

Music Language And The Brain Aniruddh D Patel

An examination of our language instinct. Steven Mithen draws on a huge range of sources, from neurological case studies, through child psychology and the communication systems of non-human primates to the latest paleoarchaeological evidence.

This text examines the neural basis of musicianship and forms a comprehensive account of the motor skills and associated cognitive processes which are behind musical talent. It covers a range of instruments and performance situations, and examines motor problems in musicians in later life.

Music has a universal and timeless potential to influence how we feel, yet, only recently, have researchers begun to explore and understand the positive effects that music can have on our wellbeing. This book brings together research from a number of disciplines to explore the relationship between music, health and wellbeing.

A presentation of music and language within an integrative, embodied perspective of brain mechanisms for action, emotion, and social coordination. This book explores the relationships between language, music, and the brain by pursuing four key themes and the crosstalk among them: song and dance as a bridge between music and language; multiple levels of structure from brain to behavior to culture; the semantics of internal and external worlds and the role of emotion; and the evolution and development of language. The book offers specially commissioned expositions of current research accessible both to experts across disciplines and to non-experts. These chapters provide the background for reports by groups of specialists that chart current controversies and future directions of research on each theme. The book looks beyond mere auditory experience, probing the embodiment that links speech to gesture and music to dance. The study of the brains of monkeys and songbirds illuminates hypotheses on the evolution of brain mechanisms that support music and language, while the study of infants calibrates the developmental timetable of their capacities. The result is a unique book that will interest any reader seeking to learn more about language or music and will appeal especially to readers intrigued by the relationships of language and music with each other and with the brain. Contributors Francisco Aboitiz, Michael A. Arbib, Annabel J. Cohen, Ian Cross, Peter Ford Dominey, W. Tecumseh Fitch, Leonardo Fogassi, Jonathan Fritz, Thomas Fritz, Peter Hagoort, John Halle, Henkjan Honing, Atsushi Iriki, Petr Janata, Erich Jarvis, Stefan Koelsch, Gina Kuperberg, D. Robert Ladd, Fred Ler Dahl, Stephen C. Levinson, Jerome Lewis, Katja Liebal, Jônatas Manzolli, Bjorn Merker, Lawrence M. Parsons, Aniruddh D. Patel, Isabelle Peretz, David Poeppel, Josef P. Rauschecker, Nikki Rickard, Klaus Scherer, Gottfried Schlaug, Uwe Seifert, Mark Steedman, Dietrich Stout, Francesca Stregapede, Sharon Thompson-Schill, Laurel Trainor, Sandra E. Trehub, Paul Verschure

The Musical Brain

MUSIC AND THE MIND

Music, the Brain, and Ecstasy

Music and the Brain

Music and the Aging Brain

The Science of a Human Obsession

Music and the Aging Brain describes brain functioning in aging and addresses the power of music to protect the brain from loss of function and how to cope with the ravages of brain diseases that accompany aging. By studying the power of music in aging through the lens of neuroscience, behavioral, and clinical science, the book explains brain organization and function. Written for those researching the brain and aging, the book provides solid examples of research fundamentals, including rigorous standards for sample selection, control groups, description of intervention activities, measures of health outcomes, statistical methods, and logically stated conclusions. Summarizes brain structures supporting music perception and cognition Examines and explains music as neuroprotective in normal aging Addresses the association of hearing loss to dementia Promotes a neurological approach for research in music as therapy Proposes questions for future research in music and aging

