

Alan Blackwell
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Atsushi Shimojima (Eds.)

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Diagrammatic Representation and Inference

Third International Conference, Diagrams 2004
Cambridge, UK, March 2004
Proceedings



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Preface

Although diagrammatic representations have been a feature of human communication from early history, recent advances in printing and electronic media technology have introduced increasingly sophisticated visual representations into everyday life. We need to improve our understanding of the role of diagrams and sketches in communication, cognition, creative thought, and problem-solving. These concerns have triggered a surge of interest in the study of diagrammatic notations, especially in academic disciplines dealing with cognition, computation, and communication.

We believe that the study of diagrammatic communication is best pursued as an interdisciplinary endeavor. The Diagrams conference series was launched to support an international research community with this common goal. After successful meetings in Edinburgh (2000) and Georgia (2002), Diagrams 2004 was the third event in the series. The Diagrams series attracts a large number of researchers from virtually all academic fields who are studying the nature of diagrammatic representations, their use in human communication, and cognitive or computational mechanisms for processing diagrams. By combining several earlier workshop and symposium series that were held in the US and Europe – Reasoning with Diagrammatic Representations (DR), US; Thinking with Diagrams (TWD), Europe; and Theory of Visual Languages (TVL), Europe – Diagrams has emerged as a major international conference on this topic.

Diagrams is the only conference series that provides a united forum for all areas that are concerned with the study of diagrams. We regularly attract delegates from fields as diverse as architecture, artificial intelligence, cartography, cognitive science, computer science, education, graphic design, geometry, history of science, human-computer interaction, linguistics, philosophy and logic, and psychology, plus many more. Because of this diversity, we take care in planning the programme to encourage broad interaction, through informal poster sessions, and through tutorials and invited presentations that provide introductions to some of these disciplines.

In preparing for Diagrams 2004, we invited submission of tutorial proposals, full papers and posters. Submissions were received from 18 countries. They included 53 full-length papers, 33 poster submissions, and 5 proposals for tutorials on research approaches from specific disciplines. The selection process was rigorous, involving full peer review of all submissions. The acceptance rate was 34% for full papers and 73% for posters. A selection of the full paper submissions was also accepted for presentation as posters.

The final programme included invited talks from Marcus Giaquinto and Gunther Kress, tutorials by Mary Hegarty, Jesse Norman, and Atsushi Shimojima, 18 paper presentations, and 42 poster presentations, panels and workshops. The result was a programme that was balanced across a wide range of disciplines, covering both theory and application, and with worldwide international partici-

pation. It was our pleasure to sustain these virtues of the Diagrams series, and we enjoyed the lively interaction that is always a feature of the meeting itself.

We wish to thank all members of the organizing and programme committees for the work that they put in toward the success of Diagrams 2004. We thank the University of Cambridge Computer Laboratory for supporting and hosting Diagrams 2004. We are grateful for financial support from the Cognitive Science Society, the Office of Naval Research, and the Engineering and Physical Sciences Research Council.

March 2004

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