Handbook Of Spatial Cognition

The ?Cognitive Map? (Tolman, 1948) is a key notion in spatial processing studies. It refers to high level spatial representations. Although widely used, this term remains ambiguous. The aim of this book is two-fold: (1) to examine the most noteworthy studies (in laboratory settings) which have contributed during the last five decades to a better understanding of animal spatial representations; (2) to provide some hints for future research.Spatial tests designed by psychologists are useful tools for understanding the brain substrates of spatial memory. Conversely, brain treatments allow us to analyse the complex psychological mechanisms underlying spatial orientation. Within this interdisciplinary context, it is extremely important to take stock of a notion used (and sometimes misused) in cognitive neurosciences.

Part of a two-volume handbook reviewing the major paradigms used in each of the contributors' research areas of spatial cognition.

III. Language & Thought: Sharon Thompson-Schill (Volume Editor) (Topics covered include embodied cognition; discourse and dialogue; reading; creativity; speech production; concepts and categorization; culture and cognition; reasoning; sentence processing; bilingualism; speech perception; spatial cognition; word processing; semantic memory; moral reasoning.)

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.

Perception of Space and Motion
The Cambridge Handbook of Visuospatial Thinking
Spatial Biases in Perception and Cognition
Handbook of Cognitive Science
Spatial Cognition

This book constitutes the thoroughly refereed proceedings of the 9th International Conference on Spatial Cognition, Spatial Cognition 2014, held in Bremen, Germany, in September 2014. The 27 revised full papers presented in this book were carefully selected and reviewed from 53 submissions. The papers are organized in topical sections on spatial memory; language and communication; wayfinding and navigation; computational models; diagrams and maps; technical approaches; and spatial ability.

This book offers students an introduction to human spatial cognition and experience and is designed for graduate and advanced undergraduate students who are interested in the study of maps in the head and the psychology of space. We live in space and space surrounds us. We interact with space all the time, consciously or unconsciously, and make decisions and actions based on our perceptions of that space. Have you ever wondered how some people navigate perfectly using maps in their heads while other people get lost even with a physical map? What do you mean when you say you have a poor "sense of direction"? How do we know where we are? How do we use and represent information about space? This book clarifies that our knowledge and feelings emerge as a consequence of our interactions with the surrounding space, and show that the knowledge and feelings direct, guide, or limit our spatial behavior and experience. Space matters, or more specifically space we perceive matters. Research into spatial cognition and experience, asking fundamental questions about how and why space and spatiality matters to humans, has thus attracted attention. It is no coincidence that the 2014 Nobel Prize in Physiology or Medicine was awarded for research into a positioning system in the brain or "inner G.P.S." and that spatial information and technology are recognized as an important social infrastructure in recent years. This is the first book aimed at graduate and advanced undergraduate students pursuing this fascinating area of research. The content introduces the reader to the field of spatial cognition and experience with a series of chapters covering theoretical, empirical, and practical issues, including cognitive maps, spatial orientation, spatial ability and thinking, geospatial information, navigation assistance, and environmental aesthetics.

A rich source of authoritative information that supports reading and study in the field of cognitive neuroscience, this two-volume handbook reviews the current state-of-the-science in all major areas of the field.

Forming connections between human performance and design Engineering Psychology and Human Performance, 4e examines human-machine interaction. The book is organized directly from the psychological perspective of human information processing. The chapters generally correspond to the flow of information as it is processed by a human being--from the senses, through the brain, to action--rather than from the perspective of system components or engineering design concepts. This book is ideal for a psychology student, engineering student, or actual practitioner in engineering psychology, human performance, and human factors Learning Goals Upon completing this book, readers should be able to: * Identify how human ability contributes to the design of technology. * Understand the connections within human information processing and human performance. * Challenge the way they think about technology's influence on human performance. * show how theoretical advances have been, or might be, applied to improving human-machine interaction

Core Topics
Blackwell Handbook of Childhood Cognitive Development
Handbook of Spatial Research Paradigms and Methodologies: Spatial cognition in the child and adult
The Oxford Handbook of Cognitive Neuroscience, Volume 1
Handbook Of Spatial Research Paradigms And Methodologies

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.