Music is a complex, dynamic stimulus with an un-paralleled ability to stimulate a global network of neural activity involved in attention, emotion, memory, communication, motor co-ordination and cognition. As such, it provides neuroscience with a highly effective tool to develop our understanding of brain function, connectivity and plasticity. Increasingly sophisticated neuroimaging technologies have enabled the expanding field of music neuroscience to reveal how musical experience, perception and cognition may support neuroplasticity, with important implications for the rehabilitation and assessment of those with acquired brain injuries and neurodegenerative conditions. Other studies have indicated the potential for music to support arousal, attention and emotional regulation, suggesting therapeutic applications for conditions including ADHD, PTSD, autism, learning disorders and mood disorders. In common with neuroscience, the music therapy profession has advanced significantly in the past 20 years. Various interventions designed to address functional deficits and health care needs have been developed, alongside standardised behavioural assessments. Historically, music therapy has drawn its evidence base from a number of contrasting theoretical frameworks. Clinicians are now turning to neuroscience, which offers a unifying knowledge base and frame of reference to understand and measure therapeutic interventions from a biomedical perspective. Conversely, neuroscience is becoming more enriched by learning about the neural effects of 'real world' clinical applications in music therapy. While neuroscientific imaging methods may provide biomarking evidence for the efficacy of music therapy interventions it also offers important tools to describe time-locked interactive therapy processes and feeds into the emerging field of social neuroscience. Music therapy is bound to the process of creating and experiencing music together in improvisation, listening and reflection. Thus the situated cognition and experience of music developing over time and in differing contexts is of interest in time series data. We encouraged researchers to submit papers illustrating the mutual benefits of dialogue between music therapy and other disciplines important to this field, particularly neuroscience, neurophysiology, and neuropsychology. The current eBook consists of the peer reviewed responses to our call for papers.

Once signed languages are recognized as natural human languages, a world of exploration opens up. Signed languages provide a powerful tool for investigating the nature of human language and language processing, the relation between cognition and language, and the neural organization of language. The value of sign languages lies in their modality. Specifically, for perception, signed languages depend upon high-level vision and motion processing systems, and for production, they require the integration of motor systems involving the hands and face. These facts raise many questions: What impact does this different biological base have for grammatical systems? For online language processing? For the acquisition of language? How does it affect nonlinguistic cognitive structures and processing? Are the same neural systems involved? These are some of the questions that this book aims at addressing. The answers provide insight into what constrains grammatical form, language processing, linguistic working memory, and hemispheric specialization for language. The study of signed languages allows researchers to address questions about the nature of linguistic and cognitive systems that otherwise could not be easily addressed.

With the advent of modern cognitive neuroscience and new tools of studying the human brain "live," music as a highly complex, temporally ordered and rule-based sensory language quickly became a fascinating topic of study. The question of "how" music moves us, stimulates our thoughts, feelings, and kinesthetic sense, and how it can reach the human experience in profound ways is now measured with the advent of modern cognitive neuroscience. The goal of Rhythm, Music and the Brain is an attempt to bring the knowledge of the arts and the sciences and review our current state of study about the brain and music, specifically rhythm. The author provides a thorough examination of the current state of research, including the biomedical applications of neurological music therapy in sensorimotor speech and cognitive rehabilitation. This book will be of interest for the lay and professional reader in the sciences and arts as well as the professionals in the fields of neuroscientific research, medicine, and rehabilitation.

The World in Six Songs

The Oxford Handbook of Music Psychology

Brain and Music

Language and Music as Cognitive Systems

Studies in the Neurology of Music

Language and the Brain

Music education has been scientifically proven to have cognitive benefits; these benefits include: greater attention span, increased ability in geometrical skills, improved performance in mathematical problem solving and spatial tasks, heightened fluency in reading, and greater short-term and long-term memory. These benefits give music educators a platform from which to advocate for the retention and growth of their programs and to encourage music as a lifelong pursuit.

The Psychology of Music draws together the diverse and scattered literature on the psychology of music. It explores the way music is processed by the listener and the performer and considers several issues that are of importance both to perceptual psychology and to contemporary music, such as the way the sound of an instrument is identified regardless of its pitch or loudness, or the types of information that can be discarded in the synthetic replication of a sound without distorting perceived timbre. Comprised of 18 chapters, this book begins with a review of the classical psychoacoustical literature on tone perception, focusing on characteristics of particular relevance to music. The attributes of pitch, loudness, and timbre are examined, and a summary of research methods in psychoacoustics is presented. Subsequent chapters deal with timbre perception; the subjective effects of different sound fields; temporal aspects of music; abstract structures formed by pitch relationships in music; different tests of musical ability; and the importance of abstract structural representation in understanding how music is performed. The final chapter evaluates the relationship between new music and psychology. This monograph should be a valuable resource for psychologists and musicians.

