elements of the physical geographical environment. These materialities usually act through spokespersons (actors) and are termed actants. An actant can be anything from a fence, which an actor uses to delimit her or his property, or a continental shelf that a state defines and uses to demarcate an exclusive economic zone. The agency and meaning of such material objects change over time however: when the property owner abandons the land, the fence ceases to be an actant, and may end up being interpreted as unwanted trash spoiling the natural environment. Yet later, other actors interested in defining the site as cultural heritage may include the fence in a new local network with other purposes, such as developing a tourist site or building historical legitimacy for a claim for political influence. This is of crucial importance for understanding the role of material remains from human activities in Antarctica. When they were built, they formed a crucial part of local networks, which actors on this continent built to realize their visions of the future. And in some cases, after the original actors had abandoned their networks, they were enrolled into other local networks with other purposes. In this respect,

they form an important source for researchers dealing with the history of Antarctica. They could also have a great importance for actors who engage with Antarctica for other reasons: even if considered as waste in the present, material remains from past activities may indeed be revalued in the future for reasons we as yet do not know. In the following I will present a few cases to support this argument.

REMAINS OF HUMAN ACTIVITY IN ANTARCTICA AS SOURCES ABOUT THE PAST

Remains of industrial sites in the Antarctic are becoming increasingly popular as attractions for the expanding tourism industry in this region. At the same time—and partly as a result—they are increasingly becoming a concern for researchers, organizations, and the authorities that claim responsibility for environmental protection and preservation of cultural heritage in the region. In many cases, the goals of these actors do not coincide, giving rise to a frequently discussed question: how shall we balance between the need to protect ecosystems and humans from environmental hazards that some of these sites present, and the heritage values on the other? In this section, I will discuss the value of industrial sites in the Antarctic for historical research, based on examples from the LASHIPA project. Why and how did we study remains of human activities in the Antarctic? What did we learn from these sites in relation to our research questions?

The objective of the LASHIPA project was to explain the development of large-scale natural resource exploitation in the polar regions and its consequences in terms of both geopolitics and the environment. In order to break away from the narrow national framework so common in polar history, we used an international and bi-polar comparative approach. We studied industrial endeavors in both the Arctic and Antarctic, within whaling, mining, hunting, oil and gas, using a historical-archaeological methodology that included fieldwork at nine industrial sites—seven in the Arctic, and two in the Antarctic.⁷ This article builds on the results from the Antarctic field campaigns. The first was conducted at South Georgia (LASHIPA 6) in March–April 2009. During this campaign we worked at three different whaling stations—Prince Olav Harbour, which a British–South African company operated from 1917 to 1931; Ocean Harbour, which a Norwegian company ran in the years 1909–1920; and Grytviken, which an Argentinean company operated between 1904 and 1966.⁸ The second campaign was conducted in 2010 (LASHIPA 8).⁹ During this

expedition, we documented a large number of historical whaling and research sites in the South Orkney Islands, along the west coast of the Antarctic Peninsula and in the South Sandwich Islands.¹⁰

The main research questions of LASHIPA in Antarctica were: how can we explain the growth and decline of whaling and sealing in this region? Which driving factors were most important? Economic? Political? Cultural? How did the industrialists adapt and design technology and settlements, in order to make them function in the challenging environmental and legal circumstances in the Antarctic, and why? How did they secure control over natural resources and political influence and why did they do it the way they did? And finally, what was the consequence of their activities for the natural environment of the Antarctic?

The fieldwork we conducted in the Antarctic allowed us to formulate answers to several of these questions.¹¹ Perhaps the most difficult research problem to address by using archaeological evidence is the one concerned with the driving forces behind industrial activities in the Antarctic. As I and Louwrens Hacquebord have argued elsewhere, there was always a combination of driving forces giving birth to industrial operations in the polar regions, most importantly economic, but also including factors such as politics, knowledge production, and culture.¹² By combining archival research and contextual knowledge, it is clear that these drivers shaped the material culture of the Antarctic whaling stations. First and foremost, they reflect the primary motivation for the whaling industry—economic interests. These become visible in the fact that the entire whaling stations—made up as they were by massive boileries for various parts of the whales, guano plants, steam plants, infrastructures, service buildings, and sleeping quarters for employees—were built over a relatively short period of time (see Fig. 7.1). This reflects the eagerness of the whaling companies to achieve an economy of scale as fast as possible, in order to generate profits while the prices for whale oil were high. The quest for fast profits is also reflected in the rational spatial layout of the stations, the design of technology intended for maximum efficiency, and the practice of leaving all equipment at the whaling stations behind at the time of closure. They were simply not valuable enough to make it worthwhile to transport them elsewhere by ship (Fig. 7.2).

As Ulf Gustafsson has argued, there also have been political considerations at play behind some of the whaling operations.¹³ The British authorities ruling South Georgia gave a concession for the Prince Olav Harbour whaling station, despite the fact that they had previously decided



Fig. 7.1 Field work at Orcadas base, Laurie Island, South Orkney during the LASHIPA 8 expedition 2010 (Photo: Dag Avango, LASHIPA 8, 2010)

not to give any more whaling concessions. The company running it was British, which meant that Prince Olav Harbour whaling station could have functioned as an actant supporting the British claim for sovereignty at South Georgia, in accordance with the law of effective occupation. This interpretation is further strengthened by the fact that Prince Olav Harbour is located at Possession Bay—the place where James Cook laid claim to South Georgia for Britain in 1775 (Fig. 7.3).¹⁴

The remains of whaling stations also gave ample evidence about how the companies designed technology and settlements in a way that would make the local networks produce the results they wanted and why they designed them the way they did. Our archeological field work revealed that one of the whaling company's most fundamental problems in the relatively dry environments of the Antarctic was to gain access to large enough volumes of fresh water. They needed this water for the production of steam for the cookeries for blubber, meat, tongue, and bone. The companies solved this need by either building dams (Prince Olav Harbour, Signy Island station, Grytviken) or, like at Ocean Harbour in South Georgia, by construct-



Fig. 7.2 Prince Olav Harbour, a representative example of a shore-based whaling station: massive investments are placed in state-of-the-art technology and a design aimed at getting maximum profits fast (Photo: Dag Avango, LASHIPA 6, 2009)

ing a vast system of canals to channel meltwater from different streams and lead it into the heart of the production area. Material evidence also reveals how the whaling companies solved their need for fresh water after closing the whaling stations and moving their production onto floating factories (pelagic whaling). During the LASHIPA 8 field work we mapped numerous remains of depots and anchor points for factory ships along the coastlines of the Antarctic Peninsula and adjacent archipelagos, which the whaling companies had used to refill their water tanks with meltwater from ice sheets in the summer time.¹⁵ In this way whaling companies enrolled entire Antarctic icecaps into their local networks (Fig. 7.4).

The remains of the whaling stations also show that the companies devoted much attention to the construction of settlements that would function under the prevalent environmental and political circumstances in the Antarctic. The distances to centers of population and production of



Fig. 7.3 Water reservoir with pump station at Signy Island, originally built to provide needed fresh water at the Factory Cove whaling station, but subsequently used for refilling floating factory ships and for supplying the FIDS/BAS research station which was later built at the site (Photo: Dag Avango, LASHIPA 8, 2010)

technology, together with the challenging environment posed significant problems. Another challenge, from the perspective of the company leadership, was the relative absence of means for the employers to quell labor unrest—for instance, state presence in the form of police. In order to deal with these circumstances the companies created actants in their whaling stations that would ensure not only the survival of the work force but also labor peace.

The material remains of the stations reveal that the company leaderships built stations that were much more than simple work camps. They built entire communities, divided into industrial areas, areas for food production and storage, for housing, for services, and for spare time activities. By building such communities, the companies were able to guarantee the survival of their work force. They also built workshops, storages for large



Fig. 7.4 Storage facility for whaling operations, Foyn Harbour, Antarctic Peninsula. At almost all ice-free places along the west coast of the Antarctic Peninsula, there are remains from different human activities, all of them representing an important source of knowledge about the past (Photo: Dag Avango, LASHIPA 8, 2010)

volumes of a wide range of materials that would ensure the functionality of the stations through the seasons. They also constructed coal depots, large enough to supply the vast energy needs of the stations over the season.

From the remains of the stations, it also became clear that the companies used both carrots and sticks to make their employees loyal and hard-working. On the one hand, they supplied their settlements with housing and services that would ensure acceptable living standards for workers and management, including possibilities for meaningful spare time activities. Football fields at the South Georgia whaling stations should be interpreted in this way. On the other hand, they sought to naturalize hierarchies by giving different categories of employees' different levels of living quality in terms of housing and dining facilities, and by creating clear divisions between labor and management in the settlement plans.¹⁶ Less surprisingly, the material remains of the stations reveal that the companies also

adapted their settlements and technological systems to the local topography, in order to avoid wetlands, ice and steep ground, and to have access to natural harbors (Fig. 7.5).

The Antarctic field campaigns of the LASHIPA project also revealed the companies' strategies for controlling resources and achieving political influence, by means of material culture. The often-inaccessible environment presented ample opportunities to lock out competitors, by taking firm control over natural harbors in areas with exposed, steep, and ice-edged coast lines. All the whaling stations at South Georgia and the Antarctic Peninsula area are located in the few well-protected harbors that are available in those regions—Grytviken, Ocean Harbor, Prince Olav Harbor, Factory Cove, and the Deception Island crater lake are all examples of this. The British South Atlantic authorities' concession system for whaling provided yet another tool, giving companies exclusive rights to utilize these harbors. The British authorities, in turn, could argue that the whaling companies recognized British sovereignty by applying for those



Fig. 7.5 Housing at Prince Olav Harbor. At this whaling station, the company had created a settlement plan that emphasized hierarchies and gave different privileges to different groups of employees (Photo: Dag Avango, LASHIPA 6, 2009)

concessions—a handy tool in later sovereignty conflicts in the region with Argentina (Fig. 7.6).¹⁷

The whaling stations could also become actants to support claims of effective occupation, a possibility that the Argentinian government have made use of by emphasizing that Grytviken was the first permanent settlement at South Georgia, established by an Argentinian company.¹⁸ As I have previously showed, the British authorities in the South Atlantic made heavy use of the whaling stations at South Georgia to strengthen their claim to this island, partly as a consequence of this competition from Argentina, the UK magistrate at King Edward Point being one of the most prominent examples (Fig. 7.7).¹⁹

For historians and archaeologists studying the environmental consequences of the Antarctic whaling industry, the evidence does not only rest in the calculations of the dwindling whale populations over the twentieth



Fig. 7.6 Penguins exploring the asbestos piles in the ruins of Prince Olav Harbour whaling station, raising the difficult question of how to balance the need for cleaning up the environment with ambitions to preserve cultural heritage (Photo: Dag Avango, LASHIPA 6, 2009)



Fig. 7.7 Factory Cove, Signy Island. At this rare ice-free piece of land with a natural harbor, the whaling company Tønsberg Hvalfangeli built its whaling station in the late 1910s. Later, FIDS and BAS used the site for establishing a research station, which is still in operation today (Photo: Dag Avango, LASHIPA 8, 2010)

century but also. The historical remains of the whaling stations contain additional evidence. The whaling companies at South Georgia introduced new species such as rats and reindeer, which changed the environment.²⁰ Obvious impacts are also the buildings of the remaining stations and the huge volumes of technical equipment at these sites. The most environmentally challenging remains are clearly the asbestos, which may pose a hazard to both humans and local fauna. At Grytviken whaling station, the British authorities dealt with this problem in a rather radical manner in the mid-2000s, leaving only the skeletons of what used to be a relatively unaltered whaling station. This choice was unfortunate, as the stations are primary evidence for the behavior of industry in remote regions such as the polar areas. Therefore it is of crucial importance to conduct environmental remediation projects in a manner that leave as much as possible unchanged.

Thus, to summarize, the experience from the LASHIPA project and other projects with a similar approach, is that historians dealing with Antarctic history should pay attention to the role of material culture in human interaction with the Antarctic continent. These material cultures were actants in the local networks that made production, businesses, science, and geopolitics possible and should therefore be considered in explanations of historical change. In order to do so, it is desirable to study not only archival sources but also material remains of human activities there. This also points to a fundamentally important issue: the need to preserve as much as possible of the relatively few material traces of human activity on this continent.

REMAINS OF HUMAN ACTIVITY IN ANTARCTICA AS ACTANTS IN THE PRESENT

The material culture of human activities in the Antarctic speaks to us about the past, but also the present. Actors who have visited the Antarctic in more recent times have often used human remains from the past, reevaluated them, reinterpreted them and reused them for new purposes. In the following, I will give a few examples on this from the field research we conducted at a former whaling station at Signy Island and a former research station at Laurie Island, both situated in the South Orkney Islands, located just south of the 60th parallel, north of the tip of the Antarctic Peninsula. Both of these stations were abandoned by the actors who originally built them, only to be rediscovered and reactivated by other actors, as part of new local networks.

Whaling companies started to operate in the South Orkneys on an annual basis from 1907 until the outbreak of the First World War in 1914. After the war, the British authorities at the Falkland Islands (Britain claimed authority over the South Orkneys) granted a permit to a Norwegian whaling company—Tønsberg Hvalfangeri—to establish a whaling station at Signy Island at a bay that was named Factory Cove. The field investigations of LASHIPA 8 in 2010 revealed that the site of the whaling station is one of the few spots in the entire archipelago where it is suitable to establish a station of any sorts. Factory Cove is a natural harbor, somewhat protected from strong winds and the constant flow of huge icebergs from the ice shelves further south that runs aground on the underwater shelves surrounding the islands. The company established several buildings on the site—housing for employees, buildings for management, storage and services and cookeries for processing skrots from whale

carcasses. Moreover, as mentioned above, they were able to harness fresh water a kilometer or so from the site by building a pumping station. The company ran the whaling station in conjunction with factory ships until the season 1925–26. After closing the station, the company kept using the bay to anchor factory ships for a few years, but in 1929 the site ceased to be part of a local network for whaling (Fig. 7.8).²¹

The material remains of the station, the fresh water source, and the natural harbor were soon turned into elements of other actor networks. As part of the effort to govern its South Atlantic Empire, the British authorities launched a research program called the Discovery Investigations, which used Factory Cove as a base for their operations in the South Orkneys in 1927, and from 1929 to 1937. In 1943, in response to an Argentinian expedition the previous year claiming Argentinian sovereignty in the region, a British navy ship visited Factory Cove and hoisted the British flag at the site. The same year the British authorities launched Operation *Tabarin*—a campaign to conduct research and establish research stations for the sake of strengthening the British claim to the Antarctic Peninsula. The operation visited Factory Cove in 1944 and the following year it established a base at Coronation Island in the South Orkneys. The Operation *Tabarin* leadership soon regretted this choice however, because



Fig. 7.8 Remains of the Omund house, originally built by the Scottish National Antarctic Expedition in 1903, now re-used by the Argentinean site managers as a cultural heritage site (Photo: Gustav Rossnes, LASHIPA 8, 2010)

of unsuitable environmental conditions there. Instead they turned their interest back to the old whaling station at Factory Cove and eventually the Falkland Islands Dependency Survey (FIDS) established a new station there in 1947—Base H. The FIDS (reorganized and renamed the British Antarctic Survey in 1962) operated the station through the twentieth century up until the present.²²

There is no doubt that the material remains of the former whaling station—the buildings, the dock, the freshwater supply, as well as the natural harbor were of crucial importance for the FIDS/BAS in their activities in the South Orkneys. Only one other location in the South Orkneys had a comparable natural harbor: Brown Bay at Laurie Island, where Argentina had already established a research station (The Orcadas base). Therefore, the FIDS decided to turn Factory Cove and its abandoned whaling station into a part of a new actor network with other purposes than whaling: scientific research and British Antarctic geopolitics.

Over the course of the twentieth century, the original Base H became obsolete and eventually BAS built a new one on the same site. Our field work at the site shows that BAS reused the harbor but completely removed the old FIDS buildings as well as any remains of the original whaling station. BAS justifies this action by claiming to comply with the environmental regulations in the Antarctic Treaty System. Their motive for this behavior, I would argue, is on one hand an ambition to maintain presence in this still contested part of Antarctica—at a site with an excellent natural harbor and a source of fresh water from the days of the whaling station—while on the other hand, represents good responsible behavior, further legitimizing claims for influence there.

The second example concerns the Omund house on Laurie Island in the South Orkney Islands, established back in 1903 by the Scottish scientist and explorer William Speirs Bruce as a meteorological research station, as part of his Scottish National Antarctic Expedition.²³ After returning from the South Orkneys, Bruce offered to hand the station over to the British state—convinced as he was that the British would be interested for scientific, as well as political reasons. He was wrong. The British government turned the offer down because of the costs that would be involved. Instead, in 1904, Bruce sold the station to Argentina, which over the years expanded it into what today resembles an entire settlement and renamed it Orcadas. Argentinian scientists have used the station for meteorological research up until today, as well as research within the fields of seismology and glaciology. However, it is clear that the Argentinian government also

uses it as an actant in support of Argentina's claim to the same sector of Antarctica as Britain claims.

During the LASHIPA 8 field campaign at Laurie Island, we were able to study how the management of this site uses the historical remains of past activities to support those geopolitical goals. On each side of the narrow isthmus where the Orcadas base is located, the station management maintains remains from different periods of the station's history. On the southern beach are the remains of the Omond House, with a metal walkway surrounding it, protecting the ruins from the feet of tourists visiting the station. On the northern beach there are a series of graves, carefully managed and provided with signs indicating dates of death from the earliest days of the stations history to the recent past. The two sites are actively preserved as cultural heritage sites and the station personnel show them to visitors—tourists as well as other domestic and foreign visitors. In addition, the Argentinian authorities have established a museum in one of the older buildings of the station, with an exhibition narrating the history of Argentinian Antarctic science in general, and at Orcadas, in particular. The Scottish expedition and the subsequent Argentinian research efforts at Orcadas are deployed as parts of the same narrative, the same history.²⁴

If seen as a whole, the historical remains and the museum functions as anchor points for a narrative about Orcadas as the oldest permanently populated station in Antarctica. The station management further emphasizes this message in visitor signs around the station. This storyline may serve several purposes—creating a sense of pride in working at the base, making it an attractive visitor site for the growing tourism industry, but obviously also supporting an understanding that Argentina has been present in South Orkney and the Antarctic peninsula region longer than everybody else, in particular the British. In other words, by defining and using them as cultural heritage, the leadership of the Argentinian activities at Laurie Island has turned the remains into actants legitimizing the Argentinian sector claim, which is frozen but not eliminated by the Antarctic Treaty.

CONCLUSIONS

To conclude, the experiences from several research projects on the history of science and resource extraction in the Antarctic show that a wide range of remains from human activities on this continent can be invaluable sources for historical research, providing unique knowledge on how and why actors planned and executed their activities in Antarctica. These

material objects—actants of actor networks—were crucial for making projects possible and therefore should be considered in explanations of historical change on this continent. When material remains of past activities are removed from the Antarctic continent, such as in the case of the Signy Island station or the even the asbestos clean-up at Grytviken South Georgia, important historical sources are lost forever.

The second case lends further support to the argument that caution is needed when deciding how to handle material culture in the Antarctic. The remains of human activities there change over time, when new actors appear and decide to include them as actants in new actor networks. Different actors re-enroll those artifacts in different ways. While the FIDS and BAS never saw any historical value in preserving remains of the Signy Island station and eventually destroyed most of them, they nevertheless made practical use of the infrastructures which the whaling companies had created at the site in the early twentieth century—the natural harbor, the fresh water lake—possibly without realizing it. The Laurie Island case on the other hand shows that actors can be very careful to preserve remains of past activities and even declare them as cultural heritage. They will do so if they are able to use them as anchor points for narratives that are useful to them, thereby turning the objects into actants for attracting tourists and supporting claims for political influence. In these cases, the material remains from the activities of actors in the past take on a role that is perhaps unique to the Antarctic and other sparsely populated places on earth. Competing actors use them to populate unpopulated spaces with actors from the past, by way of historical narratives. As cultural heritage sites, they become representations of effective occupation.

For these reasons, it is fair to argue that the policies demanding complete removal of remains from recent human activities in Antarctica is unfortunate and should be modified, if not abolished. Material remains have a value for many different kinds of stakeholders in this region—from historians, archaeologists, and tourism companies to organizations with scientific and/or political ambitions. Moreover, it is not necessary to remove them, unless the remains are outright toxic.

NOTES

1. Dag Avango, Annika E. Nilsson, and Peder Roberts, “Assessing Arctic Futures: Voices, Resources and Governance,” *The Polar Journal* 3, no. 2 (December 2013): 431–46, doi:10.1080/2154896X.2013.790197.

2. Louwrens Haquebord, ed., *LASHIPA: History of Large Scale Resource Exploitation in Polar Areas*, (Groningen: Barkhuis, 2012).
3. Dag Avango and Peder Roberts, “Industrial Heritage and Arctic Mining Sites: Material Remains as Resources for the Present—and the Future,” in *Heritage and Change in the Arctic*, ed. Robert C Thomsen and Lill Rastad Bjørst (Aalborg, Forthcoming).
4. Dag Avango, “Arktiska Framtider Och Resurser: Det Industriella Kulturarvet Som Källa,” *Bebyggnelsehistorisk Tidskrift* 65 (2013): 52–71.
5. Dag Avango and Louwrens Haquebord, “Polar Industrial Heritage Sites as Resources for Historical Research,” in *Industrial and Cultural Heritage: South Georgia in Context*, ed. David Munroe (Dundee, 2012); Dag Avango and Louwrens Haquebord, “The History and Heritage of Natural Resource Exploitation in the Arctic and Antarctic : The LASHIPA Project,” *Patrimoine de L'industrie* 19 (2008): 7–16.
6. Bruno Latour, *Science in Action: How to Follow Scientists and Engineers through Society* (Cambridge, MA: Harvard University Press, 2003); Bruno Latour, *Reassembling the Social: An Introduction to Actor-Network-Theory* (Oxford: Oxford University Press, 2007); Bruno Latour, “Where Are the Missing Masses? The Sociology of a Few Mundane Artefacts,” in *Shaping Technology/building Society: Studies in Sociotechnical Change*, ed. Wiebe E. Bijker and John Law (Cambridge, MA: MIT Press, 2010), 225–58; John Law and Michael Callon, “The Life and Death of an Aircraft: A Network Analysis of Technical Change,” in *Shaping Technology/building Society*, 225–58.
7. Dag Avango and Louwrens Hacquebord, “The History and Heritage of Natural Resource Exploitation in the Arctic and Antarctic: The Lashipa Project.”
8. Ulf Gustafsson et al., “LASHIPA 6 : Archaeological Expedition on South Georgia 3 March–12 April” (Gröningen: University of Gröningen, 2011); Dag Avango, “LASHIPA 6—Archaeological Field Investigations of Whaling Stations at South Georgia,” Swedish Polar Research Secretariat Yearbook 2009 (Stockholm: Swedish Polar Research Secretariat, 2010).
9. Dag Avango, “Antarctic Stations between Whaling, Science and Geopolitics : The LASHIPA 8 Expedition,” Swedish Polar Research Secretariat Yearbook 2010 (Stockholm: Swedish Polar Research Secretariat, 2011).
10. Both expeditions were funded by the Swedish Research Council (Vetenskapsrådet), Project title: *Archaeological field investigations of whaling stations at South Georgia and Deception Island*, within the framework of the LASHIPA project. Salaries were funded by the Dutch Research Council NWO. In addition the South Georgia Heritage trust supported the project by offering logistical support. The field work team consisted of

Dag Avango (expedition leader, KTH/Arctic Center University of Groningen), Louwrens Hacquebord and Ulf Gustafsson (both at the Arctic Centre, University of Groningen), Björn Basberg (Norwegian School of Business Economics), Judith Labohm (medical doctor) and Gustav Rossnes (National Heritage Board, Norway).

11. If not otherwise indicated, the interpretations of material culture presented below derive from field work conducted during the LASHIPA 6 and LASHIPA 8 campaigns. Gustafsson et al., “LASHIPA 6: Archaeological Expedition on South Georgia 3 March–12 April”; Ulf Gustafsson et al., “LASHIPA 8 : Archaeological Expedition on South Georgia 6 March–2 April 210” (Gröningen: University of Gröningen, 2012).
12. Avango and Haquebord, “Polar Industrial Heritage Sites as Resources for Historical Research”; Dag Avango et al., “Between Markets and Geo-Politics: Natural Resource Exploitation on Spitsbergen from 1600 to the Present Day,” *Polar Record* 47, no. 01 (January 2011): 29–39, doi:10.1017/S0032247410000069; Louwrens Haquebord and Dag Avango, “Settlements in an Arctic Resource Frontier Region,” *Arctic Anthropology*, no. 46 (2009): 25–39.
13. Ulf Gustafsson and Björn Basberg, “Polar Industrial Heritage Sites as Resources for Historical Research,” in *Industrial and Cultural Heritage: South Georgia in Context*, ed. David Munroe (Dundee, 2012), 66–77.
14. Robert Headland, *The Island of South Georgia* (Cambridge: Cambridge University Press, 1984).
15. Dag Avango et al., “Lashipa 8: Archaeological Expedition to South Orkney, South Shetland and the Antarctic Peninsula 6 March–2 April 2010.”
16. Ulf Gustafsson et al., “Lashipa 6 : Archaeological Expedition on South Georgia 3 March–12 April,”; Björn L. Basberg, *The Shore Whaling Stations at South Georgia: A Study in Antarctic Industrial Archaeology* (Oslo: Novus, 2004).
17. Avango, “Heritage in action”; J Arne Odd Johnsen and Joh N. Tønnessen, *Den Moderne Hvalfangsts Historie: Opprinnelse Og Utvikling*, vol. 1, (Oslo: Aschehoug, 1959); Peder Roberts, *The European Antarctic: Science and Strategy in Scandinavia and the British Empire* (New York: Palgrave Macmillan, 2011).
18. See the argumentation put forward by Destefani on this matter in the Argentinian governments pamphlet from 1982—Laurio H Destefani, *The Malvinas, the South Georgias and the South Sandwich Islands: The Conflict with Britain* (Buenos Aires: Edipress S.A., 1982).
19. Dag Avango, “Heritage in Action: Historical Remains in Polar Conflicts,” in *Science, Geopolitics and Culture in the Polar Region: Norden beyond Borders*, ed. Sverker Sörlin (Farnham: Ashgate, 2013).

20. Robert Burton, *South Georgia* (Huntingdon, 2005); Robert Headland, *The Island of South Georgia* (Cambridge: Cambridge University Pres, 1984); Liz Pasteur and D.W.H. Walton, *South Georgia : Plan for Progress* (Port Stanley: British Antarctic Survey, 2006).
21. David Rootes, *A Concise Account of Signy Island Base H* (Cambridge: British Antarctic Survey, 1988).
22. Rootes, *A Concise Account of Signy Island Base H*.
23. The interpretation of the Orcadas base builds on field work within the LASHIPA project in 2010. Avango, Gustafsson, Hacquebord and Rossnes, 'LASHIPA 8: Archaeological Expedition to South Orkney, South Shetland and the Antarctic Peninsula 6 March-2 April 2010'.
24. Lashpia 8.

Finding Place in Antarctica

Alessandro Antonello

INTRODUCTION

In the summer of 2001–2002, the British-based Australian author Meredith Hooper spent the season at Palmer Station, the United States' scientific base on Anvers Island in the western Antarctic Peninsula. She had first visited that area in the summer of 1998–1999, and was keen to return, taken in by the place and its penguins. She wanted especially to understand climate change; Palmer's penguins, studied in depth over decades by the American seabird ecologist Bill Fraser, would help her do so. In the opening of the book she describes the station:

One short gravel road, a few blue-painted metal buildings, two white fuel tanks, a fist-shaped dock, five or six rubber zodiacs tethered to the shore, a summer population of nesting Adélie penguins and around forty humans, with assorted seals and other seabirds, living on a scatter of brown islands and points of rocky land separated by ocean swells, swept by fast-moving weather systems. A blip on the great white emptiness.¹

Though Hooper introduces it as a blip, the remainder of her book reveals something much more than mere blip. Along with other reflections on

A. Antonello (✉)

Robert D. Clark Honors College, University of Oregon, Eugene, OR, USA

Antarctic science and scientists at the turn of the millennium, her book is a thoroughgoing and exceptional study of an Antarctic place. Hooper masterfully narrates all the things that make up Palmer Station and its surroundings: its animals, weather, landscape, peoples, human-made objects, and the ideas that suffuse and give meaning to all those things and their relationships with each other. The place that Hooper inhabits and writes about—the place she recognizes, interprets, and in turn also creates—is specific: it has particular Adélie penguin colonies; she meets American scientists at an American station operated by the US National Science Foundation; the scientists work in the Palmer Long Term Ecological Research (LTER) site, a decades-long study of one region's ecology, also sponsored by the NSF; she writes about a place that is managed under the Antarctic Treaty System (ATS) as Antarctic Specially Managed Area (ASMA) number seven; and she is in a place that has had a particular experience of global warming and climate change, the Antarctic Peninsula region that even then was warming faster than almost anywhere else on the planet.

Hooper's exploration of the world surrounding Palmer Station is significant because it is an approach to writing and thinking about Antarctica that foregrounds a specific place, rather than Antarctica in general. Hers is not the only work that does so, for particular places do populate the Antarctic experience and imagination. Yet, perhaps because of an apparent uniformity—ubiquitous and seemingly uniform ice, seals and penguins, harsh weather, tumultuous seas—the Antarctic is often, even overwhelmingly, represented as an undifferentiated totality, a unified region. A synoptic and general view of Antarctica predominates. Several scholars have noted how writing about Antarctica is suffused with generalizations.² The Antarctic is, of course, a region defined by the massive presence of ice, by a relatively small biota, and a circumscribed range of human activities. Given the suite of international agreements within the ATS, one can also appreciate why international law and politics study the region as a whole. Yet, as Hooper's description and account of Palmer Station suggests, Antarctic history and life quite manifestly happens in place. My concern here is to understand the Antarctic-whole and Antarctic places and place-making. In what way is the Antarctic fashioned as a whole and how do actors fashion and have meaningful relationships with smaller, disaggregated, and disconnected Antarctic places?

This chapter emerges from, and responds to, at least three impulses and contexts. The first impulse builds on my ongoing scholarly project

of understanding Antarctic politics, diplomacy, and science in the period since the signing of the Antarctic Treaty in 1959—what might be called contemporary Antarctic history. Though the Heroic Age of exploration in the early twentieth century and the scientific internationalism of the 1950s keep the attention of both scholars and public, the period after 1959 has been unevenly studied, despite the fact that it has seen the most human activity in Antarctica. The Antarctic Treaty has been augmented with other international legal instruments to create the Antarctic Treaty System (ATS), more states have joined the original twelve signatories of the Treaty in governing the Antarctic, tourists from several countries visit each summer (a trend which started in the 1970s), and the scientific understanding of the region has increased profoundly. Which is to say, quite bluntly, that much has happened since 1959, but historians and other scholars have not yet come to study the 1960s to the 1980s as systematically or deeply as other eras.³ One aspect of this period is that, following the “filling in” of the blank spaces on the map, persistent scientific and human activity have continually refined knowledge of the region; attendant with this, but not exclusive to the contemporary period, is a refinement of Antarctic space and new spatialities.

The second context is the continuing importance of space and place to humanities scholarship, and particularly Antarctic scholarship. Human spatialities in Antarctica have been one of the central research preoccupations for Antarctic humanities and social sciences for some time now. The geographers Klaus Dodds and Sanjay Chaturvedi have shown the ways in which Antarctic space has been created and given meaning, especially in relation to geopolitics. Their work, arising in part from the critical geopolitics developments of the early 1990s, fundamentally reframed Antarctic history, calling attention to imperialism and colonialism, discourses and actions that enabled certain kinds of activities, but discredited others and that welcomed certain actors, but excluded others.⁴ Their work concentrated on Antarctica as a region in world politics, and carefully explored how certain states interacted with Antarctica and framed those interactions. As necessary as their analyses were, they tended to focus on Antarctica as a large and relatively uniform space—even if that space was contested and subject to multiple representations. Christy Collis took some of the first steps away from this framing when she suggested that the Antarctic was not a “homogenous wilderness—majestic and wild and entirely uniform,” but instead “a complex cultural space.”⁵ Collis studied smaller, more differentiated sites and places. She compared, for example,

the spatial practices manifested in Mawson and Mirnyy stations.⁶ There remains a tendency, however, even in critical and thoughtful humanities work, to treat Antarctica at rather a large scale.

“Place,” then, remains a relatively under-explored concept and experience for Antarctic humanities. The concept of place has been important for the humanities for some time now, having been taken up by all disciplines in some measure. Despite its importance to so many disciplines, it has tended to resist rigid definition, being, as Tim Cresswell has noted, an everyday word “wrapped in common sense.”⁷ Place is not simply the result of the existence or assembly of some group of people in one area. It must attend to their making and responding to local environments, their efforts to connect or disconnect themselves from other places.⁸ Place is material as well as discursive, rooted as well as connected, stable and unstable, made by human and non-human agents, and with multiple temporalities. As Arturo Escobar has suggested, one must recognize “that place, body, and environment integrate with each other; that places gather things, thoughts, and memories in particular configurations; and that place, more an event than a thing, is characterized by openness rather than by a unitary self-identity.”⁹ In general, a finely-tuned attention to place in Antarctica would reveal the complex scales of, and relationships between, different levels of engagement with the region; we might see that Antarctica is made out of places and made in places. It would also, I think, embed the idea that Antarctica is an unstable and always emergent spatial entity, continually susceptible to modification by the many actors involved with it. And, not that humanities scholars need to be convinced of this, it might also continue to chip away at the oft-repeated claim that Antarctica has no permanent human population or suggestions that Antarctica is some humanless space.

The third impulse and context is rather more current and political. Today, the ATS profoundly mediates the ways in which humans engage with the region, and it will likely continue to do so for the foreseeable future. There are debates about the limits of human activities in the South: on more publically controversial issues such as whether there should be resource exploitation or not, or how tourism should be regulated, but also more on whether or not scientific activities—the privileged activities of Antarctica—are in fact having too much of an impact the Antarctic ecosystem and wilderness. The ATS provides structures for debating and managing these questions: there is a comprehensive system of environmental protection instituted by the Protocol on Environmental Protection to the Antarctic Treaty (Madrid Protocol), with attendant

specially managed and protected areas; and the Commission for the Conservation of Antarctic Marine Living Resources, which continues to debate marine protected areas and fisheries catch limits and allocations.¹⁰ Humanities scholars must have something meaningful to say in these political and diplomatic debates; just as humanities scholars increasingly participate in debates about global environmental change and the onset of the “Anthropocene,” so too should we be confident about contributing to debates about environmental change and damage in Antarctica.¹¹ A focus on “place” in Antarctica would respond to developments within the system (as will be detailed below) as well as suggesting new conceptual frames for actors within the ATS to engage with and potentially allow new directions for Antarctic politics that are both ecologically and democratically sensitive.

