Consciousness Confessions Of A Romantic Reductionist

The Cognitive Neuroscience of ConsciousnessThe Folding StarRethinking Consciousness: A Scientific Theory of Subjective ExperienceVisual Attention and Cortical CircuitsThe Social Conquest of EarthConsciousnessBiophysics of ComputationWider Than the SkyI Am a Strange LoopConsciousnessConsciousnessThe New Science of ConsciousnessNotes from the UndergroundMindful UniversePanpsychism in the West, revised editionSecond NatureNeuroscience For DummiesA Universe Of Consciousness How Matter Becomes ImaginationWomen in LoveThe Consciousness InstinctHow We LearnThe Neural Basis of Free WillBacchus in Romantic EnglandPhiMethods in Neuronal ModelingThe Feeling of Life ItselfLarge-scale Neuronal Theories of the BrainSizing Up ConsciousnessThirst for LoveBlue ArabesqueIn which I argue that consciousness is a fundamental property of complex thingsConsciousnessThe Reveries of the Solitary WalkerConversations of a Conscious Black GirlConfessions of a MaskConsciousness DemystifiedINCIDENTS IN THE LIFE OF A SLAVE GIRLThe Romantic Subject in AutobiographyThe Quest for ConsciousnessThe Ancient Origins of Consciousness

The Cognitive Neuroscience of Consciousness

The classical mechanistic idea of nature that prevailed during the eighteenth and nineteenth centuries was essentially mindless: the physically described aspects of nature were asserted to be completely determined by prior physically described aspects alone, with conscious experiences entering only passively. In the last century these classical concepts were found inadequate. In the new quantum mechanics theory, conscious experiences enter into the dynamics in specified ways not fixed by physically described aspects alone.

The Folding Star

An urban stance on the current state of the African-American community, it's people, and the contribution society makes towards its downfall. As told from the views of two conscious black girls.

Rethinking Consciousness: A Scientific Theory of Subjective Experience

First published posthumously in 1782 from an unfinished manuscript, The Reveries of the Solitary Walker continues Rousseau's exploration of the soul in the form of a final meditation on self-understanding and isolation. This accurate and graceful translation by Charles Butterworth--the only English version based on Rousseau's original text--is accompanied by an interpretive essay, extensive notes, and a comprehensive index.

Visual Attention and Cortical Circuits

An attempt to derive a comprehensive theory of attention from both neurobiological and psychological data. The neurobiology and psychology of attention have much to learn from each other. Neurobiologists recognize that responses in sensory cortex depend on the behavioral relevance of a stimulus, but have few ways to study how perception changes as a result. Psychologists have the conceptual and methodological tools to do just that, but are confounded by the multiple interpretations and theoretical ambiguities. This book attempts to bridge the two fields and to derive a comprehensive theory of attention from both neurobiological and psychological data. It highlights situations where attention can be seen to alter both neural activity and psychophysical performance/phenomenal experience. This "bicultural" approach contributes not only to attention research but to the larger goal of linking neural activity to conscious experience. The book focuses mainly on the effects of visual attention on the ventral and dorsal streams of visual cortex in humans and monkeys and the associated changes in visual performance. Several larger findings emerge: attention may involve more than one neural system; attention modulates all stages of cortical visual processing; the effect of attention is constrained by the intrinsic connectivity of cortex and the resulting contextual interactions; and the notion of a "saliency map" remains central to thinking about visual attention. The book also considers several approaches to evaluating the same variable through different methods, such as behavioral measurements, functional imaging, and single-unit recording. Contributors Narcisse P. Bichot, Erik Blaser, Geoffrey M. Boynton, Jochen Braun, Maurizio Corbetta, Sean M. Culhane, Florin Cutzu, Sophie Deneve, Robert Desimone, John Duncan, Sunil P. Gandhi, Charles D. Gilbert, David J. Heeger, James W. Holsapple, Alexander C. Huk, Minami Ito, Laurent Itti, Christof Koch, Peter E. Latham, Nilli Lavie, D. Kathleen Lee, Zhong-Lin Lu, John H.R. Maunsell, Carrie J. McAdams, Brad C. Motter, Alexandre Pouget, Adam Reeves, John H. Reynolds, Jeffrey D. Schall, Christian Scheier, Shinsuke Shimojo, Gordon L. Shulman, George Sperling, Kirk G. Thompson, John K. Tsotsos, Katsumi Watanabe, Erich Weichselgartner, Gerald Westheimer

The Social Conquest of Earth

In A Universe of Consciousness, Gerald Edelman builds on the radical ideas he introduced in his monumental trilogy-Neural Darwinism, Topobiology, and The Remembered Present-to present for the first time an empirically supported full-scale theory of consciousness. He and the neurobiolgist Giulio Tononi show how they use ingenious technology to detect the most minute brain currents and to identify the specific brain waves that correlate with particular conscious experiences. The results of this pioneering work challenge the conventional wisdom about consciousness.