In this ground-breaking synthesis of art and science, Diana Deutsch, one of the world's leading experts on the psychology of music, shows how illusions of music and speech--many of which she herself discovered--have fundamentally altered thinking about the brain. These astonishing illusions show that people can differ strikingly in how they hear musical patterns--differences that reflect variations in brain organization as well as influences of language on music perception. Drawing on a wide variety of fields, including psychology, music theory, linguistics, and neuroscience, Deutsch examines questions such as: When an orchestra performs a symphony, what is the "real" music? Is it in the mind of the composer, or the conductor, or different members of the audience? Deutsch also explores extremes of musical ability, and other surprising responses to music and speech. Why is perfect pitch so rare? Why do some people hallucinate music or speech? Why do we hear phantom words and phrases? Why are we subject to stuck tunes, or "earworms"? Why do we hear a spoken phrase as sung just because it is presented repeatedly? In evaluating these questions, she also shows how music and speech are intertwined, and argues that they stem from an early form of communication that had elements of both. Many of the illusions described in the book are so striking and paradoxical that you need to hear them to believe them. The book enables you to listen to the sounds that are described while reading about them.

This original and lucid account of the complexities of love and its essential role in human well-being draws on the latest scientific research. Three eminent psychiatrists tackle the difficult task of reconciling what artists and thinkers have known for thousands of years about the human heart with what has only recently been learned about the primitive functions of the human brain. A General Theory of Love demonstrates that our nervous systems are not self-contained: from earliest childhood, our brains actually link with those of the people close to us, in a silent rhythm that alters the very structure of our brains, establishes life-long emotional patterns, and makes us, in large part, who we are. Explaining how relationships function, how parents shape their child's developing self, how psychotherapy really works, and how our society dangerously flouts essential emotional laws, this is a work of rare passion and eloquence that will forever change the way you think about human intimacy.

Music, Mind, and Brain

Language, Music, and the Brain

How Language and Music Mimicked Nature and Transformed Ape to Man

The relationship between music and language

A General Theory of Love

The Power of Music

In the first comprehensive study of the relationship between music and language from the standpoint of cognitive neuroscience, Aniruddh D. Patel challenges the widespread belief that music and language are processed independently. Since Plato's time, the relationship between music and language has attracted interest and debate from a wide range of thinkers. Recently, scientific research on this topic has been growing rapidly, as scholars from diverse disciplines, including linguistics, cognitive science, music cognition, and neuroscience are drawn to the music-language interface as one way to explore the extent to which different mental abilities are processed by separate brain mechanisms. Accordingly, the relevant data and theories have been spread across a range of disciplines. This volume provides the first synthesis, arguing that music and language share deep and critical connections, and that comparative research provides a powerful way to study the cognitive and neural mechanisms underlying these uniquely human abilities. Winner of the 2008 ASCAP Deems Taylor Award

A comprehensive account of the neurobiological basis of language, arguing that species-specific brain differences may be at the root of the human capacity for language. Language makes us human. It is an intrinsic part of us, although we seldom think about it. Language is also an extremely complex entity with subcomponents responsible for its phonological, syntactic, and semantic aspects. In this landmark work, Angela Friederici offers a comprehensive account of these subcomponents and how they are integrated. Tracing the neurobiological basis of language across brain regions in humans and other primate species, she argues that species-specific brain differences may be at the root of the human capacity for language. Friederici shows which brain regions support the different language processes and, more important, how these brain regions are connected structurally and functionally to make language processes that take place in milliseconds possible. She finds that one particular brain structure (a white matter dorsal tract), connecting syntax-relevant brain regions, is present only in the mature human brain and only weakly present in other primate brains. Is this the "missing link" that explains humans' capacity for language? Friederici describes the basic language functions and their brain basis; the language networks connecting different language-related brain regions; the brain basis of language acquisition during early childhood and when learning a second language, proposing a neurocognitive model of the ontogeny of language; and the evolution of language and underlying neural constraints. She finds that it is the information exchange between the relevant brain regions, supported by the white matter tract, that is the crucial factor in both language development and evolution.

