

Table of Contents

Introduction

Computation for Metaphors, Analogy and Agents	1
<i>Chrystopher L. Nehaniv (University of Aizu, Japan & University of Hertfordshire, U.K.)</i>	

Metaphors and Blending

Forging Connections	11
<i>Mark Turner (University of Maryland, U.S.A.)</i>	
Rough Sea and the Milky Way: ‘Blending’ in a <i>Haiku</i> Text	27
<i>Masako K. Hiraga (University of the Air, Japan)</i>	
Pragmatic Forces in Metaphor Use and Comprehension: The Mechanics of Blend Recruitment in Visual Metaphors	37
<i>Tony Veale (Dublin City University, Ireland)</i>	

Embodiment: The First Person

The Cog Project: Building a Humanoid Robot	53
<i>Rodney A. Brooks, Cynthia Breazeal, Robert Irie, Matthew Marjanović, Brian Scassellati, Matthew M. Williamson (MIT Artificial Intelligence Lab, U.S.A.)</i>	
Embodiment as Metaphor: Metaphorizing-In the Environment	89
<i>Georgi Stojanov (SS Cyril & Methodius University, Macedonia)</i>	

Interaction: The Second Person

Embodiment and Interaction in Socially Intelligent Life-Like Agents	105
<i>Kerstin Dautenhahn (University of Reading, U.K.)</i>	
An Implemented System for Metaphor-Based Reasoning with Special Application to Reasoning about Agents	148
<i>John A. Barnden (University of Birmingham, U.K.)</i>	
GAIA: An Experimental Pedagogical Agent for Exploring Multimodal Interaction	159
<i>Tom Fenton-Kerr (University of Sydney, Australia)</i>	

When Agents Meet Cross-Cultural Metaphor: Can They Be Equipped to Parse and Generate It?	170
<i>Patti O'Neill-Brown (Japan Technology Program, U.S. Dept. of Commerce)</i>	

Imitation: First and Second Person

Imitation and Mechanisms of Joint Attention: A Developmental Structure for Building Social Skills	181
<i>Brian Scassellati (MIT Artificial Intelligence Lab, U.S.A.)</i>	

Figures of Speech, a Way to Learn Language	201
<i>Anneli Kauppinen (University of Helsinki & Helsinki Polytechnic, Finland)</i>	

Situated Mapping: Space and Time

"Meaning" through Clustering by Self-Organization of Spatial and Temporal Information	215
<i>Ulrich Nehmzow (University of Manchester, U.K.)</i>	

Conceptual Mappings from Spatial Motion to Time: Analysis of English and Japanese	236
<i>Kazuko Shinohara (Otsuma Women's University, Japan)</i>	

Algebraic Engineering: Respecting Structure

An Introduction to Algebraic Semiotics, with Application to User Interface Design	249
<i>Joseph Goguen (University of California, San Diego, U.S.A.)</i>	

An Algebraic Approach to Modeling Creativity of Metaphor	299
<i>Bipin Indurkha (Tokyo University of Agriculture and Technology, Japan)</i>	

Metaphor and Human-Computer Interaction: A Model Based Approach . . .	314
<i>J. L. Alty and R. P. Knott (Loughborough University, U.K.)</i>	

A Sea-Change in Viewpoints

Empirical Modelling and the Foundations of Artificial Intelligence	329
<i>Meurig Beynon (University of Warwick, U.K.)</i>	

Communication as an Emergent Metaphor for Neuronal Operation	372
<i>Slawomir J. Nasuto, Kerstin Dautenhahn, and Mark Bishop (University of Reading, U.K.)</i>	

The Second Person — Meaning and Metaphors	387
<i>Chrystopher L. Nehaniv (University of Aizu, Japan & University of Hertfordshire, U.K.)</i>	

Author Index 396



<http://www.springer.com/978-3-540-65959-4>

Computation for Metaphors, Analogy, and Agents

Nehaniv, C.L. (Ed.)

1999, X, 398 p., Softcover

ISBN: 978-3-540-65959-4