This essay has three sections. The first presents the history of the Antarctic-as-a-whole, principally in the register of geopolitics and international law, as it developed in the post-war era and was sustained, and modified in the era of decolonization and globalization, particularly through the idea of a “global commons” and the “common heritage of mankind.” The two sections that follow present developments and approaches to Antarctica that have been tied to places and to a more granulated and disaggregated approach, rather than a totalizing approach. The second section presents a countervailing movement, the development of the biological and ecological visions of the Antarctic—and of “the environment” more generally—and how that has, in fact, made problematic older “whole” notions of the Antarctic. The third section explores intrusions and incursions into the Antarctic by international-transnational civil society broadly defined, including Greenpeace, writers, and artists. These latter two sections illuminate the kinds of dynamics that a humanist position on Antarctica can reveal.

ANTARCTICA AS A UNIFIED WHOLE

Whether one is talking about Antarctica as a continent, or the Antarctic as a region encompassing the continent and the Southern Ocean, one is talking about a very big space. Antarctica at that scale—the unified or totalized whole—has been and remains an important object of science, politics, and culture. Yet that is only one manifestation of a complex range of natural and human elements. Antarctica at this scale also has a specific history, range of meanings, and differentiated importance for actors.

Appreciation of and engagement with a whole and unified Antarctic has been an important, if uneven, part of its history since James Cook first circumnavigated the continent at the end of the eighteenth century. It became more central to Antarctic affairs in the twentieth century, when activities in the region proliferated and when nations began staking territorial claims. Historian Peter Beck argued that the British saw Antarctica as a “geopolitical unit” since at least 1919–1920, when Leo Amery suggested that it should be British imperial policy to bring the whole Antarctic continent under territorial control—though this viewpoint faded somewhat when France and Norway made territorial claims of their own.¹² Beck was responding to the interpretation of the Argentine diplomat Roberto Guyer, who argued that it was the geographically-expansive approach of the Americans and Soviets in the 1950s that had given Antarctica “the clear character of a geopolitical unity.”¹³ Klaus Dodds has further refined this by arguing that the IGY saw “two rather different sorts of models of Antarctic exploration. The first was geographically selective (all claimant states and smaller polar operators such as the South Africans) and the second was geographically expansive (the United States and the Soviet Union).”¹⁴ In seeing such a geopolitical whole, the superpowers therefore wanted to dominate that whole; they could easily grasp it with their massive military and techno-scientific capacity.¹⁵ What should be kept in mind is that conceptions of a “whole” Antarctica were developed and pursued in the context of the Cold War, and that only certain actors—the United States and Soviet Union—had the capacity or inclination to materially engage with (and subsequently represent) that whole. It was the tensions of the Cold War and the preponderance of the United States’ and Soviet Union’s military and scientific powers that were significant impulses leading to the codification of Antarctica-as-geopolitical-unity into the Antarctic Treaty of 1959. That unity has been sustained into the present, and particularly embellished with the Convention on the Conservation of Antarctic Marine Living Resources of 1980, which, in a similar way, treated the Southern Ocean as a whole and attached it to the existing system.

Another important unification and totalizing image of the Antarctic can be found in the idea that it is a “commons” or “global commons.” Susan Buck has described Antarctica as “the most coherent of the global commons regimes.”¹⁶ Christopher Joyner admitted that “Antarctica is fashionably described as a global commons,” and went on to suggest that “while perhaps self-evident, that conclusion is complicated both by

political realities and conceptual difficulties.”¹⁷ In 1982 Magnus Wijkman described Antarctica as “a disputed commons.”¹⁸ As with all descriptions of the Antarctic, this one has a history, even as it, in some ways, accurately describes a situation of a space with shared resources and multiple users, albeit with a complex and contested rights and obligations. Even though it is used by some activists and disciplinary perspectives as if it were an historical given, talk of the Antarctic commons arose after the signing of the Antarctic Treaty in the context of overarching international intellectual developments of the late 1960s and 1970s: decolonization, the negotiation of a comprehensive law of the sea, the first uses of the term “global commons,” and the idea of the “common heritage of mankind.”¹⁹ In November 1967 the Maltese diplomat Arvid Pardo, speaking to the United Nations General Assembly, called for the sea-bed and ocean floor to be the “common heritage of mankind,” adding that they “should be used and exploited for peaceful purposes and for the exclusive benefit of mankind as a whole.”²⁰ This was also the time of Garrett Hardin, whose article “The Tragedy of the Commons” has become enshrined in popular and academic discourse for its stark vision of the dangers of human overpopulation, illustrated with the parable of the “pasture open to all.” Hardin wove a tragic tale in which the “rational” herdsmen, grazing their cattle on a commons, sought to maximize only their own gain, leading inexorably to overgrazing of the pasture and its diminishment as a resource. “Ruin,” Hardin gloomily warned, “is the destination toward which all men rush, each pursuing his own best interest in a society that believes in the freedom of the commons. Freedom in a commons brings ruin to all.”²¹ We can appreciate the emergence of the idea of Antarctica-as-global-commons in this context, yet it is precisely this development that demonstrates that such a designation was (and remains) a proposition and normative argument, rather than a simple observation.

What are the implications of this *wholeness*? Put most simply, attention given to the whole ignores and overlooks the local and particular. Despite the apparent uniformity of contemporary Antarctic life—mostly scientific activity in similar environments—there are an array of activities and meanings that differentiate Antarctic actors and their spaces and places of action. Indeed, attending to the whole has, broadly, privileged science, an endeavor that claims for itself universality of method and knowledge. That, in turn, has diverted our analysis and political interests away from important counter-currents.

The “global commons” mode of approaching Antarctica has specific problems. As far as it has been conceptualized, it elides or ignores many elements of experience and analysis when it comes to the more traditional local commons of early modern European social history. If we apply the older forms of local village commons rather more literally to the Antarctic global commons, we are compelled to ask, who are the commoners and who are the lords? What rights and responsibilities exist between them? How do they relate to the land and local environment? What are the customs of the place? How do the commoners create, maintain, and refine their places and their relationships with one another?²²

From a political point of view, labelling Antarctica as a “global commons” might, in fact, foreclose on democratic, global, and ecological possibilities, rather than creating a structure for allowing such possibilities—an ironic outcome given the political rhetoric. Conceptions about the “global commons” have faced critique on this score. Michael Goldman, for one, suggests that creating global commons implies “global experts,” “global science” and “global institutions.”²³ In the context of uneven North-South relations, the implication that global commons demand equally global experts, science and regulatory institutions creates, for Goldman, “troublesome political shortcuts.”²⁴ The global scientist, Goldman argues, simply “uses the *local* as a site for data collection,” while the global becomes “a site for knowledge production, legitimization and dissemination.”²⁵ Rather than an institution governing equitable access to resources, the global commons further embeds the dominance of industrialized Western countries. Rather than an institution preventing human impacts on the environment, it simply fiddles at the edges or in fact fore-shadows such impacts.

And seeing a global commons in Antarctica perpetuates ideas of empty space. On this measure, Kathryn Milun has advanced a sharp and convincing critique, suggesting that the pursuit or creation of global commons frameworks is supported by metaphors and rhetoric of empty space, which in turn emerge from the earlier spatial imaginaries that supported western imperialism and colonialism. The global commons have become, in reality, *res nullius*, land belonging to no one, rather than the intended *res communis*, land belonging to everyone.²⁶ The uncritical use of the global commons idea for Antarctica, if not quite emptying the space as Milun’s critique suggests, at least sustains an unvariegated and homogeneous vision of Antarctic space that ignores both historical and contemporary politics, scientific practices, and cultural meanings. It also has a tendency

to empty the Antarctic of its environment, or at least reduce a complex assemblage of human and natural relationships and elements to either an all-encompassing ecosystem, or resources to be managed.

Acts to unify and make whole the Antarctic are not simply in the past, and are not an exhausted political project. The continued existence of the Antarctic Treaty System demands, to a great extent, the maintenance of a geopolitical unity that can sustain peaceful relations between states. Just as the US and USSR projected themselves throughout the Antarctic during the Cold War, in the present, China in particular, has created stations and sent scientific expeditions that traverse and tie together the whole region.²⁷ All this invites one to recognize and observe a different scale of human activities in Antarctica, and it is to those countervailing movements and activities that I now turn.

BIOLOGY, ECOLOGY, AND ANTARCTIC PLACES

If the geophysical sciences have tended to contribute to the idea of a unified Antarctic whole, the biological sciences have been agents of disaggregation, place-making, and an insistence on specific localities and biota. This is perhaps most evident in the comprehensive environmental protection regime articulated by the Madrid Protocol, but in place earlier through the Agreed Measures for the Conservation of Antarctic Fauna and Flora (AMCAFF) of 1964. The development of this environmental protection regime has been perhaps the most consequential development in the more than 50-year history of the Antarctic Treaty, for not only did it come increasingly to occupy the Antarctic Treaty Consultative Parties from their earliest meetings, but it also introduced a dynamic that interacted with older conceptions of the geophysically and geopolitically-whole Antarctic, whether by allowing an explicit and open reassertion of territorial politics, or by beginning a shift to a variegated region, some parts of which were more biologically dynamic or more prospective for resources than others.²⁸ These changes have only intensified, and not even the era of the Madrid Protocol has softened it. If anything, the Madrid Protocol has actually reinforced regional differentiation and fragmentation. Attendance to place has not simply been through the network of Antarctic Specially Protected Areas (ASPs) and Antarctic Specially Managed Areas (ASMs), but also through the pressures for systematic and comprehensive protection as a guiding, and treaty-codified, philosophy. Contemporary environmental protection politics in Antarctica exemplifies the tensions of whole and

place: while there is a generalized space of environmental protection—the “natural reserve, devoted to peace and science” of the Madrid Protocol’s second article²⁹—there is also an archipelago of places under management and protection across the region, each with local actors, politics, relationships, meanings, and science.

The Consultative Parties have been concerned with nature conservation and environmental protection since their earliest meetings in the 1960s. In 1964, they concluded AMCAFF. A major first step within Treaty diplomacy and the first comprehensive agreement on Antarctic nature conservation, this agreement did two important things. First, it instituted protection measures for Antarctic species, including proscribed actions in relation to them and the creation of a permit system for taking them. Second, it created a mechanism for designating “Specially Protected Areas,” places given further protection owing to their “outstanding scientific interest” and “to preserve their unique natural ecological system” (Article VIII). It did not, however, come into force until 1982, when Japan became the final state to ratify the measures.³⁰

The AMCAFF regime was modified with the negotiation of the Madrid Protocol. Annex V of the Protocol created a system of ASPAs and ASMAs. An ASPA is created “to protect outstanding environmental, scientific, historic, aesthetic or wilderness values, any combination of those values, or ongoing or planned scientific research” (Article 3, 1), and an ASMA is “Any area, including any marine area, where activities are being conducted or may in the future be conducted,” designated “to assist in the planning and co-ordination of activities, avoid possible conflicts, improve cooperation between Parties or minimize environmental impacts” (Article 4, 1).³¹ Following the 2014 Antarctic Treaty Consultative Meeting there were six ASMAs and 72 ASPAs.³²

These protected and managed areas focus the diplomatic and scientific energies of the consultative parties into creating Antarctic places. Anthropologist Jessica O'Reilly investigated ASMAs as part of her ethnography of Antarctic environmental management policy and practice. She argued:

The creation of ASMAs forces a contingent of several nationalities to turn a seemingly blank Antarctic space into a decidedly international, managed one... As soon as the ASMA management plans begin to be written,

the involved parties negotiate procedures and regulations for how to live in, develop, study, visit, and categorize a piece of Antarctic land. ASMAs concentrate the roles and ideas of nations onto a relatively small international space. New and tiny national borders seem to become drawn around national bases... the national representatives have to relate with each other as border sharers, sharing logistics such as runways and agreeing on environmental and other policies.³³

While I disagree with the characterization that ASMAs were, before their inscription, “seemingly blank Antarctic space,” O’Reilly’s is an important step in refining our analysis of contemporary Antarctic history, and points quite directly at the processes of place-making.

O’Reilly’s work points us to one of the seven ASMAs: the Larsemann Hills. Located in East Antarctica, the Larsemann Hills is an ice-free area of about 40 km² consisting of two major peninsulas, four minor peninsulas, and approximately 130 near-shore islands. It is also the southernmost coastal “oasis” in East Antarctica.³⁴ First charted by Lars Christensen in 1935, the Larsemann Hills only began to experience “significant or sustained” human activity in the 1980s, when, between 1986 and 1989, four research stations were built by Australia, China, and the Soviet Union.³⁵ Its features carry predominantly Australian and Norwegian names. The plans for the Larsemann Hills ASMA have been introduced by Australia, China, Romania, Russia, and India. Perhaps the most contentious aspect of this ASMA was the 2006 announcement by India that it planned to build its third research station there. Problematically, and to the displeasure of Australia, China, Romania, and Russia, this Indian station would be built in the middle of the proposed ASMA, whose approval was on the agenda of that year’s consultative meeting. The ASMA itself had been in development since at least 1999. What made the Indian proposal so fascinating was that it was disrupting the Treaty process and the apparent good faith negotiations of other parties with, in O’Reilly’s articulation, “tectonic history” and “tectonic time,” “Gondwanan geopolitics,” and “sacred geographies.” India hoped to build its station in that particular area, arguing that it was at that point that the Indian subcontinent and Antarctica had been connected 125 million years ago.³⁶ The consultative parties used mechanisms ostensibly designed to manage an international environment to eke out their own territories and to cultivate places that bear their imprint. Some—like Australia—do this to cement longer histo-

ries of contact and exploration on the continent and others—like India—do this to lengthen their claims of interest and connection.

A related development in Antarctic place-making and the disaggregation of Antarctica has been the pursuit of what Annex V of the Madrid Protocol calls a “systematic environmental-geographic framework” for the identification of areas for protection and management. In the early 2000s, New Zealand scientists in particular began to pursue research into a physical and environmental classification of the continent. In their final report, the authors stated: “The classification was designed to provide a data-derived, spatially explicit delineation of environmental variables in Antarctica, to be used for a range of management activities, including identification of priority sites for protection, environmental monitoring, and assessment of risks associated with human activities.”³⁷ Their classification resulted in 400 environments across the continent, consolidated into 21 environments for the purposes of the final report. Following this New Zealand-led “environmental domains” work, Australian scientists, along with New Zealand and SCAR colleagues, continued to push this work to “identify biologically distinct regions of Antarctica,” rather than simply physical environments.³⁸ The working paper included a draft resolution for the Parties to discuss and accept at the thirty-fifth ATCM in Hobart (2012). In anticipation of the same ATCM, Aleks Terauds and colleagues argued that: “from the perspective of the conservation management of terrestrial diversity, it is clear from our analyses and review of the current biogeographic and limited conservation planning literature for the region at the broadest scale, each of the Southern Ocean Islands and each of the ACBRs should be managed as distinct areas of conservation significance.”³⁹ This study listed 15 Antarctic Conservation Biogeographic Regions (ACBRs). Accepted by the thirty-fifth ATCM (2012) as the basis for environmental management, this specific bioregional approach was nevertheless subtly criticized at the next ATCM (2013) by Russia, whose paper on the subject sought to emphasize a long Russo-centric history of biogeographic appreciation of the Antarctic.⁴⁰

Though there have been activities in nearly all parts of Antarctica for many years, this move towards a “systematic environmental-geographic framework” and the scientific investigations and appreciations of biogeography undergirds the disaggregation of ideas of Antarctic nature, and, I would argue, provide a foundation for greater place-making. Scientific inquiry cannot escape the earth and the particular ways its inhabitants live in particular formations and relationships. While nation-states party

to the Antarctic Treaty might tend to deal with Antarctica as a whole, the scientists and other interested environmental activists provide intellectual support for a graduated approach, drawing on both the scientific impulse of biology and ecology to understand various biota, and on the material reality of experience of biologists and ecologists who recognize and study difference across space. Over many decades, these biologists and ecologists have, through their studies in the field and in publication, entangled themselves with Antarctic nature and with its management, and, more recently, have done that at the place scale.

The final point here is that recognizing the complex story of places and smaller spatial units in Antarctica demands a renewed attention to specific developments in the historiography of science. One major historiographic development has been, following the historical geographer David Livingstone, to put science in its place.⁴¹ Despite rhetoric and ideology to the contrary, scientific research and cultures happen in specific places; the generation and consumption of scientific knowledge happens in places. While the history of science in Antarctica is generally known, attention to the material and place-based generation of that knowledge (which, of course, happens in laboratories and institutions around the world as well as in the South) has not been as seriously pursued as for other places. Attention to Antarctic places in the history of science might explore the differences between biological knowledge produced in the Antarctic peninsula (say at Palmer Station) in comparison to somewhere along the coast of East Antarctica (say at Dumont D'Urville station); it might explore the subtleties of glaciological knowledge generated around the Ross Sea in comparison to the Amundsen Sea; it might even explore how some Antarctic places are more tied and connected to places outside of the region than to other places within it.

INTRUSION, EMBODIMENT, AND PLACE

Until the 1980s, the preponderant Antarctic place-makers were the Antarctic Treaty consultative parties and their scientists and diplomats—the parties numbered twelve until 1977, to which another seven were added by the mid-1980s. It was an international regime with restricted membership, not only by the terms of the Antarctic Treaty, but also because of diplomatic exclusion. In the 1980s, actors outside of the Antarctic Treaty System, and who were not nation states, “intruded” into the restricted system and onto the continent. I will look at two of these intrusions. The

first was the well-publicized and combative expedition of Greenpeace to protest environmental pollution and degradation on the continent and to establish a base at Cape Evans on Ross Island. The second, less well known, but in a similar spot near Cape Evans, was the temporary field camp of the British writer and journalist Sara Wheeler and the American artist Lucia deLeiris; their camp “Wooville” is an illuminating instance of place-making by non-scientific actors.

In the early 1980s, Greenpeace International decided that it would establish a base in the Antarctic to highlight the continent’s environmental fragility and the exclusivity of its governance.⁴² While the initial plans, led by Pete Wilkinson of Greenpeace UK and James Barnes of the Antarctic and Southern Ocean Coalition (ASOC), hoped for a site on the Antarctic Peninsula, the sites that were surveyed would have damaged plant life, and Greenpeace tried to make their environmental impact as little as possible.⁴³ They settled on a site in the Ross Sea, which had the added benefit of being near the American McMurdo Station, also the largest installation on the continent. Their first trip south in the 1985–1986 season ended in failure; their ship, the MV *Greenpeace* had no ice rating, and the ice was too thick. The next summer was more successful, and Greenpeace Base, later renamed World Park Base, opened on February 13, 1987.

Greenpeace was building on several years of increasing frustrations on the part of international non-governmental environmental groups. As part of the broader developments in global environmentalism at the end of the 1960s and beginning of the 1970s, several environmental organizations turned their attentions to Antarctica, seeing there a precious environment that belonged to all peoples of the world. Friends of the Earth and the Sierra Club had been participating in Antarctic affairs from the early 1970s, and from the mid-1970s, individuals representing those organizations began to be offered places in the ATCM delegations of the United States. An important step in the relationship of environmentalists and global civil society with Antarctica came in 1978 when ASOC was formed by a range of groups led by the Center for Law and Social Policy and its director James Barnes in Washington, DC. ASOC quickly gained recognition as the leading global environmental NGO for Antarctica, and was bolstered by a wide variety of environmentalist organizations internationally who contributed to its funds, especially Greenpeace and Friends of the Earth national branches.⁴⁴ To ASOC and its members, Antarctica looked like a continent governed by an exclusive and closed group of states, and a space from which they felt excluded.

Greenpeace set out to the Antarctic to protest the environmental impact of the Treaty parties. High on its list was the runway at the French station Dumont D'Urville. Greenpeace was suspicious of the French airstrip, not only because of its direct environmental damage and disturbance for the local penguin populations, but because it suggested, at the height of the negotiations within the ATS towards a regulatory regime for the exploitation of mineral resources in Antarctica, that the French were preparing to fly in heavy mining equipment to the continent.⁴⁵ The French were not the only airstrip offenders at the time: Greenpeace was concerned about a new British airstrip at Rothera Station in the Antarctic Peninsula, and they were keeping an eye on American plans to clean up the airstrip at Marble Point, just across the McMurdo Sound from the station.

The expeditions were also concerned with highlighting daily pollution. McMurdo came in for protest on this count. During the 1988–1989 expedition, the expeditioners went to McMurdo to protest the discharge of chemicals, particularly cadmium, into the Ross Sea, as well as rubbish in general, which was piled up on the edge of the ice shelf to break off, float away, and sink to the bottom of the Southern Ocean somewhere. If they intended to make specific protests about these pollution issues, the *New Zealand Herald* journalist Stephen Knight also described how Kevin Conaglen, the base leader in 1986–1987, was “looking forward to simply being an aggravating presence in the area.”⁴⁶ There was also the continuing protest against the Japanese whale hunt, pursued as part of the expedition process. Paul Brown, a *Guardian* journalist with the 1988–1989 expedition, suggests a moral and environmental equivalence of Japan’s whaling with France’s airstrip construction. The confrontation between the builders at Dumont D’Urville was quickly followed by a confrontation on the Southern Ocean between the Greenpeace ship and the Japanese whalers.⁴⁷

Though Greenpeace’s campaign was for Antarctica to be designated a “world park”—another unifying and totalizing vision of Antarctica—their material activities around their base on Ross Island made, if only for a few years, a new Antarctic place, where non-governmental activities came up against existing practices. Established close to McMurdo Station so that the expedition could more easily call attention to pollution there, the base, ironically, also had to rely on it for information on ice conditions, weather, and aircraft movements. In the early seasons, it was clear that the Americans were not excited about their new neighbors. This sense of *de facto* exclusion is highlighted by specific experiences: for the 1986–1987

expedition, little help was forthcoming for describing ice conditions in the area; in the 1988–1989 season, issues with air traffic control arose. Stephen Knight offered the following view: “The Americans have the money and political will to establish a base in Antarctica, and from this position of power dictate terms to others entering the continent.”⁴⁸ Two seasons later Brown wrote that “the Americans’ control of air transport allowed them to completely dominate this area socially as well as logistically.”⁴⁹ Furthermore, even the leader of the New Zealand Scott Base, the “capital” of the Ross Dependency, set down restrictive rules for visits and access to Scott’s Hut. While the Ross Dependency suggests a New Zealand territory, the reality on the ground was of an American province, controlled with the might of the American military-industrial-scientific complex. Though the Americans, in spite of their supposed reservation to make a territorial claim in the future, had so often been the voice of non-exclusionary and non-discriminatory access to the continent, they were, in the region of Ross Island, creating an uninviting place, manifesting their intentions and relationship with Antarctica.

For Greenpeace, an embodied presence in an Antarctic locality was essential for their protest. “Bearing witness” was a central tenet of Greenpeace’s activism from its foundations in the early 1970s, when Quakers were influential leaders in the organization—it is what made their protest against nuclear testing and whaling so powerful.⁵⁰ That witnessing could only occur at the site of environmental degradation, by an embodiment in place. And it was the very embodiment, that relationship of the human body with a landscape, with an environment, that by its very nature created the place. The philosopher Edward Casey has so clearly explored—participating in the phenomenology of the twentieth century—the ways in which places are made by a sensing embodiment, by the interaction of body with landscape, not simply some human creation on top of the formalized “space” that dominated Western thought for centuries.⁵¹ By bearing witness at McMurdo Sound, the Greenpeace expeditioners were creating a place.

Four years after the dismantling of World Park Base, two women ventured out onto the McMurdo Sound sea ice very near the site of the Greenpeace base. In September 1995, Sara Wheeler and Lucia deLeiris, a writer and an artist, respectively, ventured out onto the sea ice near the Erebus Glacier Tongue and there established a field camp named “Wooville,” referencing their National Science Foundation designation as members of the Writers and Artists Program—deLeiris was W-004 and

Wheeler W-006. Wheeler states that a plan had been conceived, by whom we are not told, “to despatch us both out on to the sea ice in our own hut.”⁵²

And so, in their two Wooville huts—they used only one at a time, in case the other burned down—they stayed until late October to write and paint the Antarctic. They drilled the sea ice to test its thickness and they welcomed all visitors. They visited sites and camps in the region. Sometimes they ventured back to McMurdo Station; sometimes they dined and visited the New Zealand Scott Base. Wheeler appreciated the solitude and isolation, “the still of the evening... like a reprieve.”⁵³ After a few weeks, they even moved their huts for a change of scenery. Wooville II was north of Cape Evans with a view of the Barne Glacier and Scott’s hut. Wheeler writes with a palpable sense of ownership, not only for herself, but against the scientists who had brought her to the continent:

I had been in many Antarctic camps, but nothing compared with having my own... We had claimed Antarctica back from the colonisation of science. Wooville was the only non-science camp on the continent, and we had as much right to be there as the beakers.

I have nothing against either science or scientists, but they don’t own Antarctica. You might think they do—the entire human occupation of Antarctica is predicated on the theory of science as an unending process of amelioration.⁵⁴

She is critical of their hegemonic claims and also, to an extent, of their subtle hypocrisies. Her claim is also an interpretation of place, and the capacity of Antarctic places to be more than simply environments for scientific recognition, delimitation and interpretation.

Wheeler and deLeiris had a profound sense of place in their huts out on the sea ice. They had a sense of ownership and they had cultivated the Antarctic for meaning. Their summer at Wooville was not the explicit intrusion into Antarctic politics that the Greenpeace expedition was, and their presence was certainly ordained by the Antarctic Treaty order—more specifically, American posturing within it—and bolstered by their being citizens of privileged and dominant Antarctic powers. Elena Glasberg has specifically critiqued the US National Science Foundation’s Artists and Writers Program as “the cultural wing of a neoimperial project.”⁵⁵ Their presence, their camp, and their intellectual labor, all suggest place-making, a cultivation of identity and relationships with people and nature that

have an effect in Antarctic cultures and politics and demand recognition. Wheeler and deLeiris each had a profound sense of belonging and finding a place in what is usually seen as inhospitable and placeless environment. More explicitly than scientists, their embodiment in Antarctica suggests the possibilities of humans finding and making a deeper place in Antarctica than is usually allowed.

CONCLUSIONS

Attention to places and place-making might seem counterintuitive for Antarctica, where the natural environment is so hostile to human presence, and where many humans see a thoroughly internationalized and globalized space with a generic mix of ice, penguins and seals, and tempestuous weather. Furthermore, calling attention to place might seem far from essential in a time of catastrophic and *global* environmental change.⁵⁶ But place-making does go on in Antarctica, even if it looks a little different there, and is unquestionably a physical challenge. It is essential to recognize and study the wide array of human engagements with the Antarctic and the diverse places they make there. Place-making should be considered as part of the suite of human spatial practices that stabilize relationships, both with other peoples and with the environment. Indeed, *finding a place* is surely one of the motifs of the human history of Antarctica—finding a place to enact human aspirations, propensities for control and domination, for sustenance, for information, and for identity and meaning in a complex world. In Antarctica, where permanent human settlement is only a recent experience—in the sense of continuous human presence, if not individual persons' permanence—finding a place also negotiates and enacts resolutions to the perpetual question of whether humanity's place in Antarctica is permanent or impermanent.

It is certainly difficult to make place in Antarctica, but human settlements and material practices have inscribed, and continue to inscribe, the landscape with meaning. If the humanities become more attentive to place and locality in Antarctica, they will find a rich vein of experience to analyze. Attentiveness to place recognizes the full range of actors and identities at play in Antarctica, for it is not just scientists and states that deeply engage with place, but also non-governmental actors, ranging from environmentalists to writers and artists; a place-based focus might even more fully bring women and other formerly marginalized groups into view, recognizing their importance in creating contemporary Antarctica.

Inclusion and exclusion are persistent elements of Antarctic history, and tracing that dynamic can also be focused in place. The full range of human engagements with Antarctica is not exhausted by those connected with or contained within the formal inter-state politics of the ATS or scientific researches.

And finally, and very much more tentatively, engaging with places rather than the whole might inject a new dynamic into Antarctic Treaty politics and diplomacy. The impulse to deal with the whole region through the ATS seems difficult to counter, given that a group of diplomats representing the Antarctic Treaty consultative parties annually sits around a table to discuss the governance of that very region. But at the same time, there is a group of scientists and environmental managers sitting around another table discussing measures for the protection of the Antarctic environmental in the Committee for Environmental Protection. In these meetings, there is an open and explicit attentiveness to specific Antarctic places and environments (very much in the plural), and a serious engagement with the very wide range of “values” (to use the terms of the Madrid Protocol) that sits in those places. Appropriately recognizing the ways that Antarctica sits in places might generate new affective relationships with the region, might trigger more vigorous science diplomacy and connection between states, and might more thoroughly entrench a consciousness of maintaining the Antarctic environment well into the future.

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NOTES

1. Meredith Hooper, *The Ferocious Summer: Adélie Penguins and the Warming of Antarctica* (Vancouver, BC: Greystone Books, 2008), xvi.
2. Victoria Rossner, “Gender Degree Zero: Memoirs of Frozen Time in Antarctica,” *a/b: Auto/Biography Studies* 14, no. 1 (1999): 5–22, doi:[10.1080/08989575.1999.10846753](https://doi.org/10.1080/08989575.1999.10846753); Elizabeth Leane, *Antarctica in Fiction: Imaginative Narratives of the Far South* (New York: Cambridge University Press, 2012).
3. Significant exceptions include: Marcus Haward and Tom Griffiths, eds., *Australia and the Antarctic Treaty System: 50 Years of Influence* (Sydney: University of New South Wales Press, 2011); Adrian Howkins, “Melting Empires? Climate Change and Politics in Antarctica since the International Geophysical Year,” *Osiris* 26 (January 2011): 180–97, doi:

[10.1086/661271](https://doi.org/10.1086/661271); Lize-Marié van der Watt, “Return to Gondwanaland: South Africa, Antarctica, Minerals and Apartheid,” *The Polar Journal* 3, no. 1 (June 2013): 72–93, doi:[10.1080/2154896X.2013.790198](https://doi.org/10.1080/2154896X.2013.790198); Simone Turchetti et al., “Accidents and Opportunities: A History of the Radio Echo-Sounding of Antarctica, 1958–1979,” *The British Journal for the History of Science* 41, no. 3 (September 2008): 417–44, doi:[10.1017/S0007087408000903](https://doi.org/10.1017/S0007087408000903); Simone Turchetti et al., “On Thick Ice: Scientific Internationalism and Antarctic Affairs, 1957–1980,” *History and Technology* 24, no. 4 (December 2008): 351–76, doi:[10.1080/07341510802357419](https://doi.org/10.1080/07341510802357419). The era following the signature of the Environmental Protocol to the Antarctic Treaty in 1991 has also been studied in depth by social scientists, albeit largely limited to legal and policy studies.

4. Sanjay Chaturvedi, *Dawning of Antarctica: A Geopolitical Analysis* (New Delhi: Segment Books, 1990); Sanjay Chaturvedi, *The Polar Regions: A Political Geography* (Chichester and New York: Wiley, 1996); Klaus Dodds, *Geopolitics in Antarctica: Views from the Southern Oceanic Rim* (Chichester and New York: Wiley, 1997); Klaus Dodds, *Pink Ice: Britain and the South Atlantic Empire* (London: I.B. Tauris, 2002).
5. Christy Collis, “The Proclamation Island Moment: Making Antarctica Australia,” *Law Text Culture* 8 (2004): 40.
6. Christy Collis, “Mawson and Mirnyy Stations: The Spatiality of the Australian Antarctic Territory, 1954–1961,” *Australian Geographer* 38, no. 2 (July 2007): 215–31, doi:[10.1080/00049180701422407](https://doi.org/10.1080/00049180701422407).
7. Tim Cresswell, *Place: An Introduction*, (Chichester, West Sussex; Malden, MA: J. Wiley & Sons, 2015), 6.
8. The point about a place’s connections was forcefully foregrounded by Doreen B. Massey, *Space, Place, and Gender* (Minneapolis: University of Minnesota Press, 1994), Chap. 6.
9. Arturo Escobar, “Culture Sits in Places: Reflections on Globalism and Subaltern Strategies of Localization,” *Political Geography* 20, no. 2 (February 2001): 143, doi:[10.1016/S0962-6298\(00\)00064-0](https://doi.org/10.1016/S0962-6298(00)00064-0).
10. For an evaluation of current structures from policy and legal perspectives see Alan D. Hemmings, Donald Rothwell, and Karen N. Scott, eds., *Antarctic Security in the Twenty-First Century: Legal and Policy Perspectives* (New York: Routledge, 2012).
11. Gisli Palsson et al., “Reconceptualizing the ‘Anthropos’ in the Anthropocene: Integrating the Social Sciences and Humanities in Global Environmental Change Research,” *Environmental Science & Policy* 28 (April 2013): 3–13, doi:[10.1016/j.envsci.2012.11.004](https://doi.org/10.1016/j.envsci.2012.11.004). Libby Robin, “Histories for Changing Times: Entering the Anthropocene?” *Australian*

Historical Studies 44, no. 3 (2013): 329–340, doi:[10.1080/1031461X.2013.817455](https://doi.org/10.1080/1031461X.2013.817455).

