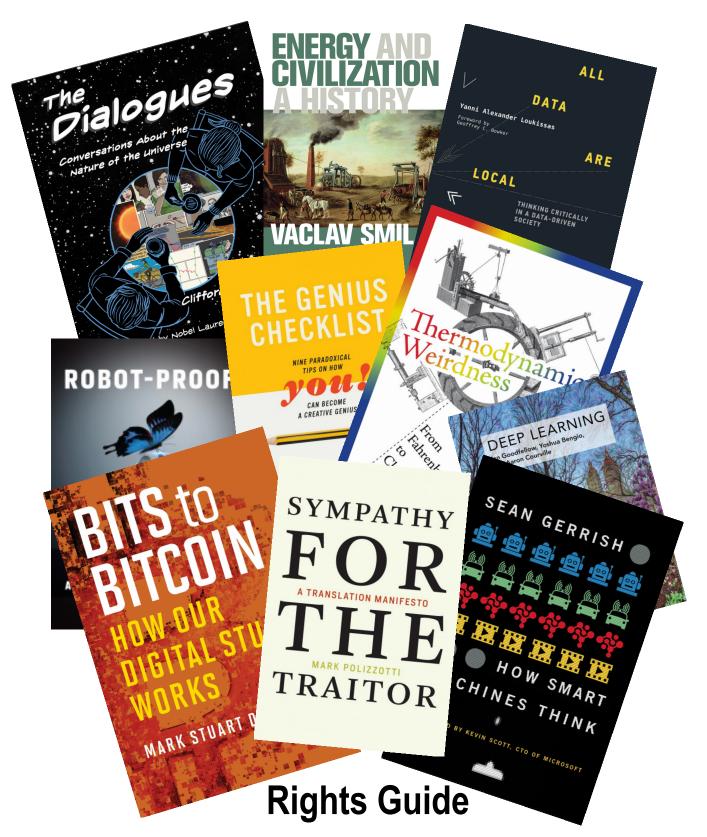
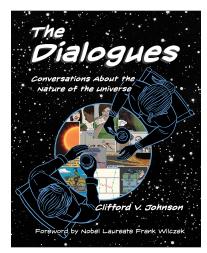
# The MIT Press FRANKFURT 2018





## **Bestsellers**



## THE DIALOGUES: Conversations about the Nature of the Universe

by Clifford Johnson; Foreword by Frank Wilczek

Readers of *The Dialogues* will likely appreciate Johnson's unique approach to starting a conversation about physics with a broader audience, and they'll admire his passion for the subject matter."

—Physics Today

A penetrating exploration of questions — both ancient and modern — about the nature of the universe. I found *The Dialogues* compelling, and the use of the graphic novel format only deepened that impression."

—Adam Frank. National Public Radio

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#### THE DEEP LEARNING REVOLUTION

by Terrence J. Sejnowski

If you want to understand AI, you need to read this book.

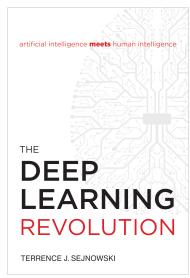
-Erik Brynjolfsson, author of Machine, Platform, Crowd

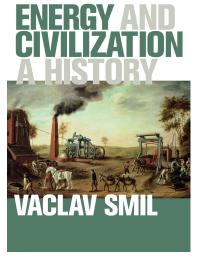
A fabulous, must-read book that makes a very complex subject come alive. Sejnowski weaves together the worlds of neural networks and neuroscience, using the power of storytelling to explain the past, present and possible futures of artificial intelligence.

--Dame Wendy, Hall Regius Professor of Computer Science, University of Southampton

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#### **ENERGY AND CIVILIZATION: A History**

by Vaclav Smil

I wait for new Smil books the way some people wait for the next *Star Wars* movie."

-Bill Gates 2017 Best Books List

A magisterial history of how advances in energy technology  $\dots$  have driven and underpinned the advances of humanity."