Consciousness

"What links conscious experience of pain, joy, color, and smell to bioelectrical activity in the brain? How can anything physical give rise to nonphysical, subjective, conscious states? Christof Koch has devoted much of his career to bridging the seemingly unbridgeable gap between the physics of the brain and phenomenal experience. This engaging book--part scientific overview, part memoir, part futurist speculation--describes Koch's search for an empirical

explanation for consciousness. Koch recounts not only the birth of the modern science of consciousness but also the subterranean motivation for his quest--his instinctual (if 'romantic') belief that life is meaningful. Koch describes his own groundbreaking work with Francis Crick in the 1990s and 2000s and the gradual emergence of consciousness (once considered a 'fringy' subject) as a legitimate topic for scientific investigation. Present at this paradigm shift were Koch and a handful of colleagues, including Ned Block, David Chalmers, Stanislas Dehaene, Giulio Tononi, Wolf Singer, and others. Aiding and abetting it were new techniques to listen in on the activity of individual nerve cells, clinical studies, and brain-imaging technologies that allowed safe and noninvasive study of the human brain in action. Koch gives us stories from the front lines of modern research into the neurobiology of consciousness as well as his own reflections on a variety of topics, including the distinction between attention and awareness, the unconscious, how neurons respond to Homer Simpson, the physics and biology of free will, dogs, Der Ring des Nibelungen, sentient machines, the loss of his belief in a personal God, and sadness. All of them are signposts in the pursuit of his life's work--to uncover the roots of consciousness."--Jacket.

Biophysics of Computation

"How is consciousness created? When did it first appear on Earth, and how did it evolve? What constitutes consciousness, and which animals can be said to be sentient? In [this book], Todd Feinberg and Jon Mallatt draw on recent scientific findings to answer these questions--and to tackle the most fundamental question about the nature of consciousness: How does the material brain create subjective experience? The authors argue that consciousness appeared much earlier in evolutionary history than is commonly assumed, evolving simultaneously but independently in the first vertebrates and possibly arthropods more than half a billion years ago. Combining evolutionary, neurobiological, and philosophical approaches allows Feinberg and Mallatt to offer an original solution to the "hard problem" of consciousness"--Back cover.

Wider Than the Sky

Demystifying consciousness: how subjective experience can be explained by natural brain and evolutionary processes. Consciousness is often considered a mystery. How can the seemingly immaterial experience of consciousness be explained by the material neurons of the brain? There seems to be an unbridgeable gap between understanding the brain as an objectively observed biological organ and accounting for the subjective experiences that come from the brain (and life processes). In this book, Todd Feinberg and Jon Mallatt attempt to demystify consciousness—to naturalize it, by explaining that the subjective, experiencing aspects of consciousness are created by natural brain processes that evolved in natural ways. Although subjective experience is unique in nature, they argue, it is not necessarily mysterious. We need not invoke the unknown or unknowable to explain its creation. Feinberg and Mallatt flesh out their theory of neurobiological naturalism (after John Searle's biological naturalism) that recognizes the many features that brains share with other living things, lists the neural features unique to conscious brains, and explains the subjective–objective barrier naturally. They investigate common neural features among the diverse

groups of animals that have primary consciousness—the type of consciousness that experiences both sensations received from the world and affects such as emotions. They map the evolutionary development of consciousness and find an uninterrupted progression over time, without inserting any mysterious forces or exotic physics. Finally, bridging the previously unbridgeable, they show how subjective experience, although different from objective observation, can be naturally explained.