12. Peter Beck, *The International Politics of Antarctica* (London: Croom Helm, 1986), 54.
13. Roberto E. Guyer, “Antarctica’s Role in International Relations,” in *Antarctic Resources Policy: Scientific, Legal, and Political Issues*, ed. Francisco Orrego Vicuña (Cambridge: Cambridge University Press, 2009), 268.
14. Klaus Dodds, “Assault on the Unknown: Geopolitics, Antarctic Science, and the International Geophysical Year (1957–1958),” in *New Spaces of Exploration: Geographies of Discovery in the Twentieth Century*, ed. Simon Naylor and James R. Ryan (London: I.B. Tauris, 2010), 158.
15. Turchetti et al., “On Thick Ice,” 353.
16. Susan J. Buck, *The Global Commons: An Introduction* (Washington, DC: Island Press, 1998), 35.
17. Christopher C. Joyner, *Governing the Frozen Commons: The Antarctic Regime and Environmental Protection* (Columbia, SC: University of South Carolina Press, 1998), 24.
18. Magnus Wijkman, “Managing the Global Commons,” *International Organization* 36, no. 3 (1982): 532, doi:[10.1017/S0020818300032628](https://doi.org/10.1017/S0020818300032628). Other examples include: Philip W. Quigg, *A Pole Apart: The Emerging Issue of Antarctica* (New York: New Press, 1983), who titled his last chapter ‘A commons in trust’ though it is more concerned with describing alternative visions for the Antarctic legal regime; John Vogler, *The Global Commons: A Regime Analysis* (New York: J. Wiley & Sons, 1995) includes Antarctica among the global commons, but his chapter on Antarctica merely describes its legal regime without any particular point of view or argument, and assumes that the Antarctic is an example of a commons regime. The same critique can be made of Sudhir K. Chopra, “Antarctica as a Commons Regime: A Conceptual Framework for Cooperation and Coexistence,” in *The Antarctic Legal Regime*, ed. Christopher C. Joyner and Sudhir K. Chopra (Dordrecht: M. Nijhoff, 1988).
19. Clyde Sanger, *Ordering the Oceans: The Making of the Law of the Sea* (Toronto: University of Toronto Press, 1987).
20. United Nations General Assembly, First Committee, Official Records, 22nd Session, 1 November 1967, A/C.1/PV.1516.
21. Garrett Hardin, “The Tragedy of the Commons,” *Science* 162, no. 3859 (1968): 1244.
22. J.M. Neeson, *Commoners: common right, enclosure and social change in England, 1700–1820* (Cambridge: Cambridge University Press, 1993) and Derek Wall, *The Commons in History: Culture, Conflict, and Ecology* (Cambridge: The MIT Press, 2014).

23. Michael Goldman, “Introduction: The Political Resurgence of the Commons,” in *Privatizing Nature: Political Struggles for the Global Commons*, ed. Michael Goldman (New Brunswick, NJ: Rutgers University Press, 1998), 3.
24. Ibid., 4.
25. Ibid., 5.
26. Kathryn Milun, *The Political Uncommons: The Cross-Cultural Logic of the Global Commons* (Farnham, Surrey; Burlington, VT: Ashgate, 2011).
27. Anne-Marie Brady, ed., *The Emerging Politics of Antarctica* (London and New York: Routledge, 2013).
28. Alessandro Antonello, “Nature Conservation and Antarctic Diplomacy, 1959–1964,” *The Polar Journal* 4, no. 2 (July 3, 2014): 335–53, doi:[10.1080/2154896X.2014.954882](https://doi.org/10.1080/2154896X.2014.954882).
29. *Protocol on Environmental Protection to the Antarctic Treaty*, 1996.
30. Antonello, “Nature Conservation and Antarctic Diplomacy, 1959–1964.”
31. *Protocol on Environmental Protection to the Antarctic Treaty*. Annex V.
32. ATCM XXXVII, “Final Report of the Thirty-Seventh Antarctic Treaty Consultative Meeting, Brasilia, Brazil, 28 April–7 May 2014” (Buenos Aires: Secretariat of the Antarctic Treaty, 2014).
33. Jessica O'Reilly, “Tectonic History and Gondwanan Geopolitics in the Larsemann Hills, Antarctica,” *PoLAR: Political and Legal Anthropology Review* 34, no. 2 (November 2011): 220, doi:[10.1111/j.1555-2934.2011.01163.x](https://doi.org/10.1111/j.1555-2934.2011.01163.x).
34. ATCM XXX -CEP X, “Measure 2 (2007) Management Plan for Antarctic Specially Managed Area No. 6 Larsemann Hills” (New Delhi, 2007).
35. Ibid.
36. O'Reilly, “Tectonic History.”
37. Fraser Morgan, Greg Barker, Craig Briggs and Robbie Price, “Environmental Domains of Antarctica, Version 2.0 Final Report,” November 2007, 5. http://www.landcareresearch.co.nz/publications/researchpubs/eda_v2_final_report.pdf
38. WP 23 rev.01, “Antarctic Conservation Biogeographic Regions: Working Paper Submitted by Australia, New Zealand and SCAR” (Hobart: ATCM XXXV—CEP XV, 2012).
39. Aleks Terauds et al., “Conservation Biogeography of the Antarctic,” *Diversity and Distributions* 18, no. 7 (July 2012): 726–41, doi:[10.1111/j.1472-4642.2012.00925.x](https://doi.org/10.1111/j.1472-4642.2012.00925.x).
40. WP 22, “Russian Antarctic Biogeographic Regioning as Compared with the New Zealand Classification. Working Paper Submitted by the Russian Federation” (Brussels: ATCM XXXVI—CEP XVI, 2013).
41. David N. Livingstone, *Putting Science in Its Place: Geographies of Scientific Knowledge* (Chicago: University of Chicago Press, 2003).
42. Roura Ricardo, “Greenpeace,” ed. Beau Riffenburgh, *Encyclopedia of the Antarctic* (New York: Routledge, 2007).

43. Stephen Knight, *Icebound* (Auckland: Century Hutchinson, 1988), 3.
44. Lee Kimball, “The Role of Non-Governmental Organizations in Antarctic Affairs,” in *The Antarctic Legal Regime*, ed. Christopher C. Joyner and Sudhir K. Chopra (Dordrecht: M. Nijhoff, 1988).
45. Paul Brown, *The Last Wilderness: Eighty Days in Antarctica* (London: Hutchinson, 1991), Chap. 3. On the minerals negotiations of the 1980s, see: Francisco Orrego Vicuña, *Antarctic Mineral Exploitation: The Emerging Legal Framework* (Cambridge: Cambridge University Press, 1988); Rüdiger Wolfrum, *The Convention on the Regulation of Antarctic Mineral Resource Activities: An Attempt to Break New Ground* (Berlin: Springer-Verlag, 1991); and Andrew Jackson and Peter Boyce, “Mining and ‘World Park Antarctica’, 1982–1991,” in *Australia and the Antarctic Treaty System: 50 Years of Influence*, ed. Marcus Haward and Tom Griffiths (Sydney: University of New South Wales Press, 2011), 243–73. The Antarctic Treaty parties agreed to the Convention on the Regulation of Antarctic Mineral Resource Activities (CRAMRA) in 1988, but this convention never came into force because it was rejected first by Australia and France—in part, influenced by a significant environmentalist campaign. The Protocol on Environmental Protection to the Antarctic Treaty (the Madrid Protocol) was finalized in 1991 in the wake of CRAMRA’s rejection.
46. Knight, *Icebound*, 68.
47. Brown, *The Last Wilderness*, Chaps. 8 and 9.
48. Knight, *Icebound*, 46.
49. Brown, *The Last Wilderness*, 171.
50. Frank Zelko, *Make It a Green Peace!: The Rise of Countercultural Environmentalism* (New York: Oxford University Press, 2013).
51. Edward S. Casey, “How to Get from Space to Place in a Fairly Short Stretch of Time,” in *Senses of Place*, ed. Steven Feld and Keith H. Basso (Santa Fe, NM: School of American Research Press, 1996); Edward S. Casey, *Getting Back into Place: Toward a Renewed Understanding of the Place-World* (Bloomington: Indiana University Press, 2009).
52. Sara Wheeler, *Terra Incognita: Travels in Antarctica* (New York: Random House, 1996), 290.
53. Ibid., 300.
54. Wheeler, *Terra Incognita*, 308.
55. Elena Glasberg, *Antarctica as Cultural Critique: The Gendered Politics of Scientific Exploration and Climate Change* (Basingstoke: Palgrave Macmillan, 2012), 102.
56. I am thinking particularly here of Ursula Heise’s critique of ‘place’, calling for a ‘sense of planet’. Ursula K. Heise, *Sense of Place and Sense of Planet: The Environmental Imagination of the Global* (Oxford : New York: Oxford University Press, 2008).

Scott's Shadow: “Proto Territory” in Contemporary Antarctica

Elena Glasberg

In a December 2012 blog for *The New York Times*, the physician and medical researcher Alexander Kumar posted a photograph of cut-out silhouettes of camels against a background of ice along with a caption reading: “LAWRENCE OF ANTARCTICA Wooden camels on the Antarctic plateau, the world’s largest, coldest and driest desert, near Concordia Station.”¹ Antarctica is perhaps the only place in the world today where high imperialism remains a sanctioned joke, a worker’s self-amusement to allay cabin fever. Concordia Station (opened in 2005) is a French-Italian joint venture, part of an ever-expanding array of international science installations encouraged by the Antarctic Treaty System’s (ATS) singular support for scientific research in the “frozen laboratory.” In recent years the Treaty has expanded from the original 12 signatories (the UK, US, France, Norway, Australia, Chile, Argentina, Belgium, Japan, New Zealand/Aotearoa, South Africa, and the USSR) to include 52 members, many of these new members having not been involved in the continent’s early exploration, such as Malaysia, India, and China. Even more significant than this growing internationalism and scale of science activity under the Treaty is the partnering of national science programs in matters of logistics, built environment, and research with private corporations, many

E.Glasberg (✉)
New York University, New York, NY, USA

of them transnational military contractors, such as Lockheed Martin and Raytheon Corporation. While science stations burst with examples of creativity under constraint, symbols such as the camels, of a worn-out and reviled imperial past would seem no longer to belong in contemporary Antarctica. In tracing the shadow of the European empire on Treaty-managed ice, this chapter asks: What is hiding in plain sight in Antarctica, where international contestation has been replaced by the Antarctic Treaty System's regime of science management?

Asking this question confronts a number of truisms that have long cast Antarctica as outside of, or exempt from global geophysical, historical, and cultural orders. Countless news reports and documentaries repeat the mantra of Antarctica's extremes: it is the last place on earth, the highest, driest, coldest, and windiest. Corollary to Antarctica's geophysical extremity is a repeated insistence on the continent as the only place on earth to lack a native human population. This tendency to cast Antarctica as a place of lack—lacking natives, nations, cities, or war (or slavery, debt, homosexuality, or colonialism, for that matter) is a form of positivist reduction in reverse, replacing the search for documentable facts and events with a foundational negativity—a sort of ontological de-empiricism. This pervasive and under-examined assumption of Antarctica's lack of culture structures the omission and even inadmissibility of the continent's richer cultural prehistories as both geographical myth and cartographical entity from the time of the Greeks, and including the written, as well as, oral traditions of European, Scandinavian, Latin American, and Maoris.

This chapter seeks to place what goes on “down there” within the context of global systems and geopolitical contestation to understand the way that structured absences or “absent presences”—beginning with the missing materiality ice as it was designated “Antarctica” and including such objects as Natives, literature, women—act as supplements within the very semiotic and political management systems that they in fact subtend. As the imagination must fill in the missing features of a silhouette, this chapter will detail the cultural enmeshment of Antarctica in the world system, an enmeshment that takes place in and through Antarctica's exceptional status within the ATS that has allowed the proliferation of state-private partnerships to support science, as well as an ever-expanding tourism industry. And yet these new partnerships and expanding memberships may continue to preclude substantial change to historically dominant power relations: among the Treaty's present signatories, there are still no Middle Eastern Arab nations. Overall, this chapter aims at a fuller description of

how such constitutive disablements work in a contemporary Antarctic run under a unique science treaty.

New linkages between media and territory have emerged within what has been called "permawar," as a global condition of low-grade and proxy conflicts replaces traditional temporally and territorially bordered war. The first section analyzes the appearance of Concordia's camels within a broader history of imperial visualization and Orientalist discourse within Antarctic exploration specifically. Section two extends this visual history, comparing the distinct approaches to documenting Antarctic science workers in Werner Herzog's *Encounters At the End of the World* (2007) and Ann Aghion's *Ice People* (2010), both filmed with United States National Science Foundation support. Section three places current media such as John Oliver's *Last Week Tonight* 2014 anti-tourism satire in the context of an earlier period in which postcolonial and eco-feminist critiques such as the 1970 *Monty Python* skit "Scott of the Sahara" and Ursula Le Guin's 1981 short story "Sur" emerged along with the discovery of the Ozone Hole, Greenpeace's 1982 direct actions against rapacious fishing practices in the Southern Ocean, and Malaysia's protest against the exclusivity of the ATS. The final section returns to the shadow of empire in contemporary Antarctica as it is taken up into the politics of climate change and the naming of the Anthropocene as a condition of inextricable enmeshment of human and earth forces and materials.

FROM GEOPOLITICS TO GEOPOWER

How does Antarctica belong to the rest of the earth? Before the twentieth century, such a question, if asked at all, was determined by the twin imperatives to know and to conquer the globe. Under "geography militant," any and all means of approach and involvement were deemed valid.² The consequences of that drive to map and know include sacrificed lives, exacerbated national rivalries, slaughtered animals, and fouled ecosystems, and to date, billions of dollars devoted to maintaining science stations. Traditional geopolitical analysis, reliant on national actors and histories, as well as on normative cartographic notions of territory and borders can only "make room" for Antarctica on an already-colonized globe largely organized into nations. Even postcolonial theories based on anthropomorphic models of the native create an "unoccupied" Antarctica as endlessly available for future development.³ Neither geopolitical nor postcolonial analysis can fully account for the ontology of ice—not as a symbol or as territory to be

controlled—but as a material that itself has played a role in the shaping of life on earth. The Anthropocene, the geologic era marked by human control over global-scale geophysical processes, is also the era in which human and ice time first became entangled. The extent to which Antarctica should be developed in relation to global capitalism or any of its off-shoots, such as the Antarctic Treaty System's instantiation of “a continent for science” has become a crucial consideration, as the Treaty's ban on direct forms of militarization and capital development will be renegotiated as early as 2048.

The persistence of geopolitical norms of the citizen-subject that assume nativity or national belonging as measures of rights and territory and ownership—even stewardship—prove insufficient to account for interactions among material forces flowing through the divide between living human bodies and the material world cast as the “other.” Geopower, as elaborated by philosopher Elizabeth Grosz, is among new approaches to understand events as occurring within a deep ecology of material forces that contain, but are not controlled by, human agency or perspectives.⁴ Whereas traditional geopolitical modes of seeing territory and population arrayed and mobilized over the surface of the earth forestall alternatives for understanding the effects of the mining, coring, and deep sensing practices of both on-going and new modes of science data extraction that overlap with practices of industrial extraction, geopolitics taps into the eruptive, fluid, unseen, inhuman potential of earth itself, marking a shift from a human-centered analysis to one considering the material substrates of water, ice, and wind and sun, not as passive or inert, but as self-organizing and creative. In place of the Cartesian plane of the geopolitical mapping of earth's surface, imagine instead a weather map of constantly moving, intensive blocks of air pressure and temperature, or of continually calving shoreline. This “weather map” suggests how geopolitics exceeds capture and measurement by instrumentation, as well as human perception, even as it reacts to those tools of perception and even includes them in its system.

Thinking through geopolitics realigns conceptual mappings of the relations of perception, technology, and cultural history of Antarctica. Polar ice and Antarctic ice, in particular, has a long history of being made to yield significance for explorers, authors, and photographers, despite and indeed through its very resistance to human being and seeing. For the explorers of the Heroic Age, photography helped establish proof of their territorial claims. Yet around photography's realist appeal, ice fields offered fanciful and endlessly variable shapes ready-made for both an encounter with the sublime and with the limits of rational perception. Early explorers and

illustrators consoled their senses, shocked by the unfamiliar and dangerous environment through wish-fulfillment visions of their greatest resource desires valuable animals, and cityscapes. After the Sixth International Geographical Congress of 1895 declared Antarctica to be the most important remaining task for exploration, the comparative mode and the citational apparatus implicit to Orientalism emerged fully in Antarctic exploration accounts and documentation. The official photographer to Robert Falcon Scott's British Antarctic Expedition, Herbert Ponting, not only carefully selected and posed his subjects, but he captioned the prints as well; one ice formation is elaborated as an "ice grotto," "a veritable Aladdin's Cave of beauty."⁵ The now-iconic image of the "Castle Berg" appeared to Ponting like "a perfect medieval fortress" rising out of the "ruins" of a collapsed ice arch—a trademark Orientalist casting of Antarctica as lost in the mists of a very human and not geological scale of time. Although Ponting captured a range of images of men, ships, and ice, it is these particular images that have come to politicize ice as the ultimate Other.⁶

The shadows of empire are not only cast from West to East, but extend North to South; not only do they emanate from Europe directly to an imagined Orient, but refract as well through Europe's other others, such as Norway (home of Roald Amundsen, the first to reach the pole), the formerly colonial US, and the twentieth-century post-colonial states of Latin America. Antarctica's cultural history, too, is the distorted shadow of the scholarship dominated by Europe's imperial competition of the turn of the twentieth century. Francis Spufford's influential *I May Be Some Time: Ice and the English Imagination* (1996) is a model of polar cultural studies centered on Britain.⁷ Although British Commonwealth nations like Australia and New Zealand have developed deep Antarctic cultures, a scholarly work of the scope and impact of Spufford's has yet to be written for them. Neither have similar studies for Scandinavia and the Southern Cone states been fully developed. US historian Stephen Pyne's *The Ice: A Journey to Antarctica* (1986; reissued 1995) stands out for its focus on the neglected role of the U.S. in Antarctic exploration history and for a bold, interdisciplinary melding of science, history, cultural studies, and art.⁸ Pyne's most striking intellectual innovation was to write an environmental history of Antarctica stripped of its cultural naming, and instead as ice material. Pyne's focus on ice's materiality was a welcome balance against a British-centric field in which United States actors had a relatively minor role. And yet Pyne's materialist counter to Antarctic historiography has also distorted the framing of US involvement in Antarctica. While Spufford and

many others acknowledge the imperial structure of Antarctic endeavor, for Pyne, American exceptionalism, or the assumption that the US is exempt from an imperial framework, skews his approach.

It took novelist Tom Wolfe in a 2005 *New York Times* editorial to describe the “curious case” of Antarctica, for which he notes US interest never took the form of an official claim. Citing the 1924 Hughes Doctrine requiring long-term settlement for territorial claim, Wolfe sees a parallel with the Monroe Doctrine of extending US influence into the southern hemisphere without formal territorial annexation. For Wolfe, reacting to the W. Bush-era Gulf Wars, it seems obvious that Antarctica poses an interesting case for thinking about new forms of US empire. Wolfe’s tantalizing insight into how a US empire of influence might extend even further south links post-WWII Antarctic endeavor to an earlier history of more frank imperial ambitions on the part of many nations, a history of contestation that appears to remain controlled under the Treaty.⁹ Wolfe’s insight goes against the grain of Pyne’s more conventional periodizing of Antarctic exploration within a “third great age” of exploration characterized by terrestrial limit and disappointment.¹⁰ Eleven years after writing *The Ice* and in the face of ever-growing US presence, Antarctica remains a wasteland to Pyne, who elides the *de facto* coloniality of US presence on the continent today, seeing instead a dead-end limit to manned colonization analogous to that of far space.

Heroic Age figures like Ernest Shackleton were direct in the use of martial metaphor to describe the Antarctic environment; the ice was an enemy to conquer and subdue, inexpressive and outside human understanding or feeling. It is jarring then that Pyne—who takes such pleasure in recounting and developing the rich scientific language for describing ice—nevertheless seems to transmute the actively malevolent ice of the Heroic Age into an inhumanly passive, postmodern “dead ice,” or a culturally inert blank slate. Pyne designates Antarctica an “information sink” that can never be made to yield positive data.¹¹ Pyne paradoxically ignores the evidence of the ever-growing population of US science workers as well as the data results of their work, calculating only the ever-expanding investment of money and personnel in the sprawling installations of McMurdo Station. Nor does Pyne carefully consider the nature of science support—who or what entities perform it or its complex money trails through government and private foundations and corporations. In the mid-1980s when Pyne made his National Science Foundation-supported field trips, the military contractors ASA and later Raytheon Corporation and Lockheed Martin “ran the ice,” providing logistics, transport, and worker-support services

after the de-militarization that began in the early 1960s. In exempting Antarctica from the history of empire on the grounds that it could not be properly settled or become conventionally productive, Pyne deflects the ways US empire operates without direct representation and without instrumentizable claims to territory or dependence on either native or permanent settler populations. Nor does his analysis anticipate what is now widely acknowledged as the vulnerability of ice to immediate, as well as long-term, degradation as a result of the maintenance of science stations.

Ponting was similarly caught in imperial blinders—think of the photos of him in the act of using his photographic equipment *en plein air*, his head thrust into the dark blind of the camera's bellows. Unable to make the trek to the South Pole, he famously played off his disappointment by insisting there was nothing there to see anyway. Both Pyne and Ponting project onto or Orientalize the blank slate of ice. This blanking out of ice is itself a citational practice, however, that creates the conditions for a string of imperial citations that belie ice's blankness. *The New York Times* "Lawrence of Antarctica" caption in generating its cheap laugh cites a series of European historical figures and events: *Scott of the Antarctic*, a 1948 British film reviving in the context of post-WWII Robert Falcon Scott's 1912 expedition as national sacrifice; *Lawrence of Arabia*, David Lean's 1962 epic of T. E. Lawrence's improbable military adventures among Arab Others; and Monty Python's 1970 "Scott of the Sahara" sketch mocking both Scott and Lawrence as tarnished icons of British empire.

"Scott of the Sahara" takes the form of a BBC-style mockumentary of the filming of a Hollywood version of the Scott myth.¹² To the storied British white male explorers Scott (Michael Palin) and Captain Oates (Terry Jones), the troupe adds in characters impossible to imagine as properly British and heroic, including "Vanilla Hoare" (an underappreciated Carol Cleveland doubling as "Mrs. Scott"), Birdie Bowers in a non-speaking role cast with a black pole-vaulter-turned-actor named Simon Fortescue, and Schlick (Eric Idle), a stereotypical Jewish Hollywood producer. The BBC interviewer observes of the film set on suburban Paignton Beach in summer, "Isn't it a bit awkward that there's no snow here?" But just as time and space were no obstacles for British empire, sand and ice surreally exchange in Hollywood's production, as Schlick explains, "Well, we have 28,000 cubic feet of Wintrex, which is a new white foam rubber which actually on screen looks more like snow than snow" as the visuals cut to a scene of workers absurdly nailing and sticking white foam to beach chairs and slopping white paint "with a special snow finish" over the sand.

Desperate to accommodate the haughty star, who insists that “[Scott] gets to fight the lion,” Schlick maniacally recalculates not only the film’s setting but its rationale:

“.... Scott’s in Africa...As many lions as we need...He’s looking for a pole no one else knows about...That ties in with the sand...Right...*Paint the sand yellow again!*”

Between a Britain unable to distinguish one colonial adventure from another and Hollywood’s appropriative economic amorality, Monty Python presents Antarctica as a surreal visual space retrofitted into a continually evolving succession of empires.

To “paint the sand yellow again” is a form of what geographer Klaus Dodds calls “re-screen[ing] Antarctica.” Both are modes of extending empire across time and space through cartographic technologies that are never totally distinct from cultural narratives or geopolitically unequal power. Writing about the British post-WWII mapping of the Falklands/Malvinas, Dodds highlights the ways mapping relied on the traces of the embodied presence of Scott and his team, whose actions in traversing and claiming ice continue to serve as the realist coordinates of empire. *Scott of the Antarctic* extended and distorted that presence, revealing the unsure fit of Scott’s narrative for the purposes of post-War national reconsolidation.¹³ *Scott of the Antarctic* re-played as “Scott of the Sahara” is an exchange that goes both ways, back to the end game of empire and forward to a post-colonial negotiated power in the Middle East/North Africa. Through both eras, Antarctica proves a flexible desert, the open screen on which to cleanse colonialism through critique. Building into Dodds’ concept of the mismatched or phased overlays of “re-screening,” I am suggesting a depth model of the “deep shadow” that also reflects the occluded shadow of Orientalist citation. This deep shadow blanks out the ice, makes ice textual or otherwise instrumental; it discounts the materiality of ice. Yet the shadow—like the screen—is itself always part of the representation, inextricably folded-in. Concordia Station’s ephemeral worker-produced and non-official decoration brings to light ongoing struggles for decolonization of peoples never directly included, and in fact, explicitly and historically and structurally excluded, from Antarctic representation and endeavor.

What then is the “shadowy substance” of a silhouette’s layered occlusions? Does it, to follow Harry Harootunian’s questioning of the effects

of metaphor in postcolonial theory, "... slide the ontology [of nation or native] under the hauntology, thus assimilating the apparition to the real?"¹⁴ Photography, with its indexing not only of the material body, but the relation of the sun's radiation and chemical photographic surface, mediates not only specific modes and practices of territorial occupation, but also mediates the material forces of photons, the earth's rotation, and water's crystallization. These material earth forces constitute media in themselves: colonial occupation, then, is an environmental/ecological mesh of citational and material forces. This deep shadow is not a projection onto the inert material of ice and it cannot be represented nor managed into stability by the territorial parceling on which the Treaty System operates. The question of Antarctica's ice is not how to measure it and fit it into systems of data, territory, or in esthetic displacement as analogy and citation, but rather how to perceive it as itself, within its self-constituting environment.¹⁵

DOCUMENTING ICE

In the 2014 animated feature *Penguins of Madagascar*, the digitized ice shelf is sleek and bright, an orderly and majestic wall.¹⁶ But as the view from nowhere swoops closer in, there's a small movement, a quiver in the ice shelf as it begins to crumble into the water. Instead of the crash of the viewing apparatus against an impregnable wall of ice (cf. the 1979 disaster in which an Air New Zealand DC-10 operating a tourist flight crashed into Mt Erebus, killing all 257 people on board), the presence of human surveillance seems to set off an avalanche-like collapse of the ice shelf. This is no longer the enemy ice of the Heroic Age, the antagonist substrate. In place of militarism, science—specifically environmental science linked to policy—has become the new ideology and government in Antarctica.

The *Madagascar* franchise directly references two well-known documentaries, Luc Jacquet's *March of the Penguins* (2005) and Herzog's *Encounters at the End of the World* (2007). Herzog even lends an uncredited voice cameo at the beginning of *The Penguins of Madagascar* (2014), marveling "Who could take these little snow clowns seriously?" in a sly self-parody of the overt seriousness with which he had proclaimed in *Encounters* that he did not intend to make a film about cute penguins. The ascription of cuteness, along with the relentless anthropomorphizing of penguin reproductive strategies featured in *March of the Penguins*, can often function as a minor key Orientalizing. Penguins, both real and

cartoon, are the mascots of the Antarctic, and like other mascot animals and Native-animal hybrids, they are used to make territory available for outsiders to imagine, to secure occupation through an appearance of fair and honorable representation that is, however, more of an appropriation than a genuine exchange. Herzog's voice-over splices on the word "seriously" as the sound of his voice emerges from the moving beak of one of the titular penguins, whose rising inflection as it takes over from Herzog's monotone serves to emphasize the youth and cuteness of an Antarctica in need of protection. But, immediately complicating the theme of human concern for penguin habitat destruction, the visual frame expands to reveal the presence of an animated film crew caught in the act of (gently) kicking one of the penguins off a cliff and away from the security of the rookery, and thus initiating the *Penguins of Madagascar*'s madcap plot in which the lost/outcast adolescent males must undergo a classic trial on the road in order to rescue their people back home.

Antarctic documentary and feature animation are spliced in other ways, too. A crucial scene in *Encounters*—captured through the use of telephoto lenses—depicts the march inland to certain death of a lone adolescent male penguin.¹⁷ Herzog splices into this outdoor field scene found footage of Heroic Age man-hauling as a visual echo of the absurd ends of British empire and of the “march” or drive of Jacquet's penguins to survive. But Herzog's inclusion of the film crew's meta-discussion about their inability under strict NSF environmental protection (based on the Madrid Protocol) to intervene with even self-destructive animal behavior reframes the event within the ironic environmental awareness that is a structuring feature and product of the Anthropocene. The question of how exactly rescue or even critical distance from the problem of global environmental disaster might occur pervades Herzog's documentary at all levels. His interviews with a range of workers and scientists based at McMurdo all dramatize narratives of extremity and extinction in one way or another, building Herzog's overall concern with what it would mean for humanity to take refuge in Antarctica. He manipulates images, cutting off conversations, roughly framing interview subjects, using sci-fi animation and allusions—his entire bag of tricks—to impose his vision of a humanity coming to an evolutionary and environmental crisis. Herzog's apocalypticism bleeds into his more immediate directorial frustrations with the layers of representational and logistical apparatus preventing his direct relation to Antarctica. Perhaps wishing for something more exciting, something out of polar fantasy-starvation, lost tribes, or at

the very least the good fortune of a timely explosion of lava from Mount Erebus—Herzog gets instead the most controlled, safe, and documented journey he'd ever been on, finding himself necessarily within the control of Raytheon Corporation, the NSF's logistics subcontractor, a defense corporation that as Herzog drily observes, "runs things in the spirit of a correctional facility."

Herzog certainly manipulates and edits-splices video of the landscape and of the human subjects to impose his effects of discord and violence. He even turns the ice-covered seabed into surfaces to be seen. Non-heroic art is ashamed of itself, aware of itself, angry that it cannot share in an imagined primal innocence. The post-human loss of control paradoxically emerges from an awareness of human-caused environmental change. But the environment, too, has expanded beyond the conventional limit of "nature" (as opposed to the purely human-caused), to include intention, historical events, even self-awareness itself (as a historical development, not a pre-loaded cause). In Herzog's version of the post-heroic satiric tradition, Antarctica becomes an eruptive abyss of creativity, entwining human self-loathing to human techno-mastery—a powerful engine guaranteeing the endless reproduction of the human at the dead ends of the earth.

Much as his assiduous interviewing and editing is used to bring out the contradictions in his subjects, Herzog imposes his sense of missing drama onto the natural environment, as a long single-take of a motionless ice-scape unexpectedly bursts into flame. As it turns out, this "controlled" explosion caught on film had been a planned part of a glaciological study, suggesting that despite his restiveness at science management, Herzog follows in the footsteps of science practice (if not method). His interviews with scientists, many of them unscheduled and serendipitous, provide some of the most striking counters to the limits and opacity ice as a material and cultural substrate. A glaciologist explains, "we're seeing [the ice] as a living being."

Anne Aghion's *Ice People*, like *Encounters*, relies heavily on interviews with scientists, and like many documentaries, edited and recombined interviews onsite, in the huts and tents as well as in the station.¹⁸ Herzog was chasing the hero of polar exploration and found him lacking—not only in the present, but even in the Heroic Age. Aghion's thematic scope is tighter than Herzog's, focusing in on science workers as they search for evidence of a once-tropical Antarctica. The film's pace is slower and stays away from the major stations, choosing instead field locations and entirely

avoiding dramatic scenes of Mount Erebus and the under-ice scape so heavily featured by Herzog and scored with European religious chants. Aghion establishes a subtle texture to her visual Antarctica. The film opens with barely perceptible rhythm and a murky landscape that captures the fleeting shift of a 6-month night becoming a 6-month day. The effect destabilizes Heroic aesthetic traditions of point-of view as the viewer is unsure what it is they are seeing (and hearing), or even if they are seeing anything at all. Out of this visual framing of perceptual uncertainty emerges a concrete reality of contemporary Antarctic settlement: the ice-grooming vehicle, whose headlights slowly approach the fixed position of the camera. This moment of repetitive maintenance of human presence, like the mechanical sound that now can be connected as coming from the vehicle, is the texture of human presence on ice.

For attending to the routine and seemingly random activities of science and science support, Aghion is rewarded by a real-time and film-time discovery. In a single unedited take, a geologist scoops up a section of mud and swings the shovel over to his partner, flat and open-faced, as if it were a pizza fresh out of the oven for the senior geologist to examine. The senior scientist quickly detects a fossil of a leaf “that fell into the mud 20 million years ago.” Later in the documentary, the senior scientist jovially suspects that his partner “secretly saw [the leaf fossil] when he dug it out... and wanted to get my reaction to it when he brought it out.” The fortuitous single take of the fossil discovery, then, is not complete serendipity, but rather a structured improvisation emerging from Aghion’s direction, her camera, scientific field method, and material ice. Logistic, filmic, and geologic time overlay and entwine in the deep surface of ice time.

REHISTORICIZING ICE

In 1981, US fantasy writer Ursula Le Guin unsettled the field of Antarctic cultural studies with “Sur,” an exploration hoax that first appeared in *The New Yorker* in the guise of a lost diary and was reprinted the next year in her short-story collection, *The Compass Rose*.¹⁹ “Sur” inserts into Antarctic exploration history an expedition of Latin American women to Antarctica, which they name “South South America,” as a gesture to both their homeland and to the Argentine ship captain, Luis Pardo, who ferried them across the Antarctic Ocean to begin their inland trek. Le Guin’s amateur women beat the European men of official history to the pole by 5 months, yet chose to leave “no footprints”; theirs is an achievement and

a presence that can never be perceived as belonging properly to history. Le Guin's counter factual is also a feminist postcolonial *kōan*: how is an unrecorded event historical? And what does its categorical absence do to the positivist historical record? Historians might ask if Antarctica experienced a Cold War. But a better question might be—given the uncanny persistence of the Treaty established in 1959—did the Cold War ever end in Antarctica? Instead of a lament for how Antarctic explorers (Shackleton, especially) "missed" proper participation in the First World War, Le Guin opened the continent to the rest of the world's concerns with feminism, settler-colonialism, native rights, and environmentalism.

"Sur" is an important, and yet strangely passed-over, intervention into geopolitical assumptions of post-colonialists as well as statist. Consciously playing on the false opposition of myth and history, "Sur" seems almost to occupy a self-created zone of indecipherability, escaping generic and temporal stability. Slippery as ice, Le Guin's geo-neologism for Antarctica, "South South America," seems in line with Wolfe's "curious "case" of Monroe Doctrine-like extension of US control, yet from the point of view of Latin American subalterns. Some readers in 1981 took offense on behalf of Scott and Amundsen, scandalized that the heroes of exploration might be objects of subaltern, albeit invented, pity and scorn. Le Guin was sufficiently bothered by such reactions to publish a 1987 essay, "Heroes," explaining that her motivation for "Sur" had not been boilerplate feminist anti-colonialism, but a more nuanced critique of martial Heroic Age images of malevolent enemy ice or implacable dead ice, the same ice that Le Guin's characters come to name the "living ice."²⁰ Softening her own tone, she split the heroic field and promoted Scott as the model of the artistic observer, sensitive above all to place, a type of her own Latin American artist who "sculpt[s] in ice," and so leaves no trace of her creation and is equally unable to remove and display her sculptures to the world. Not only did Le Guin articulate one of the major features of Antarctic exploration historiography—the split between geographic and scientific justifications for human presence—but in the year following "Sur's" publication, Argentina and Britain fought the Falklands/Malvinas War in the sub-Antarctic, almost creating an object lesson for her post-colonial parable. Le Guin's realist depiction of "leave-no-trace" style adventure trekking also coincided with the rise of an environmental movement and ecofeminism, more specifically. Belying the genre of historical fantasy, Le Guin's visions placed Antarctica securely within post-War contestations—if readers then—and now—knew to look.

