

Handedness And Brain Asymmetry The Right Shift Theory Hardcover 2002 By Marian Annett

Brain Asymmetry Handedness and Brain Asymmetry **Handedness and Brain Asymmetry** The Lateralized Brain **Hemispheric Asymmetry** *Laterality* *Functional Asymmetry in the Intact Brain* **The Two Halves of the Brain** **The Asymmetrical Brain** **Brain Asymmetry in Evolution** **Left Versus Right Asymmetries of Brain and Behaviour** **The Origins of Homo Sapiens** *Left Brain - Right Brain Differences* **Cognitive and Neurophysiological Models of Brain Asymmetry** *The Two Halves of the Brain* Human Cerebral Asymmetry **Right Hand, Left Hand Divided Brains** The Brain and Behavior Behavioral Inhibition, Emotional Vulnerability and Brain Asymmetry The Master and His Emissary Functional Brain Asymmetry **Divided Brains** *Micro-, Meso- and Macro-Connectomics of the Brain* *Cerebral Dominance* **Comparative Vertebrate Cognition** **South and Southeast Asian Psycholinguistics** On the Other Hand Cerebral Asymmetry in Spatial Abilities Quirks of Human Anatomy **The Psychobiology of Affective Development (PLE: Emotion)** **Language Development and Neurological Theory** **Asymmetrical Function of the Brain** *Behavioural and Morphological Asymmetries in Vertebrates* **Brain Asymmetry and Neural Systems** **Brain, Behaviour and Evolution** *Asymmetry* **Language Functions and Brain Organization** **The Clinical Neuroscience of Lateralization** **Foundations in Social Neuroscience** The Evolution of Hemispheric Specialization in Primates

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Micro-, Meso- and Macro-Connectomics of the Brain Feb 12 2021 This book has brought together leading investigators who work in the new arena of brain connectomics. This includes 'macro-connectome' efforts to comprehensively chart long-distance pathways and functional networks; 'micro-connectome' efforts to identify every neuron, axon, dendrite, synapse, and glial process within restricted brain regions; and 'meso-connectome' efforts to systematically map both local and long-distance connections using anatomical tracers. This book highlights cutting-edge methods that can accelerate progress in elucidating static 'hard-wired' circuits of the brain as well as dynamic interactions that are vital for brain function. The power of connectomic approaches in characterizing abnormal circuits in the many brain disorders that afflict humankind is considered. Experts in computational neuroscience and network theory provide perspectives needed for synthesizing across different scales in space and time. Altogether, this book provides an integrated view of the challenges and opportunities in deciphering brain circuits in health and disease. **Right Hand, Left Hand** Sep 21 2021 Seeks to explore the nature of left- and right-handedness in nature and history, addressing such topics as the cognitive differences of left-handed people, the reason Arabic and Hebrew writing goes from right to left, and the reason tornadoes spin according to their hemispheres. (Science &

Mathematics)

The Two Halves of the Brain Jun 30 2022 State-of-the-art research on brain asymmetry, explained from molecular to clinical levels. Hemispheric asymmetry is one of the basic aspects of perception and cognitive processing. The different functions of the left and right hemispheres of the brain have been studied with renewed interest in recent years, as scholars explore applications to new areas, new measuring techniques, and new theoretical approaches. This volume provides a comprehensive view of the latest research in brain asymmetry, offering not only recent empirical and clinical findings but also a coherent theoretical approach to the subject. In chapters that report on the field at levels from the molecular to the clinical, leading researchers address such topics as the evolution and genetics of brain asymmetry; animal models; findings from structural and functional neuroimaging techniques and research; sex differences and hormonal effects; sleep asymmetry; cognitive asymmetry in visual and auditory perception; and auditory laterality and speech perception, memory, and asymmetry in the context of developmental, neurological, and psychiatric disorders. Contributors Katrin Amunts, Ulrike Bayer, Alfredo Brancucci, Vince D. Calhoun, Maria Casagrande, Marco Catani, Michael C. Corballis, Patricia E. Cowell, Timothy J. Crow, Tom Eichele, Stephanie Forkel, Patrick J. Gannon, Isabelle George, Onur Güntürkün, Heikki Hämäläinen, Markus Hausmann, Joseph B. Hellige, Kenneth Hugdahl, Masud Husain, Grégoria Kalpouzos, Bruno Laeng, Martina Manns, Chikashi Michimata, Deborah W. Moncrieff, Lars Nyberg, Godfrey Pearlson, Stefan Pollmann, Victoria Singh-Curry, Iris E.C. Sommer, Tao Sun, Nathan Swanson, Fiia Takio, Michel Thiebaut de Schotten, René Westerhausen