I Am a Strange Loop

In which a scientist searches for an empirical explanation for phenomenal experience, spurred by his instinctual belief that life is meaningful. What links conscious experience of pain, joy, color, and smell to bioelectrical activity in the brain? How can anything physical give rise to nonphysical, subjective, conscious states? Christof Koch has devoted much of his career to bridging the seemingly unbridgeable gap between the physics of the brain and phenomenal experience. This engaging book—part scientific overview, part memoir, part futurist speculation—describes Koch's search for an empirical explanation for consciousness. Koch recounts not only the birth of the modern science of consciousness but also the subterranean motivation for his quest—his instinctual (if "romantic") belief that life is meaningful. Koch describes his own groundbreaking work with Francis Crick in the 1990s and 2000s and the gradual emergence of consciousness (once considered a "fringy" subject) as a legitimate topic for scientific investigation. Present at this paradigm shift were Koch and a handful of colleagues, including Ned Block, David Chalmers, Stanislas Dehaene, Giulio Tononi, Wolf Singer, and others. Aiding and abetting it were new techniques to listen in on the activity of individual nerve cells, clinical studies, and brain-imaging technologies that allowed safe and noninvasive study of the human brain in action. Koch gives us stories from the front lines of modern research into the neurobiology of consciousness as well as his own reflections on a variety of topics, including the distinction between attention and awareness, the unconscious, how neurons respond to Homer Simpson, the physics and biology of free will, dogs, Der Ring des Nibelungen, sentient machines, the loss of his belief in a personal God, and sadness. All of them are signposts in the pursuit of his life's work—to uncover the roots of consciousness.

Consciousness

Etsuko, a young widow living in postwar Osaka, Japan, falls prey to the sexual advances of her father-in-law and becomes the victim of her compulsion to both love and hurt a young farm worker. Reprint. 15,000 first printing.

Consciousness

Although the literature of modern subjectivity has its sources in the Renaissance and manifests itself in texts as early as Montaigne's Essays and Shakespeare's Hamlet, autobiography as we know it is one of the significant developments of the later eighteenth century. Indeed, the rise of writing about the self is an important indicator of the transition from the culture of the Enlightenment to that of

Romanticism. Arguing that Rousseau and Goethe are the foremost practitioners of Romantic autobiography, Eugene L. Stelzig offers the first comparative study of these foundational figures. Although the term 'Romantic autobiography' has been in use for some years, there has been no developed critical or generic discussion of it, nor of Rousseau's, Goethe's, and Wordsworth's writings as the leading examples of the genre. Stelzig provides an overview of how these authors fashioned a distinctive type of self-writing at the historical moment when modern autobiography emerged in its identifiable form. Within this historical and critical context, Stelzig analyzes in depth Rousseau's and Goethe's conceptions of the genre and their autobiographical output, merging close critical reading of selected episodes with psychobiographical analysis. He shows how both writers' presentations of their relationships with others are at times defensive and self-seeking and indicate a truth more complex and ambiguous than they are willing to acknowledge. In particular, Stelzig demonstrates how Goethe exploited the resources of fiction to emphasize and highlight the subjective and personal in his work, a practice Rousseau engaged in only covertly. Stelzig analyzes the major episodes of Rousseau's Confessions in light of his philosophical writings and the biographical record and offers a revisionary reading of his brilliant but largely unknown Dialogues. Stelzig's chapters on Goethe's monumental portrait of his early years, Poetry and Truth, constitute the fullest critical discussion extant of Goethe's ambitious project and of the ideal of Bildung (education, development) that informs his life narrative. Stelzig concludes with a discussion of Goethe's presentation of his complex relationship with his parents and sister and the romantic involvements that play such a prominent role in his autobiography and in the public legend of his life.

The New Science of Consciousness

The 1995 Booker Prize finalist. Alan Hollinghurst's hypnotic and exquisitely written novel tells the story of Edward Manners, a disaffected 33-year-old who leaves England to earn his living as a language tutor in a Flemish city. Almost immediately he falls in love with one of his pupils, but can only console himself with other, illicit affairs. With this novel, Hollinghurst exposes us fearlessly to the consequences of unfulfillable, annihilating desire.

Notes from the Underground

Consciousness is the major unsolved problem in biology. Written as an introduction to the field and drawing upon clinical, psychological and physiological observations, this book seeks to answer questions of consciousness within a neuroscientific framework.

Mindful Universe

An illuminating dive into the latest science on our brain's remarkable learning abilities and the potential of the machines we program to imitate them The human brain is an extraordinary machine. Its ability to process information and adapt to circumstances by reprogramming itself is unparalleled and it remains the best source of inspiration for recent developments in artificial intelligence. In How We

Learn, Stanislas Dehaene decodes the brain's biological mechanisms, delving into the neuronal, synaptic, and molecular processes taking place. He explains why youth is such a sensitive period, during which brain plasticity is maximal, but assures us that our abilities continue into adulthood and that we can enhance our learning and memory at any age. We can all learn to learn by taking maximal advantage of the four pillars of the brain's learning algorithm: attention, active engagement, error feedback, and consolidation. The exciting advancements in artificial intelligence of the last twenty years reveal just as much about our remarkable abilities as they do about the potential of machines. How We Learn finds the boundary of computer science, neurobiology, and cognitive psychology to explain how learning really works and how to make the best use of the brain's learning algorithms, in our schools and universities, as well as in everyday life.

