A central theme of this book reviews the adequacy of recent attempts to implement higher cognitive processes in connectionist networks.

Over the last decade, an emerging form of computational modeling has steadily gained the respect of many researchers as a radically new and promising approach to cognitive science. Known by a number of names, including “connectionism,” “neural networks,” and “parallel distributed processing” (PDP), this method of computation attempts to model the neural processes that are assumed to underlie cognitive functions in human beings. Unlike the digital computation methods used by AI researchers, connectionist models claim to approximate the kind of spontaneous, creative, and somewhat unpredictable behavior of human agents. However, over the last few years, a heated controversy has arisen over the extent to which connectionist models are able to provide successful explanations for higher cognitive processes. approximate the kind of spontaneous, creative, and somewhat unpredictable behavior of human agents. However, over the last few years, a heated controversy has arisen over the extent to which connectionist models are able to provide successful explanations for higher cognitive processes.

Cognitive scientists, cognitive psychologists, linguists, philosophers, computer scientists, and others exploring this fascinating science will find this book essential reading.