

# The Cambridge Handbook of Thinking and Reasoning

The *Cambridge Handbook of Thinking and Reasoning* is the first comprehensive and authoritative handbook covering all the core topics of the field of thinking and reasoning. Written by the foremost experts from cognitive psychology, cognitive science, and cognitive neuroscience, individual chapters summarize basic concepts and findings for a major topic, sketch its history, and give a sense of the directions in which research is currently heading. The volume also includes work related to developmental, social and clinical psychology, philosophy, economics, artificial intelligence, linguistics, education, law, and medicine. Scholars and students in all these fields and others will find this to be a valuable collection.

Keith J. Holyoak is a Distinguished Professor in the Department of Psychology at the University

of California, Los Angeles (UCLA). He has made a number of major contributions to the scientific understanding of human thinking and has pioneered modern work on the role of analogy in thinking.

Robert G. Morrison is president of Xunesis ([www.xunesis.org](http://www.xunesis.org)), a not-for-profit company that encourages people to integrate science with their everyday lives through performance and media art that engages, entertains, and educates in both traditional and nontraditional educational settings. He received his Ph.D. in cognitive neuroscience from UCLA. His research involves understanding how the human brain implements and constrains higher cognition.

# The Cambridge Handbook of Thinking and Reasoning



*Edited by*  
**Keith J. Holyoak**  
and  
**Robert G. Morrison**



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*The editors gratefully dedicate this volume to*  
*Patricia Wenjie Cheng*  
(from KJH)  
*and*  
*Deborah Lee Morrison*  
(from RGM)

# Contents

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<i>Preface</i>	<i>page</i> ix	<b>PART II</b>	
<i>Contributors</i>	xi	<b>REASONING</b>	
1. Thinking and Reasoning: A Reader's Guide <i>Keith J. Holyoak</i> <i>Robert G. Morrison</i>	1	5. The Problem of Induction <i>Steven A. Sloman</i> <i>David A. Lagnado</i>	95
<b>PART I</b>		6. Analogy <i>Keith J. Holyoak</i>	117
<b>THE NATURE OF HUMAN CONCEPTS</b>		7. Causal Learning <i>Marc J. Buehner</i> <i>Patricia W. Cheng</i>	143
2. Similarity <i>Robert L. Goldstone</i> <i>Ji Yun Son</i>	13	8. Deductive Reasoning <i>Jonathan St. B. T. Evans</i>	169
3. Concepts and Categories: Memory, Meaning, and Metaphysics <i>Douglas L. Medin</i> <i>Lance J. Rips</i>	37	9. Mental Models and Thought <i>P. N. Johnson-Laird</i>	185
4. Approaches to Modeling Human Mental Representations: What Works, What Doesn't, and Why <i>Leonidas A. A. Dourmas</i> <i>John E. Hummel</i>	73	10. Visuospatial Reasoning <i>Barbara Tversky</i>	209
		<b>PART III</b>	
		<b>JUDGMENT AND DECISION MAKING</b>	
		11. Decision Making <i>Robyn A. LeBoeuf</i> <i>Eldar B. Shafir</i>	243