It is a little surprising given these examples of ecofeminist and anticolonialist work dating to the 1980s, that current Antarctic media that current Antarctic media representation skips this era altogether in favor of bigger, safer targets and models. Harkening back to Monty Python's mockery of BBC-style documentary in *Scott of the Sahara*, the June 2014 five-minute John Oliver segment mimics the production style of nature documentaries.²¹ As the breathless voiceover describes the exotic icescapes, Oliver visually pops in the frame, highlighting the absurdity of this avidity for the "precious" and fragile territory that tourists don't think twice about trampling. Similar to Herzog's documentaries, interviewees are edited so that their words and appearance mock them, as when a particularly pointy-faced penguin-watcher makes penguin-like noises and looks very silly. And like Monty Python's *Scott of the Sahara*, the segment is caught between outrage at government, media, and big business manipulations that sentimentalize and flatter both imperial exploration history and the fatuousness of consumer-audiences. Whereas the Monty Python troupe could still kick against the pricks of British empire, Oliver operates in a milieu for which ultimately there is no one to excoriate, but the consumer. The counter-intuitive refrain he passive-aggressively offers to the lover of all things Antarctic is: "Don't Go There." Climate disaster requires a more informed citizen-consumer—and a certain restraint unless, as Oliver puts it, humans "love Antarctica to death." But are those nature-lovers any more to blame than government science programs, or the very history of exploration and exploitation that has left Antarctica as a final resource?

The rescue of nature from itself has become a staple of "disaster capitalism" and nature documentary, one that often disguises national interest as global cooperation. Private tour companies, as well as state redesigns and expansions of research stations, represent neoliberal forms of occupation under the ATS, and extend militarism and old forms of empire. Colonial ways of thinking continually reemerge, as much in satire and environmental preservationism as in more obviously nationalist science management discourse; as much in normative management as in its critique. Antarctica's management and its satirical critique work together, in fact, to maintain a status quo while seeming to offer inside knowledge of Antarctica that lets consumers of both goods and of media off the hook on one hand, or to luxuriate in a diffuse self-loathing, on the other. It's a decoy game that never comes close to making the kinds of geopolitical observations or personal commitments that might really contribute to an

interruption of the globalization of earth and to the circuits supporting environmental degradation.

Satire's surface detachment necessitates a storehouse of repression beneath the surface in the "deep surface." Antarctica's cultural or cartographic "emptiness" seems to guarantee not only a clean surface, but an endless access from an outside for Oliver and for his knowing audience. This is not to downplay popular media satire as a force for enlightenment and even resistance—Oliver's entertainment precursor, Steven Colbert in a 2008 *Colbert Report* sketch purporting to be from the South Pole, arguably brought more attention to state and industry overstepping in contemporary Antarctica than any academic, or even journalistic, reporting. Yet in its most recent popular form of counter-news format, satire downplays the irony of tortured complicity integral to the satirical stance in Monty Python and Le Guin in preference for an irony of distance and accusation.

Long before the naming of the Anthropocene, feminist writers were imagining contact between civilization and the ice not necessarily following the footsteps of explorers or scientists, and even in ways that might draw dismissal. Katha Pollitt's 1981 poem, "To An Antarctic Traveler" is dedicated to a journalist, Katherine Boulton, who reported on her trip to the Antarctic for the *New Yorker* that year. Pollitt even flaunts the feminine, imagining Antarctica as a "cold diva" and Scott a rejected suitor, "a valentine thrown out" whose body will eventually "plop" out into the sea inside a calving berg. In time with this badinage is a more serious theme of this traveler's relation to the continent, not as a triumphant, singular sighting of the horizon, but as a retrogressed, continual movement with the shore: "and all the time you hear/the waves beat on the shore for a million years/*go away go away go away*,"²² a ceaseless, inhuman rhythm that is now being taken up by satiric scolds like Oliver. Pollitt, too, speaks for ice, but not with Oliver's protectionism, not with the fantasy that the mess of the rest of the world can be somehow be redeemed, repudiated, undone, fixed through Antarctic invocations, or by using the facticity and symbolism of Antarctic ice. Instead, Le Guin's and Pollitt's eco-feminist satire refuses to point to singular causes, while encouraging an awareness of multiple layers of complicity—and shame, even, in human achievement.

Even in Antarctica's feminist and post-colonial revisionist exploration, history has been overrun by positivist, evidence-based scholarship that recuperates the racial, gendered, and national hierarchies it purports to redress. Le Guin's symbolic over-mapping of the South Pole as "that geo-

metrical *bindu*”—the mark a married Hindu woman paints in the middle of her forehead—holds up so well as a critique of positivism, whether on behalf of colonialists or anti-colonialists, because it is anchored to a respect for the radical otherness of Antarctica within the still unknown ecologies of the cosmos.²³ What is often misread as naive resistance or quaint (predictable) cultural relativism, reveals Le Guin to have been both predictive of current Antarctic politics and in step with the reparative and culturally inclusive potentials of experimental science.

SCOTT'S SHADOW

As this essay takes the time to clarify and nuance the political stances implicit in textual and filmic representation of Antarctica of the last 40 years, I want to extend that nuance to seeking to understand the seemingly chance or isolated event of the Concordia camels having been erected, as well as the effects of their digital circulation and uptake. I am not interested finally in pointing out a cultural insensitivity or even the political and economic inequalities that go on under and even because of the ATS. In a territory in which human perception and orientation should never be taken for granted, such care to keep positions open seems precisely right. Accordingly, I propose to understand the cut-out silhouette and cast shadow of the Camels of Concordia as a convergence that cannot be reduced through signifying methodologies reliant on clear distinctions between figure-field or surface-depth. Rather, it is a media assemblage, digital, photon-based, and mechanical, that works in a way to occupy or settle the territory it both shadows and constitutes, or it shadows forth. Contemporary science-management in Antarctica operates similarly in layering and historically overlapping regimes of demilitarization, privatization, and international science program build up. The ever-increasing forms of commemoration such as plaques noting “absent presences” such as “Nukey Poo,” the nuclear reactor installed by the US Navy in 1963 (and decommissioned a decade later), exemplify this folding-in or double movement of the recording and suppressing of history.

Ice time and ice materiality must be taken into account within a reading of the digitized image, or within an imagining of the actual shadow cast by the erecting of a cut-out silhouette of camels by a science worker in 2012 and the digital circulation of its image in various media, where they may take on meanings in contexts never intended or imagined by its creator. Try instead to imagine the Camels not as a widely circulating digitized

image, then, but as actually in place. Spindrift ice crystals will by now have built up around the intrusion of the cut-outs, pushing the wood around and probably partially burying it. It would be wobbling or even flattened by now. The wood would be desiccating and splitting in the desert conditions. Whatever color paint might have covered the wood is fading under the relentless daylight, even as it freezes under the long darkness. The ice field itself will have shifted with the earth's diurnal rotation; the cut-outs will not appear at the precise coordinates at which they were once photographed. They will have shifted with and against the ice. The twisting of the wood is a manifestation of the differential of space-time between the statue and the moving ice.

The interaction of ice and the camel silhouettes—an interaction of a type shared by all built environments in Antarctica and thus at the core of engineering, but also policy—demonstrates the constant and ceaseless maintenance called forth by human presence on ice. Such recorded moments as an explorer's arrival or the inauguration of a new research station are ephemeral, or to affix Le Guin's description in "Sur" of a cairn marker—"threadbare"—indexes in a history of constant investment in which the least built element entails an endless futurity of upkeep. Contrary to persistent comparisons of Antarctica to a refrigerator or freezer, Antarctica's ice does not so much preserve as make ruins of human intervention, and so entrains a futurity of maintenance necessitating and even justifying human presence. Aghion's *Ice People* opens not on the familiar blindingly daylit establishment shot of arrival by plane, but on a shadowy twilight scene in which thresholds between day and night, light and dark, as well a precise horizon line, are all unclear. Even the ice is fuzzy—is it snowing, raining, or just windy? Then an indistinct humming emerges from the equally indistinct visual field. Headlights? A vehicle comes into view, slowly approaching the camera. It is the ubiquitous ice groomer, used especially to maintain runways so crucial to station support. Without constant ice grooming, the elements would take over and foul any demarcation, any built structure. Ice's entropic mutability, or its ceaseless movement around crystalline stasis, suggests that it is far from dead, passive or inert, while the continual grooming of the built environment suggests that martial conquering is equally inadequate to characterize human interaction with ice. Aghion's camera does not come towards the ice or swoop in from the air; it is already there, embedded in station life, part of the daily routine on the ground, in time with ice and yet, also complicit within ice-human interaction, even that which degrades or endangers the ice.

“Living ice,” a term shared by Le Guin and Herzog’s glaciologist, names ice materiality, distinct from and perhaps even outside a humanist, political frame. Due in part to reactions to data on climate and the melting of Antarctica’s ice sheets, ice is no longer the enemy that it had been before the ecological age of the 1980s, and it now seems fragile and in need of rescue. That the ice needs rescuing has become a staple of popular ecological imagination. However, not all science commentators take the changes observed in the ice as provocations to protect it. Gabrielle Walker, author of *Antarctica: An Intimate Portrait of the World’s Most Mysterious Continent* (2012) is one who is skeptical of a rush to protect and preserve, seeing in the concern to maintain built environments an unexamined bias toward human species survival. Walker visualizes or models the probable current state of the frozen bodies of Scott and his men in the process of being

“...buried, stretched, squeezed, twisted, carried to the coast and spat out as an iceberg... [until] their frozen bodies will have stretched to some 10 feet or more, and their ultimate fate is to break off and sail out to sea before eventually melting and sinking into the mud at the bottom of some distant ocean.”²⁴

The effect of the ice on Scott’s party’s material remains is to squeeze, twist, to take them into its flow. They are stretched to 10 feet, a super-human length. Surely such distortions are what are ghostly about shadows—even those, like the camels of Concordia, that are cast in broad daylight. This stretching effect of the moving ice is not dissimilar to the way the sun’s rotation lengthens and shortens shadows on the ice. Although an affective-material post-anthropocene ice assemblage is hardly Walker’s direct intent here, her suggestion, that current environmental concern is yet another projection of humanity’s drive to survive and in the case of the fragile Antarctic (of the interior) has little basis in ice reality. Scott’s shadow is now part and parcel with climate, geopolitics, and the materiality of ice.

When the Duke of Edinburgh described the International Geophysical Year (1957–1958) as “the world studying itself”²⁵ it was not merely to champion the pacifying effects of international science. What his phrasing implies is that geopolitical coordination of science and the infrastructures attendant to science actually conditioned (or groomed) the emergence of awareness of the earth’s self-organization as an inhuman intelligence.

Geopower, as I have been elaborating it through contemporary Antarctica, describes the entanglement of humans, earth's creative material, and the inhuman products of human intelligence (such as massively scaled digitized data and its knowledge effects). Whereas geopolitics "restricts itself to human inscriptions on the earth's surface" and so tends to forestall apprehension of the more subtle or latent effects in and on the earth of the Anthropocene, normalizing the excavation, mining, drilling, and deep sensing practices of industrial capitalism, geopolitics "permits the dynamics of the earth to leave their mark on human and other bodies."²⁶ To pacify (or make passive) earth material also misses the potential of the earth itself—its eruptive, fluid, inhuman power, of Grosz's geopolitics. Geopower is not a replay of nature. It may require an understanding of nature as produced, always instrumentalized, never originary, never a surface upon which to write. Or to cast shadows upon. The blank page/surface, desert territory is more than palimpsest. Rather, the ice is a type of fossil, not merely the field in which one may discover one; or, a photograph—a photon-produced imprint captured in chemicals that has undergone a transformation not unlike that which cast a shadow image from wooden cut-outs blocking the sun rays—a layered and timed assemblage that is then further mediated through photography, digitization, and mass circulation.

Despite triumphalist science internationalism, known as Pax Antarctica, contemporary science-managed Antarctica is also a proto-war zone, preserved under a treaty that has the potential to expire in 2048 and whose enforcement is largely *de facto* and voluntary. In its *sui generis* geopolitical uncertainty and promise, Antarctica under the ATS can be compared to a number of similarly contested places: to Gaza's ambiguous political statuses; to the abandoned bases left by the US in Afghanistan and Turkey; to prisons, with their high-tech security cameras and heavy surveillance; and to blackout sites across the globe that are designed and maintained to be unseen.²⁷ Proto-territorialization has the potential to enclose space and thus create territory, not reliant on the index of the human body nor its built environments; it is distinct from photography as representation and maps as projections. It is more a "zone of continual emergence" creating a mobile block of futurity and potential, endlessly available on both symbolic and material bases: a mobilizing of bio-politics that is no longer dependent on the bio and that cannot be experienced, described, or detected—much less resisted—within humanist rights regimes, or colonial optics.

The shadow-silhouette of Concordia's camels creates a proto-territory not based solely on stable latitude and longitude, or even on the shift-

ing morphologies of erosion and calving. It moves with the angle of sun, not the human eye, nor even with the mechanical eye of the camera lens located on earth's surface. The photon-ice based crystal cast of the shadow of a silhouette is a territorializing enclosure produced from conditions of emergence among polar-cosmological entities and forces. It is cast from a material blockage and in part derived from human intervention. Yet its territorializing effect is not to create a force field or perimeter centered on the blockage/block of the shadow-silhouette. The mode of circulation of the photographic image—as opposed to the silhouette-shadow's lengthening in relation to the sun's orbit—offer distinct kinds of proof of claim or occupation. For terrestrial-based photography and mapped projections, place is captured and represented as a stable image. In the case of a shadow, the place on earth's surface is changed by the blockage; the shadow as image is merged with the absence, the one slipped beneath the other to form the fused absence-presence subtending this new form of occupation in Antarctica.

Distinct from photography as representation or maps as projections, proto-territorialization has the potential to enclose space and thus, create territory separate from the human body or its prosthetic built environments. As seen in the Concordia Camels, this “zone of continual emergence” can link to a history of Orientalizing and of colonial imposition to create a mobile block of futurity and potential, endlessly available on a symbolic and on a material basis. For Grosz, art practices also draw materials into new relations and across seen and unseen thresholds; it can re-territorialize and potentiate, create and cross boundaries, layer, lengthen, or pierce shadows. But this art within the conditions of de- and re-militarized ice under science management has the more specific, terrible potential to occupy and imperialize across time and space, using the power of orientalist representation as a casting of the past into the present—and into the future as well. In polar art's mobilization of a biopolitics, no longer dependent on presence or on politically represented populations, political or power effects and entanglements, and demands cannot be fully apprehended nor resisted under the discourses or conditions of history, humanist rights, representation, or human sensing embodiment. Even Aghion's one-take of the fossil discovery, while avoiding the violence of over-inscription, maintains a natural-science romance of oneness among human, filmic, and earth media. Such a melding of documentary-body-terrain-map, too, is a feature and product of perma-war that produces and contains its resistance, echoing the distributed form of climate change

itself, lagging behind what we designate as nature, chasing it either as an enemy or an ever-elusive object of desire. If we did catch up to it—coordinate with this awareness—we would be “caught up” in an ontological self-reckoning.²⁸ This would be the exquisite moment of annihilation modernity has been calibrated to produce, and that the South Pole as end of the earth had once represented. This perhaps obsolete “end of the world,” delaminated from its cartographic end, remains endlessly available for inscription, redaction, surveillance, extraction, data analysis, rescue, trampling—earnest or ironic mediations—war by every other means.

The less immediate, but nonetheless, sensed aspect of Le Guin’s Antarctic *kōan* is that resistance and power are produced under the same conditions. Geopower’s more interactive, decentered relations of its constitutive parts may not as easily convert to political stances or policy. Yet following its materialist decentering of human agency—even when that agency seems to be an error—may yield novel and untried approaches to current dead-locks and negative systems in Antarctica’s science management.

NOTES

1. The camel cut-outs are a well-known attraction at Concordia Station and part of a larger trend of worker-generated art and decorations. I contacted Dr. Kumar for permission to use his photo, since it was the version that circulated on the *New York Times* and for which the caption was written. Unfortunately, Kumar was in the field and could not give permission in time. The photo can be viewed at the following URL: <http://scientistat-work.blogs.nytimes.com/2012/08/17/false-hope-in-the-first-dawn/>
2. Felix Driver, *Geography Militant: Cultures of Exploration and Empire* (Oxford, UK ; Malden, MA, USA: Blackwell Publishers, 2001).
3. Adriana Craciun, “The Scramble for the Arctic,” *Interventions* 11, no. 1 (March 2009): 103–14, doi:10.1080/13698010902752855; Elena Glasberg, *Antarctica as Cultural Critique: The Gendered Politics of Scientific Exploration and Climate Change*, Critical Studies in Gender, Sexuality, and Culture (Basingstoke: Palgrave Macmillan, 2012); Simon Dalby, “Anthropocene Geopolitics: Globalisation, Empire, Environment and Critique,” *Geography Compass* 1, no. 1 (January 2007): 15, doi:10.1111/j.1749-8198.2007.00007.x For example, Dalby critiques thinking of earth’s surface as little more than “the stage as it were for the political dramas to unfold.”
4. E. A. Grossz, *Chaos, Territory, Art: Deleuze and the Framing of the Earth*, (New York: Columbia University Press, 2008).

5. Herbert George Ponting, *The Great White South: Travelling with Robert F. Scott's Doomed South Pole Expedition* (New York: Cooper Square Press, 2001).
6. Edward Said, *Orientalism* (New York: Pantheon, 1978). In this case, an inhuman Other. Ice as the other elicits from Said's original formulation its inhuman component: the Other is always in-human. Orientalizing ice extends the strategic naturalization of the Native, who might then be controlled, as territory is taken as available to be shaped by occupation.
7. Francis Spufford, *I May Be Some Time: Ice and the English Imagination* (London: Faber and Faber, 1996).
8. Stephen Pyne, *The Ice: A Journey to Antarctica* (Iowa City: University of Iowa Press, 1986).
9. Tom Wolfe, "The Doctrine That Never Died," *The New York Times*, January 30, 2005, <http://www.nytimes.com/2005/01/30/opinion/the-doctrine-that-never-died.html>
10. Stephen Pyne, "The Extraterrestrial Earth: Antarctica as Analogue for Space Exploration." *Space Policy* 23 (2007): 147–149.
11. Ibid., 155.
12. Monty Python, *Monty Python's Flying Circus: Scott of the Sahara*, Episode 23, 1970.
13. Klaus J. Dodds, "Screening Antarctica: Britain, the Falkland Islands Dependencies Survey, and Scott of the Antarctic (1948)," *Polar Record* 38, no. 204 (January 2002): 1, doi:[10.1017/S0032247400017253](https://doi.org/10.1017/S0032247400017253).
14. H.D. Harootunian, "Ghostly Comparisons: Anderson's Telescope," *Diacritics*, Grounds of Comparison: Around the Work of Benedict Anderson, 29, no. 4 (Winter 1999): 135–49.
15. Zylinska, Joanna. "Non-Human Photography" in Wombell, Paul ed. *Drone: The Automated Image*. Kerber, 2013 (164–172).
16. Eric Darnell and Simon J. Smith, *Penguins of Madagascar* (20th Century Fox, 2014).
17. Werner Herzog, *Encounters at the End of the World* (Discovery Films, 2009).
18. Anne Aghion, *Ice People* (Anne Aghion Films, 2010), <http://www.ice-people.com/index.html>
19. Ursula K. Le Guin, "Sur," *The New Yorker*, February 1, 1982.
20. Ursula K. Le Guin, "Heroes," in *Dancing at the Edge of the World: Thoughts on Words, Women, Places* (London: Victor Gollancz, Ltd, 1987, 171–175).
21. John Oliver, "Please Don't Go to Antarctica," *Last Week Tonight* (HBO, June 22, 2014).
22. Katha Pollitt, *To An Antarctic Traveler* (New York: Knopf, 1982).
23. Le Guin, "Heroes," 172.

24. Gabrielle Walker, "The Freezer Down Below," *The Wall Street Journal*, December 28, 2012, <http://www.wsj.com/articles/SB10001424127887323530404578203651769035078>
25. Dian Olson Belanger, *Deep Freeze: The United States, the International Geophysical Year, and the Origins of Antarctica's Age of Science* (Boulder, Colorado: University Press of Colorado, 2006).
26. Nigel Clark, "Mobile Life: Biosecurity Practices and Insect Globalization," *Science as Culture* 22, no. 1 (March 2013): 16–37, doi:10.1080/09505431.2013.776366.
27. Lisa Hajjar, unpublished talk, 2013; a sociologist specializing in "lawfare" in the middle east, Hajjar recognizes the legal exceptionalism of Antarctica's status and connects it to similarly structured spaces of exception within the global "War on Terror." Trevor Paglen and Jananne Al-Ani both combine visual art practice with radical geography to find ways to capture and display black sites designed to be secret or unseen. Trevor Paglen, "The Black Sites," *Trevor Paglen*, 2006, <http://www.paglen.com/?l=work&cs=blacksites>; Jananne Al-Ani, "Jananne Al-Ani," 2015, <http://www.janannealani.net>. Photographer An-My Le includes McMurdo Station in Antarctica among her sites in her "Events Ashore" series of US military operations and infrastructure across the globe. For a discussion, see Glasberg, *Antarctica as Cultural Critique*, Chap. 6.
28. Timothy Morton, *Ecology without Nature: Rethinking Environmental Aesthetics* (Cambridge: Harvard University Press, 2009).

PART IV

Valuing Antarctic Science

SCAR as a Healing Process? Reflections on Science and Polar Politics in the Cold War and Beyond: The Case of Norway

Stian Bones

The relationship between science and politics differs in many ways. It differs with the object: ice and meteorological phenomena is not the same as, say, the seafloor. It differs with the political geography: international spaces, such as outer space or the Antarctic, are not the same as national territory. It differs with political relevance or interests: nuclear physics is not the same as marine research, or history. It differs with the political and institutional context: the US Navy is not the same as the Scientific Committee on Antarctic Research (SCAR). And of course science is not merely a political tool, either. It claims, in principle, autonomy from politics, and it carries its own set of values and norms which sometimes even transcend politics.

Science diplomacy, then, is not “one thing;” it does not have one distinct or particular function. The management of international spaces has, for instance, left an impression of the great importance of science diplomacy in international relations. There is no doubt that SCAR has been of vital importance also for political developments in the furthest south. But the Arctic has been, and still is, a different matter. During the Cold War, the Arctic was not at all characterized by international cooperation—not within

S. Bones (✉)

Department of History, University of Tromsø, Norway’s Arctic University,
Tromsø, Norway

politics, and not within science. Large parts of the Arctic were not international spaces either, but national territory, with people living there.

Drawing on sources from the Norwegian Ministry of Foreign Affairs (MFA), the Norwegian Polar Institute (NPI), the National Science Foundation (NSF), and the US Department of State, the aim of this article is to contrast the relationship between science and politics in the Arctic and the Antarctic in the Cold War. This subject is investigated through a discussion of the quest for establishing multilateral agreements also on Arctic research from the mid-1960s onwards. Cooperation within SCAR was regarded as a model that could, perhaps, also be transferred to the Arctic. How did this idea emerge? Did the scientific and political expertise in the United States and Norway believe that such a scientific and (in effect) geopolitical diffusion was actually possible?

THE IGY: SCIENCE AND POLITICS

The Antarctic Treaty was negotiated, signed, and entered into force at a transitional moment during the Cold War. There were, on the one hand, the crises, the “brinkmanship” and the rivalry—over Berlin and the divided Germany, over the arms race, over Cuba, and over the U-2 spy plane shot down over Russia in 1960. These were “crisis years” in the Cold War.¹ But there were also, simultaneously, more promising signs. Khrushchev received Vice President Richard Nixon in Moscow in 1959, and in September the same year, he went on an official visit to the United States and had talks with President Eisenhower. The previous year, the United States and the Soviet Union had signed a cultural agreement.² In 1963, after several years of negotiation, the United States, Great Britain, and the Soviet Union managed to reach an agreement on a Limited Nuclear Test Ban Treaty, which prohibited nuclear weapons tests in the atmosphere, in outer space, and under water. The international legal framework was also enhanced through such measures as the first and second United Nations conferences of the law of the sea, which led to—among other things—the Convention of the High Seas (1958).

The scholarly literature seems to agree that the formation of the Antarctic Treaty, and the international regime it created, the Antarctic Treaty System (ATS), has its roots in this double context of rivalry and “proto-détente.” Historians and political scientists do not agree, however, on how this process should be explained.³ According to G.E. Fogg, it was fortunate that the preparatory meetings, where representatives of the main adversaries of the Cold War actually sat down and negotiated, “took place

in a brief period of reduced East–West tension.” “Otherwise,” he continues, “there would have been a real possibility that strategic considerations might have prevailed, as they had in the Arctic and the Antarctic become testing ground for nuclear weapons.”⁴ Fogg’s idealist narrative rests on an assumption that the United States and the Soviet Union were able to compromise—that they were able to “manage” the strategic interests and the power politics in the Antarctic. A geopolitical milieu of general mistrust, so characteristic for the Arctic from the late 1940s and onwards, was avoided.⁵

Other historians have had a more “pessimistic” approach. Jacob Darwin Hamblin, for instance, has stated that the International Geophysical Year (IGY) “was as much a geopolitical event as it was a geophysical one.”

The Arctic and Antarctic were strategic regions and, beyond whatever propaganda goals nations hoped to achieve through the IGY, there were machinations behind the scenes to ensure that oceanographic data were taken in military significant areas under the guise of international cooperation. Also, the territorial claims in Antarctica were bolstered through intensive scientific activity. Scientists repeatedly argued that there would be no strategic or political consequences of such activity, but they were wrong [...]. And the international status of Antarctica would not have come about without the Soviet oceanographic and land expeditions.⁶

Hamblin shows how power, strategic interests, and the sovereignty issue, in fact, permeated the IGY, the Antarctic Treaty, and the ATS. He thereby presents a basically realist narrative of this process. As he sees it, the Antarctic Treaty was more about the balancing of power than about political compromising. The outcome was a manifestation of American hegemony in the Antarctic, but the arrangement also legitimated Soviet presence on the continent. A fragile system of checks and balances was born.

That power, strategic interests, and sovereignty were at the core of IGY diplomacy and in the policy process leading up the Antarctic Treaty, is supported by many other studies. In a study of the IGY, Adrian Howkins underlines these *Realpolitik* aspects. But at the same time, these aspects are given a *limited* status in the narrative. There was power politics, all right, but on certain conditions. Both the United States and Great Britain, Howkins argues, “participated in the IGY with their official policies toward Antarctica dependent—at least to some extent—on the actual scientific results of the enterprise.” And when the scientists found that the continent did not “hold any significant economic potential,” both the United States and Great Britain found out that some form of limited internationaliza-

tion was preferable.⁷ Dian Olson Belanger underlines how the scientific endeavor of the IGY—so monumental and groundbreaking in itself—also had policy repercussions. Following her argument it can be said, perhaps, that the model that the IGY represented grew in power.⁸ In a narrative that also grasps this thesis of an “IGY productivity,” Klaus Dodds has shown how the IGY created a “geophysical representation” of the Antarctic that was able to compete with the established geopolitical representation.⁹

The establishment of an “IGY productivity” by Howkins, Belanger, Dodds (and others) is an empirical finding. But it is also a good point of departure for further discussions on the relations between politics and science.¹⁰ I find that two observations are particularly relevant for my discussion.

First, this is an indication that science cannot simply be regarded as politics by other means. Of course, there are strong ties that bind to the political sphere, but this is not the whole story. In principle, science can both appear as embedded and autonomous; in practice often interconnected, as the narratives of IGY also display.¹¹ With regards to the ATS regime, which was created after the IGY, Aant Elzinga has shown that it both came to serve as a practical-instrumental tool and a symbolic-instrumental vehicle for science. As a practical-instrumental tool, the ATS regime “function in a relationship to various institutional motives at work,” Elzinga writes. He finds that altogether, six institutional motives have been employed: basic research motives, political motives, economic motives, military motives, jurisdictional/administrative motives, and environmental motives.¹² Science has also had a symbolic-instrumental function, especially since the production of science has served as a necessary symbolic capital for gaining access to the political arena in the Antarctic. Under the ATS, Antarctica became a continent *by* science, but not necessarily *for* science. In some aspects, then, science can be regarded as a client to the state. In line with this, Elzinga sees the contour of a mechanism: “The stronger the ‘extrascientific’ motives the greater the pressure to epistemic drift.”¹³ But again, this argument can, in principle, be turned around. Bearing this in mind, science also has the capacity to perform as a major normative and cultural component in international relations, intentionally as well as unintentionally.¹⁴

Second, the character of political “embeddedness” also matters. Fogg’s remark, that it was fortunate that the preparatory meetings leading up to the Antarctic Treaty took place in a brief period of reduced East–West tension, might be an important one. Following the argument of Alexander Wendt, it is not difficult to see that the character of the “anarchical cul-

ture” in the international system changed significantly between 1947 and 1957.¹⁵ Around 1947 international relations were dominated by a Hobbesian culture, in which the antagonists in the international political system viewed one another as enemies, and thus the geopolitical inscriptions and geopolitical patterns in the Arctic were literally frozen down. But after Stalin’s death, things started to change again. In the years after 1953, a fundamental division between Western politicians appeared. A Hobbesian approach primarily saw continuity from Stalin and connected this to an expansionist ideology, but was increasingly contested by an alternative outlook. This second approach rested on the assumption that the world had entered—or was about to enter—a Lockean era where the Soviet Union could be regarded as a state with which it was possible to negotiate and perhaps even compromise.¹⁶

NORWAY, THE UNITED STATES, AND THE IGY

The two initiatives to internationalize the Antarctic were at first met with skepticism within the Norwegian Ministry of Foreign Affairs. The first initiative, in 1948, by the United States to the seven claimant countries that they, together with the United States, should establish a joint administration or condominium over the continent, was met with a general negativity, also by Norway. It was, for national and political reasons, impossible to surrender “its exclusive sovereignty over what is Norwegian territory.”¹⁷ Rip Bulkeley, who has studied the motives behind the 1948 American proposal, finds strong support for a long-standing adherence within the State Department for “special trusteeship” or “special regime” concerning the future management of Antarctica. In 1948, however, the State Department had to realize that it was impossible to make the claimant nations reassess their policies—at least for the time being.¹⁸ The IGY would change this. In 1954, when US authorities and the Norwegian Ministry of Foreign Affairs learned that the Norwegian Polar Institute had no plans to conduct research in Antarctica, it led to consternation, as Robert Marc Friedman has shown.¹⁹ The West could not afford to leave a void that might be filled by the Soviet Union, US representatives declared. For Norway, however, this was not just a void that could possibly be filled by a Cold War adversary; it was also a matter of defending sovereignty rights, a fact that the US was well aware of and also hinted at. Given the political interests at stake, both nationally and internationally, Foreign Minister Halvard Lange decided that Norway had to launch a Norwegian

expedition to the Antarctic during the IGY. Norwegian polar science was, quite clearly, “embedded” within Norwegian foreign policy. It is also evident that contacts on the diplomatic level between the US and Norway guided Norwegian polar science in the same direction. It was an example of American hegemony.²⁰

Even before the IGY had actually started, the United States suggested that the IGY activities be extended by at least one year, and that a commission should be established that would plan, coordinate, and administer future scientific work in Antarctica. Norway was initially against the prolongation, but had to accept it and find money for it. Where did they find the necessary resources? The fact is that the CIA covered a large part of the expenses in connection with the prolongation of Norway’s research station until 1959–1960, “Norway Station,” through a contribution on \$150,000.²¹ But the initiative did not come from the CIA: the idea of getting American support first came up in a discussion between prominent Norwegian scientists and government officials in May 1958.²² After this meeting, Leiv Harang, a prominent Norwegian physicist who had earlier helped establish the Norwegian Defence Research Establishment, contacted the chairman of the US national IGY committee, Joseph Kaplan, and the chief scientist of the US IGY effort, Harry Wexler. In a letter to the two men he underlined that a continuation of the scientific work at “Norway Station” was not “of any great importance.” There was one exception to that, however: The station “seems to be a necessary link in the network for weather forecasts in Antarctica.”²³ Harang therefore assumed “that a continuation of the Norwegian station might be of importance to US activities in the area.” And of course, he knew what the American answer to that would be.

Norway was also skeptical about the suggestion to set up a commission to plan future scientific work in Antarctica. Government officials thought—correctly—that this was another attempt from the United States to press for internationalization of the continent. Eventually, Norwegian authorities conceded the point. One reason was that government officials began to realize that the Soviet Union was going to continue and perhaps even expand its activities in the Antarctic. Faced with the prospects of Norway being tied up in a balancing game in the Antarctic under American hegemony, internationalization became a more tempting alternative. Another reason was the limited resources at hand. As Lange saw it, Norway could no longer afford to keep up research activities at an IGY level in the Antarctic. It was simply more important for Norway to maintain its research activities in the Arctic.