This definitive volume provides state-of-the-art summaries of current research by leading specialists in different areas of cognitive development. Forms part of a series of four Blackwell Handbooks in Developmental Psychology spanning infancy to adulthood. Covers all the major topics in research and theory about childhood cognitive development. Synthesizes the latest research findings in an accessible manner. Includes chapters on abnormal cognitive development and theoretical perspectives, as well as basic research topics. Now available in full text online via xreferplus, the award-winning reference library on the web from xrefer. For more information, visit www.xreferplus.com

This book constitutes the second volume documenting the results achieved within a priority program on spatial cognition by the German Science Foundation (DFG).The 28 revised full papers presented were carefully reviewed and reflect the increased interdisciplinary cooperation in the area. The book is divided into sections on maps and diagrams, motion and spatial reference, spatial relations and spatial inference, navigation in real and virtual spaces, and spatial memory.

The Handbook of Cognitive Science provides an overview of recent developments in cognition research, relying upon non-classical approaches. Cognition is explained as the continuous interplay between brain, body, and environment, without relying on classical notions of computations and representation to explain cognition. The handbook serves as a valuable companion for readers interested in foundational aspects of cognitive science, and neuroscience and the philosophy of mind. The handbook begins with an introduction to embodied cognitive science, and then breaks up the chapters into separate sections on conceptual issues, formal approaches, embodiment in perception and action, embodiment from an artificial perspective, embodied meaning, and emotion and consciousness. Contributors to the book represent research overviews from around the globe including the US, UK, Spain, Germany, Switzerland, France, Sweden, and the Netherlands.

Spatial Cognition IX
Behavioural and Brain Approach
Handbook of Transport Geography and Spatial Systems
The Oxford Handbook of Cognitive Science
An Embodied Approach
Publisher Description

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 Wiley Handbook on the Cognitive Neuroscience of Learning charts the evolution of associative analysis and the neuroscientific study of behavior as parallel approaches to understanding how the brain learns that both challenge and inform each other. Covers a broad range of topics while maintaining an overarching integrative approach Includes contributions from leading authorities in the fields of cognitive neuroscience, associative learning, and behavioral psychology Extends beyond the psychological study of learning to incorporate coverage of the latest developments in neuroscientific research

During the past 25 years, the field of space and motion perception has rapidly advanced. Once thought to be distinct perceptual modes, space and motion are now thought to be closely linked. Perception of Space andMotion provides a comprehensive review of perception and vision research literature, including new developments in the use of sound and touch in perceiving space and motion. Other topics include the perception of structure from motion, spatial layout,and information obtained in static and dynamic stimulation. Spatial layout Structure from motion Information on static and dynamic stimulation (visual, acoustic, and haptic)

Applied Spatial Cognition
Handbook of Behavioral and Cognitive Geography
Handbook of Cognitive Neuropsychology
Human Spatial Cognition and Experience
Handbook of Spatial Research Paradigms and Methodologies

This volume reviews the full range of cognitive domains that have benefited from the study of deficits. Chapters covered include language, memory, object recognition, action, attention, consciousness and temporal cognition.

Applied Spatial Cognition illustrates the vital link between research and application in spatial cognition. With an impressive vista ranging from applied research to applications of cognitive technology, this volume presents the work of individuals from a wide range of disciplines and research areas, including psychologists, geographers, information scientists, computer scientists, cognitive scientists, engineers, and architects. Chapters throughout the book are a testimony to the importance of basic and applied research regarding human spatial cognition and behavior in the many facets of daily life. The contents are arranged into three sections, the first of which deals with a variety of spatial problems in real-world settings. The second section focuses on spatial cognition in specific populations. The final part is concerned principally with applications of spatial cognitive research and the development of cognitive technology. Relevant to a number of remarkably diverse groups, Applied Spatial Cognition will be of considerable interest to researchers and professionals in industrial/organizational psychology, human factors research, and cognitive science.

Hearing is a comprehensive, authoritative reference work covering both the physiological and perceptual aspects of hearing. Intended for researchers and advanced students in the field of hearing, it reviews major areas of research in addition to new discoveries, including active mechanisms in the cochlea, across-channel processes in auditory masking, and perceptual grouping processes. Covers both physiological and perceptual aspects of hearing Authoritative reviews by experts in the field Comprehensive up-to-date coverage An integrated work with extensive cross-references between chapters

The relationships between perception and imagery, imagery and spatial processes, memory and action: These are the main themes of this text The interest of experimental psychology and cognitive neuroscience on imagery and spatial cognition is remarkably increased in the last decades. Different areas of research contribute to the clarification of the multiple cognitive processes subserving spatial perception and exploration, and to the definition of the neurophysiological mechanisms underpinning these cognitive functions. The aim of this book is to provide the reader (post-graduate students as well as experts) with a complete overview of this field of research. It illustrates the way how brain, behaviour and cognition interact in normal and pathological subjects in perceiving, representing and exploring space. (Series B).

Stevens' Handbook of Experimental Psychology, Memory and Cognitive Processes
The Oxford Handbook of Attention
Mind in the World, World in the Mind
Stevens' Handbook of Experimental Psychology and Cognitive Neuroscience, , 5 Volume Set
A Multidisciplinary Perspective

The Routledge Handbook of Critical Discourse Studies provides a state-of-the-art overview of the important and rapidly developing field of Critical Discourse Studies (CDS). Forty-one chapters from leading international scholars cover the central theories, concepts, contexts and applications of CDS and how they have developed, encompassing: approaches analytical methods interdisciplinarity social divisions and power domains and media. Including methodologies to assist those undertaking their own critical research of discourse, this Handbook is key reading for all those engaged in the study and research of Critical Discourse Analysis within English Language and Linguistics, Communication, Media Studies and related areas.

The ability to navigate across town, comprehend an animated display of the functioning of the human heart, view complex multivariate data on a company's website, or to read an architectural blueprint and form a three-dimensional mental picture of a house are all tasks involving visuospatial thinking. The field of visuospatial thinking is a relatively diverse interdisciplinary research enterprise. An understanding of visuospatial thinking, and in particular, how people represent and process visual and spatial information, is relevant not only to cognitive psychology but also education, geography, architecture, medicine, design computer science/artificial intelligence, semiotics and animal cognition. The goal of this book, first published in 2005, is to present a broad overview of research on visuospatial thinking that can be used by researchers as well as students interested in this topic in both basic research and applied/naturalistic contexts.

Since its inception some fifty years ago, cognitive science has seen a number of sea changes. Perhaps the best known is the development of connectionist models of cognition as an alternative to classical, symbol-based approaches. A more recent - and increasingly influential - trend is that of dynamical-systems-based, ecologically oriented models of the mind. Researchers suggest that a full understanding of the mind will require systematic study of the dynamics of interaction between mind, body, and world. Some argue that this new orientation calls for a revolutionary new metaphysics of mind, according to which mental states and processes, and even persons, literally extend into the environment. This book is a guide to this movement in cognitive science. Each chapter tackles either a specific area of empirical research or specific sector of the conceptual foundation underlying this research.

All living creatures inscribe their activity in space. Human beings acquire knowledge of this space by traversing it, listening to verbal descriptions, and looking at maps, atlases, and digital media. We memorize routes, compare distances mentally, and retrieve our starting place after a long journey. Space and Spatial Cognition provides an up-to-date introduction to the elements of human navigation and the mental representation of our environment. This book explores the mental capacities which enable us to create shortcuts, imagine new pathways, and thus demonstrate our adaptation to the environment. Using a multidisciplinary approach which draws on psychology, neuroscience, geography, architecture and the visual arts, the author presents answers to a number of questions. Which mental capacities do people mobilize when confronted with space? Which brain functions do they implement? How do digital technologies extend these capacities? By presenting space at the crossroads of a number of disciplines, this volume reveals how each of them enhances our understanding of human behaviour in space. Space and Spatial Cognition provides a unique insight into all facets of spatial cognition, including spatial behaviour, language, and future technologies. It will be the ideal companion for all students and researchers in the field.

Methods, Models, and Cognitive Assessment
The Routledge Handbook of Critical Discourse Studies
From Research to Cognitive Technology
Engineering Psychology and Human Performance
Spatial Cognition II

Forlagsomtale: This collection of 27 chapters by leading researchers provides a state-of-the-art reference for mathematical cognition research

Numerous spatial biases influence navigation, interactions, and preferences in our environment. This volume considers their influences on perception and memory.

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.