Drawing on advances in neurophysiology, psychology, music theory, and philosophy, the author explores the connections humans form with music and the physical and mental reactions music produces in us

Why does music have such a powerful effect on our minds and bodies? It is the most mysterious and most tangible of all forms of art. Yet, Anthony Storr believes, music today is a deeply significant experience for a greater number of people than ever before. In this book, he explores why this should be so. Drawing on a wide variety of opinions, Storr argues that the patterns of music make sense of our inner experience, giving both structure and coherence to our feelings and emotions. It is because music possesses this capacity to restore our sense of personal wholeness in a culture which requires us to separate rational thought from feelings that many people find it so life-enhancing that it justifies existence.

Insights From Sign Language Research

Pioneering Discoveries in the New Science of Song

The Oxford Handbook of Music and the Brain

This Is Your Brain on Music

Music, Language, and the Brain

Musical Illusions and Phantom Words

Music and the Brain: Studies in the Neurology of Music is a collaborative work that discusses musical perception in the context of medical science. The book is comprised of 24 chapters that are organized into two parts. The first part of the text details the various aspects of of activity, which include neural and mechanical aspects of singing; neurophysiological interpretation of musical ability; and ecstatic and synesthetic experiences during musical perception. The second part deals with the effects of nervous disease on musical function, such as musical occupational palsies. The book will be of great interest to students, researchers, and practitioners of disciplines that deal with the nervous system, such as psychology, neurology, and psychiatry.

The 2nd edition of the Oxford Handbook of Music Psychology updates the original landmark text and provides a comprehensive review of the latest developments in this fast growing area of research. Covering both experimental and theoretical perspectives, each of the 11 sections is written by a recognised authority in the area. The first ten parts present chapters that focus on specific areas of music psychology: the origins and functions of music; music perception, responses to music; music and the brain; musical development; learning musical skills; musical performance; improvisation; the role of music in everyday life; and music therapy. In each part authors critically review the literature, highlight current issues and explore possibilities for the future. The final part examines how, in recent years, the study of music psychology has broadened to other disciplines. It considers the way that research has developed in relation to technological advances, and points the direction for further development in the field. With contributions from internationally recognised experts across 55 chapters, it is an essential resource for students and researchers in musicology.

The author of the New York Times bestseller This Is Your Brain on Music reveals music's role in the evolution of human culture in this thought-provoking book that "will leave you awestruck" (The New York Times). Daniel J. Levitin's astounding debut bestseller, This Is Your Brain on Music, delighted readers as it transformed our understanding of how music gets in our heads and stays there. Now in his second New York Times bestseller, his genius for combining science and art reveals how music shaped humanity across cultures and throughout history. Here he identifies the functions or types—friendship, joy, comfort, religion, knowledge, and love—then shows how each in its own way has enabled the social bonding necessary for human culture and society to evolve. He shows, in effect, how these "six songs" work in our brains to preserve the emotional and social bonds that have made us who we are. Dr. Levitin combines cutting-edge scientific research from his music cognition lab at McGill University and work in an array of related fields; his own sometimes hilarious experiences in the music business; and illuminating interviews with musicians such as Sting and David Byrne, as well as anthropologists, and evolutionary biologists. The World in Six Songs is, ultimately, a revolution in our understanding of how human nature evolved—right up to the iPod.

The past 15 years have witnessed an increasing interest in the comparative study of language and music as cognitive systems. This book presents an interdisciplinary study of language and music, exploring the following core areas - structural comparisons, evolution, learning and teaching, and the social functions of music.