“Norway Station” was eventually handed over to South Africa in 1960. But this decision was not taken before Foreign Minister Lange was sure that the preparatory meetings concerning internalization over the Antarctic would be successful. During the negotiations, for as long as the outcome was uncertain, Norway was open to prolonging “Norway Station” for even one more year—until 1961. To finance this, Foreign Minister Lange had cleared the way for continuation of the same kind of economic support from the United States.²⁴ But by the end of May 1959, at a meeting in the Ministry of Foreign Affairs in Oslo, Director General Frithjof Jacobsen stated that “Norway’s interest in a continued operation had to a large part faded away, since it is most likely that it will be created an international arrangement that will manage the whole Antarctic.”²⁵

As one of the nations with an Antarctic station, Norway was invited to become a member of the commission to coordinate future scientific work in the Antarctica, the Special (later Scientific) Committee on Antarctic Research, established in 1958. There were no formal links between SCAR and the Antarctic Treaty, but the advice of SCAR was frequently sought by the parties of the consultative meetings under the Treaty from the very beginning. In addition, scientists were very often appointed members to the national delegations of the Treaty meetings, since issues that required scientific advice were often on the agenda. The same scientists were frequently national delegates to the SCAR meetings, and this helped to increase the influence from science over the political process.²⁶

“HEALING” THE ARCTIC

In the organization’s first years, Norwegian authorities primarily used the SCAR meetings as a means of collecting information—scientific and political. Norwegian authorities felt it safe to lean on Article IV of the Antarctic Treaty, which states that “no acts or activities taking place while the present Treaty is in force shall constitute a basis for asserting, supporting or denying a claim to territorial sovereignty in Antarctica or create any rights to sovereignty in Antarctica.”²⁷

During the first ten years of activity, “the honeymoon time in Antarctica,” the ATS was a sleeping pillow upon which the Norwegian Government could safely rest. But at the same time, the 1960s were also a learning period. Norway gained better contacts and better understanding of the states that were active within the ATS. During the IGY and

the first decade after it, geophysical disciplines dominated research in Antarctica. But as the years went by, geological, biological, and marine research became more important, and this suited the research profile of NPI better. Still, Norwegian authorities did not give priority to research in the Antarctica—not until the beginning of the 1970s at least, when problems related to resource management threatened the stability of the ATS. In 1972, NPI Director Tore Gjelsvik hired glaciologist Olav Orheim to build up the Antarctic section at the institute. Given a free hand with regards to strategic choices and research programs, Orheim headed the first Norwegian expedition to Antarctica since Norway Station during the summer season 1976–1977. This marked the beginning of a new era in Norwegian Antarctic research, characterized by regular research expeditions, and, eventually, to the establishment of a research station in 1989–1990 “named Troll.”²⁸

The possibilities for conducting bipolar studies on a more systematic basis were raised already during the IGY, and carefully discussed at a meeting of ICSU (the International Council of Scientific Unions) in Brussels in 1957.²⁹ Given the many difficulties in the Arctic, the idea of establishing a SCAAR, a Scientific Committee on Arctic and Antarctic Research, was not followed up at that time. But the idea never died, and at the general meeting of SCAR in 1968, it surfaced again. In a report from SCAR to the ICSU executive in 1969, SCAR asked ICSU for advice on how to move forward towards a better coordination and/or integration of scientific research in the Antarctic with that in the Arctic.³⁰ The SCAR executive was convinced that this would be essential in the interest of science. However, ICSU played the ball back again and invited SCAR to study the possibility of extending its range of interest to include the promotion of cooperation on scientific research in the Arctic as well. The question would then come up at the 1970 SCAR meeting in Oslo. During the discussions in Oslo, several of the SCAR member nations—especially the southern ones—spoke very clearly against the idea of expanding SCAR’s geographical area of interest. They feared that an expansion of SCAR also would drag the hitherto successful cooperation into “the more controversial problems in the Arctic.”³¹ SCAR therefore had to recommend to ICSU that a separate Arctic organization be formed.

In 1972, and in accordance with the recommendation from SCAR, Gjelsvik invited what he considered the three most “representative” leaders of polar research in the United States, Canada, and the Soviet Union to Oslo. Those invited were J.O. Fletcher, head of the Division

of Polar Programs at the NSF, E.F. Roots, head of the Canadian Polar Continental Shelf Project and Alexey Treshnikov, head of the Arctic and Antarctic Research Institute (AARI) 1960–1981. Various aspects of polar research were touched upon in these “most friendly and open discussions.” Treshnikov made it clear, however, that it was impossible for his institution to take part any international organization for Arctic research. It was also impossible to accept cooperation in projects involving field-work on Soviet territory. Behind these Soviet political imperatives was the State Committee for Science and Technology (GKNT), Gjelsvik believed; they were real decision-makers in matters like these. The political strategy of the Soviet Union, as framed by the GKNT, followed a different line. The Soviet Union wanted to establish cooperation on Arctic research on a bilateral basis.

The idea of an Arctic SCAR was thus halted by the Soviet Union, as one might have expected. Was Gjelsvik being naïve then? As I see it, Gjelsvik could have been described as naïve if he had been convinced that the establishment of an “Arctic SCAR” would also change the political geography in the Arctic; that a “geopolitical diffusion” would take place. But he did not believe that at all. The goals were much more modest, aimed in particular at improving relations in the sphere of science. And Treshnikov did, in fact, make some concessions in that respect when he told Gjelsvik, Roots and Fletcher that it was possible “we could meet on the ice.” The year after, in 1973, Soviet scientists did actually visit the US AIDJEX (Arctic Ice Dynamics Joint EXperiment) project in the Beaufort Sea. This was the same year as the landmark Agreement on the Conservation of Polar Bears was signed between the Soviet Union, the United States, Canada, Denmark, and Norway.³²

During this period of détente in the Cold War, Norway and the Soviet Union were also making progress in bilateral science diplomacy. Most of these discussions revolved around the Svalbard archipelago. Throughout the 1950s and 1960s, Norway had taken several steps on Svalbard which were disliked by the USSR. In 1951, under heavy Soviet protests, NATO proclaimed responsibility for Svalbard and the adjacent waters. In the early 1960s, satellite facilities were constructed in Ny-Ålesund by the European Space Research Organization (ESRO). Again the USSR protested, making the claim that these facilities could be used for military purposes. And in the early 1970s, just at the time when the idea of an Arctic SCAR was tested by Gjelsvik, Norway was planning to build an airport right outside Longyearbyen; an airport which—the Soviet authorities feared—could

also be used for military purposes. There were, to be sure, many difficulties on Svalbard.³³

In handling all these issues, the Soviet Union called for “special treatment” from Norway.³⁴ The aim was probably twofold: first, to acquire recognition from Norway (and subsequently other states) that the Soviet Union had a “special position” on Svalbard; and second (and more importantly), to make it easier for the Soviet Union to “deny” power projection from other states to Svalbard—especially from the United States. Norway responded by making a reference to the Svalbard Treaty, which underlines that Norway carries a responsibility *not* to discriminate between any of the parties to the treaty. A special treatment of one of the parties would lead to a race for rights and positions, and would not be in the interest of any state. Norway did recognize, however, that the USSR had more activities and also a broader set of interests on the archipelago than any other state except for Norway. This being the case, Norway was willing to arrange meetings between Norway and the USSR on a lower official level, to clear up misunderstandings and discuss certain problems. Norway was also ready to discuss a bilateral agreement between Norway and the Soviet Union on polar research. In 1974, delegations from both countries met. But after lengthy discussions, no agreement was reached. The reason was solely political. As a means of achieving a broader political goal, the Soviet side had insisted that cooperation should relate only to Svalbard. That was not acceptable to Norway—both due to scientific and political considerations.³⁵

The Soviet Union was right to suspect that the United States had taken a keen interest in Svalbard. However, the Soviet Union had a reductionist approach with regards to the US intentions. True enough, military and strategic considerations loomed as a dominant motif on the American side with respect to Svalbard, but it was also balanced by another approach. And again, the inspiration came from experiences in Antarctica.

In 1964, the US State Department contacted the NSF with a special request. The Bureau of International Scientific and Technical Affairs was puzzled by the fact that “although there was extensive and profitable international cooperation in Antarctica, there was virtually no cooperation in the north polar regions, where eight of the world’s most developed nations have large areas of underdeveloped land, contiguous to the largely unknown Arctic Ocean.”³⁶ The State Department encouraged the NSF to form “an interagency committee to coordinate and direct US Arctic work in a manner similar to the NSF Antarctic role.”³⁷

The NSF was not ready for such a task, however. Instead, the State Department had to set up an Interagency Arctic Working Group (IAWG) to prepare the ground. By 1966, this working group had convinced the NSF that it was necessary to create an Arctic agency. This agency should “coordinate domestic Arctic programs and establish some kind of central office.” The aim was to expand international cooperation in Arctic science.³⁸

At the same time, the State Department was engaged in an Arctic dialogue with Canada and the Scandinavian countries. The State department believed that these countries were in a better position to invite Soviet authorities and scientists into a multilateral cooperation within Arctic science. The political differences between the United States and the Soviet Union were simply too great. The State Department suggested several topics that could bring scientists from the East and West together—such as studies of the Arctic heat budget, for instance.³⁹ But attention also turned to Svalbard. Would it be possible for the Americans to cooperate with the Soviets on Svalbard? Could the Norwegians help the United States in any way?

Why were Canada and Norway perceived to be more suited than the United States to send out invitations of this kind? At first glance, it may seem like the answer is self-evident: the rivalry between the United States and the Soviet Union in the Cold War simply hampered the relations too much. In addition, there is the geographical factor: Norway and the Soviet Union were neighbors. They were both fishing in the Barents Sea, both had mining companies in Svalbard—and, as consequence, they met, and they talked. They simply *had* to, some would say.

In my opinion, though, the answer is not that straightforward. The United States is also an Arctic state, like Norway, and, during the Cold War it was almost bordering the Soviet Union—in Alaska and the Bering Strait. Secondly, like the United States, Norway was a participant in the Cold War. In fact, Norway was an important ally. Norway’s neighborliness with the Soviet Union was undoubtedly a factor behind the US evaluation of Norway in this case. The fact that the US was the main rival of the Soviets in the Cold War is also important to bear in mind. But the main reason why Norway was in a better position vis-à-vis the Soviet Union has to do with politics.

After the end of the Korean War and the death of Stalin in 1953, the main question for Western leaders was the following: Were the new Soviet leaders sincere when they said that the Soviet Union wanted “peaceful

coexistence” between East and West? In Norway, leading politicians disagreed. The disagreements did not follow party lines. The most energetic politician among those who did not believe in Nikita Khrushchev was Haakon Lie, secretary of the Norwegian Labor Party. The most prominent of those who actually believed that something had changed was Einar Gerhardsen, leader of that same party. Gerhardsen was convinced that the Soviet Union would be interested in negotiations and political pragmatism in some questions. A state of “competitive coexistence” was, to his mind, possible.⁴⁰

Although Gerhardsen’s views were met with much skepticism among some of the leading politicians in Norway after 1955, it was his line that won through. As a result, Norway followed a political strategy towards the Soviet Union aiming at low tension and normalization. On the international scene, Norway wanted to be perceived as a staunch and confident member of NATO, but at the same time, also an active facilitator for détente. On some occasions, Norway even took on the role of a diplomatic pathfinder between the superpowers, a medium of reconciliation.⁴¹

The foreign policy record of Norway is thus a factor that can help explain the American self-invitation in the Arctic. Norway possessed a political capital that was valuable to the United States. And that capital was earned, among other things, through science diplomacy.

The United States, on the other hand, was “ill-prepared to participate with other Arctic nations (Canada, Denmark, Finland, Iceland, Sweden, Norway, and the USSR) in peacefully shaping the future of the Arctic region.”⁴² In the era of détente, where one had to expect more East–West interactions, the United States had to adjust her Arctic strategies. The situation was, by 1964, characterized by Soviet Arctic dominance. The Soviet Union had, according to the Bureau of International Scientific and Technical Affairs, been “the unquestioned leader in Arctic development” since 1930, and impressive Arctic programs had also been launched by Canada, Denmark, Norway, and Finland.

The expanding Arctic activities could produce overlapping areas of national interest, and Svalbard, Arctic fisheries, and the Soviet “Sector Claim” were all regarded as examples of that. But, as the Bureau noted, “such overlapping national interests need not produce conflict; they can, and often do, produce international cooperation.”⁴³ The reference to SCAR and the ATS was very clear when the Bureau of International Scientific and Technical Affairs suggested consultations with the other seven Arctic states “to determine whether there is sufficient common pur-

pose among us to warrant convening a conference to negotiate an Arctic Treaty for the cooperative technological advancement of that region.”⁴⁴

THE END OF THE COLD WAR AND THE CREATION OF IASC

No consultations were brought about, however, as long as the Cold War went on, not least because of the Soviet approach to Arctic cooperation. In 1973, Director Treshnikov had underlined that the political strategy of Soviet Union was to establish cooperation on Arctic research on a bilateral basis. As long as this remained a premise in Soviet policies, there could be hope of establishing an “Arctic SCAR.”⁴⁵

After 1973, eleven years passed with no significant changes in the positions. Meanwhile, though, several international cooperation projects were launched between the Western Arctic countries. Comité Arctique International, Arctic Ocean Sciences Board, The Committee for High Arctic Research Liaison and Information Exchange, and the Northern Science Network of the Man, and the Biosphere Program, are examples of that, although with a various degree of success. Also, none of these initiatives managed to obtain participation of Soviet scientists.

But in June 1984, there was a new sign of progress. The Director of Foreign Relations of the powerful State Committee for Science and Technology, Nikolay Borisov, visited the Norwegian Polar Institute. He came with an outstretched hand concerning research cooperation in the Arctic.

In 1984, Canada and the Soviet Union agreed to formalize research cooperation in the Arctic, and the Norwegian authorities were kept well informed about this process. In the wake of this Canadian–Soviet agreement, a formalized Norwegian–Soviet cooperation also became a reality.

These bilateral steps contributed to promoting the old idea of a permanent scientific cooperative forum linked to the Arctic. Canada, Denmark, and Norway—in particular—took the lead in this science diplomacy process, but the idea was also supported by the other Western Arctic states. The United States supported the initiative strongly, but the general context of the Cold War might have prevented the United States to front the initiative.

In 1985, Mikhail Gorbachev became General Secretary of the Communist Party of the Soviet Union in 1985. By then and not least because of the bilateral dialogue between the Soviet Union on the one

hand, and Canada, Denmark, and Norway on the other, contacts had already been established with individuals at a high level in the decision-making hierarchy on the Soviet side, and this provided the basis for a steadily improving relationship. This was particularly the case with regard to Nikolay Borisov. The question was brought up again at a SCAR meeting in San Diego in 1986.⁴⁶ Because of the broad Norwegian experiences with the Soviet Union in the Arctic, the NPI was given the task to invite the Soviet Union and the other Arctic states to further talks in Oslo, and to facilitate the science policy process.⁴⁷ This was a success. When Gorbachev made his famous “Arctic Zone of Peace” speech in Murmansk in 1987, of which research cooperation in the Arctic was one of the pillars, sources from the NPI indicate that Nikolay Borisov was responsible for this section. And of course behind Borisov’s input there was a coordinated initiative, involving science diplomats from all the Western Arctic states, but with Fred Roots of Canada, Jørgen Taagholt of Denmark, and Odd Røgne of Norway in the most prominent roles.

The primary explanation to how previous disagreements were overcome is undoubtedly that the changes took place in the Soviet Union, which also led to a new look on Arctic cooperation. But, as the archival sources display, the increasing desire from the Western side to overcome long-standing opposition, also mattered. The way Røgne saw it, Gorbachev had not invented the idea “to coordinate research in the Arctic” and “setting up a joint Arctic scientific council” on his own. Instead, Gorbachev had responded favorably “to our inquiries in Moscow,” Røgne thought.⁴⁸ Nils Bølset, Polar Affairs adviser of the MFA, immediately interpreted Gorbachev’s speech as a token of Soviet commitment to an “Arctic Science Committee.”⁴⁹ Røgne was now, together with Roots and Taagholt, inspired to taking further steps. A few weeks later, Borisov confirmed that he had, in fact, written the text about international Arctic science cooperation which appeared in Gorbachev’s speech.⁵⁰

SOME CONCLUDING REMARKS

The shift in the Soviet approach to scientific cooperation in the Arctic made it possible to lead the process further, and to establish the International Arctic Science Committee (IASC) in 1990. The “polar channel” had produced results.

For Arctic science diplomacy, the establishment of IASC both marked the beginning and the end. It was in many ways a result of cold war science diplomacy, but since the process was complicated, the IASC

would not be established before the cold war had ended. And with the establishment of a new world order after the cold war, the prospects for international research cooperation changed. International and trans-national research cooperation increased profoundly. The Arctic states also had to revise their strategies, and try to position themselves in this landscape. During the 1990s, Arctic science diplomacy was marked by this double-sided development: An increase in international cooperation on the one hand, and the development of national Arctic strategies on the other.

Science, however, and especially the ability to freely conduct science, still proved to be a powerful tool in regime-building processes in the polar regions. The fourth International Polar Year (2007–2008), co-ordinated by ICSU and the World Meteorological Organization, specifically highlighted bipolar research coordination. More recently, in 2013, the Arctic Council—an intergovernmental forum established in much the same political context as IASC—initiated a task force on scientific cooperation, co-chaired by Russia, Sweden, and the United States. To what extent it draws on an Antarctic precedent is still unclear, however, and the Task Force will report back to the Council in 2017. The idea of an Arctic Treaty, modeled on the same *moral* basis as the Antarctic Treaty, and driven by a scientifically informed regime with environmental protection as its basis, still surfaces from time to time, despite the geographical incongruity.

As discussed in the introduction to this volume, Antarctica is a particularly appropriate setting to consider how knowledge of environments is related to the legitimacy of the structures that govern them. This resonates in the Arctic, where money and resources have begun to flow into humanities and social science research, in addition to natural science research. Visions of what kind of place the Arctic is—and what future it will have—are (and were) products of particular concerns, from narratives of growth in shipping and extractive industry facilitated by shrinking sea ice in the present to the march of industry and technology in the past.⁵¹ The most fundamental difference between the two (the fact the Arctic has substantial residential populations) has not eradicated debate over who belongs in the Arctic—and who gets to decide what will happen there—especially as environmental knowledge is still mostly produced by visitors from much further south.

NOTES

1. Events that inspired American historian Michael R. Beschloss to write *The Crisis Years: Kennedy and Khrushchev, 1960–1963* (New York, NY: Edward Burlingame Books, 1991).
2. For good descriptions of this increased political and cultural contact see William Taubman, *Khrushchev: The Man and His Era* (New York: Norton, 2004); Yale Richmond, *Cultural Exchange & the Cold War: Raising the Iron Curtain* (University Park: Pennsylvania State University Press, 2003); Walter L. Hixson, *Parting the Curtain: Propaganda, Culture, and the Cold War, 1945–1961* (New York, NY: St. Martin's Griffin, 1998); Kenneth Alan Osgood, *Total Cold War: Eisenhower's Secret Propaganda Battle at Home and Abroad* (Lawrence: University of Kansas, 2006).
3. See also Adrian Howkins, “Science, Environment, and Sovereignty: The International Geophysical Year in the Antarctic Peninsula Region,” in *Globalizing Polar Science: Reconsidering the International Polar and Geophysical Years*, ed. Roger D. Launius, James Rodger Fleming, and David H. DeVorkin (New York: Palgrave Macmillan, 2010).
4. G.E. Fogg, *A History of Antarctic Science* (Cambridge: Cambridge University Press, 1992), 177.
5. Other representatives of this view include (among others) the American journalist Walter Sullivan, whose book *Assault on the Unknown. The International Geophysical Year* (New York: McGraw-Hill, 1961), is probably the most widely read book on the subject. A recent contributor to this narrative is Paul Arthur Berkman. Berkman's Eisenhower-centered narrative “is as much about the origin of the Antarctic Treaty and international spaces as it is about the statesman who rose to the occasion by using science as a tool of diplomacy for the benefit of all humanity. This story is about hope for future generations.” Paul Arthur Berkman, “President Eisenhower, the Antarctic Treaty, and the Origin of International Spaces,” in *Science Diplomacy: Antarctica, and the Governance of International Spaces*, ed. Paul Arthur Berkman et al. (Washington, D.C: Smithsonian Institution Scholarly Press, 2011), 19.
6. Jacob Darwin Hamblin, “Mastery of Landscapes and Seascapes. Science at the Strategic Poles during the International Geophysical Year,” in *Extremes: Oceanography's Adventures at the Poles*, ed. Keith Rodney Benson and Helen M. Rozwadowski (Sagamore Beach, MA: Science History Publications/USA, 2007), 201–203.
7. Howkins, “Science, Environment, and Sovereignty: The International Geophysical Year in the Antarctic Peninsula Region,” 256–257.
8. Dian Olson Belanger, “The International Geophysical Year in Antarctica: A Triumph of ‘Apolitical’ Science, Politics and Peace,” in *Globalizing Polar Science*.

9. Klaus Dodds, Irina Gan, and Adrian Howkins, “The IPY-3: The International Geophysical Year (1957–1958),” in *The History of the International Polar Years (IPYs)*, ed. Susan Barr and Cornelia Lüdecke, (Heidelberg; New York: Springer, 2010), 242.
10. For a very instructive introduction, see Aant Elzinga, “Geopolitics, Science and Internationalism during and after IGY,” *Boletín Antártico Chileno: The Chilean Antarctic Science Magazine*, 2nd SCAR Workshop on the History of Antarctic Research, 2009, 71–81; Aant Elzinga, “Rallying around a Flag? On the Persistent Gap in Scientific Internationalism between Word and Deed,” in *The Emerging Politics of Antarctica*, ed. Anne-Marie Brady (London ; New York: Routledge, 2013).
11. See for instance Thomas F. Gieryn, “Paradigm for the Sociology of Science,” in *Robert K. Merton: Sociology of Science and Sociology as Science*, ed. Craig J. Calhoun (New York: Columbia University Press, 2010), 131–133.
12. Elzinga, “Geopolitics, Science and Internationalism during and after IGY,” 72–74.
13. *Ibid.*, 73.
14. Mai'a K. Davis Cross, “Rethinking epistemic communities twenty years later,” *Review of International Studies* 39:1 (2013), 137–160. One example is Matthew Evangelista, *Unarmed Forces: The Transnational Movement to End the Cold War* (Ithaca, NY: Cornell University Press, 2002).
15. Alexander Wendt, *Social Theory of International Politics* (Cambridge, UK; New York: Cambridge University Press, 1999).
16. This use of Wendt’s concepts is inspired by Hallvard Tjelmeland, “Border as Barrier and Bridge: The Norwegian–Soviet/Russian Border as a Political and Cultural Construction,” in *Imagined, Negotiated, Remembered: Constructing European Borders and Borderlands*, ed. Kimmo Katajala, Maria Lähteenmäki, and M. M. Krom, (Wien: Lit, 2012); I have developed and written more about the fundamental division of approaches in Stian Bones, “Med viten og vilje. Einar Gerhardsen reise til Sovjetunionen i 1955,” *Nytt Norsk Tidsskrift* 23, no. 3 (2006).
17. This section draws on Robert Marc Friedman, “Playing with the Big Boys,” in *Into the Ice: The History of Norway and the Polar regions*, ed. Einar-Arne Drivenes and Harald Dag Jølle (Oslo: Gyldendal, 2006), 353–59. Quotation from p. 356; Also see Peder Roberts, Klaus Dodds, and Lize-Marié van der Watt, ‘But Why Do You Go There?’ Norway and South Africa in the Antarctic during the 1950s,” in *Science, Geopolitics and Culture in the Polar Region: Norden beyond Borders*, ed. Sverker Sörlin (Farnham: Ashgate, 2013).
18. Rip Bulkeley, “Polar Internationalism, Diplomacy, and the International Geophysical Year,” in *National and Trans-National Agendas in Antarctic Research from the 1950s and beyond*, vol. 2011–1 (3rd Workshop of the

SCAR Action Group on the History of Antarctic Research, Columbus, OH: Byrd Polar Research Center, 2011).

19. Friedman, “Playing with the Big Boys,” 342–344.
20. For more about this, see John Krige, *American Hegemony and the Postwar Reconstruction of Science in Europe*, (Cambridge, MA: MIT Press, 2008).
21. “Note of 26 July 1958,” July 26, 1958. 36.15/3b, vol. 5, National Archives, Oslo (NAO), Norwegian Ministry of Foreign Affairs (MFA) 1950–1959. The possibility for setting up such a deal is also briefly mentioned in Roberts, Dodds, and van der Watt, ‘But Why Do You Go There?’ Norway and South Africa in the Antarctic during the 1950s,” 95, although not with reference to the CIA.
22. “Minutes of Meeting,” May 24, 1958. 36.15/3b, vol. 5, NAO, MFA 1950–1959.
23. “Letter to Kaplan and Wexler,” May 30, 1958. 36.15/3b, vol. 5, NAO, MFA 1950–1959.
24. “Note of 5 February 1959,” February 5, 1959. 36.15/3b, vol. 5, NAO, MFA 1950–1959.
25. “Note of 22 May 1959,” May 22, 1959. 36.15/3b, vol. 5, NAO, MFA 1950–1959.
26. This according to former NPI director Tore Gjelsvik, Norwegian delegate to SCAR over many years and president of SCAR 1974–1978. See “Science and Politics in Polar Areas,” 1988 1986, IASC-files, box “All IASC Files,” NPI.
27. *The Antarctic Treaty*, 1961, http://www.ats.aq/e/ats_keydocs.htm
28. O. Orheim, “Research Takes over—From Maudheim to Troll,” in *Norway in the Antarctic: From Conquest to Modern Science*, ed. Jan-Gunnar Winther (Oslo: Schibsted, 2008), 60–78.
29. Ibid.
30. “Letter from SCAR Secretary G. de Q. Robin F. W. G. Baker of ICSU, with the Report Enclosed,” July 24, 1969, IASC-files, box “All IASC Files,” 1986–1988, NPI.
31. Tore Gjelsvik, “Science and Politics in Polar Areas,” n.d., IASC-files, box “All IASC Files,” 1986–1988., NPI.
32. Ibid.; Anne Fikkan, Gail Osherenko, and Alexander Arikainen, “Polar Bears: The Importance of Simplicity,” in *Polar Politics: Creating International Environmental Regimes*, ed. Oran R. Young and Gail Osherenko (Ithaca: Cornell University Press, 1993), 96–151.
33. For a good overview, see Thor Bjørn Arlov, *Svalbards Historie* (Trondheim: Tapir, 2003).
34. See for instance “Minutes of Meeting between Cappelen and Romanovski,” August 8, 1972. 34.4/99, vol. 23, NAO, MFA 1970–1979.

35. For more on this see Stian Bones, “Science In-between: Norway the European Arctic and the Soviet Union,” in *Science, Geopolitics and Culture in the Polar Regions*, ed. Sörlin. 143–69.
36. “Memorandum: SCI Briefing Book,” January 19, 1966, General Records of the Department of State, Record Group 59 (RG 59), Lot File 68D383, box 20, folder Bureau of International Scientific and Technical Affairs (SCI) 11–1 Antarctica, National Archives and Records Administration, Washington, DC (NARA).
37. “Memorandum: The Arctic,” June 9, 1966, RG 59, SCI, Lot File 68D383, box 20, folder SC 11–1 Arctic, NARA.
38. Ibid.
39. “Memorandum: US-Soviet Cooperation in Heat Budget Studies,” January 18, 1966, RG 59, SCI, Lot File 68D383, box 20, folder SC 11–1 Arctic, NARA.
40. Stian Bones, Alexey Komarov, and Hallvard Tjelmeland, “Tøvær,” in *Naboer i frykt og forventning. Norge og Russland 1917–2014*, ed. Sven G. Holtsmark (Oslo: Pax forlag, 2015).
41. Stian Bones, “Kriseår og regional avspenning,” in *Naboer i frykt og forventning. Norge og Russland 1917–2014*, ed. Sven G. Holtsmark (Oslo: Pax forlag, 2015).
42. “Memorandum: The U. S. Role in the Arctic,” August 10, 1964, RG 59, SCI, Lot File 68D383, box 36, folder “Arctic Treaty Study,” NARA.
43. Ibid.
44. “Secret Memorandum: Proposal for an Arctic Treaty,” April 28, 1964, RG 59, SCI, Lot File 68D383, box 36, folder “Arctic Treaty Study,” NARA.
45. See also Bones, “Science In-between,” 163–165, which treats this question from a slightly different angle.
46. See also “IASC after 25 years.” Special Issue of the *IASC Bulletin*, 9–14.
47. “Internasjonalt arktisk forskningssamarbeide,” 21. December 1987. IASC-files, box “All IASC Files,” 1986–1988, NPI.
48. “Arctic Science Committee,” 7. October 1987, Odd Rogne. IASC-files, box “All IASC Files,” 1986–1988, NPI.
49. Bølseth-memo of 7. October 1987. IASC-files, box “All IASC Files,” 1986–1988, NPI.
50. Rogne’s report from Moscow, 23. December 1987. IASC-files, box “All IASC Files,” 1986–1988, NPI; “IASC after 25 years.” Special Issue of the *IASC Bulletin*, 13.
51. For an early example see: Vilhjálmur Stefánsson *The Northward Course of Empire* (New York: Harcourt, Brace and Company, 1922). Also see Dag Avango, Annika E. Nilsson and Peder Roberts, “Assessing Arctic Futures: Voices, Resources, Governance,” *Polar Journal* (2013). DOI:[10.1080/2154896X.2013.790197](https://doi.org/10.1080/2154896X.2013.790197).

Emerging from the Shadow of Science: Challenges and Opportunities for Antarctic History

Adrian Howkins

INTRODUCTION

Science casts a long shadow over the Antarctic continent. It would be no exaggeration to suggest that scientists have played a relatively greater role in the history of Antarctica than in any other continent.¹ Even before Antarctica was first sighted, natural philosophers were speculating about its existence using the evidence at their disposal.² The magnetic crusade of the 1830s and 1840s saw the quest for scientific data in the field of terrestrial magnetism drive the exploration of the southern continent.³ The so-called “heroic era” of the late nineteenth and early twentieth century witnessed an increase of scientific activity, and the idea of science as the “silver lining” to the tragedy of Captain Scott demonstrated its growing rhetorical power.⁴ The International Geophysical Year (IGY) of 1957–1958 is traditionally seen as the time in which Antarctic science “came of age,” with twelve countries conducting an unprecedented level of research across the continent.⁵ Since the signature of the Antarctic Treaty in 1959, the connection between science and politics has been more explicit in Antarctica than in almost any other part of the world: Article IX, for example, requires any country wishing to become a full consultative member

A. Howkins (✉)

Department of History, Colorado State University, Fort Collins, CO, USA

of the Antarctic Treaty System (ATS) to be first conducting “substantial scientific research” in the continent.⁶

In recent years, historical scholarship has increasingly focused on the nature of the relationship between science and politics in Antarctica, asking questions about how and why scientific research has come to be the dominant activity taking place in the southern continent. Rather than examining the role of science in the history of Antarctica, this essay asks a different, but related question: what does it mean to write history in “a continent for science”?⁷ The focus on Antarctic history reflects the author’s disciplinary background, but in asking this question, this essay raises important issues for the Antarctic humanities more generally. As historians and humanists we can be very good at analyzing the social construction of science, politics, or the natural environment, but less adept at stepping back and reflecting upon how our own work fits into a broader context. Despite its importance, the question of what it means to write history in a continent for science has seldom been confronted directly. Answers to this question are to a certain degree speculative, but they are important to consider in thinking about the role and status of the Antarctic humanities moving into the future.

In thinking about what it means to write history in a continent for science, this chapter frames its response in terms of challenges and opportunities. On the one hand, science can influence the way historical research is conducted in Antarctica, potentially compromising its independence. Scientists have a say over who gets to go to Antarctica as part of prestigious “Artists and Writers” programs; if funding for historical research comes from scientific organizations, there may be a subtle incentive for historians to temper criticism that comes from historical research. On the other hand, there are numerous opportunities for historical research to engage with the dominant scientific paradigm. By looking to the Antarctic past, historians can point to inequities and inconsistencies with the current political system; historians can work closely with scientists to offer a different perspective on contemporary environmental issues. This chapter suggests that the challenges and opportunities are very much connected: an awareness of the challenges increases the possibility of taking advantage of the opportunities.

Any discussion of the “opportunities” for historical scholarship raises the question of whether historians and humanities scholars working in Antarctica should care about the broader impact of our research. One reason for the success of science in Antarctica has been its ability to influence policy making as was demonstrated, for example, by the scientific thinking

behind the strict environmental measures imposed by the Madrid Protocol of 1991.⁸ One response to a discussion of the opportunities for historical research to have greater influence is to dismiss it as “science envy,” and suggest instead that the humanities should not concern themselves with issues of utility. While it is certainly valid not to insist that all humanities research needs to be directly useful, a comparison with Antarctic science suggests that this issue should not be seen as a binary: much scientific research in Antarctica has no obvious utility, but taken as a whole, it exhibits a tremendous capacity to be relevant to wider policy discussions. Many of the chapters in this collection, as well as much recent humanities research in Antarctica more generally, would suggest that humanities scholarship not only has intrinsic value, but also has much to offer broader discussions over policy and environmental management. Embracing these opportunities for engagement offers Antarctic humanities scholarship one means of emerging from the shadow of science.

As a result of the particularly dominant role of science in Antarctica, the southern continent offers a useful place for thinking about the challenges and opportunities for humanities research more generally, especially in relation to the sciences and what C.P. Snow famously labeled the “two cultures.”⁹ While such discussions have sometimes become quite stale, they remain highly relevant, especially in an age of academic austerity and increasing competition for funding.¹⁰ As an extreme example of the unequal relationship between the humanities and the sciences, the Antarctic continent offers a good place for thinking about the two cultures debate, and insights obtained from thinking about the status and role of the Antarctic humanities might be of relevance far beyond the confines of the icy south. Antarctica is not so exceptional that it should be branded a “pole apart” and dismissed from wider conversations, but its differences from the rest of the world do offer unique opportunities.¹¹ In particular, this essay suggests that the challenges and opportunities for Antarctic history offer useful lessons for the emerging field of the environmental humanities, especially in terms of the importance of critical reflexivity.

It is not always easy to think about the context in which we do our research, and any attempt to consider the contemporary context for doing Antarctic history is necessarily highly subjective. This paper draws from my personal experiences of researching and writing the history of Antarctica over the past decade or so, and in particular, it connects to my work with the McMurdo Dry Valleys Long Term Ecological Research (LTER) site in the Ross Sea region of Antarctica.¹² It makes no claim to being a comprehensive

survey of historical scholarship in Antarctica.¹³ The essay begins by considering some of the challenges for Antarctic history posed by the dominance of the scientific paradigm. It continues by presenting examples of the way historians have engaged with the politics and science of the southern continent. With a particular focus on the theme of climate change, the third section considers what humanities research in Antarctica might contribute to broader debates in the environmental humanities. The conclusion returns to the question of utility, and considers future directions for Antarctic humanities research.