Brain Asymmetry and Neural Systems Mar 04 2020 The proposed book investigates brain asymmetry from the perspective of functional neural systems theory, a foundational approach for the topic. There is currently no such book available on the market and there is a need for a neuroscience book, with a focus on the functional asymmetry of these two integrated and dynamic brains using historical and modern clinical and experimental research findings with the field. The book provides evidence from multiple methodologies, including clinical lesion studies, brain stimulation, and modern imaging techniques. The

author has successfully used the book in doctoral and advances undergraduate courses on neuroscience and neuropsychology. It has also been used to teach a course on the biological basis of behavior and could be used in a variety of contexts and courses.

Hemispheric Asymmetry Sep 02 2022 Is "right-brain" thought essentially creative, and "left-brain" strictly logical? Joseph B. Hellige argues that this view is far too simplistic. Surveying extensive data in the field of cognitive science, he disentangles scientific facts from popular assumptions about the brain's two hemispheres. In *Hemispheric Asymmetry*, Hellige explains that the "right brain" and "left brain" are actually components of a much larger cognitive system encompassing cortical and subcortical structures, all of which interact to produce unity of thought and action. He further explores questions of whether hemispheric asymmetry is unique to humans, and how it might have evolved. This book is a valuable overview of hemispheric asymmetry and its evolutionary precedents.

Handedness and Brain Asymmetry Dec 05 2022 Brain asymmetry for speech is moderately related to handedness but what are the rules? Are symmetries for hand and brain associated with characteristics such as intelligence, motor skill, spatial reasoning or skill at sports? In this follow up to the influential *Left, Right Hand and Brain* (1985) Marian Annett draws on a working lifetime of research to help provide answers to crucial questions. Central to her argument is the Right Shift Theory - her original and innovative contribution to the field that seeks to explain the relationships between left-and right-handedness and left-and right-brain specialisation. The theory proposes that handedness in humans and our non-human primate relations depends on chance but that chance is weighted towards right-handedness in most people by an agent of right-hemisphere disadvantage. It argues for the existence of a single gene for right shift (RS+) that evolved in humans to aid the growth of speech in the left hemisphere of the brain. The Right Shift Theory has possible implications for a wide range of questions about human abilities and disabilities, including verbal and non verbal intelligence, educational progress and dyslexia, spatial reasoning, sporting skills and mental illness. It continues to be at the cutting edge of research, solving problems and generating new avenues of investigation - most recently the surprising idea that a

mutant RS+ gene might be involved in the causes of schizophrenia and autism. **Handedness and Brain Asymmetry** will make fascinating reading for students and researchers in psychology and neurology, educationalists, and anyone with a keen interest in why people have different talents and weaknesses.

Divided Brains Mar 16 2021 Discusses brain asymmetry from four perspectives - function, evolution, development and causation - covering a wide range of species, including humans.

Brain, Behaviour and Evolution Feb 01 2020 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 Brain and Behavior Jul 20 2021 New edition building on the success of previous one. Retains core aim of providing an accessible introduction to behavioral neuroanatomy.

Handedness and Brain Asymmetry Nov 04 2022 Are symmetries for hand and brain associated with intelligence, spatial reasoning or skill at sports? Marian Annett draws on a working lifetime of research to help provide answers to this crucial question.

