
Handbook Of Spatial Cognition

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*Handbook Of Spatial
Cognition*

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*The Oxford Handbook of Comparative
Cognition* Psychology Press

The Oxford Handbook of Cognitive Science emphasizes the research and theory most central to modern cognitive science: computational theories of complex human cognition. Additional facets of cognitive science are discussed in the handbook's introductory chapter. *Spatial Biases in Perception and Cognition* American Psychological Association (APA)

This Handbook reviews a wealth of research in cognitive and educational psychology that investigates how to enhance learning and instruction to aid students struggling to learn and to advise teachers on how best to support student learning. The Handbook includes features that inform readers about how to improve instruction and student achievement based on scientific evidence across different domains, including science, mathematics, reading and writing. Each chapter supplies a description of the learning goal, a balanced presentation of the current evidence about the efficacy of various approaches to obtaining that learning goal, and a discussion of important future directions for research in this

area. It is the ideal resource for researchers continuing their study of this field or for those only now beginning to explore how to improve student achievement.

[Handbook of Cognitive Neuropsychology](#)
Springer Science & Business Media

During the last three decades, there have been enormous advances in our understanding of the neural mechanisms of selective attention at the network as well as the cellular level. The Oxford Handbook of Attention brings together the different research areas that constitute contemporary attention research into one comprehensive and authoritative volume. In 40 chapters, it covers the most important aspects of attention research from the areas of cognitive psychology, neuropsychology, human and animal neuroscience, computational modelling, and philosophy. The book is divided into 4 main sections. Following an introduction from Michael Posner, the books starts by looking at theoretical models of attention. The next two sections are dedicated to spatial attention and non-spatial attention respectively. Within section 4, the authors consider the interactions between attention and other psychological domains. The last two sections focus on attention-related disorders, and finally, on computational models of attention. Aimed at both

scholars and students, the Oxford Handbook of Attention provides a concise and state-of-the-art review of the current literature in this field.

Handbook Of Spatial Research Paradigms And Methodologies

Cambridge University Press

This is the seventh volume of a series of books on fundamental research in spatial cognition. As with past volumes, the research presented here spans a broad range of research traditions, for spatial cognition concerns not just the basic spatial behavior of biological and artificial agents, but also the reasoning processes that allow spatial planning across broad spatial and temporal scales. Spatial information is critical for coordinated action and thus agents interacting with objects and moving among objects must be able to perceive spatial relations, learn about these relations, and act on them, or store the information for later use, either by themselves or communicated to others. Research on this problem has included both psychology, which works to understand how humans and other mobile organisms solve these problems, and computer science, which considers the nature of the information available in the world and a formal consideration of how these problems might be solved. Research on human spatial cognition also involves the application of representations and processes that may have evolved to handle object and location information to reasoning about higher-order problems, such as displaying non-spatial information in diagrams. Thus, work in spatial cognition extends beyond psychology and computer science into many disciplines including geography and education. The Spatial Cognition conference offers one of the few forums for consideration of

the issues spanning this broad academic range.

Handbook Of Spatial Research Paradigms And Methodologies

Cambridge University Press

Now available in paperback. This revised and updated edition of the definitive resource for experimental psychology offers comprehensive coverage of the latest findings in the field, as well as the most recent contributions in methodology and the explosion of research in neuroscience. Volume Two: Memory and Cognitive Processes, focuses on the neurological and cognitive processes on topics such as memory, decision-making, spatial cognition, linguistics, reasoning, and concepts.

Handbook of Cognitive Science

Cambridge University Press

Spatial cognition is a broad field of enquiry, emerging from a wide range of disciplines and incorporating a wide variety of paradigms that have been employed with human and animal subjects. This volume is part of a two-volume handbook reviewing the major paradigms used in each of the contributors' research areas.; This volume considers the issues of neurophysiological aspects of spatial cognition, the assessment of cognitive spatial deficits arising from neural damage in humans and animals, and the observation of spatial behaviours in animals in their natural habitats.; This handbook should be of interest to new and old students alike. The student new to spatial research can be brought up-to-speed with a particular range of techniques, made aware of the background and pitfalls of particular approaches, and directed toward useful sources. For seasoned researchers, the handbook provides a rapid scan of the

available tools that they might wish to consider as alternatives when wishing to answer a particular "spatial" research problem.

Imagery and Spatial Cognition

Psychology Press

This comprehensive volume illustrates why an understanding of animal intelligence is essential in disclosing the nature of minds other than our own making it a fascinating volume for anyone curious about the state of modern comparative cognition.