THE CHALLENGES FOR ANTARCTIC HISTORY

In October 2004, the Scientific Committee on Antarctic Research (SCAR) created a history action group to promote the study of the Antarctic past.¹⁴ The fiftieth anniversary of the international organization that coordinates Antarctic science was less than four years away and there was a clear appetite among some of its leading figures for reflecting back on a recent past of significant success. The International Geophysical Year (IGY) of 1957–1958 and the Antarctic Treaty of 1959 had created a “Continent for Peace and Science” in which the international scientific community would play a leading role, not just in the science of Antarctica, but also in its politics. SCAR was central to this working model of “science diplomacy.”¹⁵ The creation of a history action group encouraged a focused and coordinated approach to Antarctica’s history. Since its first meeting in Munich in 2005, the SCAR history group has met every year and has become a dynamic forum for sharing research and promoting a more nuanced understanding of the Antarctic past. While Antarctic history obviously existed before the SCAR history initiative, no other organization has provided a structure for regular meetings of Antarctic historians from around the world. In 2010, the history action group was promoted to the level of a permanent expert group within SCAR, and its work looks set to continue into the future.

While the role of SCAR in promoting and helping to fund Antarctic history has been largely positive and mutually beneficial, the arrangement highlights something of the power dynamics of Antarctic scholarship. The history expert group is just one very small part of a large scientific organization, and any historian who has attended a SCAR Open Science Conference might be able to speak of the feeling of being numerically overwhelmed by the scientists in attendance. The idea of a historical or humanities organization—the American Historical Association, for example, or the

Britain's Arts and Humanities Research Council—helping to coordinate a working group on ecology or upper atmosphere research would seem slightly absurd. Such absurdity points both to the open-minded approach of SCAR, and to the relative weakness of history and the humanities, both in Antarctica, and beyond. These power dynamics have the potential to influence the way we study the Antarctic past in a number of ways.

As a point of departure for thinking about the influence of science on the writing of Antarctic history, it might be claimed that Antarctica's status as a continent for science has helped to marginalize humanities scholarship. This is a difficult claim to substantiate, since multiple factors—not least contingency and academic trends—are at play in any historian's choice of what subject to study. But there can be little doubt that humanities scholarship has taken a subordinate role in the study of Antarctica over the past hundred years, and the dominance of science undoubtedly has had some influence on this.¹⁶ There can be few historians of Antarctica who have never been asked: "does Antarctica really have a history?" In contrast, today's scientists have relatively little difficulty in justifying scientific activity to a popular audience, especially given global concerns over climate change and potential resource scarcity, not to mention the popularity of natural history documentaries such as *Frozen Planet*.¹⁷ An immediate connection between science and the Antarctic continent, however, should not be seen as inevitable. From a historical perspective, scientists have had to work hard to make a case for the value of their research, as shown for example in the work of Lloyd Berkner in promoting the IGY in the second half of the 1950s.¹⁸ In successfully championing their own work, scientists have both intentionally and unintentionally marginalized other ways of seeing and understanding the Antarctic continent.

A comparison with the Arctic is useful for thinking about the marginalization of humanities research in Antarctica. Unlike the far north, the southern continent has no indigenous population, and nobody lives permanently on the southern continent. In the Arctic, anthropologists and archeologists were among the first non-indigenous scholars to study the region in a systematic fashion.¹⁹ Within the field of Arctic studies, therefore, humanistic disciplines have long existed to provide some counterweight to scientific research, as evidenced today by the emphasis on indigenous knowledge within climate change research.²⁰ In Antarctica in contrast, there seemed a less obvious need for disciplines such as anthropology, archeology, or history, which tend to focus on the presence of people over a relatively long period of time. As a consequence, humanistic

scholarship has never occupied such an important position as in the Arctic and faces an uphill struggle against the dominant paradigm of a “continent for science.”

Partially as a result of the marginalization of the humanities, many subjects in Antarctic history remain relatively little studied. Until fairly recently, for example, the middle decades of the twentieth century remained largely untouched by historians, and significant work in this period remains to be done.²¹ In thinking about what gets studied and what does not, it is possible to identify the influence of science and scientists. By far the most studied period of Antarctic history remains the heroic era of Antarctic exploration from the early twentieth century. This pioneering epoch has many obvious attractions: not least of which was the creation of exciting stories of adventure, survival, and occasional tragedy. Many scientists are themselves aficionados of heroic era history, often interpreting their own experiences in Antarctica as a continuation of the daring deeds of their predecessors.²² Among the less obvious advantages of studying the heroic era is its status as a relatively “safe” subject in terms of how it relates to the dominant scientific paradigm. Despite bitter feuds between rival camps of historians, it is difficult to say anything about the heroic era that might prove offensive to scientists studying the continent today.²³ It is possible to be critical of Amundsen’s non-scientific “dash to the pole,” for example, without being critical of Antarctic science in general.

As well as having some influence on what subjects get studied by historians, scientists can also influence the way Antarctic history is researched. Obvious examples of such influence are the various “Artists and Writers” programs administered through national Antarctic organizations, such as the National Science Foundation’s (NSF) Office of Polar Programs and the British Antarctic Survey (BAS), which provide funds and logistical support for non-scientists to travel to and work in Antarctica. Environmental historians in particular place a great deal of emphasis on the importance of visiting the places we study.²⁴ But in Antarctica, where opportunities to visit are few and far between, the scientific organizations running the Artists and Writers programs can act as powerful gatekeepers by having a say in who gets to go to Antarctica and what they can do while they are there. With several high profile exceptions, it would be fair to say that not many historians have applied for or been chosen to take part in these schemes. Stephen Pyne’s groundbreaking study *The Ice* is interesting in that it was a collaboration between the NSF and the National Endowment for the Humanities that allowed him to travel to Antarctica.²⁵ But such

joint funding sources are now rare, in part because there was no great enthusiasm from humanists to take advantage of these opportunities. For better or for worse, the fact that much Antarctic history gets written by historians who have not been to Antarctica, or whose experience while there was highly constrained by the interests of science, shapes the way the history is written.

Another way that scientists can influence the writing of Antarctic history is through the administration of historical archives. Many Antarctic archives are held by scientific organizations such as the Byrd Polar Research Center in Columbus, Ohio, BAS and the Scott Polar Research Institute in Cambridge, and the Australian Antarctic Division in Tasmania. While the archives themselves are usually run directly by professional librarians and archivists who do their jobs extremely well, the heads of these organizations are almost invariably scientists. Since historical research is not the primary function of these scientific organizations, archives tend to be near the bottom of the queue for funding. A lack of resources means that access can be restricted, and documents can take a long time to be processed for public research, especially from historical time periods perceived to be less interesting. While it may be unrealistic to expect historical archives to receive high funding priority, it would be fair to claim that the situation would likely be somewhat different if professionally trained historians rather than scientists occupied the highest leadership positions within the institutions where these archives are housed.

Along with shaping the historical subjects that get studied, and influencing the way research is done, scientists can also influence the conclusions reached by historians. This form of influence is perhaps most obvious in contract histories, which are commissioned with a specific purpose, and often with a specific conclusion already in mind. Many of these contract histories have a celebratory function, and their aim is to commemorate the “good work” that has been done in the Antarctic past. An example of an extremely high quality commissioned history is Dian Olson Belanger’s *Deep Freeze: The United States, the International Geophysical Year, and the Origins of Antarctica’s Age of Science* (2006), which was commissioned by the NSF to commemorate the work of the United States during the IGY.²⁶ Even the very best contract histories, such as Belanger’s, raise questions about the neutrality of the conclusions due to the potential difficulty of taking a critical stance towards the history of the organization that is paying your wages. This problem is particularly familiar to the field of public history, and many public history theorists would argue that it is better to

fully acknowledge potential biases up front (as most contract histories do) than to pretend that they do not exist.²⁷

Another form of science influencing the conclusions reached by historical studies is when scientists themselves write the history. There are a number of examples of Antarctic scientists turning their attention to writing historical studies, usually after they retire. Once again, this reflects academic hierarchies, since few professional historians would think they could retire to become geophysicists or ecologists. The results tend to be fairly predictable, with the scientists themselves often becoming the heroes in their own stories. All such efforts produce potentially useful primary sources, and several might be counted as solid historical studies in their own right. John Behrendt's *Innocents on the Ice* (1998), for example, goes beyond being a simple memoir to provide a useful historical analysis of US IGY policy.²⁸ Many of these studies draw much of their authority from the fact that the author was there and experienced the events being described firsthand. While it can sometimes be frustrating for a professional historian to be told that "I was there and this is how it was..."—especially when such a claim contradicts the weight of archival evidence—any such statement has a potential usefulness in demonstrating the diversity of historical experience. Despite this possible utility, however, the relatively high number of historical studies written by former scientists helps to influence the field of Antarctic history as a whole towards a scientific perspective.

While the possible bias of contract histories and scientist-historians is quite obvious, more worrying is the potential for the relationship between science and history to influence conclusions in more subtle ways. Historians who have traveled to Antarctica as part of Artists and Writers programs, for example, may develop close relationships with scientists, in part through the intensity and uniqueness of their experience, which might in turn blunt criticism through a form of self-censorship. My own experience of traveling to the McMurdo Dry Valleys with the scientists of the NSF's (LTER) site was that it did not feel entirely appropriate to be talking about the political implications of such work when the clear focus of the scientists themselves was on the science and the background of political rivalry between the United States and New Zealand seemed meaningless in the face of scientific collaboration "on the ground." Similarly, historians receiving support for their work through organizations such as SCAR may be slightly less willing to adopt a critical approach to their histories than they might be if these connections did not exist. More broadly, the supposedly benign influence of science on Antarctic international rela-

tions is a difficult paradigm to challenge. Antarctica has successfully been constructed as a “continent for peace and science,” and despite various problems with this model, many of the alternative scenarios would either be a good deal worse or largely unrealistic.

THE OPPORTUNITIES FOR ANTARCTIC HISTORY

An alternative perspective on the role of SCAR in promoting Antarctic history is to see this less as a challenge to scholarly independence and more as an example of an increasing mutualism between science and the humanities, and recognition of shared goals in understanding the southern continent. Despite its status as a “continent for science,” some of the greatest opportunities for the Antarctic humanities can be found in an increasingly widespread recognition that science alone cannot provide all the answers, and that multiple perspectives offer increased opportunities for understanding and problem-solving. Perhaps paradoxically, an engagement with the existing scientific paradigm offers Antarctic humanities scholars an excellent opportunity for “emerging from the shadow of science” and overcoming at least some of the divide intrinsic to C.P. Snow’s idea of the “two cultures.” All historical research engages in some form with Antarctic reality simply by having the continent as its subject of study. The nature of this engagement can take many forms, ranging from an indirect—and at times critical—study of the role played by scientists in the history of Antarctica to direct collaborations between historians and scientists.

Building on the analysis of some of the challenges facing Antarctic history, this section sets out a handful of examples in which historical research can be seen as engaging with the politics and science of the southern continent. It does not seek to suggest that all historical research in Antarctica should start out by asking how it interacts with the broader realities of the continent. In fact, a case can be made that historical research is most effective when it avoids an excessive presentism by asking its own questions and following its own agenda. But it does suggest that these interactions are taking place whether or not we acknowledge them. The argument of this section is that the influence of historical research in Antarctica can be increased by frequently stepping back and asking how our work is both shaped by and can shape the power dynamics of the southern continent. By doing this, we can remain aware of the challenges facing Antarctic history at the same time as taking advantage of the opportunities to learn

from our work and contribute to broader debates. Despite being relatively few in number, Antarctic humanities scholars are involved in numerous creative ways of reimagining and representing the southern continent (as reflected by the diversity of approaches in this collection). A common theme in much of the recent critical history writing in particular, has been a degree of challenge to the cozy consensus of Antarctica as a continent for science. This scholarship has seen a movement away from celebratory histories towards critical perspectives that challenge the notion that Antarctic science has been politically neutral.²⁹ Running parallel to this trend, and sometimes intersecting, humanities scholars have also engaged in direct collaborations with scientists, which seek at the same time to be both useful and critical.

The classic work on the history of science in Antarctica remains G.E. Fogg's 1992 *History of Antarctic Science*.³⁰ This book presents a thorough overview of each of the major sciences practiced in Antarctica, taking both a thematic and a chronological approach. While Fogg does not ignore the political role of science in Antarctica, his book tends to separate political history from the history of science. Fogg was a biologist, and such an approach would seem to be consistent with the way many scientists themselves view the practice of Antarctic science: they understand that the political context is necessary for winning support and funding for their research, but then see their work as taking place independently from this wider context. Approaching the question from the opposite direction, Peter Beck's *The International Politics of Antarctica* presents an excellent overview of the political history of the southern continent.³¹ But while Beck certainly acknowledges the role of science and scientists in the political history of Antarctica, he stops short of a through integration of science and politics. A number of other scholars have written political histories of Antarctica which acknowledge the importance of science, but similarly do not fully integrate these two dimensions. Stephen Pyne's *The Ice* perhaps does more than any other early work to integrate science, politics, and the Antarctic environment, but even this book is organized largely thematically, with the scientific history in one chapter and the political history in another.³²

The work done by Klaus Dodds in the field of historical geography and critical geopolitics can be seen as a significant step forward in the integration of politics and science in the study of Antarctica. In his book *Pink Ice*, for example, Dodds demonstrates how cartographic representations of the Antarctic Peninsula have been co-produced with the contested poli-

tics of the region.³³ Mapmaking was an important means of demonstrating sovereignty in the Southern Continent, and the act of giving names to places functions as a powerful claim over a place. The recent British act of naming the southern part of the British Antarctic Territory Queen Elizabeth II Land demonstrates that this strategy continues to be used up to the present.³⁴ Importantly, in his various studies of Antarctic geopolitics, Dodds shows that there are multiple ways of understanding and representing the Antarctic environment, not all of which are scientific.³⁵ Proximity and shared environmental characteristics create popular attachments to Antarctica in countries such as Australia, Chile, and Argentina that go beyond a purely scientific understanding. The existence of alternative representations of Antarctica in turn encourages a more nuanced approach to the political history of Antarctic science.

Following this lead, a number of other scholars have also sought to break down the boundaries between science and politics, often making connections with the politics of imperialism in the continent. Peder Roberts' *The European Antarctic* offers a thorough analysis of the overlap of science and politics in the first half of the twentieth century with particular attention to the whaling industry and British and Scandinavian government policy.³⁶ My own work examines the role of science and the environment in the contested history of the Antarctic Peninsula region, with a focus on the middle decades of the twentieth century and the sovereignty dispute between Argentina, Chile, and Great Britain.³⁷ Simon Naylor, Martin Siegert, Katrina Dean, and Simone Turchetti have done interesting work on the politics of Earth Science research from the IGY onwards, showing how scientific and political rivalries continued to shape relationships in Antarctica following the 1959 signature of the Antarctic Treaty.³⁸ Alessandro Antonello has investigated the political context of the development of conservation within the Antarctic Treaty System.³⁹ While its approach is less critical of the dominant scientific paradigm than some other recent studies, Tom Griffiths' *Slicing the Silence* does an excellent job of blurring the boundaries between Antarctica's political history, environmental history, social history, and history of science.⁴⁰ Even David Day's fairly traditional *Antarctica: A Biography* won praise from *The Economist* newspaper for its integration of science and politics.⁴¹ An interesting recent trend coming largely from South America and South Africa has been the attempt to "voice the silences" in Antarctic history and focus on social and economic history, with the argument that in the nineteenth century in particular, science has not always been as

important to the history of Antarctica as the so-called “master narratives” would imply.⁴²

In general, Antarctica has not been an important site for the post-modern critique of science characteristic of the so-called “science wars” of the 1980s and 1990s.⁴³ But by blurring the boundaries between science and politics, critical Antarctic historical scholarship starts to differ from the way scientists themselves see their work in Antarctica. The current Antarctic Treaty System (ATS) is built on fairly fragile foundations, which rely upon the rhetorical separation of science from politics. The foundational narrative of the ATS is based on the idea that the scientific internationalism of the IGY trumped political discord. The genius of the Antarctic Treaty is its ability to harness broadly benign ideas of science as a “solution” to the “Antarctic problem.”⁴⁴ While most diplomats would likely acknowledge the realpolitik and self-interest that lies behind national involvement with Antarctica, this realpolitik relies upon maintaining the facade of the political neutrality of science. In a sense, therefore, the ATS is built on a system that says one thing in private and another in public. Any attempts to expose this “doublespeak” and analyze the political imperatives of Antarctic science could be construed as destabilizing the political status quo with potentially significant implications.

At the same time as providing a critical perspective on the relationship between science and politics in Antarctica, historical scholarship has the potential to contribute more directly to scientific research taking place in the southern continent. Scientists at BAS, for example, have used historical aerial photography to measure changes in Antarctic Peninsula glaciers.⁴⁵ At Gateway Antarctica in New Zealand, the historian Ursula Rack has been using historical logbooks and diaries to provide information on historical weather phenomenon.⁴⁶ For the past five years, I have been involved as an environmental historian in the McMurdo Dry Valleys LTER site in the Ross Sea region of Antarctica. My involvement with this project reflects a growing realization within the NSF that a thorough understanding of many contemporary environmental issues requires multiple disciplinary perspectives. The science of ecology, in particular, focuses on questions of ecosystem change over time, which lends itself to a historical approach, and the LTER Network has been at the forefront of integrating human dimensions into its scientific work.⁴⁷

Part of my work with the McMurdo Dry Valleys LTER site has sought to extend the historical record of ecological change further back in time by looking for references to the environment in early documents.⁴⁸ Although

descriptions of the McMurdo Dry Valleys in the diaries of early explorers such as Captain Scott and Griffith Taylor do not conform to the rigorous standards of what constitute “data” in contemporary scientific research, they do offer a snapshot of what the environment was like over one hundred years ago when humans first arrived. Historic photographs, sketch maps, and landscape descriptions can therefore be used to ask questions about change over time. For example, Captain Scott’s description of the width of the narrow channel of water connecting the two lobes of Lake Bonney provides evidence for significant lake level rise since the beginning of the twentieth century.⁴⁹

There are several challenges facing engaged historical research in Antarctica. A potential criticism of this approach is that historians might come to be seen as mere “data-gatherers,” providing scientists with the information they need without the scientists showing any real interest in larger historical questions of context or causation. While potentially valid, this criticism tends to ignore the fact that many scientists spend much of their time in the field gathering data, and that this is a vital part of the scientific process. Historians engaged in this sort of collaboration have opportunities to negotiate how and when they raise broader questions of historical context, and in the long term, this may be a more influential approach than a direct discussion of the politicization of scientific research published in a history journal. The opportunity to work alongside scientists can provide historians with valuable opportunities for understanding scientific work in Antarctica. Spending time in a field camp quickly reveals many of the day-to-day realities that have shaped the history of scientific research in Antarctica. It can be intensely frustrating, for example, when bad weather and transport delays get in the way of carefully laid plans for scientific research. A danger here is that working in the field can be taken as a universal experience of working in Antarctica, when in reality things change dramatically over time and from place to place.⁵⁰ In seeking to understand the Antarctic past, there is no substitute for wide reading and creative historical imagination.

As mentioned above, another challenge for engaged historical research is the difficulty of balancing collaboration with a critical historical perspective. As is the case across the Antarctic continent, the scientific work conducted in the McMurdo Dry Valleys has underlying political motivations, which can clearly be seen in the historical documents. For New Zealand scientists working in the region, the performance of science helps to reaffirm national sovereignty over the Ross Dependency.⁵¹ One of the reasons

for the construction of New Zealand's Lake Vanda field station in the late 1960s, for example, was the fear that Japanese scientists would build their own camp in the region and undermine New Zealand sovereignty claims.⁵² In turn, US scientific work in the Dry Valleys—including the work of the McMurdo Dry Valleys LTER—can be seen as part of a broader strategy of using science to demonstrate American influence across the Antarctic continent.⁵³ The United States refuses to recognize any sovereignty claims in Antarctica, and as a consequence, its presence in the region is a direct challenge to New Zealand's ownership of the Ross Dependency. From the perspective of Antarctica's political history, therefore, the US scientific work can be seen as rivaling that of New Zealand. On the ground, however, there is little evidence of this rivalry, beside the respective national flags flying on research stations. For scientists working in the Dry Valleys, the shared goal of understanding the Antarctic environment trumps political rivalry to such an extent that it feels inappropriate to talk about politics. For historians, it is important to acknowledge these realities, at the same time as frequently reflecting on the broader context of our work. In this way, we can take advantage of opportunities without being overwhelmed by the challenges.

A CHANGING (ACADEMIC) CLIMATE

A major focus of recent ecological research in the McMurdo Dry Valleys has been ecosystem response to climate change. Since the beginning of the region's human history a little over one hundred years ago, lake levels have risen throughout the Dry Valleys as a result of the meltwater from glaciers exceeding ablation. This has resulted in greater connectivity between landscape units and a greater availability of liquid water. The relatively simple ecosystems in this part of the Antarctic continent make it easier to investigate how different organisms respond to changing environmental conditions, largely as a result of the existence of fewer variables. Microscopic nematodes from the *Scottnema* species, for example, respond less favorably to wetter conditions than those from the *Eudorylaimus* species, resulting in significant changes to nematode populations as more water enters the soils.⁵⁴ Although temperatures in this part of Antarctica have not shown significant warming in recent years, East Antarctica is predicted to warm significantly in the coming decades as a recovery of the ozone hole weakens the circumpolar vortex, and allows a greater penetration of air from lower latitudes.⁵⁵ As the

climate warms across Antarctica, there are likely to be many similar ecosystem changes to those being observed in the McMurdo Dry Valleys.

The threat of a warming climate puts Antarctica at the center of global discussions about climate change. Not only has Antarctica played an important role in the history of climate change science, but melting Antarctic ice also has the potential to raise sea levels around the world. Ice cores from Antarctica have helped to demonstrate a correlation between periods of warm temperatures and high atmospheric carbon dioxide in the Earth's climatic history. At the same time, a potential collapse of the West Antarctic Ice Sheet has come to be seen as one of the greatest climate-related threats to the planet. Rather than being seen as a "pole apart" climate change and the related concept of the "Anthropocene," are increasingly revealing connections between Antarctica and the rest of the world. These connections extend beyond the physical environment, and offer opportunities for humanities scholars in Antarctica to engage with humanities research in the rest of the world.

Independently from any direct connection to the southern continent, humanities researchers have responded to an increasing awareness of global environmental problems by developing a field of study known as the environmental humanities. Not unlike the development of some of the recent humanities research in Antarctica, a major motivation for the development of this field has been the belief that humanities research has much to contribute to the understanding of global environmental problems. The description of the Environmental Humanities Series with the Wilfrid Laurier Press, for example, notes "Environmental thought pursues with renewed urgency the grand questions of the humanities: who we think we are, how we relate to others, and how we live in the world. But unlike most humanities scholarship, it explores these questions by crossing the lines demarcating human from animal, social from material, and objects and bodies from techno-ecological networks."⁵⁶ The environmental humanities are intrinsically interdisciplinary, and there is a clear aspiration to break down the boundaries of C.P. Snow's "two cultures." But academic hierarchies do not disappear overnight, and the environmental humanities remain a young field. Not everything has been worked out, and serious challenges remain.

As a place where humanities research is emerging from the shadow of science, the Antarctic humanities offer a useful location for thinking about some of the issues facing the environmental humanities more generally. The dominance of the scientific paradigm and the relative weakness of the

humanities in Antarctica bring into stark relief some of the challenges and opportunities facing humanists as they seek to work with scientists and address pressing environmental concerns. Most positively, the existence of engaged humanities research in Antarctica offers hope to researchers in other parts of the world: if humanities research can flourish in a place without a permanent population, there are likely to be few limits to the utility of insights from the humanities in more populous parts of the world. Another lesson for the environmental humanities from Antarctica follows the argument set out in this paper in acknowledging the importance of self-reflection in thinking about the issues facing humanities research. In Antarctica, the challenges facing humanities research are very often connected to the opportunities, and this might well be similar for the environmental humanities more broadly.

Along with general insights, humanities research in Antarctica might raise more direct insights of relevance to the environmental humanities.⁵⁷ In relation to climate change, for example, historical research can raise questions about the political implications of a warming climate. Unlike the Arctic, where climate change appears to be heightening political tensions, in Antarctica a case can be made that the dire threat of climate change is strengthening the political status quo.⁵⁸ The ATS draws much of its legitimacy from the fact that it promotes science “for the good of humanity.” Given the importance of Antarctica to global thinking about climate change, the worse the threat becomes, the stronger the case for the importance of scientific work and the political structure that facilitates it. Such an observation functions to challenge an overly deterministic view of the political consequences of climate change. But it can also raise questions that can be asked in other places. While there is arguably no other part of the world in which science enjoys such an explicit political function as in Antarctica, the scientific paradigm is closely connected to the exercise of political power almost everywhere. Scientific research, for example, carries considerable weight in international climate change negotiations, and the countries that are conducting climate research also gain political advantages. Questions about the implications of these connections between science and politics are often lost in the focus on the need to respond to the threat of climate change. But by offering new perspectives on familiar subjects, comparisons with Antarctica can help to stimulate humanities research more generally.

CONCLUSION

A controversy that erupted over the future of BAS in 2012 offers a fascinating insight into the way British politicians, government officials, and scientists, view their commitment to Antarctica.⁵⁹ In defending the continued existence of BAS as an independent research organization, politicians and scientists publically stated—often for the first time—that the function of British Antarctic science is as much political as it is scientific. While the merger of BAS with the National Oceanographic Institute might make sense in terms of scientific efficiency, as some in the Natural Environment Research Council were proposing, it would also represent a surrender of hard won political prestige in Antarctica. While scientists might like to think (or at least state in public) that their work in Antarctica is about “pure science,” the reality is that Antarctic science is enmeshed in a web of inter-relationships, which shape the way Antarctica is perceived, represented, and governed. In the event, recognition of the political role of BAS went a long way to save the organization from the proposed merger. The irony is that by being forced to state publically this political importance, the political power of Britain’s claims to be conducting “pure science” in Antarctica has arguably been diminished.

The connection between science and politics underlying the discussions over the future of BAS is precisely the subject of much recent historical research. Ultimately, therefore, it was a perspective informed by the humanities that helped to maintain the independence of a major scientific organization. Despite the dominance of science in Antarctica, humanities scholars should not feel that our work lacks relevance. Given the multiple interconnections between political power and ways of perceiving and representing the Antarctic continent, such utility extends to humanities scholarship that is not obviously concerned with politics or science. Despite its relevance, however, humanities scholarship is underrepresented in many of the discussions of the questions that will shape the future of the southern continent. Who has a say in political decision-making relating to the southern continent? What activities are permitted there? Where does Antarctica fit into the globalized world of the twenty-first century? At the moment, scientists are engaging with these questions through national programs and international organizations, such as SCAR. But humanities scholars are largely absent from these discussion and our insights are consequently marginalized.

One response to this marginality is to say that humanities scholarship should not aspire to influence such debates. The humanities have a proud tradition of valuing their intrinsic worth, and there is perhaps little reason why this should be any different in Antarctica. But such an approach requires an acceptance that the Antarctic humanities will likely continue to exist in the shadow of science, and there can be few complaints when funding and logistical support continue to flow to the sciences at the expense of the humanities. A different response to marginality is to embrace the insights revealed by the Antarctic humanities and seek to engage with scientists and policy makers in wider debates. There is no need to change the way we do our work or to fundamentally change the questions we ask. In fact, there is a strong case to be made that we should not be seeking to change much about our scholarship. But there is a need for critical reflection. What are the most important insights raised by our work? How can these be applied? How does ongoing engagement continue to present both challenges and opportunities? Answers to these questions will change over time, and will vary depending on the context, and for these reasons it is important for humanities scholars to keep asking these questions.

Taking advantage of opportunities for the Antarctic humanities requires both a confidence in our own work and a commitment to engagement. By persisting with these efforts, it might be possible to produce new models of collaboration that could be of interest far beyond Antarctica. The collaborations that emerge from a proactive humanities scholarship seeking greater influence in the broader Antarctic context will likely not be neat and tidy. It is difficult to say in advance what the new questions and approaches might be, since it is precisely through acts of collaboration and engagement that they will emerge. Critical perspectives that reveal the exclusivity of science in the Antarctic context might help to give greater influence to outreach projects that seek to bring an increased diversity of people, organizations, and countries into an engagement with the Antarctic continent. Rather than simply being seen as a medium for communicating scientific results in areas such as climate change and ozone depletion, humanities scholarship might help to reveal the multiple and competing value systems that underlay perceptions of the environment.⁶⁰ And by bringing to the surface the international politics of inclusion and exclusion within the Antarctic context, humanities research might help to protect what is good about the Antarctic Treaty System while encouraging reform. Engaged humanities research offers new and exciting ways to

think about the Antarctic continent, and taking advantage of these opportunities offers one of the most effective ways for the Antarctic humanities to emerge from the shadow of science.

NOTES

1. G.E. Fogg, *A History of Antarctic Science* (Cambridge: Cambridge University Press, 1992).
2. Hugh Robert Mill, *The Siege of the South Pole: The Story of Antarctic Exploration* (London: A. Rivers, 1905).
3. G. A Mawer, *South by Northwest: The Magnetic Crusade and the Contest for Antarctica* (Edinburgh: Birlinn, 2006).
4. For a recent discussion of the role of science in the heroic era, see Edward J. Larson, *An Empire of Ice: Scott, Shackleton, and the Heroic Age of Antarctic Science* (New Haven: Yale University Press, 2011). The term “silver lining” comes from Thomas Griffith Taylor, *With Scott: The Silver Lining* ([S.l.]: Smith Elder, 1916).
5. Fogg, *A History of Antarctic Science*.
6. *The Antarctic Treaty, 1961*, http://www.ats.aq/e/ats_keydocs.htm
7. Aant Elzinga, “Antarctica: The Construction of a Continent by and for Science,” in *Denationalizing Science*, ed. Elisabeth Crawford, Terry Shinn, and Sverker Sörlin (Dordrecht: Springer Netherlands, 1993), 73–106, http://link.springer.com/10.1007/978-94-017-1221-7_3
8. For a detailed discussion of the origins of the Madrid Environmental Protocol, see James D. Hansom and John E. Gordon, *Antarctic Environments and Resources: A Geographical Perspective* (New York: Longman, 1998).
9. C.P. Snow, *The Two Cultures and the Scientific Revolution. The Rede Lecture, 1959* (Cambridge: Cambridge University Press, 1959).
10. For a recent revisiting of this question see Jerome Kagan, *The Three Cultures: Natural Sciences, Social Sciences, and the Humanities in the 21st Century* (Cambridge: Cambridge University Press, 2009).
11. Philip W. Quigg, *A Pole Apart: The Emerging Issue of Antarctica* (New York: New Press, 1983).
12. M. Carey and P. Garone, “Forum Introduction: Climate Change and Environmental History,” *Environmental History* 19, no. 2 (April 1, 2014), doi:10.1093/envhis/emu004.
13. For a fuller discussion of the development of humanities research in Antarctica, see Aant Elzinga’s concluding chapter in this volume.
14. Cornelia Lüdecke, “Antarctic Research—No Longer a Historic Matter in the Science Community: On the Establishment of a New Action Group and Its First Workshop,” *Earth Sciences History* 24, no. 2 (2005).

15. Paul Arthur Berkman, ed., *Science Diplomacy: Antarctica, and the Governance of International Spaces* (Washington, D.C: Smithsonian Institution Scholarly Press, 2011); See also David W. H. Walton, Peter D. Clarkson, and Colin Summerhayes, eds., *Science in the Snow: Fifty Years of International Collaboration through the Scientific Committee on Antarctic Research* (Cambridge: Scientific Committee on Antarctic Research, 2011).
16. For a more detailed discussion of this theme, see the introduction to this volume.
17. Adrian Howkins, “Melting Empires? Climate Change and Politics in Antarctica since the International Geophysical Year,” *Osiris* 26, no. 1 (January 2011): 180–97, doi:[10.1086/661271](https://doi.org/10.1086/661271).
18. Allan A. Needell, *Science, Cold War and the American State: Lloyd V. Berkner and the Balance of Professional Ideals* (Amsterdam: Harwood Academic, 2000).
19. See, for example, Knud Rasmussen, *Across Arctic America: Narrative of the Fifth Thule Expedition* (Fairbanks, AK: University of Alaska Press, 1999).
20. See, for example, Julie Cruikshank, *Do Glaciers Listen?: Local Knowledge, Colonial Encounters, and Social Imagination* (Vancouver: Seattle: UBC Press; University of Washington Press, 2005).
21. Important early works include Peter Beck, *The International Politics of Antarctica* (London: Croom Helm, 1986); Klaus Dodds, *Pink Ice: Britain and the South Atlantic Empire* (London: I.B. Tauris, 2002).
22. Susan Solomon, *The Coldest March: Scott's Fatal Antarctic Expedition* (New Haven, CT: Yale University Press, 2001).
23. For a good discussion of the historical controversies surrounding the history of the heroic era, see Tom Griffiths, *Slicing the Silence: Voyaging to Antarctica* (Cambridge, MA: Harvard University Press, 2007).
24. Adrian Howkins, “‘Have You Been There?’ Some Thoughts on (Not) Visiting Antarctica,” *Environmental History* 15, no. 3 (July 1, 2010): 514–19, doi:[10.1093/envhis/emq060](https://doi.org/10.1093/envhis/emq060).
25. Stephan Pyne, *The Ice: A Journey to Antarctica* (Iowa City: University of Iowa Press, 1986).
26. Dian Olson Belanger, *Deep Freeze: The United States, the International Geophysical Year, and the Origins of Antarctica's Age of Science* (Boulder, Colorado: University Press of Colorado, 2006).
27. For a useful discussion see James M. Banner, *Being a Historian: An Introduction to the Professional World of History* (Cambridge; New York: Cambridge University Press, 2012).
28. John C. Behrendt, *Innocents on the Ice: A Memoir of Antarctic Exploration, 1957* (Niwot, CO.: University Press of Colorado, 1998).