How Music Captures Our Imagination

Dialogues in Music Therapy and Music Neuroscience: Collaborative Understanding Driving Clinical Advances

Music, Neurology, and Neuroscience: Evolution, the Musical Brain, Medical Conditions, and Therapies

Music, Health, and Wellbeing

The Cognitive Neuroscience of Music

Scientific Foundations and Clinical Applications

In the first comprehensive study of the relationship between music and language from the standpoint of cognitive neuroscience, Aniruddh D. Patel challenges the widespread belief that music and language are processed independently. Since Plato's time, the relationship between music and language has attracted interest and debate from a wide range of thinkers. Recently, scientific research on this topic has been growing rapidly, as scholars from diverse disciplines, including linguistics, cognitive science, music cognition, and neuroscience are drawn to the music-language interface as one way to explore the extent to which different mental abilities are processed by separate brain mechanisms. Accordingly, the relevant data and theories have been spread across a range of disciplines. This volume provides the first synthesis, arguing that music and language

share deep and critical connections, and that comparative research provides a powerful way to study the cognitive and neural mechanisms underlying these uniquely human abilities. Winner of the 2008 ASCAP Deems Taylor Award.

Seminar paper from the year 2011 in the subject American Studies - Linguistics, grade: 2,0, Humboldt-University of Berlin (Institut für Anglistik und Amerikanistik), course: Language vs. Culture? A Comparison between Language and Music, language: English, abstract: Language and music—both can be found in every human society—are the most basic socio-cognitive domains of the human species. At first glance, they share fundamental similarities, such as being based on acoustic modalities and involving complex sound sequences. Language, as well as music, functions as a means of communication and a form of expression. Both systems are organized into hierarchically structured sequences, and a written system was developed for language and for music. The interest in music-language relations has a long history, of course, and does not originate with modern cognitive science: "The topic has long drawn interest from a wide range of thinkers, including philosophers, biologists, poets, composers, linguists, and musicologists. Over 2,000 years ago, Plato claimed that the power of certain musical modes to uplift the spirit stemmed from their resemblance to the sounds of noble speech (Neubauer, 1986). Much later, Darwin (1871) considered how a form of communication intermediate between modern language and music may have been the origin of our species' communicative abilities. Many other historical figures have contemplated music-language relations, including Vincenzo Galilei (father of Galileo), Jean-Jacques Rousseau, and Ludwig Wittgenstein. This long line of speculative thinking has continued down to the modern era (e.g., Bernstein, 1976). In the era of cognitive science, however, research into this topic is undergoing a dramatic shift, using new concepts and tools to advance from suggestions and analogies to empirical research." (Cp. PATEL (2008): Music, Language, and the Brain) The production of music and language is a prime example of the human brain's capacities. But does the brain process music as it processes language? Are language and music processed in the same hemisphere(s)? Are linguistic and musical irregularities processed by the same brain area(s)? What are the cognitive differences and similarities? And how can brain activity be measured? These and other very complex questions are to be approached in this seminar paper. The central interest is to explore and compare some of the structural and cognitive properties of language and music (and the links between them) in order to find out whether music is language-like in certain regards. The central questions are: Does music have something like a grammar or syntax? Is music able to transfer meaningful information? Chapter 2.1 examines the structural units (...)

An introduction to neurolinguistics showing how language is organized in the brain.

Music has been examined from multiple perspectives: as a product of human history, for example, or a product of human culture. But there is also a long tradition, intensified in recent decades, of thinking about music as a product of the human mind. Whether considering composition, performance, listening, or appreciation, the constraints and capabilities of the human mind play a formative role. The field that has emerged around this approach is known as the psychology of music. Written in a lively and accessible manner, this volume connects the science to larger questions about music that are of interest to practicing musicians, music therapists, musicologists, and the general public alike. For example: Why can one musical performance move an audience to tears, and another compel them to dance, clap, or snap along? How does a "hype" playlist motivate someone at the gym? And why is that top-40 song stuck in everyone's head? ABOUT THE SERIES: The Very Short Introductions series from Oxford University Press contains hundreds of titles in almost every subject area. These pocket-sized books are the perfect way to get ahead in a new subject quickly. Our expert authors combine facts, analysis, perspective, new ideas, and enthusiasm to make interesting and challenging topics highly readable.