Cognition, Evolution, and Behavior

Oxford University Press

Our contemporary understanding of brain function is deeply rooted in the ideas of the nonlinear dynamics of distributed networks. Cognition and motor coordination seem to arise from the interactions of local neuronal networks, which themselves are connected in large scales across the entire brain. The spatial architectures between various scales inevitably influence the dynamics of the brain and thereby its function. But how can we integrate brain connectivity amongst these structural and functional domains? Our Handbook provides an account of the current knowledge on the measurement, analysis and theory of the anatomical and functional connectivity of the brain. All contributors are leading experts in various fields concerning structural and functional brain connectivity. In the first part of the Handbook, the chapters focus on an introduction and discussion of the principles underlying connected neural systems. The second part introduces the currently available non-invasive technologies for measuring structural and functional connectivity in the brain. Part three provides an overview of the analysis techniques currently available

and highlights new developments. Part four introduces the application and translation of the concepts of brain connectivity to behavior, cognition and the clinical domain.

Space in Mind Springer Science & Business Media

How do animals perceive the world, learn, remember, search for food or mates, communicate, and find their way around? Do any nonhuman animals count, imitate one another, use a language, or have a culture? What are the uses of cognition in nature and how might it have evolved? What is the current status of Darwin's claim that other species share the same "mental powers" as humans, but to different degrees? In this completely revised second edition of *Cognition, Evolution, and Behavior*, Sara Shettleworth addresses these questions, among others, by integrating findings from psychology, behavioral ecology, and ethology in a unique and wide-ranging synthesis of theory and research on animal cognition, in the broadest sense-- from species-specific adaptations of vision in fish and associative learning in rats to discussions of theory of mind in chimpanzees, dogs, and ravens. She reviews the latest research on topics such as episodic memory, metacognition, and cooperation and other-regarding behavior in animals, as well as recent theories about what makes human cognition unique. In every part of this new edition, Shettleworth incorporates findings and theoretical approaches that have emerged since the first edition was published in 1998. The chapters are now organized into three sections: Fundamental Mechanisms (perception, learning, categorization, memory), Physical Cognition (space, time, number, physical causation), and

Social Cognition (social knowledge, social learning, communication). Shettleworth has also added new chapters on evolution and the brain and on numerical cognition, and a new chapter on physical causation that integrates theories of instrumental behavior with discussions of foraging, planning, and tool using.

The Cambridge Handbook of Cognition and Education John Benjamins Publishing

The subject of this volume is the dynamic interactions between transport and the physical, economic, and human geographies it weaves through. The reader is introduced to the new spatial system technologies that are bringing geography and transport management and analysis together.

The Cambridge Handbook of Situated Cognition Psychology Press
The Handbook of Behavioral Genetics and Phenotyping represents an integrative approach to neurobehavioural genetics; worldwide experts in their field will review all chapters. Advanced overviews of neurobehavioural characteristics will add immense value to the investigation of animal mutants and provide unique information about the genetics and behavioural understanding of animal models, under both normal and pathological conditions. Cross-species comparisons of neurobehavioural phenotypes will pave the way for an evolutionary understanding of behaviour. Moreover, while biological sciences are progressing towards a holistic approach to investigate the complexity of organisms (i.e., “systems biology” approach), an integrated analysis of behavioural phenotyping is still lacking. The Handbook of Behavioral Genetics and Phenotyping strengthens the cross-talk within disciplines that

investigate the fundamental basis of behaviour and genetics. This will be the first volume in which traditionally distant fields including genomics, behaviour, electrophysiology, neuroeconomics, and computational neuroscience, among others, are evaluated together and simultaneously accounted for during discussions of future perspectives.

The Emerging Spatial Mind Oxford University Press, USA

This comprehensive Handbook summarizes existing work and presents new concepts and empirical results from leading scholars in the multidisciplinary field of behavioral and cognitive geography, the study of the human mind, and activity in and concerning space, place, and environment. It provides the broadest and most inclusive coverage of the field so far, including work relevant to human geography, cartography, and geographic information science.

Spatial Hearing OUP USA

How does the brain represent number and make mathematical calculations? What underlies the development of numerical and mathematical abilities? What factors affect the learning of numerical concepts and skills? What are the biological bases of number knowledge? Do humans and other animals share similar numerical representations and processes? What underlies numerical and mathematical disabilities and disorders, and what is the prognosis for rehabilitation? These questions are the domain of mathematical cognition, the field of research concerned with the cognitive and neurological processes that underlie numerical and mathematical abilities. The Handbook of Mathematical Cognition is a collection of 27 essays by leading researchers that provides a

comprehensive review of this important research field.

Blackwell Handbook of Childhood Cognitive Development John Wiley & Sons

Spatial cognition is a broad field of enquiry, emerging from a wide range of disciplines and incorporating a wide variety of paradigms that have been employed with human and animal subjects. This volume is part of a two-volume handbook reviewing the major paradigms used in each of the contributors' research areas.; This volume considers the issues of neurophysiological aspects of spatial cognition, the assessment of cognitive spatial deficits arising from neural damage in humans and animals, and the observation of spatial behaviours in animals in their natural habitats.; This handbook should be of interest to new and old students alike. The student new to spatial research can be brought up-to-speed with a particular range of techniques, made aware of the background and pitfalls of particular approaches, and directed toward useful sources. For seasoned researchers, the handbook provides a rapid scan of the available tools that they might wish to consider as alternatives when wishing to answer a particular "spatial" research problem.