Panpsychism in the West, revised edition

The authors encompass a broad background, from biophysics and electrophysiology to psychophysics, neurology, and computational vision. However, all the chapters focus on a common issue: the role of the primate (including human) cerebral cortex in memory, visual perception, focal attention, and awareness.

Second Nature

Bacchus in Romantic England describes real drunkenness among writers and ordinary people in the Romantic age. It grounds this 'reality' in writings by doctors and philanthropists from 1780 onwards, who describe an epidemic of drunkenness. These commentators provide a context for the different ways that poets and novelists of the age represent drunkards. Wordsworth writes poems and essays evaluating the drunken career of his model Robert Burns. Charles Lamb's essays and letters reveal a real and metaphorical preoccupation with his own drinking as a way of disguising his personal suffering; his companion Coleridge writes drinking songs, essays about drunkenness, and meditations about his own weakness of will that show both festive inebriety and consciousness of an inward abyss; Coleridge's son Hartley, whose fate his father had prophesied, experiences drunkenness as the life-long humiliation described in his poems and letters. Keats's complex dionysianism runs through 'Endymion' and the late odes, setting him at odds with his temperate hero Milton. Men in the Romantic age, such as Sheridan, Byron, Moor, and Clare, celebrate rowdy friendship with tales and songs of drinking; Romantic women novelists such as Smith, Edgeworth and Wollstonecraft depict these men stumbling home to abuse their wives. Although excessive drinking is real in the period, observers and participants can still maintain ambivalence about its power to release or to debase the human being.

Neuroscience For Dummies

Everyone knows what consciousness is: it is what vanishes when we fall into dreamless sleep and reappears when we wake up or when we dream. However, we become less and less confident when we are called to answer fundamental questions about the relationships between consciousness and the physical world.

Using the Integrated Information Theory (IIT) as a guiding principle, Sizing up Consciousness takes the reader vis-a-vis with these question alonga fascinating journey from the cerebral cortex to the cerebellum, from wakefulness to sleep, anesthesia, and coma, supercomputers, octopuses, dolphins, and much more besides.

A Universe Of Consciousness How Matter Becomes Imagination

An influential neuroscientist presents a narrative exploration of consciousness that covers such topics as the important and less-important regions of the brain, the shifting of consciousness with sleep and the role of awareness in an evolving consciousness. 25,000 first printing.

Women in Love

Nobel Prize-winning neuroscientist, Dr. Gerald Edelman, offers an up-to-date account of the workings of the brain and the connections between mind and body. Edelman explores the relation of consciousness to causation, evolution, the development of the self, and the origins of feelings, learning, and memory, basing his discussion on recent advances in science and medicine.

The Consciousness Instinct

An updated edition of a comprehensive study of the theory that mind exists, in some form, in all living and nonliving things. In Panpsychism in the West, the first comprehensive study of the subject, David Skrbina argues for the importance of panpsychism—the theory that mind exists, in some form, in all living and nonliving things—in consideration of the nature of consciousness and mind. Panpsychism, with its conception of mind as a general phenomenon of nature, uniquely links being and mind. More than a theory of mind, it is a meta-theory—a statement about theories of mind rather than a theory in itself. Panpsychism can parallel almost every current theory of mind; it simply holds that, no matter how one conceives of mind, such mind applies to all things. After a brief discussion of general issues surrounding philosophy of mind, Skrbina examines the panpsychist views of philosophers from the pre-Socratics to the post-structuralists. The original edition of Panpsychism in the West helped to reinvigorate a neglected and important aspect of philosophic thinking. This revised edition offers expanded and updated material that reflects the growth of panpsychism as a subdiscipline. It covers the problem of emergence of mind from a non-mental reality and the combination problem in greater detail. It offers expanded coverage of the pre-Socratics and Plato; a new section on Augustine; expanded discussions of Continental panpsychism, scientific arguments, Nietzsche, and Whitehead; and a new section on Russellian monism. With this edition, Panpsychism in the West will be continue to be the standard work on the topic.