29. A good example is Peder Roberts, *The European Antarctic: Science and Strategy in Scandinavia and the British Empire* (New York: Palgrave Macmillan, 2011).
30. Fogg, *A History of Antarctic Science*.
31. Beck, *The International Politics of Antarctica*.
32. Pyne, *The Ice: A Journey to Antarctica*.
33. Dodds, *Pink Ice*.
34. Klaus Dodds, “Queen Elizabeth Land,” *Polar Record* 50, no. 03 (2014).
35. See for example Klaus Dodds, *Geopolitics in Antarctica: Views from the Southern Oceanic Rim* (Chichester; New York: Wiley, 1997).
36. Roberts, *The European Antarctic*.
37. See, for example, Adrian Howkins, “Reluctant Collaborators: Argentina and Chile in Antarctica during the International Geophysical Year, 1957–1958,” *Journal of Historical Geography* 34, no. 4 (October 2008): 596–617, doi:10.1016/j.jhg.2008.06.002.
38. See, for example, Simon Naylor et al., “Science, Geopolitics and the Governance of Antarctica,” *Nature Geoscience* 1, no. 3 (March 2008): 143–45, doi:10.1038/ngeo138.
39. Alessandro Antonello, “The Greening of Antarctica Environment, Science and Diplomacy 1959–1980” (PhD Thesis, The Australian National University, 2014).
40. Griffiths, *Slicing the Silence*.
41. David Day, *Antarctica: A Biography* (North Sydney, N.S.W.: Random House Australia, 2012). See review in *The Economist* from the June 15 2013 edition: <http://www.economist.com/news/books-and-arts/21579428-opening-up-empty-quarter-south-park>.
42. See, for example María Ximena Senatore, “Antártida Como Narrativa,” *Maria Ximena Senatore, “Antártida Como Narrativa,” Vestígios: Revista Latino-Americana de Arqueología Histórica* 2, no. 5 (2011).
43. Keith M. Parsons, ed., *The Science Wars: Debating Scientific Knowledge and Technology* (Amherst, NY: Prometheus Books, 2003).
44. Eric William Hunter Christie, *The Antarctic Problem; an Historical and Political Study* (London: Allen & Unwin, 1951).
45. Adrian J. Fox and Andreas Cziferszky, “Unlocking the Time Capsule of Historic Aerial Photography to Measure Changes in Antarctic Peninsula Glaciers,” *The Photogrammetric Record* 23, no. 121 (2008).
46. Ursula Rack, “‘Blizzard Blowing Again and Considerable Discomfort on Board as Usual.’ Personal Accounts of Weather as Scientific Data, and the Weather’s Influence on Expedition Members During the Heroic Age,” *The Polar Journal* 5, no. 1 (2015).
47. See, for example, the LTER strategic research initiative titled “Integrative Science for Society and Environment” available at: <http://intranet2.lter-net.edu/documents/isse-brochure>.

48. Adrian Howkins, “Taylor’s Valley: What the history of Antarctica’s “heroic age” can contribute to contemporary ecological research in the McMurdo Dry Valleys” *Environment and History* 22:1 (2016) <http://www.whp-journals.co.uk/EH/EHpapers.html>
49. Robert Falcon Scott, *The Voyage of the Discovery*, 2 vols. (New York: Cooper Square Press, 2001).
50. Adrian Howkins, “Have You Been There?” Some Thoughts on (Not) Visiting Antarctica,” *Environmental History* 15, no. 3 (2010).
51. L. B. Quartermain, *New Zealand and the Antarctic* (Wellington: Govt. Printer, 1971).
52. David L. Harrowfield and New Zealand Antarctic Society, *Vanda Station: History of an Antarctic Outpost, 1968–1995* (Christchurch: New Zealand Antarctic Society, 1999).
53. Christopher C. Joyner, *Eagle over the Ice: The U.S. In the Antarctic* (Hanover, NH: University Press of New England, 1997).
54. See, for example, J. E. Barrett et al., “Persistent Effects of a Discrete Warming Event on a Polar Desert Ecosystem,” *Global Change Biology* 14 (2008).
55. John Turner, *Antarctic Climate Change and the Environment: A Contribution to the International Polar Year 2007–2008* (Cambridge: SCAR, 2009).
56. <http://www.wlupress.wlu.ca/Series/EH.shtml>
57. Adrian Howkins, “Melting Empires?”
58. Brandon Luedtke and Adrian Howkins, “Polarized Climates: The Distinctive Histories of Climate Change and Politics in the Arctic and Antarctica since the Beginning of the Cold War,” *Wiley Interdisciplinary Reviews: Climate Change* 3, no. 2 (2012).
59. See, for example, Klaus Dodds’ blog post on this theme: Klaus Dodds, “Polar Geopolitics? The Future of British Antarctic Survey,” October 29, 2012, <https://rjhulgeopolitics.wordpress.com/2012/10/29/polar-geopolitics-the-future-of-british-antarctic-survey/>
60. Mike Hulme, *Why We Disagree about Climate Change: Understanding Controversy, Inaction and Opportunity* (Cambridge, UK; New York: Cambridge University Press, 2009).

Some Reflections on the Emergence of Antarctic Humanities

Aant Elzinga

Antarctic humanities is a multidisciplinary field that has only recently emerged as a recognized scholarly domain. It broadly overlaps with artistic pursuits and scholarly research for its own sake, plus critical intervention in society, on the one hand; and with research activities that inform decision-makers in managerial regimes pertaining to environmental concerns, plus conservation of Antarctic heritage sites and memorabilia, on the other. Artistic pursuits include painting, drama, poetry, fiction, music, film, and photography, as well as exhibitions and installations of various kinds to commemorate episodes of the past and/or invite appreciation of what in some Antarctic Treaty System (ATS) documents are referred to as Antarctica's intrinsic aesthetic and wilderness values.¹ Histories of exploration and research in the polar south, documentation of human activities there in non-scientific form, the preservation of archeological heritage, and Antarctic memorabilia, all of these, of course, have a much longer history. The contextualizing of Cold War geopolitics and its bearing on research agendas of the International Geophysical Year (IGY) and its aftermath has been another influential genre, partly informed by projects in oral history.²

A. Elzinga (✉)
Gothenburg University, Gothenburg, Sweden

For the sake of a meta-theoretically oriented overview, it is useful to simplify and distinguish between internal and external factors (enabling and constraining). “External” factors are associated with institutional developments of the ATS, various challenges and changes, the rise of an Antarctic tourist industry, the advent of special writers and artists programs in some countries, as well as significant events, like the celebration of past expeditions and explorers. Some of these celebrations coincided with the fourth International Polar Year (2007–2008). “Internal” stimuli are new trends, intellectual and methodological turns, or fashions in humanities and social sciences, more generally. Both of these dimensions have combined to afford perspectives on Antarctica that challenge the privileged position of science in representing the polar south.

The aim in this concluding chapter is to trace a few strands in the emergence of Antarctic humanities as a field. I start with brief remarks on the scope of the humanities more generally, after which I turn to the IGY and subsequent “external” impulses that slowly contributed new institutional conditions and activities from the mid-1980s onward. In the long run, such developments proved conducive to a consolidation of Antarctic humanities during the fourth IPY and the declaration of a “cultural turn in Antarctic studies” by 2010.³ Finally, more specific reflections in this chapter concern a proliferation of topics and intellectual trends we find today, ranging from the traditional to the critical. In a final section, some of these topics and themes are summarized, concluding with an attempt to peer into the future.

WHAT ARE THE HUMANITIES?

Today we can witness growth in humanities, but at the same time we see how they have been vastly outstripped by an expansion in the natural sciences. In absolute numbers, there are many more scholars in the humanities than ever before; but relative to the greater bulk of scientists, their numbers have declined. Researchers in science, technology, engineering and mathematics (STEM) fields have, by comparison, grown much more quickly and careers in those fields are widely seen as more central for society.⁴ We find *a paradox of disproportionality*, in as far as the humanities are *de facto* more important than ever for understanding the plight of humanity in our time, but industry, policy makers, and even many university administrators attribute importance and usefulness only to the STEM areas. These areas attract large amounts of private external funding, while humanities depend

largely on public grants. In the United States, for example, the ratio of funds from the National Science Foundation (NSF) allocated to science and those from the National Endowment for the Humanities (NEH), has declined from 5:1 in 1979 to 33:1 in 1997. In 2003 in the US, less than 1 percent of the 100-billion dollar investment of public funding in research-based knowledge was earmarked for fields in the humanities.⁵

Since the NEH formulates a handy summary of what in the Anglophone world is often taken to comprise the “humanities,” I will draw on it here: the study of language (modern and classical); linguistics; history of literature; history; jurisprudence; philosophy; archaeology; comparative religion; ethics; the history, criticism, and theory of the arts. It also includes aspects of social sciences with humanistic content and methods as well as the study and application of the humanities to the human environment, with particular attention to reflecting diverse forms of human heritage, traditions, and history and to the relevance of the humanities to the current conditions of national life in various countries, as well as *la condition humaine*, more generally.⁶ Humanities faculties at universities also frequently offer musicology, theatre and performance studies, history of art, reflective practice of studio art, and film and media studies.

NEW TRENDS

From the 1970s onward the humanities, and social sciences to some extent, shifted away from a kind of positivist epistemology and towards meta-theoretical frameworks that emphasized meaning and the making of meaning in a new vein different from traditional hermeneutics. The shift is sometimes loosely referred to as the “cultural turn.” Memory Studies, which received its own journal in 2008, is another strand in this development. Here the focus is on how nations and groups (as well as historians and writers, etc.) construct and select memories of the past to celebrate key features (and denounce others), analyze how myths are shaped and travel and identities affirmed or down-played. Current values and beliefs, including the analyst’s own, are simultaneously subjected to scrutiny.

Two factors have, in certain specific thematic respects, brought the sciences and humanities closer to each other. One pertains to developments in the life sciences, physical sciences, engineering and design; the other has to do with new research technologies. The combination of these developments has influenced researchers’ ways of representing and intervening, and successively led to new concepts and research agendas that open

up spaces for cross-disciplinary collaborations across faculty boundaries. Examples are environmental humanities and digital humanities.⁷ Digital technologies have entered the fiber of both the arts and sciences, altering epistemologies of representation. Some analysts refer to “scopic” systems or media, i.e., assemblages of monitoring techniques and algorithms to steer and process information and data generation, and pattern recognition to produce visual reconfigured representations produced on computer screens, sometimes in “real time.”⁸

In environmental humanities, the focus is typically on sustainable development, biodiversity or global climate warming, with problem clusters in a space between physical and life sciences, and social science disciplines, but also the humanities.⁹ Research agendas and conceptual frameworks, as well as methodologies, are in some cases close to those in social studies and critical analysis of the development of capitalism, environmental history, and social constructivist perspectives of various shades. In other cases, one finds stronger links with visual and cultural studies, human ecology, gender studies, or post-humanities in Donna Haraway’s sense, as well as the new “material turn” elucidated by Elena Glasberg (Chap. 9 in this volume).

The Anthropocene, which recognizes the scale of human impact on the natural world as a new geological epoch, has become a highly relevant concept for Antarctic humanities.¹⁰ The term was introduced by the Nobel Laureate in chemistry, Paul Crutzen, who helped to explain the causal mechanisms behind the “ozone hole” over Antarctica and remains involved in cutting-edge questions regarding anthropogenic climate change. Historian Dipesh Chakrabarty argues that the shift in our planetary history from the Holocene to the Anthropocene calls for dialogue on collapsing boundaries between human history and natural (planetary) history.¹¹ We still have the rapid-history of short-term local “event histories” that is the stuff of journalists; the longer history of economic cycles within, for example, the framework of modern capitalism; and *le longue durée* of stable world civilizations where change proceeds so slowly it is hardly visible. But now there is also the notion of a long-long *durée* of planetary history in which humankind by virtue of anthropogenic driven climate change is now an active agent. Natural history has become social-natural history.

The Anthropocene concept opens new avenues in the space where the Arts meet the Sciences, in theory and in practice.¹² This development is enthusiastically embraced in some circles.¹³ Critics of the trend(iness), on the other hand, see a danger of reification and apologetics in the Anthropocene discussion, a new kind of kitsch movement that glosses

over the capitalist logic that prolongs the existence of a fossil fuel economy and fails to come to terms with root causes of the unjust social inclusion/exclusion mechanisms at work in privatized globalization, thus clouding the climate-change debate, as Naomi Klein puts it.¹⁴ Still there is the hope that the Anthropocene discussion will re-instill ethical purpose in a discipline like history.¹⁵ Whatever the case, the concept has gained traction in the humanities and now also inspires creative artists, photographers, and writers to pose critical existential questions.

Within science and technology studies (STS), as Dag Avango notes (Chap. 7 in this volume), actor-network theory (ANT) has spawned many case studies wherein the analyst follows the actors (scientists) and non-human “actants.” Earth systems science is one field where one can see how scientists trace and construct human agency, a “footprint” in climate change gauged against patterns of natural variability in a paleo-climatic past. The socio-epistemic dynamics in the process from ice core drilling in the field to interpretation in the laboratory when interrogating Antarctic ice to speak about past climate change is also fascinating.¹⁶ The International Panel of Climate Change (IPCC) assessment process also invites ethnographic and oriented meta-studies to understand how consensus is institutionally shaped and sometimes results in epistemic controversies between experts, controversies that get picked up in the popular press.¹⁷ This also leads over to studies of in-tandem-processes of a scientification of policy-making (and ultimately of society as a whole), politicization of science-in-the-making, and further how scientific representations are reconfigured, and simplified in dramaturgical (re-)presentations in the media (mediatalization of science).¹⁸

A further relevant genre of scholarship in STS is “controversy studies,” which regards scientific controversies as sites for elucidating how problems are formulated, how individual actors, research communities and institutions with rival stakes, prestige, conflicting claims to authority (with possible political and ideological overlaying) arise and evolve, and how the controversy finally ends. Closure may be on rational grounds (scientific consensus), through fatigue (the parties tire), policy decisions, or even by court order.¹⁹ Cornelia Lüdecke’s historiographical study of Beriberi at Kerguelen (Chap. 3 in this volume) has some of the makings of a controversy study.

The idea of multi-vocality and empowering through speech acts and enactment is significant in narrative theory and performativity theory in contextualizing and probing meanings in textual representations, visual

media, and silences in communicative situations past and present.²⁰ This differs from the tradition of hermeneutics and literary reception studies that do not reckon with the variation of meaning in the imagination of the recipient or “reader” that is, in turn, influenced by the latter’s own context(s). It breaks with approaches that reduce language to a “neutral” instrument through which “reality” can be unambiguously expressed. In feminist theory, gender studies, and heritage studies the task of making visible oppressed or silenced identities (gender, class, ethnicity) variably “inscribed” in discursive structures becomes important. We are challenged to rethink objectivity and recognize the historically and socially situated character of knowledge(s) as embodied.²¹ Researchers, further, seek to unearth institutionalized socio-epistemic dimensions in the politics of memory and ignorance. In this context, post-apartheid scholarship in South Africa critically engages with and lifts up a different past, recovering a suppressed history of white supremacy in Antarctic research (van der Watt & Swart in Chap. 6, this volume). Materiality of social order, symbols, and ideologies—and their diffraction through different politico-cultural grammars or lenses come to the fore, analytically linking of the question of the *constitution of meaning, belonging (or not), and identity* (cf. Antonello in Chap. 8 in this volume).

The conceptual frame outlined above may be found operationalized in some museums. An example is in what are called “museums of world culture” where exhibitions and multi-media installations invite the visitor to engage in dialogues on geographic boundaries, transition, diversity, basic human rights and freedoms, and the causes behind the refugee streams coming to Europe. Underlying concepts in those contexts are also informed by newer research on international relations and cultural geography. It is important to understand, further, how in today’s complex world of privatized globalization, nation states—not least in Antarctica and the Southern Oceans—interact with many “technology-enabled entities within or below the state level.”²²

VARIOUS TAKES ON ANTARCTICA: FROM IGY TO THE MADRID PROTOCOL

In the period before the IGY accounts of exploration and research in the Antarctic were mostly written by those who had participated in these ventures, from scientists to sailors, dog sledge drivers, cooks, and others.²³

During and after the IGY many historical accounts, mostly written by scientists, recounted the activities of national Antarctic programs.²⁴ A few contributed more comprehensive global overviews.²⁵ Science writers/journalists were also active chroniclers, for example Walter Sullivan of the *New York Times*, Richard Lewis (associated with the *Bulletin for Atomic Scientists*), and Philip M. Smith, who was also employed by the NSF's Polar Programs Office.²⁶ It is also interesting to note how the "human dimension" was narrowly interpreted in SCAR-coordinated activities. This is evident from a volume of proceedings emanating from a well-attended international symposium in 1973 on Human Biology and Medicine (including psychology) in the Antarctic.²⁷ These disciplines essentially defined the scope of research on the human dimension at that time.

The author of the first comprehensive history of Antarctic science written in English, G.E. Fogg, was a biologist and watercolorist.²⁸ It took quite some time before professional historians of science became engaged with developments in Antarctica.²⁹ Here, newer memoirs written by veterans of the IGY and other expeditions, as well as oral history projects nowadays prove to be important sources for understanding socio-political and military-cultural contexts, combined with a spirit of adventure and national prestige in contests and rivalry between countries. These contexts had a bearing on values and predominant attitudes to risk taking "out on the Ice."³⁰

As the ATS evolved from its "extraordinary" Cold War origins, its rather special mandate and structure, together with the changing global context, attracted the interest of scholars in international law and political science/international relations. In the wake of the international oil crisis of 1973 and discussions of the prospects for mineral and hydrocarbon resources, various voices emerged calling for an alternative Antarctic governance regime. A nascent worldwide environmental movement challenged the efficacy of the ATS. Parallel to that, Third World country governments like India's and Malaysia's also challenged the regime's legitimacy. These movements and pressures for changes in the ATS compelled even more legal scholars and international relations experts, together with science journalists and some historians, to write on these matters.³¹ Three lines developed that projected three different future imaginaries: (1) revising the ATS regime; (2) a "Heritage of Mankind" concept that called for sharing of riches that might be extracted in Antarctica; (3) Antarctica as an international wilderness park for science and peace.³² The two new concepts found resonance, not only amongst environmental NGOs, human

ecologists and political scientists with a bent for geopolitics, but they also fired the imagination of scholars in the social studies of science.

The signing of the Madrid Protocol (signed 1991, entered into force 1998) stimulated many new studies in law, international relations, governance, the role of scientists as experts and advisors to policy makers, but also literature on environmental protection and heritage protection.³³ In due course, The International Polar Heritage Committee (IPHC) was founded within the International Council on Monuments and Sites (ICOMOS, a world-wide non-governmental organization founded in 2000), headed by polar historian Susan Barr. It afforded a platform for challenging the Treaty's narrowly defined science and exploration-centric criteria for designating what kinds of sites had cultural value and were worthy of protection.³⁴ Archaeological excavation made visible much earlier human settlements that existed long before the famous explorers' huts. Critics called for a revision of fundamental concepts and heritage management practices in order to broaden their scope to include protection of endangered sites and traces of the life of the earliest human settlements on the South Shetland Islands dating from the time of the nineteenth century sealers; this is a key moment in the work of María Ximena Senatore and Andrés Zarankin.³⁵

ANTARCTIC TOURISM AND CULTURE

There is a direct link between tourism and various countries' legitimization of their Antarctic presence. This is evident when tourist operators have to ask permission from heads of Antarctic stations to visit sites where in some cases stamps issued by a claiming country may be purchased. Cruises afford opportunities for artists and writers to travel to the Ice, and some cruises, moreover, have cultural programs on board featuring lecture series. Apart from producing environmental stress at certain Antarctic sites, frustrating science managers, and causing headaches for some delegates of the Antarctic Treaty Consultative Meetings (ATCMs), tourism may also be considered a kind of outreach function that benefits the Antarctic profile or identity of various countries. This may also be found in arguments for Antarctic tourism put forth by tour operators whose motives are commercial gain.

From the 1980s onward increasing numbers of articles by travel writers appeared in popular journals and newspapers. Scientists, historians, tourist guides, and travel-writers are now routinely engaged as on-board

lecturers; travel-writers, artists, and photographers have also designed and developed guidebooks and tourist-friendly literature.³⁶ Some tour operators (e.g., Quark Expeditions and One Ocean Expeditions) also engage their own artist-in-residence and photography instructors on board cruises, an activity that has left imprints at art galleries.³⁷

With the expansion of Antarctic tourism ports like Christchurch, Hobart, Ushuaia, and Punta Arenas, also being hubs serving annual scientific expeditions, have consciously cultivated their image as Antarctic gateway cities. These initiatives combine a mix of political, cultural, and commercial interests. Many local activities in Ushuaia are geared to the tourist industry, such as the bust of Belgian explorer Adrien de Gerlache's on the city's waterfront, and conscious efforts are made to revitalize a heritage culture harking back to the time of the early explorers of the Heroic Age. Punta Arenas in southern Chile is an even more prominent example of such cultural profiling, in this case involving the national headquarters of the Chilean Antarctic Institute (INACH), which in 2003 moved from Santiago to a building that was once the residence of the director of the Magallanes Whaling Company (and a backer of Heroic Age Antarctic exploration).

INACH's richly illustrated 64-page guidebook *Traces of Antarctica around Punta Arenas and the Straits of Magellan* invites the tourist to "Discover the polar heritage and identity of Punta Arenas in its public places, buildings, and monuments. Visit the museums and libraries that hold the treasures of Chile's historical links to Antarctica..."³⁸ The guidebook confirms how science, tourism, the politics of memory and heritage tightly intertwine in legitimizing Chile's Antarctic presence and sovereignty claim, and how research in the humanities both contributes to and benefits in the process. The same point may be argued regarding some other claimant countries.

ARTISTS AND WRITERS PROGRAMS

In this section, the aim is to indicate how the Antarctic Artists and Writers programs that have been introduced by some countries have helped boost the humanities. Such programs *do not emerge automatically* because they may be politically expedient and at little cost—champions amongst natural scientists are needed to make them happen. First of all, policy-makers must be persuaded by a few enthusiasts that it is a question of promoting public awareness of a country's scientific work in Antarctica. Secondly,

it has to be argued that public understanding helps legitimate the use of taxpayers' money for the country's presence in Antarctica. Thirdly, such programs are seen to forge a bridge between the arts and natural sciences. And fourthly, there is the aim of contributing to a more humanistic understanding and engaging those outside science in Antarctica and climate change discourse. Success in this process often hinges on the resourcefulness and personal interest of the director, or a senior scientist in a national authority responsible for coordinating Antarctic research.

Since it has not been possible to obtain information from all relevant countries regarding the existence of national Antarctic Arts and Writers programs, the sampling that follows is brief and selective. A comprehensive survey could form the basis for a comparative analysis across countries of the orientations and multiple roles as well as the arguments used to promote Artists and Writers programs. Such a task may well be recommended as an interesting critical topic for future research in Antarctic humanities.

As Elizabeth Leane has noted, novelist Jenny Diski, the author of a travel memoir *Skating to Antarctica* (1997), tells of her experience of travelling on a cruise ship after being refused travel via the British Antarctic Survey (BAS).³⁹ Afterwards, the BAS officially acknowledged her "serious writing purposes" with the launch of an Artists and Writers Programme in 2001, run jointly with the Arts Council of England until it was terminated 2009. Participants in the program included artists, sculptors, novelists, a poet, a film-maker, and a theatre director.⁴⁰ It was initiated and coordinated by David Walton, a senior scientist at BAS who began his career in 1967 as an ecologist with a keen interest in history of science, and became deeply involved with environmental issues within SCAR and its advice at ATCMs. The motive for the Artists and Writers program was to promote public awareness and understanding of British science in Antarctica, but also, as Walton expressed it, a further attempt to bridge the cultural gap between the worlds of science and the arts.⁴¹

During the program's period of existence, fourteen grantees (two each year) spent eight weeks or more in the Antarctic. Among the outcomes were a number of successful special exhibitions arranged by BAS, and established artists like Philip Hughes and Keith Grant have continued to include the material in their own exhibitions. The death of what had been an effective program in 2009 was due to a combination of factors: Walton retired, the person who took over the task of running it was not especially committed to fighting for it, and then the Arts Council of England, in one of its many reorganizations, cancelled all International

Fellowships and with that, the support of the BAS fellowships.⁴² Reviving the program is currently out of the question because a change in Research Council policy has recently determined that it is not proper for funds to be applied in this way.

The Artists and Writers Program run by the NSF in the US is much more stable, even though it has also come under attack. It is the oldest and largest, currently giving grants to about six projects each year. It started in 1984 as an initiative probably influenced by the positive experience with historian Stephen Pyne's NSF-sponsored visit to the Antarctic a couple of years earlier.⁴³ The aim of the US program was and still is to increase public awareness and appreciation of scientific activities, of the continent's wilderness and aesthetic qualities, and to exemplify the Antarctic heritage of mankind, plus the active role of the US in this distant part of the globe. Today the program can boast of having sent nearly 100 poets, authors of children's books, novelists, painters, photographers, and musicians to Antarctica.⁴⁴ Sara Wheeler's *Terra Incognita* (1996), William L. Fox's *Terra Antarctica* (2005), Elena Glasberg's *Antarctica as Cultural Critique* (2012), and Carl Safina's *Eye of the Albatross* (2002) are among the literary outcomes.⁴⁵

New Zealand invited artists to the Antarctic a couple of times in the 1980s and early 1990s and began a regular program 1997/98 that has been running under different names until the present day.⁴⁶ The Australian Antarctic Division began to include artists and writers on expeditions to the Ice 1984/85 and lists 50 alumni up to and including 2014, again featuring artists, writers, humanities scholars, photographers, musicians, animators, film-makers, radio & TV-media producers. The Division's website informs us that many Fellows continue to be ongoing unofficial Antarctic "ambassadors" long after their return from the icy continent.⁴⁷ As far as I can see, the Division's extensive list of publications, however, does not include items published by humanities scholars.

In Sweden, the Swedish Polar Research Secretariat was established in 1984. Its first director, Anders Karlqvist, a mathematician with talents in music and drama, was instrumental in setting up a program oriented towards the humanities. Since 1988, the Secretariat has offered artists of various kinds, writers and humanities scholars the possibility of joining research expeditions to the Arctic and Antarctic, including a special program to bring teachers. The Secretariat only has responsibility for logistics and outreach functions relating to expeditions while additional funding may come from the basic research council for sciences and humanities.⁴⁸

Germany also has a Writers and Artists program, run by the Alfred Wegener Institute (AWI), which takes teachers on the research vessel *Polarstern* to become “Antarctic ambassadors” in their schools and local communities.

The Dirección Nacional del Àntartico in Argentina has a cultural program that supports artistic projects, initiated in 2004 with the strong personal support of the Dirección’s director, Mariano Memmoli. The program ran periodically in cooperation with artists and photographers from other countries; since 2012 there has been an Arts Residency program that supports visits to Argentine Antarctic stations. That same year, the IVth International Antarctic Art and Culture Conference and Festival took place in Buenos Aires. Argentina’s Residency program has a broad mandate to promote the development of Argentine contemporary art and theoretical reflection in and on the Antarctic; to enhance links between arts and sciences by promoting the interaction of the different disciplines; to develop the Antarctic imaginary, national thinking, and contribute to responsible management of the country’s Antarctic heritage and environment; and to improve links with institutions, associations, and universities to build trans-disciplinary cooperation.⁴⁹

The Argentine program is particularly telling for the way it articulates the political dimension, a strong motive, particularly in the case of countries that claim territory in Antarctica. Geography textbooks in schools in Argentina and Chile feature maps with sectorial projections from the homeland into Antarctica, while the importance of the claimed possession, together with the science conducted there, are continuously instilled in the minds and imaginations of a younger generation. We see it also in the case of Chile. INACH has no specific artists and writers program, but has for the past 10 years concentrated on sponsoring a program for secondary school students aimed at promoting awareness and appreciation of Antarctica in young Chileans.⁵⁰

ANTARCTIC CENTENNIALS AND MEMORY PRACTICES

Towards the end of the century came a wave of successive celebratory activities in several countries commemorating the centennials of the series of Antarctic expeditions associated with the Heroic Age. It is striking how countries with a lesser stake in Antarctica exhibit a more modest tone than those with sovereignty claims. The latter tend to have longer and more grandiose manifestations, and once again in their case, one can see clearly how these events contribute to the shaping of national polar identities and

the politics of both memory (what gets remembered) and ignorance (what is left aside or silent).

Early onto the scene was the *Belgica* centennial symposium held in Brussels 1998. It was a fairly low-key event where scientists and humanities scholars came together to highlight Adrian de Gerlache's expedition (1897–1899) from various points of view. A similar science-humanities model of collaboration was employed in a symposium 2001 in Sweden, commemorating Otto Nordenskjöld's Antarctic expedition that left Gothenburg one hundred years before.⁵¹ Since Nordenskjöld's expedition included a young Argentinian naval officer, José Sobral, a similar follow-up symposium was held 2003, this time with both Argentinian and Swedish scholars, in Buenos Aires, La Plata, and Ushuaia, again documented in an anthology.⁵² The political significance for Argentina's later claim to Antarctic territory is discussed in both volumes. Lisbeth Lewander promoted gender and postcolonial themes, and other authors touched on social order and hierarchies in the home country and on board ship or at a station. It was shown how hierarchies of power, patrons, and names of expedition members also get inscribed in place names on maps. Further, metaphors used by different members of expeditions were found to have the function of "domesticating" or "taming" physical features, images that in turn were peeled away in scientific reports with their tables of quantized data.

The commemoration of the Scotsman William Speirs Bruce and the *Scotia* expedition (1902–1904) was also commemorated in a relatively low-key fashion, with a biography, some lectures, a photographic book, and exhibition.⁵³ In France, celebrations of Jean-Baptiste Charcot's Antarctic exploits do not seem to have gained much visibility either, other than in reissues of his two expedition accounts and some new books on the subject.⁵⁴ There was also an exhibition 2006, *Charcot, les passions des pôles* at the Maritime Museum, Paris. A recent booklet takes up Charcot's experimentation with motorized sledges.⁵⁵

In Germany, it has been possible to celebrate two national Antarctic centennials. One is Erich Drygalski's expedition (1901–1903) on board the *Gauss*, the other is Wilhelm Filchner's (1911–1912) on the *Deutschland*. Both anniversaries went by without much fanfare. Celebrations that did occur were largely the result of private initiatives and except for the German Polar Research Society, there was no real institutional backing. Drygalski was honored in 2001/02 with a travelling poster exhibition displayed in many cities and a new German stamp was released. In 2012,

the centennial of the *Deutschland*'s return to its homeport was celebrated 2012 with a theatre play called *Filchner's Barriere*.⁵⁶ An abridged reprint of Filchner's expedition account was published in 2013 thanks to Cornelia Lüdecke's efforts. But it seems that some of the anti-heroic stigmatization that attached to Drygalski and Filchner in the past still seems to haunt the German memory at the national level. Even in his own time, Drygalski's achievements received little official acknowledgement despite some good science done at the western edge of the Antarctic coastline; it was regarded as a failure compared to Scott's reaching 82°S. Filchner's privately organized expedition to the Weddell Sea was passed off as a personal failure that ended up in mutiny on board the ship.

The more grandiose cultural manifestations focused on the *imperial* exploits of Robert Falcon Scott's *Discovery* expedition (1901–1904), Ernest Shackleton's *Nimrod* expedition (1907–1909), the drama of the Amundsen-Scott 1911 race to the Pole, Douglas Mawson's *Australasian* expedition (1911–1914), and Shackleton's famous *Endurance* adventure (1914–1917). Scott's first expedition was commemorated with lectures in London, Cambridge, and elsewhere, while his book *The Voyage of the Discovery* was reissued. Meanwhile, Shackleton's tarnished image as painted by Scott was polished and, in the wake of the neo-liberal political wave, he was widely held up as the epitome of the resourceful entrepreneur and strong leader. In 2007, descendants of the men who took part in the *Nimrod* expedition founded the Shackleton Foundation, a charity that supports social entrepreneurs and youth; it has since then organized many public events and used its website also to commemorate Shackleton's other expeditions; the James Caird Society, too, has been very active in this respect with lectures, newsletter and a handsomely illustrated website.

The anniversary of the race to the Poles generated even more attention, with a major exhibition, *Race to the End of the Earth* mounted by the New York Natural History Museum running from the summer of 2010 to January the next year. During the decade, the reasons for Scott's failure also went through some re-evaluations with climatologist Susan Solomon (2001) pointing to a stroke of bad luck with the weather, and Huntford (2010) coming back with his indictment of Scott as a blunderer and poor leader. Finally, Edward J. Larson in his *Empire on Ice* (2011) argued that the significance of the *Terra Nova* expedition's contributions to science far outweighed the significance of Scott's faults.⁵⁷ Interestingly, Larson's move to emphasize science was at the same time (fortuitously) in tune

with the protests of our present day scientific communities against cut-backs in Antarctic research.

In Norway the centenary of Amundsen's "conquest" of the South Pole was combined with the 150th anniversary of Fridtjof Nansen's birth with, among other things, a traveling exhibition that toured several countries. The *Fram* Museum in Oslo created the traveling exhibition *Cold Recall* based on photographs Amundsen himself had used on his lecturing tours. The Museum also published the diaries of the crew of Amundsen's South Pole expedition and had input to both Scott and Amundsen exhibitions at the Scott Polar Research Institute in Cambridge. More spectacular was the drama enacted by a four-man Norwegian team racing against Amundsen's timetable as they skied to the South Pole along the explorer's route to meet their country's Prime Minister and other dignitaries there on December 14, 2011. The event was recorded and broadcast by TV from the South Pole via direct satellite transmission to Norway. From Tromsø (the Arctic gateway city where the Norwegian Polar Institute is located) there was direct real-time interactive dialogue with the South Pole group, orchestrated by a moderator from an outdoor stage witnessed by a crowd gathered in the city square avidly followed the reporting on a huge screen.

In Australia, the centennial celebration of the Australasian Antarctic Expedition (AAE) has taken the form of a "Mawson Year" that began in 2011 and continued into 2014 with many events in different places. Aside from many of the conventional commemorative activities, more novel dimensions of a "cultural turn" have involved exciting new creative engagements with the past. When the AAE left Hobart in December 1911 it was the beginning of several voyages over the course of 36 months that brought back a rich payload of scientific materials. Politically, the significance was that it marked the first Australian-led expedition to Antarctica. Historian Tom Griffiths, who participated on a commemorative pilgrimage cruise to Mawson's Hut 2012, called Mawson's expedition a decisive moment in the history of Australia.