Brain Asymmetry in Evolution Apr 28 2022 In higher mammals, including primates and carnivores, the asymmetrical aspects of brain morphology and function have been shown to be species-related, sex-related, and subject to individual diversity, and are associated with

cognition, emotion, language, preference of hand/paw use, and numerous other aspects. Disturbance of the brain lateralization is involved in human neurodevelopmental disorders with cognitive impairments, social deficits, and/or specific language impairments. Asymmetric development may be essential to the evolution of the brain in acquiring higher and/or more diverse functions. The purpose of this Special Issue on "Brain Asymmetry in Evolution" is to highlight morphological and functional lateralization of the brain in various species of mammals toward understanding the evolution of the brain.

Cerebral Asymmetry in Spatial Abilities Sep 09 2020

The Origins of Homo Sapiens Feb 24 2022 The Twelve Millennial Beat of the mtDNA sequences in the "control region" portion of the theory in the book's title, plus a tremendous environmental upheaval 180,000 years ago comprise the new theory of evolution itself.

However, what is most unique about us Homo sapiens devolves from the Brain Asymmetry. For the marked asymmetry of our brains allows for the specialization of the human brain into an originating right hemisphere, and the language areas in the left hemisphere. The Theory of the Origins of our Humanity is largely based on that Brain Asymmetry, and upon my "The theory of phenomenal psychology".

Laterality Functional Asymmetry in the Intact Brain Aug 01 2022

Laterality: Functional Asymmetry in the Intact Brain focuses on brain function and laterality as well as the various methods in assessing behavioral asymmetries, including handedness. It reviews the literature on perceptual-cognitive laterality effects in different sensory modalities, the lateralization of emotion and motor behavior, and the electrophysiological evidence. It also highlights some of the problems with the existing research and offers suggestions about the direction of future research. Organized into 17 chapters, this volume begins with an overview of cerebral asymmetry and the origins and mechanisms of lateralization. Then, it discusses the individual differences in laterality, methods and measurement used in laterality studies, and experiments on dichotic listening and auditory lateralization. The next chapters focus on the link between verbal laterality and handedness, tactual and perceptual laterality, asymmetry of motor performance, lateralization of emotional processes, and physiological measures of asymmetry. The book also introduces the handedness and its relation

to cerebral function, genetics of laterality, development of cerebral lateralization, individual differences in cerebral organization, sex differences in laterality, reading- and language-related deficits, and control of the active hemisphere before concluding with a chapter discussing the experimental or strategy effects, the concept of complementary specialization, and the dichotomy between the two hemispheres of the brain. This book is a valuable resource for neuropsychologists, experimental psychologists, neurologists, and educators interested in understanding human brain function.

Quirks of Human Anatomy Aug 09 2020 This book introduces students to basic concepts in evolutionary developmental biology, for undergraduate and graduate courses.

The Two Halves of the Brain Nov 23 2021 This volume provides a comprehensive view of the latest research in brain asymmetry, offering not only recent empirical and clinical findings but also a coherent theoretical approach to the subject.

The Lateralized Brain Oct 03 2022 *The Lateralized Brain: The Neuroscience and Evolution of Hemispheric Asymmetries* is an up-to-date teaching resource for neuroscience faculty members that teach courses concerning hemispheric asymmetries. The book provides students with all relevant information on the subject, while also giving aspiring researchers in the field an up-to-date overview of relevant, previous work. It is ideal for courses on hemispheric asymmetries, that is, the functional or structural differences between the left and the right hemispheres of the brain, and also highlights how the widespread use of modern neuroimaging techniques, such as fMRI and DTI has completely changed the way hemispheric asymmetries are currently investigated. Includes references to key articles, books, protocols and online resources for additional, detailed study Presents classic studies that helped define the field Covers key concepts and methods that are explained in separate call out boxes for quick overview Provides introductory short stories (e.g. classic clinical cases) as a starting point for each chapter

Divided Brains Aug 21 2021 Discusses brain asymmetry from four perspectives - function, evolution, development and causation - covering a wide range of species, including humans.

Foundations in Social Neuroscience Sep 29 2019 A comprehensive

survey of the growing field of social neuroscience.