How We Learn

Neuroscientist and psychologist Michael S. A. Graziano puts forward a groundbreaking new theory on the origin of consciousness. Focusing attention can

help an animal find food or flee a predator. It also may have led to consciousness. Tracing evolution over millions of years, Michael S. A. Graziano uses examples from the natural world to show how neurons first allowed animals to develop simple forms of attention: taking in messages from the environment, prioritizing them, and responding as necessary. Then some animals evolved covert attention—a roving mental focus that can take in information apart from where the senses are pointed, like hearing sirens at a distance or recalling a memory. Graziano proposes that in order to monitor and control this specialized attention, the brain evolved a simplified model of it—a cartoonish self-description depicting an internal essence with a capacity for knowledge and experience. In other words, consciousness. In this eye-opening work drawn from his and other scientists' experiments, Graziano accessibly explores how this sense of an inner being led to empathy and formed us into social beings. The theory may point the way to engineers for building consciousness artificially, and even someday taking the natural consciousness of a person and uploading it into a machine for a digital afterlife. Graziano discusses what a future with artificial conscious might be like, including both advantages and risks, and what AI might mean for our evolutionary future.

The Neural Basis of Free Will

New York Times Bestseller From the most celebrated heir to Darwin comes a groundbreaking book on evolution, the summa work of Edward O. Wilson's legendary career. Sparking vigorous debate in the sciences, The Social Conquest of Earth upends "the famous theory that evolution naturally encourages creatures to put family first" (Discover). Refashioning the story of human evolution, Wilson draws on his remarkable knowledge of biology and social behavior to demonstrate that group selection, not kin selection, is the premier driving force of human evolution. In a work that James D. Watson calls "a monumental exploration of the biological origins of the human condition," Wilson explains how our innate drive to belong to a group is both a "great blessing and a terrible curse" (Smithsonian). Demonstrating that the sources of morality, religion, and the creative arts are fundamentally biological in nature, the renowned Harvard University biologist presents us with the clearest explanation ever produced as to the origin of the human condition and why it resulted in our domination of the Earth's biosphere.

Bacchus in Romantic England

When a Japanese youth discovers he has homosexual tendencies he hides himself behind conventional behavior

Phi

In which a scientist searches for an empirical explanation for phenomenal experience, spurred by his instinctual belief that life is meaningful. What links conscious experience of pain, joy, color, and smell to bioelectrical activity in the brain? How can anything physical give rise to nonphysical, subjective, conscious states? Christof Koch has devoted much of his career to bridging the seemingly unbridgeable gap between the physics of the brain and phenomenal experience. This engaging book--part scientific overview, part memoir, part futurist

speculation--describes Koch's search for an empirical explanation for consciousness. Koch recounts not only the birth of the modern science of consciousness but also the subterranean motivation for his quest--his instinctual (if "romantic") belief that life is meaningful. Koch describes his own groundbreaking work with Francis Crick in the 1990s and 2000s and the gradual emergence of consciousness (once considered a "fringy" subject) as a legitimate topic for scientific investigation. Present at this paradigm shift were Koch and a handful of colleagues, including Ned Block, David Chalmers, Stanislas Dehaene, Giulio Tononi, Wolf Singer, and others. Aiding and abetting it were new techniques to listen in on the activity of individual nerve cells, clinical studies, and brain-imaging technologies that allowed safe and noninvasive study of the human brain in action. Koch gives us stories from the front lines of modern research into the neurobiology of consciousness as well as his own reflections on a variety of topics, including the distinction between attention and awareness, the unconscious, how neurons respond to Homer Simpson, the physics and biology of free will, dogs, Der Ring des Nibelungen, sentient machines, the loss of his belief in a personal God, and sadness. All of them are signposts in the pursuit of his life's work--to uncover the roots of consciousness.

Methods in Neuronal Modeling

What links conscious experience of pain, joy, color, and smell to bioelectrical activity in the brain? How can anything physical give rise to nonphysical, subjective, conscious states? Christof Koch has devoted much of his career to bridging the seemingly unbridgeable gap between the physics of the brain and phenomenal experience. In this BIT, Koch argues that consciousness is a fundamental property of networked entities, and rhapsodizes about integrated information theory -- how it explains many puzzling facts about consciousness and provides a blueprint for building sentient machines.

The Feeling of Life Itself

Empirical and theoretical foundations of a cognitive neuroscience ofconsciousness.