viii	CONTENTS
12. A Model of Heuristic Judgment <i>Daniel Kahneman</i> <i>Shane Frederick</i>	267
13. Motivated Thinking <i>Daniel C. Molden</i> <i>E. Tory Higgins</i>	295
<b>PART IV</b>	
<b>PROBLEM SOLVING AND COMPLEX LEARNING</b>	
14. Problem Solving <i>Laura R. Novick</i> <i>Miriam Bassok</i>	321
15. Creativity <i>Robert J. Sternberg</i> <i>Todd I. Lubart</i> <i>James C. Kaufman</i> <i>Jean E. Pretz</i>	351
16. Complex Declarative Learning <i>Micheline T. H. Chi</i> <i>Stellan Ohlsson</i>	371
17. Thinking as a Production System <i>Marsha C. Lovett</i> <i>John R. Anderson</i>	401
18. Implicit Cognition and Thought <i>Leib Litman</i> <i>Arthur S. Reber</i>	431
<b>PART V</b>	
<b>COGNITIVE AND NEURAL CONSTRAINTS ON HUMAN THOUGHT</b>	
19. Thinking in Working Memory <i>Robert G. Morrison</i>	457
20. Cognitive Neuroscience of Deductive Reasoning <i>Vinod Goel</i>	475
21. Cognitive and Neuroscience Aspects of Thought Disorder <i>Peter Bachman</i> <i>Tyrone D. Cannon</i>	493
<b>PART VI</b>	
<b>ONTOGENY, PHYLOGENY, LANGUAGE, AND CULTURE</b>	
22. Development of Thinking <i>Graeme S. Halford</i>	529
23. Mathematical Cognition <i>C. R. Gallistel</i> <i>Rochel Gelman</i>	559
24. Effects of Aging on Reasoning <i>Timothy A. Salthouse</i>	589
25. Reasoning and Thinking in Nonhuman Primates <i>Josep Call</i> <i>Michael Tomasello</i>	607
26. Language and Thought <i>Lila Gleitman</i> <i>Anna Papafragou</i>	633
27. Paradigms of Cultural Thought <i>Patricia M. Greenfield</i>	663
<b>PART VII</b>	
<b>THINKING IN PRACTICE</b>	
28. Legal Reasoning <i>Phoebe C. Ellsworth</i>	685
29. Scientific Thinking and Reasoning <i>Kevin Dunbar</i> <i>Jonathan Fugelsang</i>	705
30. Thinking and Reasoning in Medicine <i>Vimla L. Patel</i> <i>José F. Arocha</i> <i>Jiajie Zhang</i>	727
31. Intelligence <i>Robert J. Sternberg</i>	751
32. Learning to Think: The Challenges of Teaching Thinking <i>Ron Ritchhart</i> <i>David N. Perkins</i>	775
<i>Index</i>	803

## Preface

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A few decades ago, when the science of cognition was in its infancy, the early textbooks on cognition began with perception and attention and ended with memory. So-called higher-level cognition – the mysterious, complicated realm of thinking and reasoning – was simply left out. Things have changed – any good cognitive text (and there are many) devotes several chapters to topics such as categorization, inductive and deductive reasoning, judgment and decision making, and problem solving. What has still been missing, however, is a true handbook for the field of thinking and reasoning – a book meant to be kept close “at hand” by those involved in the field. Such a book would bring together top researchers to write chapters, each of which summarizes the basic concepts and findings for a major topic, sketches its history, and provides a sense of the directions in which research is currently heading. This handbook would provide quick overviews for experts in each topic area, and more importantly for experts in allied topic areas (because few researchers can keep up with the scientific literature over the full breadth of the field of thinking and rea-

soning). Even more crucially, this handbook would provide an entry point into the field for the next generation of researchers by providing a text for use in classes on thinking and reasoning designed for graduate students and upper-level undergraduates.

*The Cambridge Handbook of Thinking and Reasoning* is intended to be this previously missing handbook. The project was first conceived at the meeting of the Cognitive Science Society in Edinburgh, Scotland, during the summer of 2001. The contents of the volume are sketched in Chapter 1. Our aim is to provide comprehensive and authoritative reviews of all the core topics of the field of thinking and reasoning, with many pointers for further reading. Undoubtedly, there are still omissions, but we have included as much as we could realistically fit in a single volume. Our focus is on research from cognitive psychology, cognitive science, and cognitive neuroscience, but we also include work related to developmental, social, and clinical psychology; philosophy; economics; artificial intelligence; linguistics; education; law; and medicine. We hope that scholars and students in all these

fields and others will find this to be a valuable collection.

We have many to thank for their help in bringing this endeavor to fruition. Philip Laughlin, our editor at Cambridge University Press, gave us exactly the balance of encouragement and patience we needed. It is fitting that a handbook of thinking and reasoning should bear the imprint and indeed the name of this illustrious press, with its long history reaching back to the origins of scientific inquiry. Michie Shaw, Senior Project Manager at TechBooks, provided us with close support throughout the arduous editing process. At UCLA, Christine Vu did a great deal of organizational work in her role as our editorial assistant for the entire project. During this period, our own efforts were supported by grants R305H030141 from the Institute of Education Sciences and SES-0080375 from the National Science Foundation to KJH, and from Xunesis and National Service Research Award MH-064244 from the National Institute of Mental Health to RGM.