-New Scientist

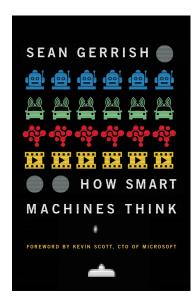
"Original and enlightening. . . . Read it and be dazzled."

-Nature

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#### **HOW SMART MACHINES THINK**

by Sean Gerrish

"An enjoyable and insightful 'look under the hood' at recent Al developments. Gerrish introduces complex and important concepts in terms that any reader can understand."

-Ray Kuzweil, bestselling author of How to Create a Mind and The Singularity is Near

"An excellent layman's introduction to contemporary AI and machine learning."

-Kevin Murphy, Senior Research Scientist, Google; Author of Machine Learning

If you're curious about what made some of the recent AI successes possible, from winning at Go to self-driving cars, this fascinating book is for you. "

-Pedro Domingos, author The Master Algorithm

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#### THE GENIUS CHECKLIST:

Nine Paradoxical Tips on How You Can Become a Creative Genius by Dean Simonton

A surprisingly swift and wry overview of the occasionally contradictory factors that can foster creative genius.

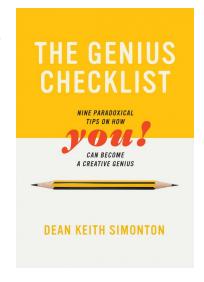
-Publisher's Weekly

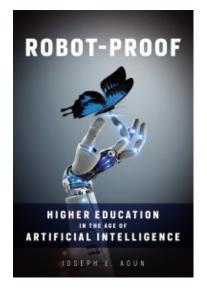
The definitive treatise on creative genius. With dizzying erudition and engaging prose, Simonton exposes one misconception after another to reveal the enormous complexity of genius in the sciences and arts."

**–Ellen Winner**, Author of Gifted Children: Myths and Realities, Professor and Chair, Department of Psychology, Boston College

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# ROBOT-PROOF Higher Education in the Age of Artificial Intelligence

by Joseph E. Aoun

A thought-provoking analysis of our technology-infused world and higher education's place in it.

-Janet Napolitano, President, University of California

An authoritative call to action.

-Jeffrey S. Bornstein, Vice Chairman & CFO, General Electric (GE)

Timely, and provocative... President Aoun challenges higher education to think differently about and prepare for the age of artificial intelligence.

-Vartan Gregorian, President, Carnegie Corporation

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# Forthcoming SPRING 2019

## HOW TO BE HUMAN IN THE DIGITAL ECONOMY by Nicholas Agar

In the new digital economy, we accept that accountants, baristas, and cab drivers will be automated out of their jobs in favor of the greater efficiency, accuracy, and lower expense of computers. But artificial intelligence now threatens to take over not just routine tasks, but the kind of "mind work" that previously relied on human intellect, surgeons and airline pilots should be worried too. According to Univ. of New Zealand's Agar, that's a bridge-too-far. He argues for a hybrid social-digital economy where instead of celebrating "efficiency", we hail "humanness." This social economy would be centered on connections between human minds, rejecting the ease of digital automation as a poor substitute. In a hybrid social-digital economy, people do the jobs for which feelings matter and machines take on data-intensive work. Humans will have to *insist* on their relevance in a digital age. (232 pages)

#### **CYCLING AND CINEMA** by Bruce Bennett

The bicycle is an everyday technology, but in studying the ways in which bicycles are used in films, Bruce Bennett explores the rich social and cultural importance of this apparently unremarkable machine. Beginning with the origins of cinema in the 1890s, *Cycling and Cinema* moves from early documentaries and slapstick comedies through the development of cinema as both an art form and the principal entertainment medium of the twentieth century, and concludes by examining the emergence of digital screen cultures in the twenty-first century. The films discussed range from Hollywood to Bollywood, independent art-house films, to documentaries, experimental art-works and amateur videos. (Argentina, Senegal, India, Saudi Arabia, Iran, China, Japan, Australia, etc.) (248 pages)

#### **QUANTUM COMPUTING FOR EVERYONE** by Chris Bernhardt

Quantum Computing is appearing more and more in the news: China teleported a qubit from earth to a satellite; Shor's algorithm has put our current encryption methods at risk; quantum key distribution will make encryption safe again; Grover's algorithm will speed-up data searches. But what does all this really mean? How does it all work? In a beautiful fusion of quantum physics, computer science, and the everyday, Bernhardt incorporates some of the most stunning ideas of physics into an entirely new way of thinking about computation. The book can be understood for readers comfortable with secondary education mathematics. (224 pages)

## **EVOLUTION OR REVOLUTION?** Rethinking Macroeconomic Policy after the Great Recession

by Olivier Blanchard & Lawrence H. Summers, eds.