Language vs. Music? Exploring Music's Links to Language

The Cognitive Benefits of Music Education

Language, Cognition, and the Brain

Critical Assessments

How the Musical Brain Created Human Nature

Music, Motor Control and the Brain

How did humans evolve biologically so that our brains and social interactions could support language processes, and how did cultural evolution lead to the invention of languages (signed as well as spoken)? This book addresses these questions through comparative (neuro)primatology – comparative study of brain, behavior and communication in monkeys, apes and humans – and an EvoDevoSocio framework for approaching biological and cultural evolution within a shared perspective. Each chapter provides an authoritative yet accessible review from a different discipline: linguistics (evolutionary, computational and neuro), archeology and neuroarcheology, macaque neurophysiology, comparative neuroanatomy, primate behavior, and developmental studies. These diverse perspectives are unified by having each chapter close with a section on its implications for creating a new road map for multidisciplinary research. These implications include assessment of the pluses and minuses of the Mirror System Hypothesis as an "old" road map. The cumulative road map is then presented in the concluding chapter. Originally published as a special issue of Interaction Studies 19:1/2 (2018).

Children are inherently musical. They respond to music and learn through music. Music expresses children's identity and heritage, teaches them to belong to a culture, and develops their cognitive well-being and inner self worth. As professional instructors, childcare workers, or students looking forward to a career working with children, we should continuously search for ways to tap into children's natural reservoir of enthusiasm for singing, moving and experimenting with instruments. But how, you might ask? What music is appropriate for the children I'm working with? How can music help inspire a well-rounded child? How do I reach and teach children musically? Most importantly perhaps, how can I incorporate music into a curriculum that marginalizes the arts?This book explores a holistic, artistic, and integrated approach to understanding the developmental connections between music and children. This book guides professionals to work through music, harnessing the processes that underlie music learning, and outlining developmentally appropriate methods to understand the role of music in children's lives through play, games, creativity, and movement. Additionally, the book explores ways of applying music-making to benefit the whole child, i.e., socially, emotionally, physically, cognitively, and linguistically.

Traditionally, music and language have been treated as different psychological faculties. This duality is reflected in older theories about the lateralization of speech and music in that speech functions were thought to be localized on the left and music functions on the right hemisphere. But with the advent of modern brain imaging techniques and the improvement of neurophysiological measures to investigate brain functions an entirely new view on the neural and psychological underpinnings of music and speech has evolved. The main point of convergence in the findings of these new studies is that music and speech functions have many aspects in common and that several neural modules are similarly involved in speech and music. There is also emerging evidence that speech functions can benefit from music functions and vice versa. This new research field has accumulated a lot of new information and it is therefore timely to bring together the work of those researchers who have been most visible, productive, and inspiring in this field and to ask them to present their new work or provide a summary of their laboratory's work.