Large-scale Neuronal Theories of the Brain

An argument that consciousness, more widespread than previously assumed, is the feeling of being alive, not a type of computation or a clever hack. In The Feeling of Life Itself, Christof Koch offers a straightforward definition of consciousness as any subjective experience, from the most mundane to the most exalted—the feeling of being alive. Psychologists study which cognitive operations underpin a given conscious perception. Neuroscientists track the neural correlates of consciousness in the brain, the organ of the mind. But why the brain and not, say, the liver? How can the brain, three pounds of highly excitable matter, a piece of furniture in the universe, subject to the same laws of physics as any other piece, give rise to subjective experience? Koch argues that what is needed to answer these questions is a quantitative theory that starts with experience and proceeds to the brain. In The Feeling of Life Itself, Koch outlines such a theory, based on integrated information. Koch describes how the theory explains many facts about

the neurology of consciousness and how it has been used to build a clinically useful consciousness meter. The theory predicts that many, and perhaps all, animals experience the sights and sounds of life; consciousness is much more widespread than conventionally assumed. Contrary to received wisdom, however, Koch argues that programmable computers will not have consciousness. Even a perfect software model of the brain is not conscious. Its simulation is fake consciousness. Consciousness is not a special type of computation—it is not a clever hack. Consciousness is about being.

Sizing Up Consciousness

Kinetic Models of Synaptic Transmission / Alain Destexhe, Zachary F. Mainen, Terrence J. Sejnowski / - Cable Theory for Dendritic Neurons / Wilfrid Rall, Hagai Agmon-Snir / - Compartmental Models of Complex Neurons / Idan Segev, Robert E. Burke / - Multiple Channels and Calcium Dynamics / Walter M. Yamada, Christof Koch, Paul R. Adams / - Modeling Active Dendritic Processes in Pyramidal Neurons / Zachary F. Mainen, Terrence J. Sejnowski / - Calcium Dynamics in Large Neuronal Models / Erik De Schutter, Paul Smolen / - Analysis of Neural Excitability and Oscillations / John Rinzel, Bard Ermentrout / - Design and Fabrication of Analog VLSI Neurons / Rodney Douglas, Misha Mahowald / - Principles of Spike Train Analysis / Fabrizio Gabbiani, Christof Koch / - Modeling Small Networks / Larry Abbott, Eve Marder / - Spatial and Temporal Processing in Central Auditory Networks / Shihab Shamma / - Simulating Large Networks of Neurons / Alexander D. Protopapas, Michael Vanier, James M. Bower /

Thirst for Love

Neural network research often builds on the fiction that neurons are simple linear threshold units, completely neglecting the highly dynamic and complex nature of synapses, dendrites, and voltage-dependent ionic currents. Biophysics of Computation: Information Processing in Single Neurons challenges this notion, using richly detailed experimental and theoretical findings from cellular biophysics to explain the repertoire of computational functions available to single neurons. The author shows how individual nerve cells can multiply, integrate, or delay synaptic inputs and how information can be encoded in the voltage across the membrane, in the intracellular calcium concentration, or in the timing of individual spikes.Key topics covered include the linear cable equation; cable theory as applied to passive dendritic trees and dendritic spines; chemical and electrical synapses and how to treat them from a computational point of view; nonlinear interactions of synaptic input in passive and active dendritic trees; the Hodgkin-Huxley model of action potential generation and propagation; phase space analysis; linking stochastic ionic channels to membrane-dependent currents; calcium and potassium currents and their role in information processing; the role of diffusion, buffering and binding of calcium, and other messenger systems in information processing and storage; short- and long-term models of synaptic plasticity; simplified models of single cells; stochastic aspects of neuronal firing; the nature of the neuronal code; and unconventional models of sub-cellular computation.Biophysics of Computation: Information Processing in Single Neurons serves as an ideal text for advanced undergraduate and graduate courses in cellular biophysics, computational neuroscience, and neural networks, and will

appeal to students and professionals in neuroscience, electrical and computer engineering, and physics.

