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T2WJ8E - DAISY POTTS

A pioneering neuroscientist argues that we are more than our brains To many, the brain is the seat of personal identity and autonomy. But the way we talk about the brain is often rooted more in mystical conceptions of the soul than in scientific fact. This blinds us to the physical realities of mental function. We ignore bodily influences on our psychology, from chemicals in the blood to bacteria in the gut, and overlook the ways that the environment affects our behavior, via factors varying from subconscious sights and sounds to the weather. As a result, we alternately overestimate our capacity for free will or equate brains to inorganic machines like computers. But a brain is neither a soul nor an electrical network: it is a bodily organ, and it cannot be separated from its surroundings. Our selves aren't just inside our heads--they're spread throughout our bodies and beyond. Only once we come to terms with this can we grasp the true nature of our humanity.

Leading scholars respond to the famous proposition by Andy Clark and David Chalmersthat cognition and mind are not located exclusively in the head.

In 1996 Joseph LeDoux's The Emotional Brain presented a revelatory examination of the biological bases of our emotions and memories. Now, the world-renowned expert on the brain has produced with a groundbreaking work that tells a more profound story: how the little spaces between the neurons—the brain's synapses—are the channels through which we think, act, imagine, feel, and remember. Synapses encode the essence of personality, enabling each of us to function as a distinctive, integrated individual from moment to moment. Exploring the functioning of memory, the synaptic basis of mental illness and drug addiction, and the mechanism of self-awareness, Synaptic Self is a provocative and mind-ex-

panding work that is destined to become a classic.

"The dramatic story of the brain's role in creating our world, our experience of it, and ourselves; the basis for a PBS television series by the bestselling David Eagleman. How does a three pound mass of biological matter locked in the dark, silent fortress of the skull produce the extraordinary multi-sensory experience that comprises us, while also constructing reality and guiding us through the endless need to make decisions and determine our judgments and into a future that we are convinced we are shaping? David Eagleman compares the brain to a cityscape with different neighborhoods where neural networks vie for supremacy and determine our behavior in ways we are not always aware or in control of. At the same time, he suggests that the brain works as a storyteller--creating a narrative that allows us to navigate and make sense of a world that it is busy constructing for us"--

The director of the Climate Outreach and Information Network explores the psychological mechanism that enables people to ignore the dangers of climate change, using sidebars, cartoons and engaging stories from his years of research to reveal how humans are wired to primarily respond to visible threats.

A path-breaking journey into the brain, showing how perception, thought, and action are products of "maps" etched into your gray matter--and how technology can use them to read your mind.

We live in a world unimaginable only decades ago: a domain of backlit screens, instant information, and vibrant experiences that can outcompete dreary reality. Our brave new technologies offer incredible opportunities for work and play. But at what price? Now renowned neuroscientist Susan Greenfield—known in the United Kingdom for challenging entrenched conventional views—brings together a range of scientific studies, news events, and cultural criticism to create an incisive snapshot of “the global now.” Disputing the assumption that our technologies are harmless tools, Greenfield explores whether incessant exposure to social media sites, search engines, and videogames is capable of rewiring our brains, and whether the minds of people born before and after the advent of the Internet differ. Stressing the impact on Digital Natives—those who’ve never known a world without the Internet—Greenfield exposes how neuronal networking may be affected by unprecedented bombardments of audiovisual stimuli, how gaming can shape a chemical landscape in the brain similar to that in gambling addicts, how surfing the Net risks placing a premium on information rather than on deep knowledge and understanding, and how excessive use of social networking sites limits the maturation of empathy and identity. But Mind Change also delves into the potential benefits of our digital lifestyle. Sifting through the cocktail of not only threat but opportunity these technologies afford, Greenfield explores how gaming enhances vision and motor control, how touch tablets aid students with developmental disabilities, and how political “clicktivism” foments positive change. In a world where adults spend ten hours a day online, and where tablets are the common means by which children learn and play, Mind Change reveals as never before the

complex physiological, social, and cultural ramifications of living in the digital age. A book that will be to the Internet what An Inconvenient Truth was to global warming, Mind Change is provocative, alarming, and a call to action to ensure a future in which technology fosters—not frustrates—deep thinking, creativity, and true fulfillment. Praise for Mind Change "Greenfield's application of the mismatch between human and machine to the brain introduces an important variation on this pervasive view of technology. . . . She has a rare talent for explaining science in accessible prose."—The Washington Post "Greenfield's focus is on bringing to light the implications of Internet-induced 'mind change'—as comparably multifaceted as the issue of climate change, she argues, and just as important."—Chicago Tribune "Mind Change is exceedingly well organized and hits the right balance between academic and provocative."—Booklist "[A] challenging, stimulating perspective from an informed neuroscientist on a complex, fast--moving, hugely consequential field."—Kirkus Reviews "[Greenfield] is not just an engaging communicator but a thoughtful, responsible scientist, and the arguments she makes are well-supported and persuasive."—Mail on Sunday "Greenfield's admirable goal to prove an empirical basis for discussion is . . . an important one."—Financial Times "An important presentation of an uncomfortable minority position."—Jaron Lanier, Nature

For women, understanding how the brain works during the key stages of life - in utero, childhood, puberty and adolescence, pregnancy and motherhood, menopause and old age - is essential to their health. Dr Sarah McKay is a neuroscientist who knows everything worth knowing about women's brains, and shares it in this fascinating, essential book. This is not a book about the differences between male and female brains, nor a book using neuroscience to explain gender-specific behaviours, the 'battle of the sexes' or 'Mars-Venus' stereotypes. This is a book about what happens inside the brains and bodies of women as they move through the phases of life, and the unique - and often misunderstood - effects of female biology and hormones. Dr McKay give insights into brain development during infancy, childhood and the teenage years (including the onset of puberty) and also takes a look at mental health as well as the ageing brain. The book weaves together findings from the research lab, case studies and interviews with neuroscientists and other researchers working in the disciplines of neuroendocrinology, brain development, brain health and ageing. This comprehensive guide explores the brain during significant life stages, including: In utero Childhood Puberty The Menstrual Cycle The Teenage Brain Depression and Anxiety Pregnancy and Motherhood Menopause The Ageing Brain

Finalist for the 2011 Pulitzer Prize in General Nonfiction: "Nicholas Carr has written a Silent Spring for the literary mind."—Michael Agger, Slate "Is Google making us stupid?" When Nicholas Carr posed that question, in a celebrated Atlantic Monthly cover story, he tapped into a well of anxiety about how the Internet is changing us. He also crystallized one of the most important debates of our time: As we enjoy the Net's bounties, are we sacrificing our ability to read and think deeply?

Now, Carr expands his argument into the most compelling exploration of the Internet's intellectual and cultural consequences yet published. As he describes how human thought has been shaped through the centuries by "tools of the mind"—from the alphabet to maps, to the printing press, the clock, and the computer—Carr interweaves a fascinating account of recent discoveries in neuroscience by such pioneers as Michael Merzenich and Eric Kandel. Our brains, the historical and scientific evidence reveals, change in response to our experiences. The technologies we use to find, store, and share information can literally reroute our neural pathways. Building on the insights of thinkers from Plato to McLuhan, Carr makes a convincing case that every information technology carries an intellectual ethic—a set of assumptions about the nature of knowledge and intelligence. He explains how the printed book served to focus our attention, promoting deep and creative thought. In stark contrast, the Internet encourages the rapid, distracted sampling of small bits of information from many sources. Its ethic is that of the industrialist, an ethic of speed and efficiency, of optimized production and consumption—and now the Net is remaking us in its own image. We are becoming ever more adept at scanning and skimming, but what we are losing is our capacity for concentration, contemplation, and reflection. Part intellectual history, part popular science, and part cultural criticism, The Shallows sparkles with memorable vignettes—Friedrich Nietzsche wrestling with a typewriter, Sigmund Freud dissecting the brains of sea creatures, Nathaniel Hawthorne contemplating the thunderous approach of a steam locomotive—even as it plumbs profound questions about the state of our modern psyche. This is a book that will forever alter the way we think about media and our minds.

A vivid account of what makes us human. Based groundbreaking new research, We Are Our Brains is a sweeping biography of the human brain, from infancy to adulthood to old age. Renowned neuroscientist D. F. Swaab takes us on a guided tour of the intricate inner workings that determine our potential, our limitations, and our desires, with each chapter serving as an eye-opening window on a different stage of brain development: the gender differences that develop in the embryonic brain, what goes on in the heads of adolescents, how parenthood permanently changes the brain. Moving beyond pure biological understanding, Swaab presents a controversial and multilayered ethical argument surrounding the brain. Far from possessing true free will, Swaab argues, we have very little control over our everyday decisions, or who we will become, because our brains predetermine everything about us, long before we are born, from our moral character to our religious leanings to whom we fall in love with. And he challenges many of our prevailing assumptions about what makes us human, decoding the intricate "moral networks" that allow us to experience emotion, revealing maternal instinct to be the result of hormonal changes in the pregnant brain, and exploring the way that religious "imprinting" shapes the brain during childhood. Rife with memorable case studies, We Are Our Brains is already a best-selling international phenomenon. It aims to demystify the chemical

and genetic workings of our most mysterious organ, in the process helping us to see who we are through an entirely new lens. Did you know? • The father's brain is affected in pregnancy as well as the mother's. • The withdrawal symptoms we experience at the end of a love affair mirror chemical addiction. • Growing up bilingual reduces the likelihood of Alzheimer's. • Parental religion is imprinted on our brains during early development, much as our native language is. Praise for We Are Our Brains "Swaab's 'neurobiography' is witty, opinionated, passionate, and, above all, cerebral."—Booklist (starred review) "A fascinating survey . . . Swaab employs both personal and scientific observation in near-equal measure."—Publishers Weekly (starred review) "A cogent, provocative account of how twenty-first-century 'neuroculture' has the potential to effect profound medical and social change."—Kirkus Reviews

Why our brains aren't built for media multitasking, and how we can learn to live with technology in a more balanced way. "Brilliant and practical, just what we need in these techno-human times."—Jack Kornfield, author of The Wise Heart Most of us will freely admit that we are obsessed with our devices. We pride ourselves on our ability to multitask—read work email, reply to a text, check Facebook, watch a video clip. Talk on the phone, send a text, drive a car. Enjoy family dinner with a glowing smartphone next to our plates. We can do it all, 24/7! Never mind the errors in the email, the near-miss on the road, and the unheard conversation at the table. In The Distracted Mind, Adam Gazzaley and Larry Rosen—a neuroscientist and a psychologist—explain why our brains aren't built for multitasking, and suggest better ways to live in a high-tech world without giving up our modern technology. The authors explain that our brains are limited in their ability to pay attention. We don't really multitask but rather switch rapidly between tasks. Distractions and interruptions, often technology-related—referred to by the authors as "interference"—collide with our goal-setting abilities. We want to finish this paper/spreadsheet/sentence, but our phone signals an incoming message and we drop everything. Even without an alert, we decide that we "must" check in on social media immediately. Gazzaley and Rosen offer practical strategies, backed by science, to fight distraction. We can change our brains with meditation, video games, and physical exercise; we can change our behavior by planning our accessibility and recognizing our anxiety about being out of touch even briefly. They don't suggest that we give up our devices, but that we use them in a more balanced way.

"The culmination of renowned neuroscientist D.F. Swaab's life's work, We Are Our Brains unlocks the mysteries of the most complex organism in the human body, providing a fascinating overview of the brain's role in nearly every aspect of human existence. In short, engaging chapters, Swaab explains what is going on in our brains at every stage of life, including how a fetus's brain develops and the role that pregnancy plays in solidifying certain aspects of our identity; the radical neurological changes that occur during adolescence; what happens when we fall in love; and the neurological basis for a host of different disorders and personality traits"--

"Fascinating and useful . . . The distinguished memory researcher Scott A. Small explains why forgetfulness is not only normal but also beneficial."—Walter Isaacson, bestselling author of The Code Breaker and Leonardo da Vinci Who wouldn't want a better memory? Dr. Scott Small has dedicated his career to understanding why memory forsakes us. As director of the Alzheimer's Disease Research Center at Columbia University, he focuses largely on patients who experience pathological forgetting, and it is in contrast to their suffering that normal forgetting, which we experience every day, appears in sharp relief. Until recently, most everyone—memory scientists included—believed that forgetting served no purpose. But new research in psychology, neurobiology, medicine, and computer science tells a different story. Forgetting is not a failure of our minds. It's not even a benign glitch. It is, in fact, good for us—and, alongside memory, it is a required function for our minds to work best. Forgetting benefits our cognitive and creative abilities, emotional well-being, and even our personal and societal health. As frustrating as a typical lapse can be, it's precisely what opens up our minds to making better decisions, experiencing joy and relationships, and flourishing artistically. From studies of bonobos in the wild to visits with the iconic painter Jasper Johns and the renowned decision-making expert Daniel Kahneman, Small looks across disciplines to put new scientific findings into illuminating context while also revealing groundbreaking developments about Alzheimer's disease. The next time you forget where you left your keys, remember that a little forgetting does a lot of good.

A look at the extraordinary ways the brain turns thoughts into actions—and how this shapes our everyday lives Why is it hard to text and drive at the same time? How do you resist eating that extra piece of cake? Why does staring at a tax form feel mentally exhausting? Why can your child expertly fix the computer and yet still forget to put on a coat? From making a cup of coffee to buying a house to changing the world around them, humans are uniquely able to execute necessary actions. How do we do it? Or in other words, how do our brains get things done? In On Task, cognitive neuroscientist David Badre presents the first authoritative introduction to the neuroscience of cognitive control—the remarkable ways that our brains devise sophisticated actions to achieve our goals. We barely notice this routine part of our lives. Yet, cognitive control, also known as executive function, is an astonishing phenomenon that has a profound impact on our well-being. Drawing on cutting-edge research, vivid clinical case studies, and examples from daily life, Badre sheds light on the evolution and inner workings of cognitive control. He examines issues from multitasking and willpower to habitual errors and bad decision making, as well as what happens as our brains develop in childhood and change as we age—and what happens when cognitive control breaks down. Ultimately, Badre shows that cognitive control affects just about everything we do. A revelatory look at how billions of neurons collectively translate abstract ideas into concrete plans, On Task offers an eye-opening investigation into the brain's critical role in human behavior.

The brain ... There is no

other part of the human anatomy that is so intriguing. How does it develop and function and why does it sometimes, tragically, degenerate? The answers are complex. In Discovering the Brain, science writer Sandra Ackerman cuts through the complexity to bring this vital topic to the public. The 1990s were declared the "Decade of the Brain" by former President Bush, and the neuroscience community responded with a host of new investigations and conferences. Discovering the Brain is based on the Institute of Medicine conference, Decade of the Brain: Frontiers in Neuroscience and Brain Research. Discovering the Brain is a "field guide" to the brain--an easy-to-read discussion of the brain's physical structure and where functions such as language and music appreciation lie. Ackerman examines How electrical and chemical signals are conveyed in the brain. The mechanisms by which we see, hear, think, and pay attention--and how a "gut feeling" actually originates in the brain. Learning and memory retention, including parallels to computer memory and what they might tell us about our own mental capacity. Development of the brain throughout the life span, with a look at the aging brain. Ackerman provides an enlightening chapter on the connection between the brain's physical condition and various mental disorders and notes what progress can realistically be made toward the prevention and treatment of stroke and other ailments. Finally, she explores the potential for major advances during the "Decade of the Brain," with a look at medical imaging techniques--what various technologies can and cannot tell us--and how the public and private sectors can contribute to continued advances in neuroscience. This highly readable volume will provide the public and policymakers--and many scientists as well--with a helpful guide to understanding the many discoveries that are sure to be announced throughout the "Decade of the Brain."

Your mind is not built to make you happy; it’s built to help you survive. So far, it’s done a great job! But in the process, it may have developed some bad habits, like avoiding new experiences or scrounging around for problems where none exist. Is it any wonder that worry, bad moods, and self-critical thoughts so often get in the way of enjoying life? The User’s Guide to the Human Mind is a road map to the puzzling inner workings of the human mind, replete with exercises for overriding the mind’s natural impulses toward worry, self-criticism, and fear, and helpful tips for acting in the service of your values and emotional well-being—even when your mind has other plans. Find out how your mind tries to limit your behavior and your potential Discover how pessimism functions as your mind’s error management system Learn why you shouldn’t believe everything you think Overrule your thoughts and feelings and take charge of your mind and your life

How do humans develop? At birth, our brains are only a third of the size to which they grow in adulthood. A safe, warm and stimulating environment is essential to allow the brain’s power to flourish. In addition, communication is of the utmost importance and art and music are among the most remarkable ways we can stimulate our brain. In Our Creative Brains, Dick Swaab reveals what makes us human: the interaction of the brain with

our environment. How is the work of artists influenced by their brain diseases? How can talent determine your profession and how does your profession change your brain? How can you delay Alzheimer's disease? Brain research has not only transformed the way we think about our brain, free will and ourselves, it also has profound social consequences. For there is no better way to gain an understanding of brain diseases than by generating curiosity, wonder, and admiration for our brain. Dick Swaab (1944) became world famous with his work about differences between the sexes in the brain. His research even caused controversy when he discovered the first difference in the brains of homosexual men, but subsequently the critics were forced to admit they had been wrong. He is a professor in neurobiology at the University of Amsterdam and was director of The Netherlands Institute for Brain Research for thirty years. He writes for a broad range of newspapers and magazines, from Nature to NRC Handelsblad. His international bestseller 'We Are Our Brains' sold 450,000 copies in the Netherlands and close to 50,000 abroad.

From the author of How Emotions Are Made, a myth-busting primer on the brain, in the tradition of Seven Brief Lessons on Physics and Astrophysics for People in a Hurry

Why are we influenced by the behaviour of complete strangers? Why does the brain register similar pleasure when I perceive something as 'fair' or when I eat chocolate? Why can we be so profoundly hurt by bereavement? What are the evolutionary benefits of these traits? The young discipline of 'social cognitive neuroscience' has been exploring this fascinating interface between brain science and human behaviour since the late 1990s. Now one of its founding pioneers, Matthew D. Lieberman, presents the discoveries that he and fellow researchers have made. Using fMRI scanning and a range of other techniques, they have been able to see that the brain responds to social pain and pleasure the same way as physical pain and pleasure; and that unbeknown to ourselves, we are constantly 'mindreading' other people so that we can fit in with them. It is clear that our brains are designed to respond to and be influenced by others. For good evolutionary reasons, he argues, we are wired to be social. The implications are numerous and profound. Do we have to rethink what we understand by identity, and free will? How can managers improve the way their teams relate and perform? Could we organize large social institutions in ways that would work far better? And could there be whole new methods of education?

A Definitive Book on How the Brain Evolves Through Every Stage of Life This book is a summary of "We Are Our Brains: A Neurobiography of the Brain from the Womb to Alzheimer's," by D. F. Swaab. In We Are Our Brains, the renowned neuroscientist D.F. Swaab takes us on a guided tour of the intricate inner workings of our brains, with each chapter serving as a window on a different stage of brain development. He shows how gender identity and moral behavior develop, what goes on in the adolescent mind, and how we age. He looks at common brain diseases like addiction, autism, schizophrenia, Alzheimer's, Parkinson's, and dementia; and explores the relationship between the brain and reli-

gion, the soul, the mind, and free will. This book demystifies the chemical and genetic workings of our most mysterious organ and helps us see who we are through new lenses. Read this summary and find out how our brains predetermine everything about us long before we are born, from our moral character to our religious leanings, and sexual orientation. This guide includes: * Book Summary—helps you understand the key concepts. * Online Videos—cover the concepts in more depth. Value-added from this guide: * Save time * Understand key concepts * Expand your knowledge

A bestselling author, neuroscientist, and computer engineer unveils a theory of intelligence that will revolutionize our understanding of the brain and the future of AI. For all of neuroscience's advances, we've made little progress on its biggest question: How do simple cells in the brain create intelligence? Jeff Hawkins and his team discovered that the brain uses maplike structures to build a model of the world—not just one model, but hundreds of thousands of models of everything we know. This discovery allows Hawkins to answer important questions about how we perceive the world, why we have a sense of self, and the origin of high-level thought. A Thousand Brains heralds a revolution in the understanding of intelligence. It is a big--think book, in every sense of the word. One of the Financial Times' Best Books of 2021 One of Bill Gates' Five Favorite Books of 2021

New York Times bestseller • Finalist for the Pulitzer Prize “This is a book to shake up the world.” —Ann Patchett Nicholas Carr’s bestseller The Shallows has become a foundational book in one of the most important debates of our time: As we enjoy the internet’s bounties, are we sacrificing our ability to read and think deeply? This 10th-anniversary edition includes a new afterword that brings the story up to date, with a deep examination of the cognitive and behavioral effects of smartphones and social media.

Why our human brains are awesome, and how we left our cousins, the great apes, behind: a tale of neurons and calories, and cooking. Humans are awesome. Our brains are gigantic, seven times larger than they should be for the size of our bodies. The human brain uses 25% of all the energy the body requires each day. And it became enormous in a very short amount of time in evolution, allowing us to leave our cousins, the great apes, behind. So the human brain is special, right? Wrong, according to Suzana Herculano-Houzel. Humans have developed cognitive abilities that outstrip those of all other animals, but not because we are evolutionary outliers. The human brain was not singled out to become amazing in its own exclusive way, and it never stopped being a primate brain. If we are not an exception to the rules of evolution, then what is the source of the human advantage? Herculano-Houzel shows that it is not the size of our brain that matters but the fact that we have more neurons in the cerebral cortex than any other animal, thanks to our ancestors' invention, some 1.5 million years ago, of a more efficient way to obtain calories: cooking. Because we are primates, ingesting more calories in less time made possible the rapid acquisition of a huge number of neurons in the still fairly small cerebral cortex—the part of the brain responsible for finding patterns, reasoning, develop-

ing technology, and passing it on through culture. Herculano-Houzel shows us how she came to these conclusions—making “brain soup” to determine the number of neurons in the brain, for example, and bringing animal brains in a suitcase through customs. The Human Advantage is an engaging and original look at how we became remarkable without ever being special.

"Originally published in hardcover in Great Britain as The Gendered Brain by The Bodley Head, an imprint of Vintage Publihging, a division of Penguin Random House Ltd., London, in 2019."--Title page verso.

