The Nature of Reasoning

Edited by

JACQUELINE P. LEIGHTON

University of Alberta

ROBERT J. STERNBERG
Yale University



Contents

List of Contributors		page vii
PAR	RT ONE. THE BASICS OF REASONING	
1.	Defining and Describing Reason Jacqueline P. Leighton	. 3
2.	Reasoning and Brain Function Anton E. Lawson	12
3.	Working Memory and Reasoning Kenneth J. Gilhooly	49
4.	The Role of Prior Belief in Reasoning Jonathan St. B. T. Evans and Aidan Feeney	78
5.	Task Understanding Vittorio Girotto	103
PAR	RT TWO. THE WORKINGS OF REASONING	
6.	Strategies and Knowledge Representation Keith Stenning and Padraic Monaghan	129
7.	Mental Models and Reasoning Philip N. Johnson-Laird	169
8.	Mental-Logic Theory: What It Proposes, and Reasons to Take This Proposal Seriously David P. O'Brien	205
9.	Heuristics and Reasoning I: Making Deduction Simple Maxwell J. Roberts	234
10.	Cognitive Heuristics: Reasoning the Fast and Frugal Way Barnaby Marsh, Peter M. Todd, and Gerd Gigerenzer	27 3

•	Carrie
VI	Contents
V I	

PART THREE. THE BASES OF REASONING	
11. The Assessment of Logical Reasoning Jacqueline P. Leighton	291
12. The Development of Deductive Reasoning Henry Markovits	313
13. The Evolution of Reasoning Denise Dellarosa Cummins	339
14. Individual Differences in Thinking, Reasoning, and Decision Making Keith E. Stanovich, Walter C. Sá, and Richard F. West	375
15. Teaching Reasoning Raymond S. Nickerson	410
16. What do We Know about the Nature of Reasoning? Robert J. Sternberg	443
Index	456