Invited Talk:
Adapting Adaptation in Analogical Problem Solving

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Abstract

For the most part, work on analogical problem solving has been noteworthy for its exclusion of adaptation (setting aside derivational analogy work as a special case). This has been due largely to the fact that models in this area have concentrated on domain-independent analogy techniques, viewing matters that appear too domain-specific as beyond the pale. This research strategy has led to gains in some areas. However, it has also led to losses in other areas, like adaptation. In the course of this talk, I will review what is known about adaptation in analogical problem solving. In the process, I will align theories of analogical problem solving with CBR adaptation techniques and look at whether they are essentially saying something different. The hope is that this alignment will admit some interesting insights about adaptation in both areas of research.

Brief Professional Biography:

Mark Keane received his BA (1982) in Psychology from University College Dublin and PhD in Cognitive Psychology (1987) from University of Dublin, Trinity College. He worked as a researcher in the University of London and the Open University, before becoming a Lecturer (= Associate Professor) in the School of Psychology, University of Wales College of Cardiff. In 1990, he became a Lecturer in Artificial Intelligence, in the Dept. of Computer Science, University of Dublin, Trinity College.

He has published over 50 papers and 10 books in both Cognitive Psychology and Artificial Intelligence mainly in the areas of analogical problem solving, insight problem solving and case-based reasoning. His books include a basic text on cognitive psychology (see Eysenck, M. & Keane, M., 1995, *Cognitive Psychology* (3rd Edition) LEA) and a research monograph on Analogy (see Keane, 1988, *Analogical Problem Solving*, Simon & Schuster). Recently, a jointly authored paper by Barry Smyth (HDL, TCD) and himself received an outstanding paper award at IJCAI-95.

Selected Publications: