Brain And Behavior An Introduction To Biological Psychology 4th Ed

The Neurobiology of Brain and Behavioral Development provides an overview of the process of brain development, including recent discoveries on how the brain develops. This book collates and integrates these findings, weaving the latest information with core information on the neurobiology of brain development. It focuses on cortical development, but also features discussions on how the other parts of the brain wire into the developing cerebral cortex. A systems approach is used to describe the anatomical underpinnings of behavioral development, connecting anatomical and molecular features of brain development with behavioral development. The disruptors of typical brain development are discussed in appropriate sections, as is the science of epigenetics that presents a novel and instructive approach on how experiences, both individual and intergenerational, can alter features of brain development. What distinguishes this book from others in the field is its focus on both molecular mechanisms and behavioral outcomes. This body of knowledge contributes to our understanding of the fundamentals of brain plasticity and metaplasticity, both of which are also showcased in this book. Provides an up-to-date overview of the process of brain development that is suitable for use as a university textbook at an early graduate or senior undergraduate level Breadth from molecular level (Chapters 5-7) to the behavioral/cognitive level (Chapters 8-12), beginning with Chapters 1-4 providing a historical context of the ideas Integrates the neurobiology of brain development and behavior, promoting the idea that animal models inform human development Presents an emphasis on the role of epigenetics and brain plasticity in brain development and behavior

A comprehensive Introduction to the world of brain and behavior computational models This book provides a broad collection of articles covering different aspects of computational modeling efforts in psychology and neuroscience. Specifically, it discusses models that span different brain regions (hippocampus, amygdala, basal ganglia, visual cortex), different species (humans, rats, fruit flies), and different modeling methods (neural network, Bayesian, reinforcement learning, data fitting, and Hodgkin-Huxley models, among others). Computational Models of Brain and Behavior is divided into four sections: (a) Models of brain disorders; (b) Neural models of behavioral processes; (c) Models of neural processes, brain regions and neurotransmitters, and (d) Neural modeling approaches. It provides in-depth coverage of models of psychiatric disorders, including depression, posttraumatic stress disorder (PTSD), schizophrenia, and dyslexia; models of neurological disorders, including Alzheimer’s disease, Parkinson’s disease, and epilepsy; early sensory and perceptual processes; models of olfaction; higher/systems level models and low-level models; Pavlovian and instrumental conditioning; linking information theory to neurobiology; and more. Covers computational approximations to intellectual disability in down syndrome Discusses computational models of pharmacological and immunological treatment in Alzheimer's disease Examines neural circuit models of serotonergic system (from microcircuits to cognition) Educates on information theory, memory, prediction, and timing in associative learning Computational Models of Brain and Behavior is written for advanced undergraduate, Master's and PhD-level students—as well as researchers involved in computational neuroscience modeling research.

Social neuroscience is a rapidly growing, interdisciplinary field which is devoted to understanding how social behavior is regulated by the brain, and how such behaviors in turn influence brain and biology. Existing volumes either fail to take a neurobiological approach or focus on one particular type of behavior, so the field is ripe for a comprehensive reference which draws cross-behavioral conclusions. This authored work will serve as the market’s most comprehensive reference on the neurobiology of social behavior. The volume will offer an introduction to neural systems and genetics/epigenetics, followed by detailed study of a wide range of behaviors – aggression, sex and sexual differentiation, mating, parenting, social attachments, monogamy, empathy, cooperation, and altruism. Research findings on the neural basis of social behavior will be integrated across different levels of analysis, from molecular neurobiology to neural systems/behavioral neuroscience to fMRI imaging data on human social behavior. Chapters will cover research on both normal and abnormal behaviors, as well as developmental aspects. 2016 PROSE Category winner - Honorable Mention for Biomedicine and Neuroscience Presents neurobiological analysis of the full spectrum of social behaviors, while other volumes focus on one particular behavior Integrates and discusses research from different levels of analysis, including molecular/genetic, neural circuits and systems, and fMRI imaging research Covers both normal and abnormal behaviors Covers aggression, sex and sexual differentiation, mating, parenting, social attachments, empathy, cooperation, and altruism

Using the most well-studied behavioral analyses of animal subjects to promote a better understanding of the effects of disease and the effects of new therapeutic treatments on human cognition, Methods of Behavior Analysis in Neuroscience provides a reference manual for molecular and cellular research scientists in both academia and the pharmaceutic

Completely revised to accompany the best-selling Brain & Behavior: An Introduction to Behavioral Neuroscience, Fifth Edition, the Study Guide offers students even more opportunities to review, practice, and master course material. Featuring chapter outlines, learning objectives, summaries and guided reviews, short answer and essay questions, multiple choice post-test questions, and answer keys, the guide reflects important updates made to the content in the main text to enhance student understanding. Bundle and Save The study guide accompanies the core text, Brain & Behavior: An Introduction to Behavioral Neuroscience, Fifth Edition, for only $5 more! Contact your rep to find the perfect combination of all the tools and resources available fit your unique course needs.

Behavioral Neuroscience: Essentials and Beyond shows students the basics of biological psychology using a modern and research-based perspective. With fresh coverage of

applied topics and complex phenomena, including social neuroscience and consciousness, author Stéphane Gaskin delivers the most current research and developments surrounding the brain?s functions through student-centered pedagogy. Carefully crafted features introduce students to challenging biological and neuroscience-based concepts through illustrations of real-life application, exploring myths and misconceptions, and addressing students? assumptions head on. INSTRUCTORS: Behavioral Neuroscience: Essentials and Beyond is accompanied by a complete teaching and learning package! Contact your rep to request a demo. SAGE Premium Video Figures Brought to Life animations in the Interactive eBook boost student comprehension and bolster analysis. Watch a sample video. Interactive eBook Your students save when you bundle the print loose-leaf book with the Interactive eBook (Bundle ISBN: 978-1-0718-1347-8), which includes access to SAGE Premium Video and other multimedia tools. Learn more. SAGE Coursepacks SAGE Coursepacks makes it easy to import our quality instructor and student resource content into your school’s learning management system (LMS). Learn more. SAGE Edge This open-access site offers students an impressive array of learning tools and resources. Learn more.

Representing a brave and insightful shift away from narrow perspectives on behaviour management, this book draws practitioners towards a more holistic understanding of ourselves and how we impact on children’s learning and behaviour. The authors’ brilliant new conceptual model of ‘whole-brain’ behaviour management challenges existing theories about the management of children’s behavioural issues. Their pioneering ‘whole-brain’ approach draws upon a range of influences and concepts that cross discipline boundaries, expanding on the practitioner’s understanding of the complexity of children’s behaviour through their own knowledge of neuroscience, biopsychosocial theory and interpersonal awareness. The book will take the reader through a process of self-evaluation in which their preferred ways of thinking, acting and relating will be explored and interpreted in order to help them understand the impact of their ‘personal style’ on how the children in their care behave. Offering new insights and creative solutions, this is a practical guide to coach practitioners in their personal and professional development, helping them to raise the achievement of children exhibiting even the most challenging of behaviour.

Ignite your excitement about behavioral neuroscience with Brain & Behavior: An Introduction to Behavioral Neuroscience, Fifth Edition by best-selling author Bob Garrett and new co-author Gerald Hough. Garrett and Hough make the field accessible by inviting readers to explore key theories and scientific discoveries using detailed illustrations and immersive examples as their guide. Spotlights on case studies, current events, and research findings help readers make connections between the material and their own lives. A study guide, revised artwork, new animations, and an accompanying interactive eBook stimulate deep learning and critical thinking.

Fundamentals of Psychology: An Introduction focuses on issues that cut through the artificial boundaries commonly held in the study of behavior. The book reviews the nature of the organism in terms of basic neurology, including the neurological organization of the central nervous system and the general features of brain development. The author also examines the normal course of development of the visual systems. He discusses fixed patterns of behavior and the developmental processes that include emotional behavior, self-control, language use, perceptual, and cognitive development. The author then explains the use of statistical concept in psychological research, as well as the psychological methods of inquiry that involves variable manipulation and observation of effects. The author also discusses learning and motivation theory including the theories of Pavlov, Skinner, and Premack. He discusses the organism as an information processor using short- and long-term memory, and the mind as having physical aspects such as brain codes and a brain structure known as the corpus callosum. This book is helpful for psychiatrists, psychologists, behavioral scientists, students and professors in psychology.

Brain and Behavior Computing offers insights into the functions of the human brain. This book provides an emphasis on brain and behavior computing with different modalities available such as signal processing, image processing, data sciences, statistics further it includes fundamental, mathematical model, algorithms, case studies, and future research scopes. It further illustrates brain signal sources and how the brain signal can process, manipulate, and transform in different domains allowing researchers and professionals to extract information about the physiological condition of the brain. Emphasizes real challenges in brain signal processing for a variety of applications for analysis, classification, and clustering. Discusses data sciences and its applications in brain computing visualization. Covers all the most recent tools for analysing the brain and it’s working. Describes brain modeling and all possible machine learning methods and their uses. Augments the use of data mining and machine learning to brain computer interface (BCI) devices. Includes case studies and actual simulation examples. This book is aimed at researchers, professionals, and graduate students in image processing and computer vision, biomedical engineering, signal processing, and brain and behavior computing.

An Introduction to Brain and Behavior takes uninitiated students to the frontiers of contemporary physiological psychology more effectively than any other textbook. Renowned researchers and veteran teachers, Kolb and Whishaw help students connect nervous-system activity to human behavior, drawing on the latest research and revealing case studies.

In Brain & Behavior: An Introduction to Behavioral Neuroscience, authors Bob Garrett and Gerald Hough showcase the ever-expanding body of research into the biological foundations of human behavior through a big-picture approach. With thought-provoking examples and a carefully crafted, vibrant visual program, the text allows any student to appreciate the importance and relevance of this field of study. New features to the Sixth Edition include fully revised learning objectives, a streamlined box feature program, an expanded collection of foundational animations, and updated research on timely topics such as drugs and addiction, sex and gender, and emotions and health. This title is accompanied by a complete teaching and learning package. Contact your SAGE representative to request a demo. Digital Option / Courseware SAGE Vantage is an intuitive digital platform that delivers this text’s content and course materials in a learning experience that offers auto-graded assignments and interactive multimedia tools, all carefully designed to ignite student engagement and drive critical thinking. Built with you and your students in mind, it offers simple course set-up and enables students to better prepare for class. Learn more. Assignable Video with Assessment Assignable video (available with SAGE Vantage) is tied to learning objectives and curated exclusively for this text to bring concepts to life. Watch a sample video now. LMS Cartridge Import this title’s instructor resources into your school’s learning management system (LMS) and save time. Don’t use an LMS? You can still access all of the same online resources for this title via the password-protected Instructor Resource Site. Learn more.

Reasoning: The Neuroscience of How We Think is a comprehensive guide to the core topics related to a thorough understanding of reasoning. It presents the current knowledge of the subject in a unified, complete manner, ranging from animal studies, to applied situations, and is the only book available that presents a sustained focus on the neurobiological processes behind reasoning throughout all chapters, while also synthesizing research from animal behavior, cognitive psychology, development, and philosophy for a truly multidisciplinary approach. The book considers historical perspectives, state-of-the-art research methods, and future directions in emerging technology and cognitive enhancement. Written by an expert in the field, this book provides a coherent and structured narrative appropriate for students in need of an introduction to the topic of reasoning as well as researchers seeking well-rounded foundational content. It is essential reading for neuroscientists, cognitive scientists, neuropsychologists and others interested in the neural mechanisms behind thinking, reasoning and higher cognition. Provides a comparative perspective considering animal cognition and its relevance to human reasoning Includes developmental and lifespan considerations throughout the book Discusses technological development and its role in reasoning, both currently and in the future Considers perspectives from not only neuroscience, but cognitive psychology, philosophy, development, and animal behavior for a multidisciplinary treatment Contains highlight boxes featuring additional details on methods, historical descriptions and experimental tasks

The bonobo, along with the chimpanzee, is one of our two closest living relatives. Their relatively narrow geographic range (south of the Congo River in the Democratic Republic of Congo) combined with the history of political instability in the region, has made their scientific study extremely difficult. In contrast, there are dozens of wild and captive sites where research has been conducted for decades with chimpanzees. Because data sets on bonobos have been so hard to obtain and so few large-scale studies have been published, the majority of researchers have treated chimpanzee data as being representative of both species. However, this misconception is now rapidly changing. With relative stability in the DRC for over a decade and a growing community of bonobos living in zoos and sanctuaries internationally, there has been an explosion of scientific interest in the bonobo with dozens of high impact publications focusing on this fascinating species. This research has revealed exactly how unique bonobos are in their brains and behavior, and reminds us why it is so important that we redouble our efforts to protect the few remaining wild populations of this iconic and highly endangered great ape species.

The author adopts a reader-friendly writing style and excellent use of examples to present daunting material in a way students will find exciting instead of burdensome. The text focuses attention on behavior (in preference to physiological mechanisms) and practical human implications, which are reinforced with frequent examples and case studies that keep students engaged in the learning process. Technical details are limited where possible and retained with careful explanations where they enhance understanding. Topics often presented separately are now integrated with other subjects to provide for more meaningful and more interesting discussions. Integration of subjects include language with audition, taste with hunger, olfaction with sexual behavior, and (aspects of) pain with emotion. The more interesting psychological applications (e.g. drugs, sex, emotion) are introduced earlier than in other textbooks to engage the students before plunging into the more technical aspects of the subject. BRAIN AND BEHAVIOR: AN INTRODUCTION TO PSYCHOLOGY comes packaged with a FREE BioPsych CD that allows students to connect directly to the Wadsworth Psychology Resource Center, work through the quiz items, and explore relevant Web links.

There are few books devoted to the topic of brain plasticity and behavior. Most previous works that cover topics related to brain plasticity do not include extensive discussions of behavior. The first to try to address the relationship between recovery from brain damage and changes in the brain that might support the recovery, this volume includes studies of humans as well as laboratory species, particularly rats. The subject matter identifies a consistent correlation between specific changes in the brain and behavioral recovery, as well as various factors such as sex and experience that influence this correlation in consistent ways. Evolving from a series of lectures given as the McEachran Lectures at the University of Alberta, this volume originally began as a summary of the lectures, but has expanded to include more background literature, allowing the reader to see the author's biases, assumptions, and hunches in a broader perspective. In writing this volume, the author had two goals in mind: * to initiate senior undergraduates or graduate psychology, biology, neuroscience or other interested students to the issues and questions regarding the nature of brain plasticity, and * to provide a monograph in the form of an extended summary of the work the author and his colleagues have done on brain plasticity and recovery of function.

Reaching for objects in our surroundings is an everyday activity that most humans perform seamlessly a hundred times a day. It is nonetheless a complex behavior that requires the perception of objects' features, action selection, movement planning, multi-joint coordination, force regulation, and the integration of all of these properties during the actions themselves to meet the successful demands of extremely varied task goals. Even though reach-to-grasp behavior has been studied for decades, it has, in recent years, become a particularly growing area of multidisciplinary research because of its crucial role in activities of daily living and broad range of applications to other fields, including physical rehabilitation, prosthetics, and robotics. This volume brings together novel and exciting research that sheds light into the complex sensory-motor processes involved in the selection and production of reach-to-grasp behaviors. It also offers a unique life-span and multidisciplinary perspective on the development and multiple processes involved in the formation of reach-to-grasp. It covers recent and exciting discoveries from the fields of developmental psychology and learning sciences, neurophysiology and brain sciences, movement sciences, and the dynamic field of developmental robotics, which has become a very active applied field relying on biologically inspired models. This volume is a rich and valuable resource for students and professionals in all of these research fields, as well as cognitive sciences, rehabilitation, and other applied sciences.

An overview of current research at the intersection of psychology and biology, integrating evolutionary and developmental data and explanations. In the past few decades, sources of inspiration in the multidisciplinary field of cognitive science have widened. In addition to ongoing vital work in cognitive and affective neuroscience, important new work is being conducted at the intersection of psychology and the biological sciences in general. This volume offers an overview of the cross-disciplinary integration of evolutionary and developmental approaches to cognition in light of these exciting new contributions from the life sciences. This research has explored many cognitive abilities in a wide range of organisms and developmental stages, and results have revealed the nature and origin of many instances of the cognitive life of organisms. Each section of Cognitive Biology deals with a key domain of cognition: spatial cognition; the relationships among attention, perception, and learning; representations of numbers and economic values; and social cognition. Contributors discuss each topic from the perspectives of psychology and neuroscience, brain theory and modeling, evolutionary theory, ecology, genetics, and developmental science. Contributors Chris M. Bird, Elizabeth M. Brannon, Neil Burgess, Jessica F. Cantlon, Stanislas Dehaene, Christian F. Doeller, Reuven Dukas, Rochel Gelman, Alexander Gerganov, Paul W. Glimcher, Robert L. Goldstone, Edward M. Hubbard, Lucia F. Jacobs, Mark H. Johnson, Annette Karmiloff-Smith, David Landy, Lynn Nadel, Nora S. Newcombe, Daniel Osorio, Mary A. Peterson, Manuela Piazza, Philippe Pinel, Michael L. Platt, Kristin R. Ratliff, Michael E. Roberts, Wendy S. Shallcross, Stephen V. Shepherd, Sylvain Sirois, Luca Tommasi, Alessandro Treves, Alexandra Twyman, Giorgio Vallortigara

Combining theory and practice, David A. Sousa helps educators understand what is happening in the brains of students with behavior problems and offers practical, effective intervention strategies compatible with current findings in neuroscience. In easy-to-understand language, the author presents current information on brain development and function and highlights factors that affect social and emotional

decision-making and negative behaviors like impulsivity, defiance, and violence. Comprehensive yet concise, this guide for K–12 teachers and counselors provides methods for teaching self-control and fostering positive relationships with troubled students and provides case studies that match effective strategies with specific behaviors. Educators will find answers to critical questions such as: How does the rate of brain development explain erratic behavior of adolescents? What type of data collection can help teachers manage misbehavior? Can peer influence help curb misbehavior rather than encourage it? Why are boys more likely to misbehave than girls and what can teachers do about it? How do school and classroom climates affect student behavior? This invaluable handbook also features reproducible forms, worksheets, checklists, additional references, and an expanded list of primary research sources to help teachers understand and apply research-based principles for classroom and behavior management.

This volume is based on the Symposium on "The Brain and Human Behavior," held in October of 1969 as a part of the centennial observance of the Loyola Uni versity of Chicago. As President of the University, I was pleased to offer the University's support for the organization of this Symposium and to participate in some of its sessions. The volume which I now have the pleasure to introduce employs the materials of the Symposium as a framework. Its chapters constitute updated and greatly expanded versions of the original presentations, edited and organized so as to constitute an integrated picture of Neurosciences and their epistemological aspects. It seems appropriate for me to describe at this time certain features of this Jesuit University and of its Centennial which are particularly pertinent in the context of the present volume. Loyola University of Chicago opened its classes on September 5, 1870 with a faculty of 4 and a student body of 37. Today, Loyola University is the largest in dependent University in Illinois and the largest institution of higher learning under Catholic sponsorship in the United States of America. The University comprises twelve schools and colleges, a faculty of more than 1,600 and a student body of 16,545. As an institution of learning, this University is dedicated to knowledge; but perhaps more particularly than others, it is dedicated to the integration of truth and the knowledge of man as such.

Development and Evolution of Brain Size: Behavioral Implications contains the proceedings of a symposium entitled ""Development and Evolution of Brain Size: Behavioral Implications,"" held at William Paterson College in Wayne, New Jersey, in April 1978. The papers explore the relationship between evolution and development and its implications for brain size and behavior. This book is comprised of 18 chapters and begins with an overview of the brain-behavior relationship, with emphasis on the importance of brain size for behavior; the effects of genetic selection for brain size on brain substructures and behavior; and whether genetic and environmental manipulations of brain size have similar consequences. The next two chapters explain evolutionary theory and the evolution of the human brain as well as diversity in brain size. A general model for brain evolution that offers some synthetic possibilities for approaching the questions of brain evolution, size, allometry, and reorganization is then described. The correlation between cerebral indices and behavioral differences is also discussed, along with biochemical correlates of selective breeding for brain size. The results of an experiment that assessed the effects of early undernutrition on brain and behavior of developing mice are presented. This monograph should be of interest to students and practitioners in a wide range of disciplines, including evolutionary biology and clinical psychology.

There is an increasing population of students coming to college who challenge and frustrate staff. Students struggle with complex mental health problems, environmental stress, anger difficulties, and the potential for explosively acting out with threats or violence. This practical guide provides college and university staff with direction when working with these students in a variety of college environments, including community colleges, four-year institutions, and online learning environments. Coverage includes how to identify and assess students who are at risk, calm and de-escalate a crisis, motivate and inspire change, and how to manage and maintain change in a positive direction over time. Grounded in theory and research, this book offers practical and tangible advice and guidance to make it easier to assist students in need.

New edition building on the success of previous one. Retains core aim of providing an accessible introduction to behavioral neuroanatomy.

Completely revised to accompany the best-selling Brain & Behavior: An Introduction to Behavioral Neuroscience, Fifth Edition, the Study Guide offers students even more opportunities to review, practice, and master course material. Featuring chapter outlines, learning objectives, summaries and guided reviews, short answer and essay questions, multiple choice post-test questions, and answer keys, the guide reflects important updates made to the content in the main text to enhance student understanding.

This comprehensive yet brief overview of the adolescent human brain discusses how the brain develops during this critical period of life and how that development impacts decision-making and risk-taking behavior in the adolescent. This originated as a white paper requested by the Canadian government for a specific group looking to understand adolescent brain development in the context of adolescent behavior. The paper was not made available to the Canadian government outside of the specific task force that requested it nor to the general public. The authors have since decided that having put so much effort into concisely summarizing research on adolescent brain development, it would be a useful addition to researchers in psychology generally. The original paper has since been updated and revised considerably.

This book provides the first comprehensive and current review of considerable progress made over the past decade in analyzing neural and behavioral mechanisms mediating visually guided behavior in birds.The visual capacities of birds rival even those of primates, and their visual system probably reflects the operation of a ground plan common to all vertebrates. This book provides the first comprehensive and current review of considerable progress made over the past decade in analyzing neural and behavioral mechanisms mediating visually guided behavior in birds.The book's five major sections deal with the visual world of birds, the organization of avian visual systems, the development and plasticity of visual structure and function, visuomotor control mechanisms, and cognitive processes. The introduction to each section discusses the nature and significance of the problem areas, providing a context for the chapters to follow, which review the current status of research on a specific problem. The contributors are an international assemblage of researchers, representing a wide variety of disciplines, ranging from ornithology to neurophysiology and including ethology, experimental psychology, anatomy, and developmental neurobiology. For the ethologist, avian behavior is the source of a wide variety of species-typical fixed action patterns; for the experimental psychologist, birds are the subject of choice for studies of conditioning, learning, and cognitive processes; for the neurobiologist they provide model systems for studying developmental processes, sensory mechanisms, orientation, and motor control. For these reasons, research on the avian brain and behavior occupies an increasingly important place in contemporary behavioral biology.

This student guide actively involves students in the text material, using a variety of engaging exercises and study tools. Students who complete the tests and exercises can better organize and apply what they have studied. Fully revised, it features a review of key concepts, terms, practice tests, short answer and matching questions, diagrams for labeling and identification, CD-ROM exercises, crossword puzzles, and Internet activities.

This book is a comprehensive overview of the main current concepts in brain cognitive activities at the global, collective (or network) level, with a focus on transitions between normal neurophysiology and brain pathological states. It provides a unique approach of linking molecular and cellular aspects of normal and pathological brain functioning with their corresponding network, collective and dynamical

manifestations that are subsequently extended to behavioral manifestations of healthy and diseased brains. This book introduces a high-level perspective, searching for simplification amongst the structural and functional complexity of nervous systems by consideration of the distributed interactions that underlie the collective behavior of the system. The authors hope that this approach could promote a global comprehensive understanding of high-level laws behind the elementary biological processes in the neuroscientific community, while, perhaps, introducing elements of biological complexities to the mathematical/computational readership. The title of the book refers to the main point of the monograph: that there is a smooth continuum between distinct brain activities resulting in different behaviors, and that, due to the plastic nature of the brain, the behavior can also alter the brain function, thus rendering artificial the boundaries between the brain and its behavior.

