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SIGNS OF LOGIC
PEIRCEAN THEMES ON THE PHILOSOPHY
OF LANGUAGE, GAMES, AND
COMMUNICATION

by

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Preface

Charles Sanders Peirce (1839–1914), the principal subject of this book, was one of the most profound and prolific thinkers and scientists to have come out of the United States. His pragmatic logic and scientific methodology largely represent the application of interactive and intercommunicative triadic processes, best viewed as strategic and dialogic conceptualisations of logical aspects of thought, reasoning and action. These viewpoints also involve pragmatic issues in communicating linguistic signs, and are unified in his diagrammatic logic of existential graphs. The various game-theoretic approaches to the semantics and pragmatics of signs and language, to the theory of communication, and to the evolutionary emergence of signs, provide a contemporary toolkit the relevance of which Peirce envisioned to a wondrous extent.

These are some of the perspectives on Peirce's philosophy that are uncovered in the present work. Many of his most significant writings in this context reflect his later thinking, covering roughly the last 15–20 years of his life. Unfortunately, the bulk of his material from that period is still unpublished. In preparing the essays that comprise this book, I have greatly benefitted from using Peirce's unpublished manuscript material available in the microfilm at the University of Helsinki.

The conferences and meetings at which parts of the present work have featured between 2002 and 2004 include *The Charles S. Peirce Society* meeting in Washington D.C., *The Prague International Colloquium* in Prague, *The Italian Analytic Philosophy Society* meeting in Genoa, *The Evolutionary Epistemology in Language and Communication Conference* in Brussels, *The Diagrams IV* in Cambridge, *The Compositionality, Concepts and Cognition Conference* in Düsseldorf, *The International Wittgenstein Symposium* in Kirchberg am Wechsel, *The International Conference on Historical Linguistics* in Copenhagen, *The International Cognitive Linguistics Conference* in La Rioja, *The World Congress of Philosophy* in Istanbul, *The Communications on the 21st Century: A New Research Agenda for Philosophy Conference* at the Hungarian Academy of Sciences, *The Philosophical Insights into Logic and Mathematics*

Conference in Nancy, The International Workshop on Visual Representations and Interpretations in Liverpool, as well as the *Finnish Philosophical Society, The Metaphysical Club, The Perspectives on the Philosophy of Charles S. Peirce Symposium* and *The UCLA–Helsinki Logic* meetings at the University of Helsinki.

Communication with the participants and organisers of these events as well as comments by Harry Alanen, Mats Bergman, Michael von Boguslawski, Leila Haaparanta, Risto Hilpinen, Jaakko Hintikka, Nathan Houser, Lauri Järvillehto, Erkki Kilpinen, Ilkka Niiniluoto, Kristof Nyíri, Panu Raatikainen, Shahid Rahman, Veikko Rantala, Henrik Rydenfelt, Gabriel Sandu, Peter Schulman, Lauri Snellman, André De Tienne, Isabelle Verschraegen and Fernando Zalamea have resulted in many improvements to the material. Naturally, they are all absolved from any responsibility for the final product. I must also express my thanks to Joan Nordlund for her supportive revision of the English, and to Malin Grahn for her assistance in preparing the index.

I am grateful to the publishers and editors for permission to include the material based upon previously published papers. Details of the original publications are as follows.

“Peirce’s game-theoretic ideas in logic”, *Semiotica* 144, 33–47. Chapter 3 is a revised, rewritten and expanded version of this paper. Copyright © 2003 *Walter de Gruyter*.

“Diagrammatic logic and game-playing”, in Grant Malcolm (ed.), *Multidisciplinary Approaches to Visual Representations and Interpretations* (Studies in Multidisciplinarity), Oxford: Elsevier, 2004. Revised and partially included in Chapter 4. Copyright © 2004 *Elsevier Science*.

“Peirce’s diagrammatic logic in IF perspective”, in Alan Blackwell, Kim Marriott and Atsushi Shimojima (eds), *Diagrammatic Representation and Inference: Third International Conference, Diagrams 2004, Cambridge, UK, Lecture Notes in Artificial Intelligence 2980*, Berlin: Springer, 97–111. Revised and partially included in Chapter 5. Copyright © 2004 *Springer-Verlag*.

“Semantic games in logic and epistemology”, in Shahid Rahman, Dov Gabbay, Jean Paul Van Bendegem and John Symons (eds), *Logic, Epistemology and the Unity of Science* (Logic, Epistemology and the Unity of Science Series), Dordrecht: Kluwer, 57–103. Rewritten for inclusion in the present volume as Chapter 7. Copyright © 2004 *Kluwer Academic Publishers*.

“Logic, language games and ludics”, *Acta Analytica* 18, 89–123. Rewritten and expanded for inclusion in the present volume as Chapter 8. Copyright © 2003 *Society for Analytic Philosophy and Philosophy of Science of Slovenia*.

“Games as formal tools versus games as explanations in logic and science”, *Foundations of Science* 8, 317–364. Rewritten and expanded for inclusion in the present volume as Chapter 10. Copyright © 2003 *Kluwer Academic Publishers*.

“Grice in the wake of Peirce”, *Pragmatics & Cognition* 12, 295–315. Partially included in Chapter 12. Copyright © 2004 *John Benjamins Publishing Company*.

“Peirce’s theory of communication and its contemporary relevance, in Kristof Nyíri (ed.), *Mobile Learning: Essays on Philosophy, Psychology and Education*, Vienna: Passagen Verlag, 81–98, 2003. Chapter 13 is a significantly expanded and updated version of this article.

“Multi-agent systems and game theory — a Peircean manifesto”, *International Journal of General Systems* 33, 294–314. Chapter 14 is a revised version of this paper with a new title. Copyright © 2004 *Taylor & Francis*.

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Last but not least, I give my thanks to my parents Pirkko and Juhani, and my Laura, without whom this book would not have been dedicated to them.

Ahti-Veikko J. Pietarinen HELSINKI, JANUARY 2004

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References are to the following Peirce collections (in chronological order):

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Abbreviated by CD (Century Dictionary and Cyclopaedia volumes I–X, 1889–1891), CDS (Century Dictionary Supplement volumes XI–XII, 1909), followed by volume and page number.

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Abbreviated by MS, followed by page number or alternative identifier (a.p.: assorted draft pages).

1975–1987. Contributions to *The Nation*. Four volumes. Edited by Kenneth Ketner and James Cook. Lubbock: Texas Tech University Press. (Available as cd-rom with a biography of Peirce's published writings via IntelLex).

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1976. *The New Elements of Mathematics*. Four volumes in five books. Edited by Carolyn Eisele. Berlin: Mouton Publishers; Atlantic Highlands, NJ: Humanities Press.

Abbreviated by NEM, followed by volume and page number.

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Abbreviated by W, followed by volume and page number.

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Abbreviated by HP, followed by volume and page number.

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1998/1901–1902. Contributions to *The Dictionary of Philosophy and Psychology*. Two volumes. Edited by James Mark Baldwin. Bristol: Thoemmes Press, 1998. Appeared in 1901 (vol. 1) and in 1902 (vol. 2). New York: The Macmillan Company & London: Macmillan and Co., Limited. Partially online: psychclassics.yorku.ca/Baldwin/Dictionary/ (accessed 31 December 2004).

Abbreviated by DPP, followed by page number.