Then there are the authors. (It would seem a bit presumptuous to call them “our” authors!) People working on tough intellec-

tual problems sometimes experience a moment of insight – a sense that although many laborious steps may lay ahead, the basic elements of a solution are already in place. Such fortunate people work on happily, confident that ultimate success is assured. In preparing this handbook, we also had our moment of “insight.” It came when all these outstanding researchers agreed to join our project. Before the first chapter was drafted, we knew the volume was going to be of the highest quality. Along the way, our distinguished authors graciously served as each other’s critics as we passed drafts around, working to make the chapters as integrated as possible, adding in pointers from one to another. Then the authors all changed hats again and went back to work revising their own chapters in light of the feedback their peers had provided. We thank you all for making our own small labors a great pleasure.

KEITH J. HOLYOAK  
*University of California, Los Angeles*

ROBERT G. MORRISON  
*Xunesis, Chicago*  
*October 2004*



## Contributors

---

JOHN R. ANDERSON  
Carnegie Mellon University  
Department of Psychology  
Pittsburgh, PA 15213-3890  
ja+@cmu.edu

JOSÉ F. AROCHA  
Department of Health Studies & Gerontology  
University of Waterloo  
200 University Ave. W.  
Waterloo, Ontario  
Canada N2L 3G1  
jfarocha@healthy.uwaterloo.ca

PETER BACHMAN  
University of California, Los Angeles  
Department of Psychology  
Franz Hall  
Los Angeles, CA 90095-1563  
bachman@psych.ucla.edu

MIRIAM BASSOK  
University of Washington  
Department of Psychology  
Box 351525  
Seattle, WA 98195-1525  
mbassok@u.washington.edu

MARC J. BUEHNER  
School of Psychology  
Cardiff University  
Tower Building  
Park Place  
Cardiff, CF10 3AT  
Wales, UK  
BuehnerM@Cardiff.ac.uk

JOSEP CALL  
Max Planck Institute for Evolutionary  
Anthropology  
Deutscher Platz 6  
D-04103 Leipzig, Germany  
call@eva.mpg.de

TYRONE D. CANNON  
University of California, Los Angeles  
Department of Psychology  
Franz Hall  
Los Angeles, CA 90095-1563  
cannon@psych.ucla.edu

PATRICIA W. CHENG  
University of California, Los Angeles  
Department of Psychology  
Franz Hall  
Los Angeles, CA 90095-1563  
cheng@psych.ucla.edu

MICHELENE T. H. CHI  
 University of Pittsburgh  
 Learning Research and Development Center  
 3939 O'Hara Street  
 Pittsburgh, PA 15260  
 chi@pitt.edu

LEONIDAS A. A. DOUMAS  
 University of California, Los Angeles  
 Department of Psychology  
 Franz Hall  
 Los Angeles, CA 90095-1563  
 adoumas@psych.ucla.edu

KEVIN DUNBAR  
 Dartmouth College  
 Department of Psychological & Brain Sciences  
 Hanover, NH 03755  
 kevin.n.dunbar@dartmouth.edu

PHOEBE C. ELLSWORTH  
 University of Michigan  
 Department of Psychology  
 525 East University  
 Ann Arbor, MI 48109-1109  
 pce@umich.edu

JONATHAN ST. B. T. EVANS  
 University of Plymouth  
 Centre for Thinking and Language  
 School of Psychology  
 Plymouth PL4 8AA UK  
 J.Evans@plymouth.ac.uk

SHANE FREDERICK  
 Massachusetts Institute of Technology  
 Sloan School of Management  
 Room E56-317  
 38 Memorial Drive  
 Cambridge, MA 02142-1307  
 shanefre@mit.edu