The up-to-date Second Edition presents an accessible introduction to the rapidly advancing field of psychopharmacology through an examination of how drug actions in the brain affect psychological processes. To help readers develop an appreciation of the development of drug treatments and neuroscience over time, the book provides historical background, covering major topics in psychopharmacology, including discussion on newer drugs and recent trends in drug use. Pedagogical features at the forefront of the latest scholarship of teaching and learning are integrated throughout the text to ensure readers are able to easily process and understand the material.

Most of what has been learned about how the brain mediates behavior comes from experiments of nature where a stroke or other damage to the brain produces changes in a person's behavior. In Matter of Mind, one of the leading figures in behavioral and cognitive neurology uses patient vignettes and other examples from his rich professional life to show just how much knowledge about brain functions such as reading, writing, language, control of emotions, skilled movement, perception, attention, and motivation has been gained from the study of patients with diseases of or damage to the brain. No knowledge of neurology or neuroscience is required to understand the book, which is intended for neurological patients and their families. It will also be of interest to professionals who study the brain or treat patients with brain damage including neuropsychologists, neurologists, neuroscientists, psychologists, physiatrists, speech pathologists, occupational and physical therapists, and their students and trainees.

Brain & BehaviorAn Introduction to Behavioral NeuroscienceSAGE Publications

In addition to filling a need within the field of parental behavior, this book contributes importantly to the growing area of emotional and motivational neuroscience. A major part of neuroscience research at the whole organism level has been focused on cognitive neuroscience, with an emphasis on the neurobiology of learning and memory, but there has been a recent upsurge in research which is attempting to define the neural basis of basic motivational and emotional systems which regulate such behaviors as food intake, aggression, reproduction, reward-seeking behaviors, and anxiety-related behaviors. In this book the emphasis is on the research findings obtained from rodents, sheep and primates. The authors' goal, of course, was to provide a foundation that may help us understand the neurobiology of human parental behavior. Indeed, the last chapter attempts to integrate the non-human research data with some human data in order to make some inroads toward an understanding of postpartum depression, child abuse, and child neglect. Clearly, motivational and emotional neuroscience has close ties to psychiatry, and this connection will be very evident in the final chapter. By understanding the neurobiology of parental behavior we are also delving into neurobiological factors which may have an impact on core human characteristics involved in sociality, social attachment, nurturing behavior, and love. In this very violent world, it is hard to conceive of a group of characteristics that are more worthy of study.

Book for Psychology 4: Brain, Mind, and Behavior for Ernie Jones' classes at Las Positas College

Actions have consequences--and the ability to learn from them revolutionized life on earth. While it's easy enough to see that consequences are important (where would we be without positive reinforcement?), few have heard there's a science of consequences, with principles that affect us every day. Despite their variety, consequences appear to follow a common set of scientific principles and share some similar effects in the brain--such as the "pleasure centers." Nature and nurture always work together, and scientists have demonstrated that learning from consequences predictably activates genes and restructures the brain. Applications are everywhere--at home, at work, and at school, and that's just for starters. Individually and societally, for example, self-control pits short-term against long-term consequences. Ten years in the making, this award-winning book tells a tale ranging from genetics to neurotransmitters, from emotion to language, from parenting to politics, taking an inclusive interdisciplinary approach to show how something so deceptively simple can help make sense of so much.

A unique overview of the human language faculty at all levels of organization. Language is not only one of the most complex cognitive functions that we command, it is also the aspect of the mind that makes us uniquely human. Research suggests that the human brain exhibits a language readiness not found in the brains of other species. This volume brings together contributions from a range of fields to examine humans' language capacity from multiple perspectives, analyzing it at genetic, neurobiological, psychological, and linguistic levels. In recent decades, advances in computational modeling, neuroimaging, and genetic sequencing have made possible new approaches to the study of language, and the contributors draw on these developments. The book examines cognitive architectures, investigating the functional organization of the major language skills; learning and development trajectories, summarizing the current understanding of the steps and neurocognitive mechanisms in language processing; evolutionary and other preconditions for communication by means of natural language; computational tools for modeling language; cognitive neuroscientific methods that allow observations of the human brain in action, including fMRI, EEG/MEG, and others; the neural infrastructure of language capacity; the genome's role in building and maintaining the language-ready brain; and insights from studying such language-relevant behaviors in nonhuman animals as birdsong and primate vocalization. Section editors Christian F. Beckmann, Carel ten Cate, Simon E. Fisher, Peter Hagoort, Evan Kidd, Stephen C. Levinson, James M. McQueen, Antje S. Meyer, David Poeppel, Caroline F. Rowland, Constance Scharff, Ivan Toni, Willem Zuidema