Blue Arabesque

Get on the fast track to understanding neuroscience Investigating how your senses work, how you move, and how you think and feel, Neuroscience For Dummies, 2nd Edition is your straight-forward guide to the most complicated structure known in the universe: the brain. Covering the most recent scientific discoveries and complemented with helpful diagrams and engaging anecdotes that help bring the information to life, this updated edition offers a compelling and plain-English look at how the brain and nervous system function. Simply put, the human brain is an endlessly fascinating subject: it holds the secrets to your personality, use of language, memories, and the way your body operates. In just the past few years alone, exciting new technologies and an explosion of knowledge have transformed the field of neuroscience—and this friendly guide is here to serve as your roadmap to the latest findings and research. Packed with new content on genetics and epigenetics and increased coverage of hippocampus and depression, this new edition of Neuroscience For Dummies is an eye-opening and fascinating read for readers of all walks of life. Covers how gender affects brain function Illustrates why some people are more sensitive to pain than others Explains what constitutes intelligence and its different levels Offers guidance on improving your learning What is the biological basis of consciousness? How are mental illnesses related to changes in brain function? Find the answers to these and countless other questions in Neuroscience For Dummies, 2nd Edition

In which I argue that consciousness is a fundamental property of complex things

Burgeoning advances in brain science are opening up new perspectives on how we acquire knowledge. Indeed, it is now possible to explore consciousness - the very centre of human concern - by scientific means. In this illuminating book, Dr. Gerald M. Edelman offers a new theory of knowledge based on striking scientific findings about how the brain works. And he addresses the related compelling question: does the latest research imply that all knowledge can be reduced to scientific description? Edelman's brain-based approach to knowledge has rich implications for our understanding of creativity, of the normal and abnormal functioning of the brain, and of the connections among the different ways we have of knowing. While the gulf between science and the humanities and their respective views of the world has seemed enormous in the past, the author shows that their differences can be dissolved by considering their origins in brain functions. He foresees a day when brain-based devices will be conscious, and he reflects on this and other fascinating ideas about how we come to know the world and ourselves.

Consciousness

An original, endlessly thought-provoking, and controversial look at the nature of consciousness and identity argues that the key to understanding selves and consciousness is the "strange loop," a special kind of abstract feedback loop

inhabiting our brains.

The Reveries of the Solitary Walker

Darkly fascinating short novel depicts the struggles of a doubting, supremely alienated protagonist in a world of relative values. Embraces moral, religious, political, and social themes. Authoritative Constance Garnett translation. New introduction.

Conversations of a Conscious Black Girl

"Incidents in the Life of a Slave Girl" was one of the first books to address the struggle for freedom by female slaves; explore their struggles with sexual harassment and abuse; and their effort to protect their roles as women and mothers. After being overshadowed by the Civil War, the novel was rediscovered in the late 20th century and since then hasn't been out of print ever. It is one of the seminal books written on the theme of slavery from a woman's point of view and appreciated worldwide academically as well. Excerpt: "Reader be assured this narrative is no fiction. I am aware that some of my adventures may seem incredible; but they are, nevertheless, strictly true. I have not exaggerated the wrongs inflicted by Slavery; on the contrary, my descriptions fall far short of the facts. I have concealed the names of places, and given persons fictitious names. I had no motive for secrecy on my own account, but I deemed it kind and considerate towards others to pursue this course." Harriet Jacobs (1813–1897) was an African-American writer who was formerly a fugitive slave. To save her family and her own identity from being found out, she used the pseudonym of Linda Brent and wrote secretly during the night.

Confessions of a Mask

In this book, William Lycan defends an original theory of mind that he calls homuncular functionalism. What is consciousness? The answer to this question has been pondered upon, grappled with, and argued about since time immemorial. There has never been an answer that achieved consensus; certainly philosophers have never agreed.In this book, William Lycan defends an original theory of mind that he calls homuncular functionalism. He argues that human beings are functionally organized information-processing systems who have no non-physical parts or properties. However, Lycan also recognizes the subjective phenomenal qualities of mental states and events, and an important sense in which mind is over and above mere chemical matter. Along the way, Lycan reviews some diverse philosophical accounts of consciousness-including those of Kripke, Block, Campbell, Sellars, and Castañeda, among others-and demonstrates how what is valuable in each opposing view can be accommodated within his own theory. Consciousness is Lycan's most ambitious book, one that has engaged his attention for years. He handles a fascinating subject in a unique and undoubtedly controversial manner that will make this book a mainstay in the field of philosophy of mind. Consciousness, with these earlier works, is a Bradford Book.

Consciousness Demystified

Contrasts between the relationships of two sisters, Ursula and Gudrun, and their love affairs with Birkin and Gerald.