JONATHAN FUGELSANG  
 Dartmouth College  
 Department of Psychological & Brain Sciences  
 Hanover, NH 03755  
 jonf@dartmouth.edu

CHARLES R. GALLISTEL  
 Rutgers University  
 Psychology and Rutgers Center for Cognitive  
 Science  
 152 Frelinghuysen Road  
 Piscataway, NJ 08854-8020  
 galliste@ruccs.rutgers.edu

ROCHEL GELMAN  
 Rutgers University  
 Psychology and Rutgers Center for Cognitive  
 Science  
 152 Frelinghuysen Road  
 Piscataway, NJ 08854-8020  
 rgelman@ruccs.rutgers.edu

LILA GLEITMAN  
 University of Pennsylvania  
 Departments of Psychology and Linguistics  
 Institute for Research in Cognitive Science  
 3401 Walnut St. – 4th floor  
 Philadelphia, PA 19104  
 gleitman@cattell.psych.upenn.edu

VINOD GOEL  
 York University  
 Department of Psychology  
 Toronto, Ontario  
 Canada M3J 1P3  
 vgoel@yorku.ca

ROBERT L. GOLDSTONE  
 Indiana University  
 Psychology Department  
 Psychology Building  
 1101 E 10th St.  
 Bloomington, IN 47405-7007  
 rgoldsto@indiana.edu

PATRICIA M. GREENFIELD  
 University of California, Los Angeles  
 Department of Psychology  
 Franz Hall  
 Los Angeles, CA 90095-1563  
 greenfield@psych.ucla.edu

GRAEME S. HALFORD  
 University of Queensland  
 School of Psychology  
 Brisbane  
 Queensland 4072  
 Australia  
 gsh@psy.uq.edu.au

E. TORY HIGGINS  
 Columbia University  
 Department of Psychology  
 401 D Schermerhorn  
 Mail Code 5501  
 New York, NY 10027-5501  
 tory@psych.columbia.edu

## CONTRIBUTORS

xiii

KEITH J. HOLYOAK – EDITOR  
 University of California, Los Angeles  
 Department of Psychology  
 Franz Hall  
 Los Angeles, CA 90095-1563  
 holyoak@lifesci.ucla.edu

JOHN E. HUMMEL  
 University of California, Los Angeles  
 Department of Psychology  
 Franz Hall  
 Los Angeles, CA 90095-1563  
 jhummel@psych.ucla.edu

P. N. JOHNSON-LAIRD  
 Princeton University  
 Department of Psychology  
 3-C-3 Green Hall  
 Princeton, NJ 08544  
 phil@princeton.edu

DANIEL KAHNEMAN  
 Princeton University  
 Woodrow Wilson School  
 324 Wallace Hall  
 Princeton, NJ 08544  
 kahneman@princeton.edu

JAMES C. KAUFMAN  
 California State University, San Bernardino  
 Department of Psychology  
 5500 University Parkway  
 San Bernardino, CA 92407  
 jkaufman@csusb.edu

DAVID A. LAGNADO  
 Department of Psychology  
 University College London  
 Gower Street  
 London, UK WC1E 6BT  
 d.lagnado@ucl.ac.uk

ROBYN A. LEBOEUF  
 University of Florida  
 Warrington College of  
 Business  
 Marketing Department  
 PO Box 117155  
 Gainesville, FL 32611-7155  
 LeBoeuf@ufl.edu

LEIB LITMAN  
 Brooklyn College of CUNY  
 Department of Psychology  
 2900 Bedford Avenue  
 Brooklyn, NY 11210  
 LeibL@Brooklyn.cuny.edu

MARSHA C. LOVETT  
 Carnegie Mellon University  
 Department of Psychology  
 Pittsburgh, PA 15213-3890  
 lovett+@cmu.edu

TODD I. LUBART  
 Laboratoire Cognition et Développement  
 Institut de Psychologie – Université Paris 5  
 71, avenue Edouard Vaillant  
 92774 Boulogne-Billancourt cedex  
 France  
 lubart@psycho.univ-paris5.fr