Since the first edition was published in 1951, The Stevens' Handbook of Experimental Psychology has been recognized as the standard reference in the field. The most recent (3rd) edition of the handbook was published in 2004, and it was a success by any measure. But the field of experimental psychology has changed in dramatic ways since then. Throughout the first 3 editions of the handbook, the changes in the field were mainly quantitative in nature. That is, the size and scope of the field grew steadily from 1951 to 2004, a trend that was reflected in the growing size of the handbook itself: the 1-volume first edition (1951) was succeeded by a 2-volume second edition (1988) and then by a 4-volume third edition (2004). Since 2004, however, this still-growing field has also changed qualitatively in the sense that, in virtually every subdomain of experimental psychology, theories of the mind have evolved into theories of the brain. Research methods in experimental psychology have changed accordingly and now include not only venerable EEG recordings (long a staple of research in psycholinguistics) but also MEG, fMRI, TMS, and single-unit recording. The trend towards neuroscience is an absolutely dramatic, worldwide phenomenon that is unlikely to ever be reversed. Thus, the era of purely behavioral experimental psychology is already long gone, even though not everyone has noticed. Experimental psychology and "cognitive neuroscience" (an umbrella term that includes behavioral neuroscience, social neuroscience and developmental neuroscience) are now inextricably intertwined. Nearly every major psychology department in the country has added cognitive neuroscientists to its ranks in recent years, and that trend is still growing. A viable handbook of experimental psychology should reflect the new reality on the ground. There is no handbook in existence today that combines basic experimental psychology and cognitive neuroscience, this despite the fact that the two fields are interrelated – and even interdependent – because they are concerned with the same issues (e.g., memory, perception, language, development, etc.). Almost all neuroscience-oriented research takes as its starting point what has been learned using behavioral methods in experimental psychology. In addition, nowadays, psychological theories increasingly take into account what has been learned about the brain (e.g., psychological models increasingly need to be neurologically plausible). These considerations explain why this edition of: The Stevens' Handbook of Experimental Psychology is now called The Stevens' Handbook of Experimental Psychology and Cognitive Neuroscience. The title serves as a reminder that the two fields go together and as an announcement that the Stevens' Handbook covers it all. The 4th edition of the Stevens' Handbook is a 5-volume set structured as follows: I. Learning & Memory: Elizabeth Phelps & Lila Davachi (Volume Editors) Topics include fear learning; time perception; working memory; visual object recognition; memory and future imagining; sleep and memory; emotion and memory; attention and memory; motivation and memory; inhibition in memory; education and memory; aging and memory; autobiographical memory; eyewitness memory; and category learning. II. Sensation, Perception & Attention: John Serences (Volume Editor) Topics include attention; vision; color vision; visual search; depth perception; taste; touch; olfaction; motor control; perceptual learning; audition; music perception; multisensory integration; vestibular, proprioceptive, and haptic contributions to spatial orientation; motion perception; perceptual rhythms; the interface theory of perception; perceptual organization; perception and interactive technology; perception for action. III. Language & Thought: Sharon Thompson-Schill (Volume Editor) Topics include reading; discourse and dialogue; speech production; sentence processing; bilingualism; concepts and categorization; culture and cognition; embodied cognition; creativity; reasoning; speech perception; spatial cognition; word processing; semantic memory; moral reasoning. IV. Developmental & Social Psychology: Simona Ghetti (Volume Editor) Topics include development of visual attention; self-evaluation; moral development; emotion-cognition interactions; person perception; memory; implicit social cognition; motivation group processes; development of scientific thinking; language acquisition; category and conceptual development; development of mathematical reasoning; emotion regulation; emotional development; development of theory of mind; attitudes; executive function. V. Methodology: E. J. Wagenmakers (Volume Editor) Topics include hypothesis testing and statistical inference; model comparison in psychology; mathematical modeling in cognition and cognitive neuroscience; methods and models in categorization; serial versus parallel processing; theories for discriminating signal from noise; Bayesian cognitive modeling; response time modeling; neural networks and neurocomputational modeling; methods in psychophysics analyzing neural time series data; convergent methods of memory research; models and methods for reinforcement learning; cultural consensus theory; network models for clinical psychology; the stop-signal paradigm; fmri; neural recordings; open science.

The Oxford Handbook of Comparative Cognition

The Cambridge Handbook of Cognition and Education

Hearing

A Handbook of Spatial Research Paradigms and Methodologies: Spatial cognition in the child and adult

Animal Spatial Cognition

This book, which provides a detailed interdisciplinary overview of spatial cognition from neurological to sociocultural levels, is an accessible resource for advanced undergraduates and graduate students, as well as researchers at all levels who seek to understand our perceptions of the world around us.