Handbook of Behavioral and Cognitive Geography Elsevier

Hearing and communication present a variety of challenges to the nervous system. To be heard and understood, a communication signal must be transformed from a time-varying acoustic waveform to a perceptual representation to an even more abstract representation that integrates memory stores with semantic/referential information. Finally, this complex,

abstract representation must be interpreted to form categorical decisions that guide behavior. Did I hear the stimulus? From where and whom did it come? What does it tell me? How can I use this information to plan an action? All of these issues and questions underlie auditory cognition. Since the early 1990s, there has been a re-birth of studies that test the neural correlates of auditory cognition with a unique emphasis on the use of awake, behaving animals as model. Continuing today, how and where in the brain neural correlates of auditory cognition are formed is an intensive and active area of research. Importantly, our understanding of the role that the cortex plays in hearing has the potential to impact the next generation of cochlear- and brainstem-auditory implants and consequently help those with hearing impairments. Thus, it is timely to produce a volume that brings together this exciting literature on the neural correlates of auditory cognition. This volume compliments and extends many recent SHAR volumes such as Sound Source Localization (2005) Auditory Perception of Sound Sources (2007), and Human Auditory Cortex (2010). For example, in many of these volumes, similar issues are discussed such as auditory-object identification and perception with different emphases: in Auditory Perception of Sound Sources, authors discuss the underlying psychophysics/behavior, whereas in the Human Auditory Cortex, fMRI data are presented. The unique contribution of the proposed volume is that the authors will integrate both of these factors to highlight the neural correlates of cognition/behavior. Moreover, unlike other these other volumes, the neurophysiological data will emphasize the exquisite spatial and temporal

resolution of single-neuron [as opposed to more coarse fMRI or MEG data] responses in order to reveal the elegant representations and computations used by the nervous system.

Avian Cognition Oxford University Press
Publisher Description

Spatial Cognition III Springer Science & Business Media

An authoritative overview of current research on human attention, emphasizing the relation between cognitive phenomena observed in the laboratory and in the real world. Laboratory research on human attention has often been conducted under conditions that bear little resemblance to the complexity of our everyday lives. Although this research has yielded interesting discoveries, few scholars have truly connected these findings to natural experiences. This book bridges the gap between "laboratory and life" by bringing together cutting-edge research using traditional methodologies with research that focuses on attention in everyday contexts. It offers definitive reviews by both established and rising research stars on foundational topics such as visual attention and cognitive control, underrepresented domains such as auditory and temporal attention, and emerging areas of investigation such as mind wandering and embodied attention. The contributors discuss a range of approaches and methodologies, including psychophysics, mental chronometry, stationary and mobile eye-tracking, and electrophysiological and functional brain imaging. Chapters on everyday attention consider such diverse activities as driving, shopping, reading, multitasking, and playing videogames. All chapters present their topics in the same overall format: historical context, current research, the possible

integration of laboratory and real-world approaches, future directions, and key and outstanding issues. Contributors Richard A. Abrams, Lewis Baker, Daphne Bavelier, Virginia Best, Adam B. Blake, Paul W. Burgess, Alan D. Castel, Karen Collins, Mike J. Dixon, Sidney K. D'Mello, Julia Föcker, Charles L. Folk, Tom Foulsham, Jonathan A. Fugelsang, Bradley S. Gibson, Matthias S. Gobel, Davood G. Gozli, Arthur C. Graesser, Peter A. Hancock, Kevin A. Harrigan, Simone G. Heideman, Cristy Ho, Roxane J. Itier, Gustav Kuhn, Michael F. Land, Mallorie Leinenger, Daniel Levin, Steven J. Luck, Gerald Matthews, Daniel Memmert, Stephen Monsell, Meeneley Nazarian, Anna C. Nobre, Andrew M. Olney, Kerri Pickel, Jay Pratt, Keith Rayner, Daniel C. Richardson, Evan F. Risko, Barbara Shinn-Cunningham, Vivian Siu, Jonathan Smallwood, Charles Spence, David Strayer, Pedro Sztybel, Benjamin W. Tatler, Eric T. Taylor, Jeff Templeton, Robert Tetzka, Michel Wedel, Blaire J. Weidler, Lisa Wojtowicz, Jeremy M. Wolfe, Geoffrey F. Woodman
The Cambridge Handbook of Thinking and Reasoning John Wiley & Sons
This book is a guide to a movement in cognitive science showing how environmental and bodily structure shapes cognition.

The Handbook of Mathematical Cognition MIT Press

"This is a book for artists, but it is also for curators, art school faculty, landscape architects, gallerists, archivists, post-disciplinary multi-hyphenates, museum program staff, and anyone who wants to know about the ways art and cognitive science come together to engage an audience."--
Cover.

The Oxford Handbook of Cognitive Neuroscience, Volume 1 Cambridge

University Press

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.