INCIDENTS IN THE LIFE OF A SLAVE GIRL

This book explains in layperson's terms a new approach to studying consciousness based on a partnership between neuroscientists and complexity scientists. The author, a physicist turned neuroscientist, outlines essential features of this partnership. The new science goes well beyond traditional cognitive science and simple neural networks, which are often the focus in artificial intelligence research. It involves many fields including neuroscience, artificial intelligence, physics, cognitive science, and psychiatry. What causes autism, schizophrenia, and Alzheimer's disease? How does our unconscious influence our actions? As the author shows, these important questions can be viewed in a new light when neuroscientists and complexity scientists work together. This cross-disciplinary approach also offers fresh insights into the major unsolved challenge of our age: the origin of self-awareness. Do minds emerge from brains? Or is something more involved? Using human social networks as a metaphor, the author explains how brain behavior can be compared with the collective behavior of large-scale global systems. Emergent global systems that interact and form relationships with lower levels of organization and the surrounding environment provide useful models for complex brain functions. By blending lucid explanations with illuminating analogies, this book offers the general reader a window into the latest exciting developments in brain research.

The Romantic Subject in Autobiography

These meditations inspired by a Matisse painting are “a paean to the act of seeing, celebrating our capacity to be transformed by the truths art holds.” —The New York Times Book Review Named a Chicago Tribune Best Book of the Year and a Los Angeles Times Favorite Nonfiction of the Year Just out of college, Patricia Hampl was mesmerized by a Matisse painting in the Art Institute of Chicago: an aloof woman gazing at goldfish in a bowl, a Moroccan screen behind her. In Blue Arabesque, Hampl explores the allure of this lounging woman, immersed in leisure, so at odds with the rush of the modern era. Hampl’s meditation takes us to the Cote d’Azur and to North Africa, from cloister to harem, pondering figures as diverse as Eugene Delacroix, F. Scott Fitzgerald, and Katherine Mansfield. Returning always to Matisse’s portraits of languid women, she discovers they were not decorative indulgences but something much more. Moving with the life force that Matisse sought in his work, Blue Arabesque is Hampl’s dazzling and critically acclaimed tour de force.

The Quest for Consciousness

The issues of mental causation, consciousness, and free will have vexed philosopherssince Plato. In this book, Peter Tse examines these unresolved issues from a neuroscientificperspective. In contrast with philosophers who use logic rather than data to argue whether mentalcausation or consciousness can exist given unproven first assumptions, Tse proposes that we insteadlisten to what

neurons have to say. Because the brain must already embody a solution to themind--body problem, why not focus on how the brain actually realizes mental causation? Tse draws on exciting recent neuroscientific data concerning how informationalcausation is realized in physical causation at the level of NMDA receptors, synapses, dendrites,neurons, and neuronal circuits. He argues that a particular kind of strong free will and "downward"mental causation are realized in rapid synaptic plasticity. Recent neurophysiological breakthroughsreveal that neurons function as criterial assessors of their inputs, which then change the criteriathat will make other neurons fire in the future. Such informational causation cannot change thephysical basis of information realized in the present, but it can change the physical basis ofinformation that may be realized in the immediate future. This gets around the standard argumentagainst free will centered on the impossibility of self-causation. Tse explores the ways that mentalcausation and qualia might be realized in this kind of neuronal and associatedinformation-processing architecture, and considers the psychological and philosophical implicationsof having such an architecture realized in our brains.

The Ancient Origins of Consciousness

“The father of cognitive neuroscience” illuminates the past, present, and future of the mind-brain problem How do neurons turn into minds? How does physical “stuff”—atoms, molecules, chemicals, and cells—create the vivid and various worlds inside our heads? The problem of consciousness has gnawed at us for millennia. In the last century there have been massive breakthroughs that have rewritten the science of the brain, and yet the puzzles faced by the ancient Greeks are still present. In The Consciousness Instinct, the neuroscience pioneer Michael S. Gazzaniga puts the latest research in conversation with the history of human thinking about the mind, giving a big-picture view of what science has revealed about consciousness. The idea of the brain as a machine, first proposed centuries ago, has led to assumptions about the relationship between mind and brain that dog scientists and philosophers to this day. Gazzaniga asserts that this model has it backward—brains make machines, but they cannot be reduced to one. New research suggests the brain is actually a confederation of independent modules working together. Understanding how consciousness could emanate from such an organization will help define the future of brain science and artificial intelligence, and close the gap between brain and mind. Captivating and accessible, with insights drawn from a lifetime at the forefront of the field, The Consciousness Instinct sets the course for the neuroscience of tomorrow.

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