Spatial cognition is a broad field of inquiry, emerging from a wide range of disciplines, and incorporating a wide variety of paradigms that have been employed with human and animal subjects. The contributing authors in both volumes of this Handbook are highly respected international authorities in their fields, with many years of experience who describe and review the major paradigms used in their research area. Volume1 is concerned with the developing infant, child, and adult, and their use of spatial representations to search among multiple spatial locations, make spatial judgments, and find their way from place to place in laboratory environments, built environments and in virtual reality simulations.

"Spatial Cognition" brings together psychology, computer science, linguistics and geography, discussing how people think about space (our internal cognitive maps and spatial perception) and how we communicate about space, for instance giving route directions or using spatial metaphors. The technological applications adding dynamism to the area include computer interfaces, educational software, multimedia, and in-car navigation systems. On the experimental level, themes as varied as gender differences in orientation and of course, wholly unrelated the role of the hippocampus in rodent navigation are described. Much detailed analysis and computational modeling of the structure of short term memory (STM) is discussed. The papers were presented at the 1998 annual meeting of the Cognitive Science Society of Ireland, Mind III. (Series B)

Spatial cognition is a branch of cognitive psychology that studies how people acquire and use knowledge about their environment to determine where they are, how to obtain resources, and how to find their way home. Researchers from a wide range of disciplines, including neuroscience, cognition, and sociology, have discovered a great deal about how humans and other animals sense, interpret, behave in, and communicate about space. This book addresses some of the most important dimensions of spatial cognition, such as neuroscience, perception, memory, and language. It provides a broad yet detailed overview that is useful not only to academics, practitioners, and advanced students of psychology, but also to city planners, architects, software designers, sociologists, and anyone else who seeks to understand how we perceive, interpret, and interact with the world around us.

Imagery and Spatial Cognition

Stevens' Handbook of Experimental Psychology and Cognitive Neuroscience, Language and Thought

International Conference, Spatial Cognition 2014, Bremen, Germany, September 15-19, 2014. Proceedings

Handbook of Spatial Cognition

In the past decade, the field of comparative cognition has grown and thrived. No less rigorous than purely behavioristic investigations, examinations of animal intelligence are useful for scientists and psychologists alike in their quest to understand the nature and mechanisms of intelligence. Extensive field research of various species has yielded exciting new areas of research, integrating findings from psychology, behavioral ecology, and ethology in a unique and wide-ranging synthesis of theory and research on animal cognition. The Oxford Handbook of Comparative Cognition contains sections on perception and illusion, attention and search, memory processes, spatial cognition, conceptualization and categorization, problem solving and behavioral flexibility, and social cognition processes including findings in primate tool usage, pattern learning, and counting. The authors have incorporated findings and theoretical approaches that reflect the current state of the field. This comprehensive volume will be a must-read for students and scientists who want to know about the state of the art of the modern science of comparative cognition.

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.

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.

Rev. ed. of: Comparative cognition. 2006.

Foundations and Applications : Selected Papers from Mind III, Annual Conference of the Cognitive Science Society of Ireland, 1998

Handbook of Mathematical Cognition

The Cambridge Handbook of Situated Cognition

What Deficits Reveal About the Human Mind

Space and Spatial Cognition

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.Behavioral and cognitive geography originated as a contrast to aggregate approaches to human geography that treat people as homogenous and interchangeable; to models of human activity based on simplistic and psychologically implausible assumptions; and to conceptualizations of humans as passive responders to their environment. This Handbook is highly multi- and interdisciplinary, featuring scholars from geography, geographic information science, and more than ten other academic disciplines; including: psychology, linguistics, computer science, engineering, architecture and planning, anthropology, and neuroscience. The contributors adhere to scientific rigor in their approach, while fully engaging with issues of emotion, subjectivity, consciousness, and human variability.Thoroughly informed by the history of geography and of the cognitive sciences but also providing guideposts for future research and application, this Handbook will be an essential resource for researchers, lecturers and students in geography, psychology, and other social, behavioral, cognitive, and design sciences.

Handbook of Spatial Research Paradigms and Methodologies: Spatial cognition in the child and adultPsychology Press

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.

The Wiley Handbook on the Cognitive Neuroscience of Learning

Integrating Abstract Theories, Empirical Studies, Formal Methods, and Practical Applications