"Well-publicized research in psychology tells us that over half of our attempts to change habitual behavior fail within one year. Even without reading the research, most of us will intuitively sense the truth in this, as we have all tried and failed to rid ourselves of one bad habit or another. The human story of habits and the difficulty of change has been told in many books - most of which will make only a quick reference to dopamine or the "lizard brain" before moving on to practical tips and tricks for behavior change. In contrast, Stuck: The Neuroscience of Why Changing Our Behavior is So Hard will tell the brain's story about why behavior is so hard to change. Russell Poldrack offers an in-depth, yet entirely accessible, guide to the neuroscientific research on habits and habit change. Part I introduces the "anatomy of a habit," starting with the argument that the resilience of our habits stems largely from a mismatch between the environment in which our brains evolved and the one in which we now live, and continuing on to introduce current work on fear and anxiety, motivation, and cognitive control that bears on habit formation. Part II focuses on what neuroscience can tell us about breaking habits, introducing evidence-based strategies that give us the best possible chance to break cycles of bad behavior. Throughout the book, Poldrack offers a clear-eyed view of what neuroscience can tell us about habit change, and what it cannot - and importantly, how we know what we know"--

Cutting-edge science and the ancient wisdom of Buddhism have come together to reveal that, contrary to popular belief, we have the power to literally change our brains by changing our minds. Recent pioneering experiments in neuroplasticity—the ability of the brain to change in response to experience—reveal that the brain is capable of altering its structure and function, and even of generating new neurons, a power we retain well into old age. The brain can adapt, heal, renew itself after trauma, compensate for disabilities, rewire itself to overcome dyslexia, and break cycles of depression and OCD. And as scientists are learning from studies performed on Buddhist monks, it is not only the outside world that can change the brain, so can the mind and, in particular, focused attention through the classic Buddhist practice of mindfulness. With her gift for making science accessible, meaningful, and compelling, science writer Sharon Begley illuminates a profound shift in our understanding of how the brain and the mind interact and takes us to the leading edge of a revolution in what it means to be human. Praise for Train Your Mind, Change Your Brain “There are two great things about this book. One is that it shows us how nothing about our

brains is set in stone. The other is that it is written by Sharon Begley, one of the best science writers around. Begley is superb at framing the latest facts within the larger context of the field. This is a terrific book."—Robert M. Sapolsky, author of Why Zebras Don't Get Ulcers "Excellent . . . elegant and lucid prose . . . an open mind here will be rewarded."—Discover "A strong dose of hope along with a strong does of science and Buddhist thought."—The San Diego Union-Tribune

First released in the Spring of 1999, How People Learn has been expanded to show how the theories and insights from the original book can translate into actions and practice, now making a real connection between classroom activities and learning behavior. This edition includes far-reaching suggestions for research that could increase the impact that classroom teaching has on actual learning. Like the original edition, this book offers exciting new research about the mind and the brain that provides answers to a number of compelling questions. When do infants begin to learn? How do experts learn and how is this different from non--experts? What can teachers and schools do-with curricula, classroom settings, and teaching methods--to help children learn most effectively? New evidence from many branches of science has significantly added to our understanding of what it means to know, from the neural processes that occur during learning to the influence of culture on what people see and absorb. How People Learn examines these findings and their implications for what we teach, how we teach it, and how we assess what our children learn. The book uses exemplary teaching to illustrate how approaches based on what we now know result in in-depth learning. This new knowledge calls into question concepts and practices firmly entrenched in our current education system. Topics include: How learning actually changes the physical structure of the brain. How existing knowledge affects what people notice and how they learn. What the thought processes of experts tell us about how to teach. The amazing learning potential of infants. The relationship of classroom learning and everyday settings of community and workplace. Learning needs and opportunities for teachers. A realistic look at the role of technology in education.

An all-star lineup of scientists takes you to the front lines of brain research. Are we born to be shy? Why do we remember some events so clearly and others not at all? Are creativity and depression somehow linked? Do our dreams really have deeper meanings? Now in paperback, here is a wonderfully accessible introduction to the most important recent findings about how our health, behavior, feelings, and identities are influenced by what goes on inside our brains. In this timely book, eight pioneering researchers offer lively and stimulating discussions on the most exciting discoveries as well as a new way of understanding our emotions, moods, memories, and dreams. Inside, you'll find: * J. ALLAN HOBSON, author of the groundbreaking The Dreaming Brain, leading a tour of dream states and explaining why we dream and what dream studies reveal about our minds * ERIC KANDEL, winner of the 2000 Nobel Prize in Medicine, taking us along the chain of biological events that create long-term memories, revealing how we stand at the brink of helping those who

suffer from grave mental and memory disorders * STEVEN HYMAN, director of the National Institute of Mental Health, tracing the links between nature and nurture, particularly in addiction and mental illness, to explain the relationship between inherited tendencies and the impact of life experience * KAY REDFIELD JAMISON, best-selling author of An Unquiet Mind, explaining manic depression, its prevalence among gifted artists, writers, and musicians, and the societal questions raised by trying to eradicate the "depression gene" . . . and much, much more. Whether discussing the brain-body connection, the sources of emotion, or the ethereal world of dreams, States of Mind enables you to share in the very latest explorations into the nature and function of the human mind.