An examination of what makes us human and unique among all creatures—our brains. No reader curious about our “little grey cells” will want to pass up Harvard neuroscientist John E. Dowling’s brief introduction to the brain. In this up-to-date revision of his 1998 book Creating Mind, Dowling conveys the essence and vitality of the field of neuroscience—examining the progress we’ve made in understanding how brains work, and shedding light on discoveries having to do with aging, mental illness, and brain health. The first half of the book provides the nuts-and-bolts necessary for an up-to-date understanding of the brain. Covering the general organization of the brain, early chapters explain how cells communicate with one another to enable us to experience the world. The rest of the book touches on higher-level concepts such as vision, perception, language, memory, emotion, and consciousness. Beautifully illustrated and lucidly written, this introduction elegantly reveals the beauty of the organ that makes us uniquely human.

Originally published in 1979, this book provides students with an example of the ways in which an evolutionary perspective can rephrase and clarify traditional questions and issues in psychology. The format provides the student firstly with the minimal amount of basic information in neuroanatomy, genetics and modern evolutionary theory in a form which is readily related to the remainder of the volume. The book then goes on to consider the relationships between different forms of explanation in biology, and the role of brain behaviour students in these relationships. Finally, the reader is given an opportunity to follow the reasoning which stems from a biological approach when applied to topics in human behaviour such as learning, dreaming, sleeping, exploration, anxiety, reasoning, intelligence and consciousness. Modern evolutionary biology places man in a broader context than does traditional psychology, and this new perspective reduces our tendency to view life solely from a human standpoint. The significance as

well as the uniqueness of some traditionally ‘human’ attributes are challenged by this approach.
The new edition of Kolb and Whishaw's text explores the biological basis of behaviour and communicates the excitement of the tremendous advances in the field.
Drawing on their extensive experience in teaching and research, the authors explore the biological basis of behaviour, whilst emphasising clinical aspects of neuroscience and reinforcing its relationship to the human experience.
Instructors - Electronic inspection copies are available or contact your local sales representative for an inspection copy of the print version. Revisiting the Classic Studies is a series of texts that introduces readers to the studies in psychology that changed the way we think about core topics in the discipline today. It provokes students to ask more interesting and challenging questions about the field by encouraging a deeper level of engagement both with the details of the studies themselves and with the nature of their contribution. Edited by leading scholars in their field and written by researchers at the cutting edge of these developments, the chapters in each text provide details of the original works and their theoretical and empirical impact, and then discuss the ways in which thinking and research has advanced in the years since the studies were conducted. Brain and Behaviour: Revisiting the Classic Studies traces 17 ground-breaking studies by researchers such as Gage, Luria, Sperry, and Tulving to re-examine and reflect on their findings and engage in a lively discussion of the subsequent work that they have inspired. Suitable for students on neuropsychology courses at all levels, as well as anyone with an enquiring mind.
From authors Bryan Kolb and Ian Whishaw, and new coauthor G. Campbell Teskey, An Introduction to Brain and Behavior offers a unique inquiry-based introduction to behavioral neuroscience, with each chapter focusing on a central question (i.e., "How Does the Nervous System Function?"). It also incorporates a distinctive clinical perspective, with examples showing students what happens when common neuronal processes malfunction. Now this acclaimed book returns in a thoroughly up-to-date new edition. Founders of a prestigious neuroscience institute at the University of Lethbridge in Alberta, Canada, Kolb and Whishaw are renowned as both active scientists and teachers. G. Campbell Teskey of the University of Calgary, also brings to the book a wealth of experience as a researcher and educator. Together, they are the ideal author team for guiding students from a basic understanding the biology of behavior to the very frontiers of some of the most exciting and impactful research being conducted
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