The Psychobiology of Affective Development (PLE: Emotion) Jul 08 2020 Originally published in 1984, this was the first volume on this topic to appear in an emerging area of study at the time. The editors were selective in choosing their contributions to the volume to ensure that both the developmental and neuropsychological domains were well represented. One of the major goals was to foster greater contact and cross-fertilization between subdisciplines that they firmly believed should be more intimately connected. The result is this title, which can now be enjoyed in its historical context.

The Evolution of Hemispheric Specialization in Primates Aug 28 2019 Hemispheric specialization, and lateralized sensory, cognitive or motor function of the left and right halves of the brain, commonly manifests in humans as right-handedness and left hemisphere specialization of language functions. Historically, this has been considered a hallmark of, and unique to, human evolution. Some theories propose that human right-handedness evolved in the context of language and speech while others that it was a product of the increasing motor demands associated with feeding or tool-use. In the past 20-25 years, there has been a plethora of research in animals on the topic of whether population-level asymmetries in behavioral processes or neuro-anatomical structures exist in animals, notably primates and people have begun to question the historical assumptions that hemispheric specialization is unique to humans. This book brings together various summary chapters on the expression of behavioral and neuro-anatomical asymmetries in primates. Several chapters summarize entire families of primates while others focus on genetic and non-genetic models of handedness in humans and how they can be tested in non-human primates. In addition, it makes explicit links between various theoretical models of the development of handedness in humans with the observed patterns of results in non-human primates. A second emphasis is on comparative studies of handedness in primates. There is now enough data in the literature across different species to present an evolutionary tree for the emergence of handedness (and perhaps other aspects of hemispheric specialization, such as neuro-anatomical asymmetries) and its relation to specific morphological and ecological adaptations in various primate

species. * The first treatment of this important topic since 1998 * Examines the tenet that lateralization and handedness is a uniquely human character through evidence from higher and lower primates and with reference to other vertebrates. * Advances our understanding of the occurrence, evolution and significance of lateralization and handedness effects.

The Clinical Neuroscience of Lateralization Oct 30 2019 The Clinical Neuroscience of Lateralization gives the first comprehensive transdiagnostic overview of the evidence for changes in hemispheric asymmetries in different psychiatric and neurodevelopmental disorders. Taking a multidisciplinary perspective informed by both basic science and clinical studies, the authors integrate recent breakthroughs on hemispheric asymmetries in psychology, neuroscience, genetics and comparative research. They give a general introduction to hemispheric asymmetries and the techniques used to assess them, and review the evidence for changes in hemispheric asymmetries in different psychiatric and neurodevelopmental disorders. The book also discusses neurological disorders like Parkinson's disease and multiple sclerosis and highlights the importance of open science in clinical laterality research. Offering a fresh perspective on a longstanding issue in clinical neuroscience, this book will be of great interest for academics, researchers, and students in the fields of clinical and developmental neuroscience, biopsychology and neuropsychology.

Asymmetrical Function of the Brain May 06 2020

On the Other Hand Oct 11 2020 Does being left-handed make a person different in any way that matters? Since the late Stone Age, approximately 10 percent of humans have been left-handed, yet for most of human history left-handedness has been stigmatized. In *On the Other Hand*, Howard I. Kushner traces the impact of left-handedness on human cognition, behavior, culture, and health. A left-hander himself, Kushner has long been interested in the meanings associated with left-handedness, and ultimately with whether hand preference can even be defined in a significant way. As he explores the medical and cultural history of left-handedness, Kushner describes the associated taboos, rituals, and stigma from around the globe. The words "left" and "left hand" have negative connotations in all

languages, and left-handers have even historically been viewed as disabled. In this comprehensive history of left-handedness, Kushner asks why left-handedness exists. He examines the relationship—if any—between handedness, linguistics, and learning disabilities, reveals how toleration of left-handedness serves as a barometer of wider cultural toleration and permissiveness, and wonders why the reported number of left-handers is significantly lower in Asia and Africa than in the West. Written in a lively style that mixes personal biography with scholarly research, *On the Other Hand* tells a comprehensive story about the science, traditions, and prejudices surrounding left-handedness.