DOUGLAS L. MEDIN  
 Northwestern University  
 Department of Psychology  
 2029 Sheridan Road  
 Evanston, IL 60208  
 medin@northwestern.edu

DANIEL C. MOLDEN  
 Northwestern University  
 Department of Psychology  
 2029 Sheridan Road  
 Evanston, IL 60208  
 molden@northwestern.edu

ROBERT G. MORRISON – EDITOR  
 Xunesis  
 P.O. Box 269187  
 Chicago, IL 60626-9187  
 robertmorrison@xunesis.org

LAURA R. NOVICK  
 Vanderbilt University  
 Department of Psychology & Human  
 Development  
 Peabody College #512  
 230 Appleton Place  
 Nashville, TN 37203-5721  
 Laura.Novick@vanderbilt.edu

STELLAN OHLSSON  
 University of Illinois, Chicago  
 Department of Psychology  
 Chicago, IL 60607-7137  
 stellan@uic.edu

ANNA PAPAFRAGOU  
 University of Pennsylvania  
 Institute for Research in Cognitive Science  
 3401 Walnut Street, Suite 400A  
 Philadelphia, PA 19104  
 anna4@linc.cis.upenn.edu

VIMLA L. PATEL  
 Columbia University  
 Department of Biomedical Informatics and  
 Psychiatry  
 Vanderbilt Clinic-5 622 West 168th Street  
 New York, NY 10003  
 patel@dbmi.columbia.edu

DAVID N. PERKINS  
 Harvard Graduate School of  
 Education  
 Project Zero  
 315 Longfellow Hall, Appian Way  
 Cambridge, MA 02138  
 david\_perkins@harvard.edu

JEAN E. PRETZ  
 Department of Psychology  
 Illinois Wesleyan University  
 P.O. Box 2900  
 Bloomington, IL 61702-2900  
 jpretz@iwu.edu

ARTHUR S. REBER  
 Brooklyn College of CUNY  
 Department of Psychology  
 2900 Bedford Avenue  
 Brooklyn, NY 11210  
 areber@brooklyn.cuny.edu

LANCE J. RIPS  
 Northwestern University  
 Department of Psychology  
 2029 Sheridan Road  
 Evanston, IL 60208  
 rips@northwestern.edu

RON RITCHHART  
 Harvard Graduate School of  
 Education  
 Project Zero  
 124 Mount Auburn Street  
 Cambridge, MA 02138  
 ron\_ritchhart@pz.harvard.edu

TIMOTHY A. SALTHOUSE  
 University of Virginia  
 Department of Psychology  
 Charlottesville, VA 22904-4400  
 salthouse@virginia.edu

ELDAR B. SHAFIR  
 Princeton University  
 Department of Psychology and the  
 Woodrow Wilson School of Public Affairs  
 Green Hall  
 Princeton, NJ 08544  
 shafir@princeton.edu

STEVEN A. SLOMAN  
 Brown University  
 Cognitive & Linguistic Sciences  
 Box 1978  
 Providence, RI 02912  
 Steven.Sloman@brown.edu

Ji YUN SON  
 Indiana University  
 Psychology Department  
 Psychology Building  
 1101 E 10th St.  
 Bloomington, IN 47405-7007  
 jys@indiana.edu

ROBERT J. STERNBERG  
 PACE Center  
 Yale University  
 P.O. Box 208358  
 New Haven, CT 06520-8358  
 robert.sternberg@yale.edu

MICHAEL TOMASELLO  
 Max Planck Institute for Evolutionary  
 Anthropology  
 Deutscher Platz 6  
 D-04103 Leipzig, Germany  
 tomas@eva.mpg.de

BARBARA TVERSKY  
 Stanford University  
 Department of Psychology  
 Building 420  
 Stanford, CA 94305-2130  
 bt@psych.stanford.edu

JIAJIE ZHANG  
 School of Health Information Sciences  
 University of Texas at Houston  
 7000 Fannin, Suite 600  
 Houston, TX 77030  
 Jiajie.Zhang@uth.tmc.edu