This science ebook of award-wiining print edition uses the latest findings from neuroscience research and brain-imaging technology to take you on a journey into the human brain. CGI artworks and brain MRI scans reveal the brain's anatomy in unprecedented detail. Step-by-step sequences unravel and simplify the complex processes of brain function, such as how nerves transmit signals, how memories are laid down and recalled, and how we register emotions. The book answers fundamental and compelling questions about the brain: what does it means to be conscious, what happens when we're asleep,and are the brains of men and women different? Written by award-winning author Rita Carter, this is an accessible and authoritative reference book to a fascinating part of the human body. Thanks to improvements in scanning technology, our understanding of the brain is changing fast. Now in its third edition, the Brain Book provides an up-to-date guide to one of science's most exciting frontiers. With its coverage of over 50 brain-related diseases and disorders - from strokes to brain tumours and schizophrenia - it is also an essential manual for students and healthcare professionals.

A researcher and consultant burrows deep inside the heads of one modern two-career couple to examine how each partner processes the workday—revealing how a more nuanced understanding of the brain can allow us to better organize, prioritize, recall, and sort our daily lives. Emily and Paul are the parents of two young children, and professionals with different careers. Emily is the newly promoted vice president of marketing at a large corporation; Paul works from home or from clients' offices as an independent IT consultant. Their days are filled with a bewildering blizzard of emails, phone calls, more emails, meetings, projects, proposals, and plans. Just staying ahead of the storm has become a seemingly insurmountable task. In Your Brain at Work, Dr. David Rock goes inside Emily and Paul's brains to see how they function as each attempts to sort, prioritize, organize, and act on the vast quantities of information they receive in one typical day. Dr. Rock is an expert on how the brain functions in a work setting. By analyzing what is going on in their heads, he offers solutions Emily and Paul (and all of us) can use to survive and thrive in today's hyper-busy work environment—and still feel energized and accomplished at the end of the day. In Your Brain at Work, Dr. Rock explores issues such as: why our brains feel so taxed, and how to maximize our

mental resources why it's so hard to focus, and how to better manage distractions how to maximize the chance of finding insights to solve seemingly insurmountable problems how to keep your cool in any situation, so that you can make the best decisions possible how to collaborate more effectively with others why providing feedback is so difficult, and how to make it easier how to be more effective at changing other people's behavior and much more.

Our Brains at War: The Neuroscience of Conflict and Peacebuilding suggests that we need a radical change in how we think about war, leadership, and politics. Most of us, political scientists included, fail to appreciate the extent to which instincts and emotions, rather than logic, factor into our societal politics and international wars. Many of our physiological and genetic tendencies, of which we are mostly unaware, can all too easily fuel our antipathy towards other groups, make us choose 'strong' leaders over more mindful leaders, assist recruitment for illegal militias, and facilitate even the most gentle of us to inflict violence on others. Drawing upon the latest research from emerging areas such as behavioral genetics, biopsychology, and social and cognitive neuroscience, this book identifies the sources of compelling instincts and emotions, and how we can acknowledge and better manage them so as to develop international and societal peace more effectively.

And he starts to become a writer, producing fantastic tales about talking dogs, fatal blood diseases, tornadoes, and the lady with the torch."--BOOK JACKET.

A leading neuroscientist explains why your personal traits are more innate than you think What makes you the way you are—and what makes each of us different from everyone else? In Innate, leading neuroscientist and popular science blogger Kevin Mitchell traces human diversity and individual differences to their deepest level: in the wiring of our brains. Deftly guiding us through important new research, including his own groundbreaking work, he explains how variations in the way our brains develop before birth strongly influence our psychology and behavior throughout our lives, shaping our personality, intelligence, sexuality, and even the way we perceive the world. Compelling and original, Innate will change the way you think about why and how we are who we are.

Everything we think, do and refrain from doing is determined by our brain. From religion to sexuality, it shapes our potential, our desires and our characters. Taking us through every stage in our lives, from the womb to falling in love to old age, Dick Swaab shows that we don't just have brains: we areour brains. 'A blockbuster about the brain . . . provocative, fascinating, remarkable.' Clive Cookson, Financial Times 'A giant in the field.' Zoe Williams, Guardian 'Engrossing, intriguing and enlightening.' Robin Ince 'Enchantingly written.' The Times Higher Education 'Wide-ranging, fun and informative . . . as an ice-breaker at parties, it is unmatched.'Bryan Appleyard,Sunday Times