A commemoration should be more than a symbolic gesture. It can draw the past and present into a meaningful and active dialogue, and it can thereby become a way of doing history. The very process of commemoration can demand such a detailed engagement with the day-by-day fabric of past experience that it can furnish new insights and understanding. It challenges our ethnographic eye to consider the larger meaning of everyday action. So the

practice of commemoration itself invited us to consider the nature of this early Antarctic expedition through a close and sympathetic engagement with its words, actions and setting.⁵⁸

Another expression of reflexivity is found in Elizabeth Leane's engagement with one of the AAE diaries and her discussion of the analyst's task of contextualizing and critical interpretation of expedition diaries more generally (Chap. 2 this volume). Similar creative intellectual engagement is evident in the multi-disciplinary anthology *Antarctica. Music, sounds and cultural connections* (2015).⁵⁹ This volume also contains an essay by Rupert Summerson on the privately organized Japanese South Polar Expedition of 1910–1912, led by Nobu Shirase. The first English translation of the original 1913 account of Shirase's expedition was published on the occasion of the centenary celebrations in Japan in 2011. It contains several black-and-white photographs never published before either in Japanese or in foreign-language publications.⁶⁰ Patricia Margaret Millar in her thesis (2013) at the University of Tasmania has a valuable discussion regarding some of these photos, their quality and motifs, the men behind the cameras, and their equipment in her comparative analysis of representations of Antarctica, and photographic equipment used by photographers on eight other lesser-known Heroic Age expeditions.⁶¹

THE FOURTH INTERNATIONAL POLAR YEAR

The Fourth International Polar Year (2007/08) devoted considerable attention to the Arctic and its inhabitants, the circumpolar peoples in a time of climate warming, foregrounding the human dimension of polar research. But, it was only at a late hour that IPY-4 came to “the human dimension” as an *independent prong* that included Antarctica. Initially, social scientists experienced resistance from natural scientists when it came to explicitly articulating a separate visible theme of this kind. Many natural scientists felt that the “human dimension” could be accommodated as a kind of “add-on” factor—a token acceptance of our existence.

The discussion came to a head at the Open Science Conference in Bremen, Germany, July 2004, where several conference participants (the present author included), argued strongly for recognition of a social and cultural sciences component in IPY-4 *on equal terms*. Ultimately these and other actions led to inclusion of a separate sixth theme. Compared to the Polar Years of the past, IPY-4 also had several other novel features. There

was a highly visible participation of women in science, the emergence of a movement of early career scientists (APECS), and emphasis on outreach and education to inform a wide range of audiences through media. An important result also has been the formation of a more stable network of social science and humanities scholars concerned with Antarctic matters. Research-wise, IPY-4 represented an intellectual challenge for critical inquiry extending from historical studies to postcolonial and feminist critique.⁶²

In the meantime, concepts of bioethics developed in the social sciences and humanities literature provided further fuel for translating key concepts in the Madrid Protocol into more effective action. A number of scholars (ca. 2004–2005) formed a network across a range of social sciences and environmental sciences, generating a series of case studies on this and other issues. Some of these scholars also participated in ATS meetings. The network has been a driving force in the SCAR Humanities and Social Sciences Expert Group (HASSEG).⁶³ Parallel to the HASSEG there is the History Expert Group under SCAR.⁶⁴ The two groups together constitute a network of scholars, some of whom participate regularly at the biennial SCAR Open Science conferences, organizing sessions, panels, and other events; since 2013 the two organizations have held a number of joint workshops.

In their general preliminary summary of activities, the authors of the ICSU/WMO review volume on the recent Polar Year pinpoint the significance of fields like history, literature, arts, anthropology, archaeology, economics, linguistics, and political science, and they conclude that a shift in the nature and orientation of social science oriented polar research was greatly accelerated by the new IPY.⁶⁵ Conscious cultivation of a legacy after the new polar year has in several countries also included systematic creation of databases with images and histories of past Arctic and Antarctic expeditions.⁶⁶ Some of this work is continuing. A welcome project for future purposes is to develop an up-to-date comprehensive listing of relevant digital portals that have been set up, as well as information about PhD dissertations and the like ushered along by IPY-4 and since.

LOOKING INTO THE FUTURE

The purpose of this section is, first to identify topics and issues that have surfaced in various contexts, some of them stable and robust, others more volatile. Thereafter, I point to some under-researched themes, and finally

hazard a number of topics that also deserve closer attention in the future. The latter listing may be viewed as idiosyncratic, and it is definitely meant to be *suggestive*. Other researchers will want to add or subtract themes and topics. The point is to embrace epistemic diversity and reflexivity while stimulating further thinking, multi-disciplinary consultation, and debate on future research agendas in our fledgling field.

The Polar Journal, launched in 2010, has been a valuable asset for the Antarctic social sciences and humanities. It now supplements *Polar Record* as a regular outlet for scholarly articles and book reviews and facilitating networking. Joint conferences of SCAR's History EG and Social Sciences and Humanities EG also pursue these and other themes: the interplay of natural, geopolitical, and national cultural contexts in Antarctic locales, analysis of narratives of marginality, and bringing to light "silences," spatiality, adventure, and identity-shaping processes, and catalytic events in the history of polar research. Other focal points concern geopolitical boundary management and boundary-marking concepts in the history of scientific research, and political shifts in national research policy, in part prompted by scientific discourses.⁶⁷

As before, translation of concepts of wilderness values, regulation, and governance in management regimes relating to these, as well as Antarctic tourism, are flagged. Since Antarctic security and tourism management are pressing issues for the ATS, these will certainly be robust areas for future research. Some scholars apply new approaches, concepts, and methodologies found in history and social studies to Antarctic studies: for example, historiography of capitalism, gender studies, and oral history. There is a need to actively overcome barriers in the use of relevant archival sources. Research under the auspices of the International Polar Heritage Committee is important for advising the ATS on future environmental and human heritage protection measures in Antarctica. A track that is less developed, but equally significant, is memory politics and heritage, e.g., reimagining Antarctic gateway cities as custodial cities.⁶⁸

SCAR recently conducted a research foresight exercise, the first SCAR Antarctic and Southern Ocean Science Horizon Scan, that culminated in a meeting convened in April 2014 in Queenstown (NZ). Seventy-five participating scientists and policy-makers from 22 countries agreed on the priorities for Antarctic research for the next two decades and beyond.⁶⁹ Seven participants were experts on the politics of ATCMs, etc., a further two came from SCAR's twin expert groups on history, respectively social sciences and humanities.⁷⁰ Unsurprisingly, few of the culturally-oriented

themes currently moving forward in our new field of Antarctic humanities were picked up. The outcome of the foresight process reflects the dominant focus on natural science and this explains the prominence under the Horizon Scan's human dimension heading of the following two issues: governance and security aspects related to future pressures on the ATS regime as well as interests in natural resource exploration are on an upward trend.

The Horizon Scan also understandably flagged the impact of new technologies and increasing numbers of non-governmental actors, like multi-national corporations and partnerships coming onto the Antarctic scene. These have a bearing on the continuing practice of privatization and outsourcing of logistics and transport, factors that may contribute further to worrisome pressures on the ATS. Therefore, on the basis of external relevance criteria, one can expect fields like international law, political science, international relations, geopolitics, and regulatory dimensions relating to tourism and heritage sites to expand considerably. Less instrumentally driven themes like the history of literature, art, and past science and exploration, presently falling outside the scope of SCAR's Horizon Scan lens, may nevertheless be expected to play a greater role in future public outreach efforts in various scientific disciplines (as already witnessed at the SCAR Open Science Conferences).

In the light of the foregoing, one practical task for Antarctic humanities is to compile a comprehensive bibliography on the history of fictional, poetic, artistic, and musical representations. More comprehensive indexing is needed to better cover writings in the distant past, as well as textual and other material accumulated over the past three decades regarding the domains of the social sciences and history of science and exploration. Historical and literary studies should also endeavor to trace the deeper fault lines and shifts in metaphorical representations of the Antarctic cryosphere during the twentieth century. A quick scan of book titles indicates interesting shifts from viewing Antarctica as alien, hostile, and besieged (Hugh Robert Mill), then conquered (Finn Ronne), and taken by a grand assault (Walter Sullivan). In the wake of the "environmental turn" of the 1970s and 1980s, one can see growing emphasis on fragility, the need to protect Antarctica against too many and heavy human footprints. Studies of print media in comparative perspective, past and present, and across different countries, are also relevant.⁷¹ Another sphere relevant to consider concerns portrayals of Antarctica in children's books published in different

countries. Here perhaps is a further arena where narrative styles and hidden ideologies may be probed in comparative studies.

A study of photographs taken in Antarctica during entirely different periods of time and comparing how researchers, their instruments, modes of transport, living quarters, and human interaction with natural environments are portrayed during those periods might also reveal shifting perceptions across time and moral geographies. Polar environmental photography in its present day form is an interesting new genre that includes partnerships between historians of photography and glaciologists, where the former retrieve photographic documentation from polar expeditions of the past and complement them with current series of periodic photographs of glaciers taken from the same point and angle, while glaciologists for their part interpret the visual changes and construct chronologies with graphical representations.⁷² The combination of visual and scientific representations of effects of climate change speaks more powerfully to a broader public than do scientific reports alone. Studies probing representations of a collapse of traditional boundaries between human and natural history on our planet also become relevant. The rhetorical power of visualizations of the effects of climate may in turn be studied using concepts and methodologies found in STS and media studies.

STS-inspired controversy studies hold considerable potential and, further, the history of technology relating to Antarctica is an underdeveloped field of scholarship.⁷³ So is the comparative history of shifts in of attitudes towards risk-taking and personal safety over time from the early twentieth century up to the present and comparatively across national Antarctic research programs. As far as I know, the complete record of serious accidents and fatalities still remains to be chronicled.⁷⁴

In geopolitically oriented research, a fruitful concept is that of scripting, applied to the role of Antarctic stations and specially protected management areas.⁷⁵ The concept has been used in studies of stations at Ny-Ålesund on Svalbard as elements in the geopolitical designs of both Norway as hosting nation, and those of other countries in narratives that construct the archipelago as a Norwegian space. It is a “space” where multiple political and by extension, economic interests pursued in the Arctic are manifested, simultaneously reinforcing parallel national agendas.⁷⁶ One can find similar processes for regions in the Antarctic. A recent case study, for example, has shown how India justified introducing a new base in the Larsemann Hills, Antarctica, rather than accepting a site adjacent to an existing Australian station, arguing that the proposed location coincided

with the point where India and Antarctica were joined when both were part of the continent of Gondwana until around 125 million years ago. This is an interesting example of how tectonic and sacred geographies are mobilized in a scripting of a nationally motivated geopolitical imaginary to trump other nations' plans to designate the area as one for special environmental protection.⁷⁷

Geopolitical narratives by political actors, but even scientists may use re-scripting, effecting reconfiguration of symbolic connections to organize space along the lines of a new idea of order. In the case of India, there appears an underlying vision of future geo-economics. More generally such reconfigurations also reveal the contingent character of proposed scenarios that invoke facts and images to explain and justify the actions and normalize or legitimize particularism on behalf of certain stakeholder's interests, flaunting universalist principles of a "commons" inscribed in the Antarctic Treaty.

Antarctica is a rich site for studies that trace how the politics of memory (and by association ignorance) relate to geographies of place-making in Antarctica, combining, for example, an ethnographic approach with the notion of political scripting.⁷⁸ History of science, heritage studies, and archeology relating to Antarctica in the light of both post-colonialism and the Anthropocene are genres that may be expected to grow. The same may be said of artistic representations and literary interventions that challenge older disembodied scientific (i.e., science-only-ism) representations of Antarctica.

The prospects for a vital field in terms of intellectual substance, rousing debate, and advancing alternatives to the traditional predominance of science-centered representations of Antarctica are good. The time for the Antarctic humanities has come.

NOTES

1. It is not likely that all humanities scholars would agree with such a formulation but rather see it as an expression of essentialism since value attributions of this kind are human constructions.
2. (Oral history: BAS—<https://www.bas.ac.uk/project/british-antarctic-oral-history-project/>; SPRI—<https://www.bas.ac.uk/project/british-antarctic-oral-history-project/>; USA—<https://library.osu.edu/find/collections/byrd-polar-archives/oral-history/>; on IGY—<http://kb.osu.edu/dspace/handle/1811/6039/browse?value=International+Geophysical+Year+29+1957-1958&type=subject>).

3. Elizabeth Leane “Introduction: the cultural turn in Antarctic Studies,” *The Polar Journal* 1, no. 1 (2011): 149–154.
4. Sverker Sörlin and Anders Ekström, *Alltings mätt—Humanistisk kunskap i framtidens samhälle* (The measure of everything—humanist knowledge in the society of the future) (Stockholm: Norstedts, 2012).
5. Robert Frodeman, Carl Mitcham and Roger Pielke Jr (2003), “Humanities for Policy—and Policy for the Humanities,” *Issues in Science and Technology* 20, no. 1 (2003) 29–32.
6. National Foundation on the Arts and the Humanities Act, 1965, as amended—<http://www.neh.gov/about> (retrieved 15 Nov. 2015).
7. Both areas present challenges for ethics, philosophy, archaeology, heritage studies, art history and literature, cultural studies, museology, social studies of science and technology (STS) and other fields.
8. Karin Knorr Cetina and Alex Preda (2007), “The Temporalization of Financial Markets: From Network to Flow,” *Theory, Culture, Society*, 24, no. 7–8 (2007): 116–138.
9. David Nye et al. (2013) in *The Emergence of the Environmental Humanities* (Stockholm: MISTRA, 2013), http://www.mistra.org/download/18.731038f13e40191ba5a23/Mistra_Environmental_Humanities_May2013.pdf (retrieved 23 Nov. 2015).
10. Astrida Neimanis, Cecilia Åsberg, and Johan Hedrén. “Four Problems, Four Directions for Environmental Humanities: Toward Critical Posthumanities for the Anthropocene.” *Ethics and the Environment* 20.1 (2015): 67–97.
11. Dipesh Chakrabarty, “The Climate of History: Four Theses,” *Critical Inquiry*, 35, Issue 2 (2009): 197–222.
12. See the special issue of *Transformations. Journal of Media & Culture*. entitled “Thinking in the Arts-Sciences Nexus” no. 26 (2015).
13. Artists, art historians, photographers, designers, architects, scholars of English and American Literature, anthropologists, sociologists, philosophers, women’s and gender studies scholars, and critical writers on land and geopolitical relationships, and many others are joining in the fray; cf. Heather Davis and Etienne Turpin, eds., *Art in the Anthropocene. Encounters among Aesthetics, Politics, Environments and Epistemologies* (London: Open University Press, 2015).
14. E.g., critics, human geographer Andreas Malm and human ecologist Alf Hornborg (2014). “The geology of mankind. A critique of the Anthropocene narrative,” *The Anthropocene Review* 1, no. 1 (2014): 62–69; Naomi Klein, *This Changes Everything: Capitalism vs. the Climate* (New York: Simon & Schuster, 2014).
15. Mark Levene, “Climate Blues: or how awareness of the human end might re-instill ethical purpose in the writing of history,” *Environmental Humanities* 2 (2013): 147–167

16. Aant Elzinga, “Making Ice talk: Notes from a participant Observer on Climate Research in Antarctica,” in *Science Studies. Probing the Dynamics of Scientific Knowledge* ed. Sabine Maasen & Matthias Winterhagen (Bielefeld: Transcript Verlag, 2001): 181–212.
17. Jessica O'Reilly, Naomi Oreskes and Michael Oppenheimer, “The rapid disintegration of projections: The West Antarctic Ice Sheet and the Intergovernmental Panel on Climate Change,” *Social Studies of Science*, 42, no. 2 (2012): 709–731; in STS one also finds studies of simulation modeling, their use and impact—cf. Paul N. Edwards, *A Vast Machine. Computer Models, Climate Data, and the Politics of Global Warming* (Cambridge, MA: The MIT Press, 2010).
18. Weingart, Peter Weingart, *Die Stunde der Wahrheit? Vom Verhältnis der Wissenschaft zu Politik, Wirtschaft und Medien in der Wissensgesellschaft*. (Weilerwist-Metternich: Velbrück Wissenschaft 2001).
19. H. Tristan Englehardt Jr & Arthur R. Caplan, eds., *Scientific Controversies. Case studies in the resolution and closure of disputes in science and technology* (Cambridge: Cambridge University Press, 1987).
20. Judith Butler (1994), “Gender as performance,” *Radical Philosophy* no. 67 (1994): 32–39.
21. Donna Haraway, “Situated Knowledges: The Science Question in Feminism and the Privilege of Partial Perspective,” *Feminist Studies* 14, no. 3 (1988): 575–599.
22. Alan D. Hemmings, “Considerable values in Antarctic,” *The Polar Journal* 2, no. 1 (2012): 139–156.
23. Many of these stories use dramaturgical metaphors and imagery weaving in aspects of human interest. Textual representation of Antarctica also appeared in early fictional literature, including some poetry and drama; Elizabeth Leane, Introduction to Bibliography on UTAS website—<http://www.utas.edu.au/representations-of-antarctica>; Leane, *Antarctica in Fiction. Imaginative Narratives of the Far South* (Cambridge: University Press, 2015); also cf. Aant Elzinga (2007), “South polar imaginations and geopolitical realities—Contextualizing Otto Nordenskjöld’s scientific internationalism and its limits,” in *Antarctic Peninsula and Tierra del Fuego: 100 years of Swedish-Argentine scientific cooperation at the end of the world*, ed. Jorge Rabassa and María Laura Borla (London: Taylor & Francis), 143–158.
24. Frank Debenham, *Antarctic The Story of a Continent* (New York: MacMillan. 1961); Gerlach de Gomery, *Retour dans l'Antarctique — récit de l'expédition antarctique Belge 1957–1958* (Belgium: Tournai, 1960); Vniamis S. Ignatov, *Un an au pôle sud* (Moscow: Progress Press, 1962); Carl R. Eklund and Joan Beckman, *Antarctic Polar research and Discovery during the International Geophysical Year* (New York: Holt, Reinhart & Winston, 1963); Paul E. Victor, *L'homme à la conquête des pôles* (Paris: Plon, 1962), in English 1964.

25. J. Tuzo Wilson, IGY, *The Year of the New Moons* (London: Michel Joseph Ltd, 1961).
26. Walter Sullivan, *Quest for a Continent* (London: Secker & Warburg, 1957); and Sullivan, *Assault on the Unknown* (New York: McGraw Hill, 1961), a much-read book in many editions; Richard Lewis, *A Continent for Science: the Antarctic Adventure* (London: Secker & Warburg, 1965); Richard S. Lewis and Philip M. Smith, eds., *Frozen Future* (New York, Quadrangle Books, 1973).
27. O.G. Edholm & E.K.E. Gunderson eds. (1973), *Polar Human Biology* (London: Heineman).
28. G.E. Fogg, *A History Of Antarctic Science* (Cambridge: University Press, 1992).
29. Ronald E. Doel, "Scientists as Policymakers, Advisors, and Intelligence Agents: Linking Contemporary Diplomatic History with the History of Contemporary Science," in *The Historiography of Contemporary Science and Technology*, ed., Thomas Söderqvist (Amsterdam: Harwood Publishers, 1997), pp. 215–244. Beau Riffenburgh, *Encyclopedia of the Antarctic* (Milton Park, UK: Taylor & Francis, 1998). E.g., John C. Behrendt, *Innocents on the Ice. A Memoir of Antarctic Exploration* (Denver: University Press of Colorado, 1998); Charles Swindenbank, *Foothold on Antarctica, The First International Expedition (1949–1952) through the Eyes of its Youngest Member* (UK, The Book Guild, 1999); Charles Swindenbank, *An Alien in Antarctica, Reflections upon Forty Years of Exploration and Research on the Frozen Continent* (USA, McDonald & Woodward, 1997).
30. Doel, "Scientists as Policymakers"; Behrendt, Innocents on Ice; Swindenbank, An Alien in Antarctica.
31. F.M. Auburn, *Antarctic Law & Politics* (London: C. Hurst & Co., 1982); Philip W. Quigg, *A Pole Apart: the emerging issue of Antarctica* (New York: McGraw Hill, 1983); Deborah Shapley, *The Seventh Continent: Antarctica in a Resource Age* (Washington: Resources for the Future, 1985); Peter Beck, *The International Politics of Antarctica* (New York: Croom Helm, 1986).
32. For a discussion of the alternatives see James N Barnes, "Protection of the Environment in Antarctica: Are Present Regimes Enough?", in *The Antarctic Treaty System in World Politics*, ed., Arnfinn Jorgensen-Dahl & Willy Østreng (Hounds mills & London: Macmillan in association with the Fridtjof Nansen Institute, 1991), pp. 186–228; Richard Falk, "The Antarctic treaty System: Are there Alternatives?", in the same volume ed., Jorgensen-Dahl and Østreng, 399–414.
33. Cf. Aant Elzinga, ed., *Changing Trends in Antarctic Research* (Dordrecht: Kluwer, 1993), Preface.

34. Ricardo Roura, (2008), “Antarctic scientific bases: Cultural heritage and environmental perspectives,” *Historical Polar Bases—Preservation and Management*, ed. S. Barr, & P. Chaplin (ICOMOS Monuments and Sites Series; No. XVIII—Oslo: ICOMOS/IPHC), 38–52.
35. M. Senatore and A. Zarankin (2012), “Tourism and the invisible historic sites in Antarctica,” in *Heritage, Driver of Development*, Proceedings of the 17th ICOMOS General Assembly Scientific Session held in Paris 2011, conference item, <http://openarchive.icomos.org/1147/> (retrieved 26 Nov. 2015).
36. One of the first was Diana Galimberti, *Antarctica: an introductory guide* (Miami Beach, FL: Zagler & Urruly Publ., 1991); Galimberti was based in Ushuaia working for the town’s tourist bureau.
37. E.g., Canadians, Daisy Gilardini (photographer) and David McEown (watercolorist)—<http://www.daisygilardini.com/galleries/other-penguins-2/#/0>. <http://www.davidmceown.com/project/>.
38. <http://www.inach.cl/circuitoantartico/guia/traces-of-antarctica-2013-web.pdf>; also cf. Aant Elzinga, “Punta Arenas and Ushuaia: early explorers and the politics of memory in constructing Antarctic gateway cities,” *The Polar Journal* 3, no. 1 (2013): 227–256.
39. Elisabeth Leane, *Antarctica in Fiction. Imaginative Narratives of the Far South* (Cambridge: Cambridge University Press, 2012), 7.
40. During this period two artists and writers each year (thus a total of 14) had an opportunity to spend eight weeks and sometimes more in the Antarctic; cf. e.g., Jean McNeil, *The Ice Lovers* (Toronto: McArthur Publishing, 2009); McNeil, *Night Orders: Poems from Antarctica and the Arctic* (London: Smith/Doorstop poetry publishers/Environment Institute Press, University College London, 2011); For a list and details see https://legacy.bas.ac.uk/living_and_working/artists_and_writers/successful_applicants.php.
41. Chief editor of the journal *Antarctic Science*, Walton, now also a Professor Emeritus affiliated with Cambridge University (SPRI), has shown an express interest in the interaction between science, politics and the arts. He has been supportive of the entry of both the history and social sciences and humanities groups under SCAR’s umbrella, and has personally participated in some of these group’s activities. In 2006 he was involved in curating the exhibition *White Horizons—British art from Antarctica 1775–2006* in Edinburgh as part of the ATCM held in that city.
42. Personal communication from David Walton November 28, 2015.
43. Pyne’s much-read book, *The Ice* first appeared in 1986 with several new editions appearing since then.

44. Elisabeth Harrington, "Taxpayers pay for poets to travel to Antarctica," *Washington Post* (June 2014).
45. For a list of grantees up to 2013 see <http://www.nsf.gov/geo/plr/aawr.jsp>.
46. From 1991/92 to 2014 one finds 44 participants, artists, writers, photographers, poets, sculptors, musicians, a jeweler furniture designer, textile artist and more; For a list up to 2012/13—<http://antarcticanz.govt.nz/scholarships-fellowships/alumni>; also see the Icefest site—<http://nzicefest.co.nz/2014-speaker-profiles>.
47. For a list with details: <http://www.antarctica.gov.au/about-antarctica/antarctic-arts-fellowship/alumni>.
48. Cf. <http://polar.se/en/publikationer/svensk-polarbibliografi/>; in my own case a project application (for 1997/98) went through a two-step peer-review process, first through the Swedish Research Council, and then the Secretariat. Still, the existence of a science-centered bias is quite evident; a recent bibliometric analysis by the Research Council commissioned by the Secretariat was designed in such a way that it vastly underestimated polar social science and humanities research in Sweden <http://polar.se/wp-content/uploads/2015/05/bibliometric-survey-of-polar-research-in-sweden.pdf>.
49. Participants in the three austral summer seasons 2012/13-2014/15 counted 8 Argentinians and 10 from several other countries; Cf. <http://www.dna.gob.ar/INGLES/DIVULGAC/CULTURA/INDEX.HTM>.
50. J.F. Salazar, "Geographies of place-making in Antarctica: an ethnographic approach," *The Polar Journal* 3, no. 1 (2013): 53–7.
51. Hugo Declair and Claude De Boyer, eds., *The Belgica Expedition Centennial* (Brussels: Brussels University Press, 2001); Aant Elzinga et al., eds., *Antarctic Challenges* (Gothenburg: Royal Society of Arts and Sciences, 2004); Declair also translated, edited and published Amundsen's expedition diary—*Roald Amundsen's Belgica Diary. The first scientific expediton to the Antarctic* (Bluntisham: Bluntisham Books & Erskine Press, 1999).
52. Jorge Rabassa and Maria Laura Borla, eds., *Antarctic Peninsula & Terra del Fuego* (London: Taylor & Francis, 2007).
53. Peter Speak, *William Speirs Bruce: polar explorer and Scottish nationalist* (Edinburgh: National Museums of Scotland, 2003); Online exhibition (2004) William Speirs Bruce Photographs from the Scotia Antarctic Expedition (1902–1904) & Glasgow University <http://special.lib.gla.ac.uk/exhibns/month/apr2004.html> (retrieved 10 Nov. 2015).
54. J.-B. Charcot, *Le Pourquoi-Pas? dans l'Antarctique: 1908–1910* (Paris: Arthaud, 2003); Anne-Mari Charcot- Vallin, Marie Foucard and Serge Kahn, *Sur les traces de Jean-Baptiste Charcot: cent ans après le premier*

hivernage français en Antarctique (Paris: Atlantica, 2005); Serge Kahn (2006), *Jean-Baptiste Charcot, explorateur des mers, navigateur de pôles* (Glénat Editions), with a Preface by a granddaughter, Anne-Marie Vallin-Charcot; Pierre Escudé, *Le Français au pôle Sud de Jean-Baptiste Charcot* (Paris: José Corti, 2007), with excerpts and anecdotes from Charcot's diary, illustrated; Erik Orsenna and Isabelle É. Autissier, *Salut au Grand Sud* (Paris: LGF, 2007). Digital archival sources are available at the Archive Nationale, Paris (2001) <http://www.archivesnationales.culture.gouv.fr/chan/chan/AP-pdf/669-AP.pdf> (retrieved 16 Nov. 2015).

55. S. Aubert et al., *Scott et Charcot at the Col du Lautaret, Les Cahiers illustrés du Lautaret*, 1214/No. 5(2014)—https://www.jardinalpindulautaret.fr/sites/sajf/files/cahier_ndeg_scott_charcot_extraits.pdf (retrieved 16 Nov. 2015).
56. Personal communication from Cornelia Lüdecke, a driving force behind some of the commemorative events that did take place. She also reports that in France a French stamp was released depicting the centennial of the *Gauss*' passage at Kereugelen which is part of Terres australes et antarctiques françaises (TAAF) *un territoire d'outre-mer* in other words.
57. Susan Solomon, *The Coldest March: Scott's Fatal Antarctic Expedition* (New Haven, CT: Yale University Press, 2001); Roland Huntford, *Race for the South Pole: the expedition diaries of Scott and Amundsen* (London: Continuum International Publishing, 2010); Edward J. Larson, *An Empire of Ice. Scott, Shackleton, and the Heroic Ages of Antarctic Science* (New Haven, CT; Yale University Press, 2011); see also Peder Roberts (2011), "A Century of Remembering Scott and Amundsen. Heroes for the past and present: a century of remembering Amundsen and Scott," *Endeavour* 35, no. 4 (2011): 142–150; Aant Elzinga, "Review Essay: Changing Trends in Remembering Amundsen and Scott," *Journal of Northern Studies* 6, no. 1 (2012): 113–122.
58. <http://historynet.anu.edu.au/what-is-an-expedition/tom-griffiths-a-centennial-pilgrimage-commemorating-the-australasian-antarctic-expedition-of-1911%20%9314>; also see <http://insidestory.org.au/thus-began-the-australian-occupation-of-antarctica>; Griffiths is the author of *Slicing the Silence: Voyaging to Antarctica* (Sydney: UNSW Press, 2007) and a co-editor with Marcus Haward of *Australia and the Antarctic Treaty System: 50 Years of Influence* (Sydney: UNSW Press, 2011).
59. It is edited by Bernadette Hince, Rupert Summerson and Arnan Wiesel and emanated from the Antarctica Music Festival and Conference at the Australian National University's School of Music, Canberra held in June 2011; Leane briefly probes the fruitfulness of an analysis of the relationship between sound, music and literature.

60. Shirase Antarctic Expedition Supporters' Association, compiled and ed. by Lara Dagnell (translator) and Hilary Shibata (translator and Antarctic bibliographer at SPRI), *The Japanese South Polar Expedition 1910–1912: a record of Antarctica* (Norwich: Erskine Press and Bluntisham Books, 2011). It was the result of Hilary Shibata's 18-year long project; in April 2012 she gave a talk illustrated with images at the Oriental Club in London, UK.
61. Patricia Margaret Millar, *Filtering 'ways of seeing' through lenses: representations of Antarctic exploration by lesser known Heroic Era photographers* (M. Sc.—Social Sciences, supervised by Julia Jabour, UTAS, 2013). Australasian geologist and climatologist and writer Chris Turney, leader of the privately funded Australian Antarctic Expedition 2013–2014 has taken up Shirase's expedition in a well-documented book entitled *1912: The Year the World Discovered Antarctica* (Berkeley, CA: Counterpoint, 2012).
62. Cf. Lisa Bloom, Elena Glasberg and Laura Kay, "New Poles, Old Imperialism?", *The Scholar and Feminist Online* 7, no. 1 (Fall 2008)—Introduction to a special issue, Gender on Ice—http://sfonline.barnard.edu/ice/intro_01.htm.
63. For some of the outcomes see Daniela Liggett and Alan D. Hemmings *Exploring Antarctic Values: proceedings of the workshop: Exploring Linkages Between Environmental Management and Value Systems : the Case of Antarctica* (2013), held at the University of Canterbury, Christchurch, New Zealand 5 December 2011; Tina Tin, Daniela Liggett, Machiel Lamers and Patrick T. Maher, eds., (2013), *Antarctic Futures: human engagement with the Antarctic environment* (Dordrecht etc., Springer, 2013); also Keynote paper at the Boulder Co. meeting 2015 of the HASSEG, https://www.researchgate.net/publication/277308530_Wilderness_in_a_Time_of_Increasing_Antarctic_Nationalism
64. It started as an Action Group in 2004 and became an Expert Group 2011.
65. Igor Krupnik et al., eds., *Understanding Earth's Polar Challenges: International Polar Year 2007–2008* (Edmonton: IASC and SCAR, 2011); bibliographic sections contain a number of references to "Antarctic" items and particular mention is made of the LASHIPA project described in Dag Avango's chapter in the present volume (also—<http://polar.se/en/forskarrapport/antarktiska-stationer-valfangst-vetenskap-och-geopolitik-expedition-lashipa-8-3/>).
66. Cf. e.g., IPY-project led by Lisbeth Lewander in Sweden—<http://www.ub.gu.se/portalera/polarportalen/start/>
67. Cf. Report from the the two Expert Groups for 2014–2015: http://www.scar.org/scar_media/documents/meetings/EXCOM15/EC15_WP19_History_Group_Report.pdf

68. Tromsø, Norway 13–14 June: <http://www.hf.uio.no/csmn/english/research/news-and-events/events/conferences/2015/antarctica-workshop-csmn-ad.pdf> (retrieved 17 Nov. 2015).
69. Malon C. Kennicutt et al. (2014), “Six priorities for Antarctic science,” *Nature* 512, no. 7512 (2014). <http://www.nature.com/news/polar-research-six-priorities-for-antarctic-science-1.15658>
70. Personal communication from Cornelia Lüdecke whom I also thank for viewpoints on the Outlook process.
71. An example relating to the IGY is Cornelia Lüdecke, “The International Polar Year (1957–1958) as Reflected in German Media,” in C. Lüdecke, L. Tipton-Everett, and L. Lay, eds., *National and Trans-National Agendas in Antarctic Research from the 1950s and Beyond. Proceedings of the 3rd Workshop of the SCAR Action Group on the History of Antarctic* (Columbus, Ohio: The Ohio State University, 2012): 55–71 (digital book available online—BPRC Technical Report No. 2011-01, Byrd Polar Research Center, <http://hdl.handle.net/1811/53605>)
72. Tyrone Martinsson, *Arctic Views and Passages in Time* (University of Gothenburg: Art and Theory Publishing, 2015).
73. For an interesting item on early experimentation with motorized polar transporation cf. S. Aubert et al. (2014), cited above, https://www.jardinpalpindulautaret.fr/sites/sajf/files/cahier_ndeg_scott_charcot_extraits.pdf
74. An example of a small slice of such a history relating to the U.S. is John C. Behrendt, *The Ninth Circle. A Memoir of Life and Death in Antarctica, 1960–1962* (Albuquerque: University of New Mexico Press, 2005); also Lisbeth Lewander, “The logic of risk assessment in the planning of the IGY,” *Boletín Antártico Chileno* (2009), papers from the 2nd SCAR History Action Group workshop, 21–22 September 2006, Santiago, Chile (available online).
75. For the concept of scripting in the geopolitical context see G. Ó Tuathail, *Critical Geopolitics: The Politics of Writing Global Space* (Minneapolis: University of Minnesota Press, 1996).
76. Eric Paglia and Peder Roberts, “Science as national belonging: The construction of Svalbard as a Norwegian space,” *Social Studies of Science* DOI: 10.1177/0306312716639153.
77. Jessica O'Reilly, “Tectonic history and Gondwanan geopolitics in the Laserman Hills, Antarctic,” *POLAR; Political and Legal Anthropology Review* 34, no. 2 (2011): 214–232.
78. Cf. J.F. Salazar, “Geographies of place-making in Antarctica: an ethnographic approach,” *The Polar Journal* 3, no. 1 (2013): 53–7.

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