Left Versus Right Asymmetries of Brain and Behaviour Mar 28 2022 This book is a collection of papers written by leaders in the field of lateralized brain function and behaviour in non-human animals. The papers cover the asymmetry of brain mechanisms and behaviour in a wide range of both vertebrate and invertebrate species. Each paper focuses on one of the following topics: the link between population-level lateralization and social behaviour; the processes in the avian brain that permit one brain hemisphere to take control of behaviour; lateralized attention to predators and the common pattern of lateralization in vertebrate species; visual and auditory lateralization; influences that alter the development of lateralization—specifically, the effect of temperature on the development of lateralization in sharks; and the importance of understanding lateralization when considering both the training and welfare of dogs. Collectively, these studies address questions of why different species have asymmetry of brain and behaviour, how it develops, and how this is dealt with by these different species. The papers report on the lateralization of different types of behaviour, each going beyond merely reporting the presence of asymmetry and shedding light on its function and on the mechanisms involved in its expression.

Cognitive and Neurophysiological Models of Brain Asymmetry Dec 25 2021 Asymmetry is an inherent characteristic of brain organization in both humans and other vertebrate species, and is evident at the behavioral, neurophysiological, and structural levels. Brain asymmetry underlies the organization of several cognitive systems, such as emotion, communication, and spatial processing.

Despite this ubiquity of asymmetries in the vertebrate brain, we are only beginning to understand the complex neuronal mechanisms underlying the interaction between hemispheric asymmetries and cognitive systems. Unfortunately, despite the vast number of empirical studies on brain asymmetries, theoretical models that aim to provide mechanistic explanations of hemispheric asymmetries are sparse in the field. Therefore, this Special Issue aims to highlight empirically based mechanistic models of brain asymmetry. Overall, six theoretical and four empirical articles were published in the Special Issue, covering a wide range of topics, from human handedness to auditory laterality in bats. Two key challenges for theoretical models of brain asymmetry are the integration of increasingly complex molecular data into testable models, and the creation of theoretical models that are robust and testable across different species.

Functional Brain Asymmetry Apr 16 2021 The book is devoted the analysis of modern functional brain asymmetry concepts. Data about sensory and motor lateral characteristics are presented, the role of hemispheric specialization and interhemispheric interactions during the natural and social adaptation are discussed. Inconsistent data about creativity of people with different lateral profiles are offered. The hypothesis about activity of brain hemisphere activity during decision of intellectual problems or emotional experience are proposed. Data about gender and age aspects of functional brain asymmetry are analyzed. Author s concept about a role of functional brain asymmetry in evolution are offered.

Asymmetry Jan 02 2020 'A scorchingly intelligent first novel' New York Times 'Spellbinding' New Yorker 'Thrilling' Guardian In New York, Alice, a young editor, begins an affair with Ezra Blazer, a world-famous, much older writer. At Heathrow airport, Amar, an Iraqi-American economist en route to Kurdistan, is detained by immigration. Somehow their lives are connected, in this unconventional love story that has things to say about all of contemporary life.

Language Functions and Brain Organization Dec 01 2019

Language Functions and Brain Organization

Behavioral Inhibition, Emotional Vulnerability and Brain Asymmetry

Jun 18 2021

South and Southeast Asian Psycholinguistics Nov 11 2020 This

groundbreaking volume explores the languages of South and Southeast Asia, which differ significantly from Indo-European languages in their grammar, lexicon and spoken forms. This book raises new questions in psycholinguistics and enables readers to re-evaluate previous models in light of new research.