We are profoundly social creatures--more than we know. In Social, renowned psychologist Matthew Lieberman explores groundbreaking research in social neuroscience revealing that our need to connect with other people is even more fundamental, more basic, than our need for food or shelter. Because of this, our brain us-

es its spare time to learn about the social world--other people and our relation to them. It is believed that we must commit 10,000 hours to master a skill. According to Lieberman, each of us has spent 10,000 hours learning to make sense of people and groups by the time we are ten. Social argues that our need to reach out to and connect with others is a primary driver behind our behavior. We believe that pain and pleasure alone guide our actions. Yet, new research using fMRI--including a great deal of original research conducted by Lieberman and his UCLA lab--shows that our brains react to social pain and pleasure in much the same way as they do to physical pain and pleasure. Fortunately, the brain has evolved sophisticated mechanisms for securing our place in the social world. We have a unique ability to read other people's minds, to figure out their hopes, fears, and motivations, allowing us to effectively coordinate our lives with one another. And our most private sense of who we are is intimately linked to the important people and groups in our lives. This wiring often leads us to restrain our selfish impulses for the greater good. These mechanisms lead to behavior that might seem irrational, but is really just the result of our deep social wiring and necessary for our success as a species. Based on the latest cutting edge research, the findings in Social have important real--world implications. Our schools and businesses, for example, attempt to minimalize social distractions. But this is exactly the wrong thing to do to encourage engagement and learning, and literally shuts down the social brain, leaving powerful neuro-cognitive resources untapped. The insights revealed in this pioneering book suggest ways to improve learning in schools, make the workplace more productive, and improve our overall well-being.

How do our brains store—and then conjure up—past experiences to make us who we are? A twinge of sadness, a rush of love, a knot of loss, a whiff of regret. Memories have the power to move us, often when we least expect it, a sign of the complex neural process that continues in the background of our everyday lives. This process shapes us: filtering the world around us, informing our behavior and feeding our imagination. Psychiatrist Veronica O'Keane has spent many years observing how memory and experience are interwoven. In this rich, fascinating exploration, she asks, among other things: Why can memories feel so real? How are our sensations and perceptions connected with them? Why is place so important in memory? Are there such things as "true" and "false" memories? And, above all, what happens when the process of memory is disrupted by mental illness? O'Keane uses the broken memories of psychosis to illuminate the integrated human brain, offering a new way of thinking about our own personal experiences. Drawing on poignant accounts that include her own experiences, as well as what we can learn from insights in literature and fairytales and the latest neuroscientific research, O'Keane reframes our understanding of the extraordinary puzzle that is the human brain and how it changes during its growth from birth to adolescence and old age. By elucidating this process, she exposes the way that the formation of memory in the brain is vital to the creation of our sense of self.

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.

An "elegant", "engrossing" (Carol Tavris, Wall Street Journal) examination of what we think we know about the brain and why -- despite technological advances -- the workings of our most essential organ remain a mystery. "I cannot recommend this book strongly enough."--Henry Marsh, author of Do No Harm For thousands of years, thinkers and scientists have tried to understand what the brain does. Yet, despite the astonishing discoveries of science, we still have only the vaguest idea of how the brain works. In The Idea of the Brain, scientist and historian Matthew Cobb traces how our conception of the brain has evolved over the centuries. Although it might seem to be a story of ever-increasing knowledge of biology, Cobb shows how our ideas about the brain have been shaped by each era's most significant technologies. Today we might think the brain is like a supercomputer. In the past, it has been compared to a telegraph, a telephone exchange, or some kind of hydraulic system. What will we think the brain is like tomorrow, when new technology arises? The result is an essential read for anyone interested in the complex processes that drive science and the forces that have shaped our marvelous brains.

This “charming and addictively accessible introduction to neuroscience” (Steven Pinker) takes us on a highly entertaining tour through the wonders and mysteries of the human brain—from a renowned husband-and-wife team of cognitive neuroscientists. Professors and husband-and-wife team Uta and Chris Frith have pioneered major studies of brain disorders through-

out their nearly fifty-year career. Here, in this "pleasing mix of wonder, genial humor, and humility" (Kirkus Reviews, starred review), they tell the compelling story of the birth of neuroscience and their paradigm-shifting discoveries across areas as wide-ranging as autism and schizophrenia research, and new frontiers of social cognition including diversity, prejudice, confidence, collaboration, and empathy. Working with their son Alex Frith and artist Daniel Locke, the Friths delve into a wide range of complex concepts and explain them with humor and clarity. You'll learn what it means to be a "social species," explore what happens when we gather in groups, and discover how people behave in pairs—when we're pitted against each other, versus when we work together. Is it better to surround yourself with people who are similar to yourself, or different? And, are two heads really better than one? Highly original and ingeniously illustrated, Two Heads is a "magical book…[and] a fantastically fun way to learn about the brain, the mind, and the lives of two of the world's most brilliant scientists" (Sarah--Jayne Blakemore, author of Inventing Ourselves).