The scientific consensus is that our ability to understand human speech has evolved over hundreds of thousands of years. After all, there are whole portions of the brain devoted to human speech. We learn to understand speech before we can even walk, and can seamlessly absorb enormous amounts of information simply by hearing it. Surely we evolved this capability over thousands of generations. Or did we? Portions of the human brain are also devoted to reading. Children learn to read at a very young age and can seamlessly absorb information even more quickly through reading than through hearing. We know that we didn't evolve to read because reading is only a few thousand years old. In Harnessed, cognitive scientist Mark Changizi demonstrates that human speech has been very specifically "designed" to harness the sounds of nature, sounds we've evolved over millions of years to readily understand. Long before humans evolved, mammals have learned to interpret the sounds of nature to understand both threats and opportunities. Our speech—regardless of language—is very clearly based on the sounds of nature. Even more fascinating, Changizi shows that music itself is based on natural sounds. Music—seemingly one of the most human of inventions—is literally built on sounds and patterns of sound that have existed since the beginning of time. From Library Journal: "Many scientists believe that the human brain's capacity for language is innate, that the brain is actually "hard-wired" for this higher-level functionality. But theoretical neurobiologist Changizi (director of human cognition, 2AI Labs; The Vision Revolution) brilliantly challenges this view, claiming that language (and music) are neither innate nor instinctual to the brain but evolved culturally to take advantage of what the most ancient aspect of our brain does best: process the sounds of nature... it will certainly intrigue evolutionary biologists, linguists, and cultural anthropologists and is strongly recommended for libraries that have Changizi's previous book." From Forbes: "In his latest book, Harnessed, neuroscientist Mark Changizi manages to accomplish the extraordinary: he says something compellingly new about evolution.... Instead of tackling evolution from the usual position and become mired in the usual arguments, he focuses on one aspect of the larger story so central to who we are, it may very well overshadow all others except the origin of life itself: communication."

How Music and Speech Unlock Mysteries of the Brain

A Mysterious Relationship

Music and the Child

The Singing Neanderthals

Harnessed

The study of music and the brain can be traced back to the work of Gall in the 18th century, continuing with John Hughlings Jackson, August Knoblauch, Richard Wallaschek, and others. These early researchers were interested in localizing musicality in the brain and learning more about how music is processed in both healthy individuals and those with dysfunctions of various kinds. Since then, the research literature has mushroomed, especially in the latter part of the 20th and early 21st centuries. The Oxford Handbook of Music and the Brain is a groundbreaking compendium of current research on music in the human brain. It brings together an international roster of 54 authors from 13 countries providing an essential guide to this rapidly growing field. The major themes include Music, the Brain, and Cultural Contexts; Music Processing in The Human Brain; Neural Responses to Music; Musicianship and Brain Function; Developmental Issues in Music and the Brain; Music, the Brain, and Health; and the Future. Each chapter offers a thorough review of the current status of research literature as well as an examination of limitations of knowledge and suggestions for future advancement and research efforts. The book is valuable for a broad readership including neuroscientists, musicians, clinicians, researchers and scholars from related fields but also readers with a general interest in the topic.

Neurocomparative music and language research has seen major advances over the past two decades. The goal of this Special Issue on "Advances in the Neurocognition of Music and Language" was to showcase the multiple neural analogies between musical and linguistic information processing, their entwined organization in human perception and cognition, and to infer the applicability of the combined knowledge in pedagogy and therapy. Here, we summarize the main insights provided by the contributions and integrate them into current frameworks of rhythm processing, neuronal entrainment, predictive coding, and cognitive control.

This title includes the following features: The first book to describe the neural bases of music; Edited and written by the leading researchers in this field; An important addition to OUP's acclaimed list in music psychology

A comprehensive survey of the latest neuroscientific research into the effects of music on the brain Covers a variety of topics fundamental for music perception, including musical syntax, musical semantics, music and action, music and emotion Includes general introductory chapters to engage a broad readership, as well as a wealth of detailed research material for experts Offers the most empirical (and most systematic) work on the topics of neural correlates of musical syntax and musical semantics Integrates research from different domains (such as music, language, action and emotion both theoretically and empirically, to create a comprehensive theory of music psychology

Your Brain on Music

Language in the Brain

Language in Our Brain

Rhythm, Music, and the Brain

The Neuropsychology of Music

The Origins of Music, Language, Mind, and Body

The award-winning creator of the documentary The Music Instinct traces the efforts of visionary researchers and musicians to understand the biological foundations of music and its relationship to the brain and the physical world. 35,000 first printing.