Brain Asymmetry Jan 06 2023 The twenty-three contributions in *Brain Asymmetry* provide a comprehensive survey of modern research on laterality and brain asymmetry, showcasing new approaches and novel domains in which knowledge of the asymmetrical functioning of the brain is a key issue for the complete understanding of the phenomenon. Of particular note is the inclusion of material on laterality, learning, attention, and emotion and their relation to subcortical and peripheral structures and processes. In addition, the clinical relevance of brain asymmetry for neuropsychological and psychopathological practice is surveyed. Following a preface and historical overview, chapters are divided into eight parts that cover: Phylogenetic Antecedents and Anatomical Bases; Perceptual, Cognitive, and Motor Lateralization; Attention and Learning; Central-Autonomic Integration; Emotional Lateralization; Interhemispheric Interaction; Ontogeny and Developmental Disabilities; and Psychopathology. Contributors : Marie T. Banich. Brenda E. Berge. Carol A. Boliek. Halle D. Brown. Gerard E. Bruder. Richard J. Davidson. Marian Cleeves Diamond. Jack E. Downhill. Jane E. Edmonds. Albert M. Galaburda. Josh Hall. Anne Harrington. Kenneth M. Heilman. Joseph B. Hellige. Kenneth Hugdahl. George W. Hynd. J. Richard Jennings. Stephen M. Kosslyn. Richard D. Laine. David Warren Lewis. Jacqueline Liederman. Mario Liotti. Richard Marshall. John E. Obrzut. Michael Peters. Robert G. Robinson. Sidney J. Segalowitz. Justine Sergent. Don M. Tucker. Werner Wittling. Eran Zaidel. A Bradford Book

Left Brain - Right Brain Differences Jan 26 2022 This volume integrates past clinical findings with the latest research on cerebral asymmetry in order to identify why humans process information in different ways. A must for anyone who wants to understand human cognitive nature further, specifically the reasons why we are "wired" a certain way and whether these cortical circuits are flexible enough to be altered, this book presents the most up-to-date information on

hemispheric differences within normal and clinical populations. Its focus on sex, handedness, and developmental differences is critical to the derivation of a better perspective on how future research should be conducted in this expanding science. Iaccino begins by explaining basic brain structures and types of cognitive styles assigned to each hemisphere. He then details studies involving various clinical populations -- psychophysiological, split-brain, dyslexic, and psychotic -- to support the claim that the two hemispheres are different, morphologically and functionally speaking. Applying this clinical research to the more normal population, the author uncovers striking cortical variations between the sexes and between the handedness groups, along with developmental changes which occur as a function of time. Finally, he provides a detailed summary of the previous chapters and highlights where asymmetrical research may be headed in the future.

Comparative Vertebrate Cognition Dec 13 2020 This book explores afresh the long-standing interest, and emphasis on, the 'special' capacities of primates. Some of the recent discoveries of the higher cognitive abilities of other mammals and also birds challenge the concept that primates are special and even the view that the cognitive ability of apes is more advanced than that of nonprimate mammals and birds. It is therefore timely to ask whether primates are, in fact, special and to do so from a broad range of perspectives. Divided into five sections this book deals with topics about higher cognition and how it is manifested in different species, and also considers aspects of brain structure that might be associated with complex behavior.

Cerebral Dominance Jan 14 2021 Although cerebral dominance, the specialization of each side of the brain for different functions, was discovered in the 1860s, almost nothing was known for many years about its biological foundations, the study of which has undergone what can only be described as a revolution in the past decade and a half. Norman Geschwind and Albert Galaburda, two of the leaders of this new field, have assembled a distinguished group of investigators, each a pioneer in some aspect of the biology of dominance. The authors document human brain asymmetry at gross and microscopic levels in both adults and fetuses, its visualization in life by radiological methods, and its manifestation in brain waves. The evolutionary

history of brain asymmetry over more than 300,000 years is shown in fossil skulls of humans and apes. In a dramatic reversal of older beliefs, asymmetry of anatomy, function, and chemistry has been demonstrated in many nonhuman species, and experiments have shown the role of hormones and other prenatal influences in the production of asymmetry. The surprising associations of non-right-handedness with twinning and immune disorders are discussed, as well as the asymmetrical malformation of the cortex in childhood dyslexia. This volume, combining scholarly authority and the excitement of the birth of a new discipline, will be welcomed by those to whom the implications of dominance are becoming evident--neuroscientists, neurologists, linguists, psychologists, experts in learning disorders, speech pathologists--and by specialists in nearly every branch of biology, medicine, and psychology.

