

VRI'98

Visual Representations and Interpretations Workshop

Irene Neilson & Ray Paton

The value of multi-disciplinary research, the exchanging of ideas and methods across traditional discipline boundaries, is well recognised. Indeed, it could be justifiably argued that many of the advances in science and engineering take place because the ideas, methods and the tools of thought from one discipline become re-applied in others. Sadly, it is also the case that many subject areas develop specialised vocabularies and concepts and indeed may also approach more general problems in fairly narrow subject-specific ways. As a result barriers develop between disciplines that prevent the free flow of ideas and the collaborations that could often bring success. The VRI'98 workshop, which was held at the Foresight Centre at the University of Liverpool on September 22-24, 1998, was intended to break down such barriers.

Purpose of Workshop

The main aim of the workshop was to promote inter-disciplinary awareness across a range of disciplines where visual representations and interpretations are exploited. Contributions to the workshop were invited from researchers actively investigating visual representations and interpretations, including though not limited to: artists, architects, biologists, chemists, clinicians, cognitive scientists, computer scientists, educationalists, engineers, graphic designers, linguists, mathematicians, philosophers, physicists, psychologists and social scientists.

Structure of Workshop

The response to the workshop CFP was excellent. All of the aforementioned disciplines and others – Film and Media studies, Philosophy of Science, Molecular and Cellular Science,

Theatre Studies, Art and Textile design – were represented in the refereed papers selected for presentation at the workshop. Delegates attended from far and wide: New Zealand, Australia, North America, Latin America, as well as many European countries. This excellent response meant that the workshop truly presented a multi-disciplinary, international perspective on visual representations and interpretations.

However, it also required that presentations were shortened to avoid parallel sessions, making the workshop more like a conference. Parallel sessions were felt to be undesirable if the desired multi-disciplinary perspective on Visual Representations & Interpretations was to be promoted.

The pubs and restaurants of Liverpool provided a base for discussion in the evenings. An evening wine reception in the chapel of the Old Royal Infirmary on the first day of the conference set the pattern for animated discussions that were to continue for the rest of the workshop. On the second day, the two guest speakers, Professor Arthur Miller, University College London and Professor Rom Harre, Linacre College, Oxford, kept creative energies flowing with their respective presentations: - "Visual Imageries of 20th Century Physics: Representing the invisible" and "Type Hierarchies and Iconic Models".

Content of Workshop

Workshop presentations were organised into nine themes with care taken to ensure that a variety of disciplines were represented under each thematic. The opening theme, *Just Visualising*, was predominantly concerned with the nature of the human perceptual processes in the normal, abnormal (as in

the case of brain injury or artificially induced scotomas) or virtual reality environment. The role of action in the human perceptual experience was continually emphasised throughout the conference. The second theme, *Visualising the Information Retrieval Process* considered how knowledge could be made more accessible through improving various aspects of the document retrieval process both in the traditional database context and when navigating large web sites. The next two sessions, *Visualisation for Effective Communication and Technology, Change and Visualisation* considered how complex ideas could be communicated more effectively through visualisation techniques. Many different perspectives were offered: one paper reported a collaboration between a mathematician and a sculptor to convey the main methods of mathematics to the general public, another the use of theatrical techniques to enhance involvement in a VR environment, yet another explored the impact of the photographic negative on thinking processes. Intermingled with these presentations, philosophers discussed the nature of representation per se. The work of Wittgenstein was, naturally, subject to intensive review. This concern with the impact of graphics on understanding was continued in *The Language of Symbols and Visual Representation: From Molecules to Cells* sessions. In the latter session, the use of data visualisation techniques to enhance understanding of scientific concepts was explored while the former session focused primarily on the effective design of user interfaces. Computer based support for the early creative stages of the design process in architecture, manufacturing and textile design was the focus of the next session, *Articulating the Design Process*, with the inevitable heated debate as to whether such support was needed

or even desirable. The penultimate session, *Visualising the Abstract*, was an eclectic session. The session considered the usefulness of a visual metaphor in psychoanalytic training, explored the concept of geomentality in the interpretation of early New Zealand landscape paintings, offered an alternative perspective on VR research from the world of film and television studies and engaged in further philosophical exploration of the relation of theories, models and pictures. Finally the last session, *Language and Form Across Domains*, reflected on the role of a variety of visualisation techniques in understanding program structure in Computer Science as well as the use of AI techniques to model noise pollution in the built environment. Appropriately, the representation of shape in a computer program was reviewed in this session.

The workshop closed with a guided tour of the work of Picasso and the Electronic Art Exhibition of Willie

Doherty, courtesy of the Tate Gallery, Liverpool.

Conclusion

Was the workshop a success? We believe so from the comments of delegates and from the desire, expressed by various delegates, for a VRI'2000. Perhaps someone out there would like to pick up this challenge and celebrate the millennium with another meeting of the Arts and the Sciences?

Further Information

Workshop abstracts are viewable on the WWW at <http://www.csc.liv.ac.uk/~ien/VRI/programme.html>. Many abstracts contain links to on-line exhibitions and further information about the author's work.

A book, *Visual Representations and Interpretations*, of selected papers from the workshop will be published by Springer-Verlag in early 1999.

About the Authors

Irene Neilson and Ray Paton, the organisers of VRI'98, are lecturers in the Department of Computer Science, Liverpool University. Both adopt an inter-disciplinary approach to their teaching and research. Both are qualified in other disciplines in addition to Computer Science.

Authors' Address

Irene Neilson & Ray Paton
Department of Computer Science,
University of Liverpool,
Chadwick Tower,
Peach Street,
Liverpool. L67
United Kingdom

email: ien@csc.liv.ac.uk,
rcp@csc.liv.ac.uk

Tel: +44-151-794-8276