Music is everywhere; it pumps through earbuds, elevators, commercials, arenas, and it's even beamed out to space. But - despite its rampant abundance in human experience, history, and culture - music has no clear adaptive function. This begs the question: What are the origins of music, and why does it play such an enormous role in our lives?Did music arise from sexual selection, from the faculty of speech, as a group-oriented communication device, or is it merely a fortuitous side effect of various perceptual and cognitive mechanisms that serve other functions?In this multidisciplinary review of academic literature, Abel James incorporates research in neuroscience, linguistics, perception and challenges a wide range of eminent thinkers to uncover the origins of music and explore its profound effects on the human brain."The Musical Brain is a technical review of extraordinary breadth. There are books that you read and there are books that you study. The Musical Brain falls into the latter category."- Tony Federico

Assesses current assumptions about how language is acquired, remembered and retained as impulses in the brain, from the perspective of neurolinguistics.

There is much music in our lives -yet we know little about its function. Music is one of man's most remarkable inventions - though possibly it may not be his invention at all: like his capacity for language his capacity for music may be a naturally evolved biologic .function. All cultures and societies have music. Music differs from the sounds of speech and from other sounds, but only now do we find ourselves at the threshold of being able to find out how our brain processes musical sounds differently from other sounds. We are going through an exciting time when these questions and the question of how music moves us are being seriously investigated for the first time from the perspective of the co-ordinated functioning of the organism: the perspective of brain function, motor function as well as perception and experience. There is so much we do not yet know. But the roads to that knowledge are being opened, and the coming years are likely to see much progress towards providing answers and raising new questions. These questions are different from those music theorists have asked themselves: they deal not with the structure of a musical score (although that knowledge is important and necessary) but with music in the flesh: music not outside of man to be looked at from written symbols, but music-man as a living entity or system.

Advances in the Neurocognition of Music and Language

How the Brain Got Language - Towards a New Road Map

Psychology of Music

The Origins of a Uniquely Human Capacity

Music, Language, and the BrainOxford University Press

Did you ever ask whether music makes people smart, why a Parkinson patient's gait is improved with marching tunes, and whether Robert Schumann was suffering from schizophrenia or Alzheimer's disease? This broad but comprehensive book deals with history and new discoveries about music and the brain. It provides a multi-disciplinary overview on music processing, its effects on brain plasticity, and the healing power of music in neurological and psychiatric disorders. In this context, the disorders the plagued famous musicians and how they affected both performance and composition are critically discussed, and music as medicine, as well as music as a potential health hazard are examined. Among the other topics covered are: how music fit into early conceptions of localization of function in the brain, the cultural roots of music in evolution, and the important roles played by music in societies and educational systems. Topic: Music is interesting to almost everybody Orientation: This book looks at music and the brain both historically and in the light of the latest research findings Comprehensiveness: This is the largest and most comprehensive volume on "music and neurology" ever written! Quality of authors: This volume is written by a unique group of real world experts representing a variety of fields, ranging from history of science and medicine to neurology and musicology

In this groundbreaking union of art and science, rocker-turned-neuroscientist Daniel J. Levitin explores the connection between music—its performance, its composition, how we listen to it, why we enjoy it—and the human brain. Taking on prominent thinkers who argue that music is nothing more than an evolutionary accident, Levitin poses that music is fundamental to our species, perhaps even more so than language. Drawing on the latest research and on musical examples ranging from Mozart to Duke Ellington to Van Halen, he reveals: □ How composers produce some of the most pleasurable effects of listening to music by exploiting the way our brains make sense of the world □ Why we are so emotionally attached to the music we listened to as teenagers, whether it was Fleetwood Mac, U2, or Dr. Dre □ That practice, rather than talent, is the driving force behind musical expertise □ How those insidious little jingles (called earworms) get stuck in our head A Los Angeles Times Book Award finalist, This Is Your Brain on Music will attract readers of Oliver Sacks and David Byrne, as it is an unprecedented, eye-opening investigation into an obsession at the heart of human nature.