The Master and His Emissary May 18 2021 A new edition of the bestselling classic – published with a special introduction to mark its 10th anniversary This pioneering account sets out to understand the structure of the human brain – the place where mind meets matter. Until recently, the left hemisphere of our brain has been seen as the ‘rational’ side, the superior partner to the right. But is this distinction true? Drawing on a vast body of experimental research, Iain McGilchrist argues while our left brain makes for a wonderful servant, it is a very poor master. As he shows, it is the right side which is the more reliable and insightful. Without it, our world would be mechanistic – stripped of depth, colour and value.

Behavioural and Morphological Asymmetries in Vertebrates Apr 04 2020 This volume grew out of the 2nd International Symposium on Behavioral and Morphological Asymmetries, which took place in St. Petersburg (Russia) in September 2004 at the St. Petersburg State University under the patronage of the St. Petersburg Society of Naturalists. The Symposium is the descendant of a satellite event with a similar name of the 4th World Congress of Herpetology (December, 2001, Bentota, Sri Lanka). While the 1st Symposium (see special issue number 3 for 2002 of the journal, *Laterality*) covered only asymmetries observed in amphibians and reptiles, the second one had a broader scope. Three years passed since the Sri Lanka meeting and there was sustained and increasing interest in vertebrate

lateralization in the scientific community, especially in lower vertebrates, or at least, in nonmammalian models. This supported not only by the collection of talks at the Symposium, but also by current publications in international periodicals. Talks here were substantially biased towards the lower vertebrates and birds, while reptiles remained to be studied in more detail. Two important rationales were considered for the Symposium and the volume, which you have in hand. The first was to bring together topics and specialists representing different branches of the relatively broad field of research of animal asymmetries. The contributions focused on three main subjects: (1) development of structural and functional asymmetries constituted; (2) evolution and adaptation; and (3) function. Aiming for a broader range of topics, the Symposium may still show the current perspective. The increasing number of contributors (twice as many as at the Sri Lanka meeting) give at least a hope that it was indeed so. We, however, further invited authors, who although not present at the meeting itself, nevertheless could contribute to the book to finalize its shape. The other purpose of this volume is to expose Western scientists to Eastern thoughts regarding laterality, and vice versa. We aimed also to help Russian scientists with limited resources and access to the international journals the chance to publish in the Western literature. It seemed to us that this is a fine and perfectly acceptable approach, which on the other hand explains some of the unevenness in the quality and the style of the different manuscripts. Taken together, these fourteen Chapters, we believe, display a variety of the most interesting and intriguing topics within the broad field of animal lateralization, showing the perspectives of its developments. Far from complete, the volume nevertheless is a state-of-the-art book, which complements a bulk of recent literature on genetics and developmental studies of asymmetries of the heart and other inner organs, interhemispheric specialization in human subjects, and fluctuating morphological asymmetry in animals.

Human Cerebral Asymmetry Oct 23 2021

The Asymmetrical Brain May 30 2022 Research on brain asymmetry, with particular emphasis on findings made possible by recent advances in neuroimaging.

Language Development and Neurological Theory Jun 06 2020

Language Development and Neurological Theory presents a neuropsychological theory of language development. The discussions are organized around the following themes: cerebral specialization for language in normal and brain-damaged individuals; development of cerebral dominance; and speech perception. Much emphasis is placed on the issue of cerebral specialization, or lateralization. Comprised of 20 chapters, this volume begins with a review of some of the methods used to correlate neurophysiological and behavioral functions, as well as some of the issues involved in trying to unite the empirical science of neuropsychology and the rationalist science of linguistics. The next chapter deals with lateralization for speech sounds shown by young infants and possible factors in the sound signal responsible for the differentiation. Subsequent chapters focus on asymmetries in young children during continuous verbal-nonvisual and visual-nonverbal story tasks; the effects of multi-language elementary school program on the degree of lateralization for language; intramodal and cross-modal pattern perception in stroke patients with lateralized lesions; and visual half-field asymmetries in deaf and hearing children. Several hypotheses as to why language is lateralized to the left hemisphere rather than to the right are also examined. This book is addressed to researchers and students of the neuropsychology of language, whether they call themselves psychologists, neuropsychologists, neurologists, or linguists.