Economic evaluations and recommendations from the fourth conference on rethinking macroeconomic policy, organized by Olivier Blanchard and bringing together the world's premier economic policymakers and scholars to grapple with how best to respond to the changes in the monetary, fiscal and financial policy landscape wrought by the 2008 global financial crisis. The previous volumes in this invaluable and prescient series include: *In the Wake of the Crisis, What Have We Learned?* and *Progress and Confusion.* US, UK, Europe and Singapore. (384 pages)

#### THE DELUGE: The Decline of Elite Culture and the Rise of Digital Media by Jay David Bolter

Two developments in the second half of the twentieth century have helped to define our media culture in the twenty-first. The first is the rise of digital media. The second is how that digital dissemination has marked the end of our collective belief in what we might call Culture with a capital C. By breaking down of traditional hierarchies of the visual arts, literature, and music, digital media has dissolved the previously sacrosanct media institutions – with their stables of "Critics" – and the lock on what we should see, feel, and think of popular art and culture. Less an argument favoring an elite form of culture over popular culture than an examination of how the pervasive power of new media has allowed the rise of the social and wrought these changes that have the divided societies we live in today. (240 pages)

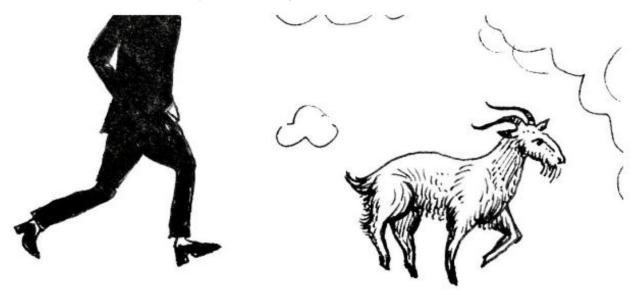
#### EINSTEIN'S WIFE: The Real Story of Mileva Einstein-Mari by Allen Esterson and David C. Cassidy

Who was the real Mileva Einstein-Mari , first wife of famed physicist Albert Einstein, and what role did she play, if any, in her husband's legacy? Einstein's work and his theories of relativity, quantum theory, and atomic theory form the foundations of contemporary physics. Mileva was trained alongside Einstein and much has been written – often with fervent certitude – that she deserves a prominent place in discussions of his work. Guided by the historical urge to "get it right", Esterson & Cassidy offers a journey into the biographical facts and scientific evidence of this pioneer woman of science. (336 pages)



#### WALTER BENJAMIN REIMAGINED: A Graphic Translation of Poetry, Prose, and Dreams by Frances Cannon

Australian artist-illustrator Frances Cannon calls her book "a graphic nonfiction "translation" of Walter Benjamin's dreams, philosophies, and aphorisms." Playful and wildly creative, Cannon's art affectionately illuminates Benjamin's philosophy. One reviewer of Cannon's representation of Benjamin said: "We need to come up with a new name for something so wonderful in the world." For examples of Frances Cannon's work, see below and on her site: <a href="https://frankyfrancescannon.com/tag/book/">https://frankyfrancescannon.com/tag/book/</a>. (120 pages)



#### FABLES AND FUTURES: Biotechnology, Disability, and the Stories We Tell Ourselves by George Estreich

We are inundated with information about the power of biotechnology and the boundaries of the human: sci-fi thrillers from genetically altered *X-Men*; consumer-targeted ads for next-generation prenatal tests; bioethicist op-eds in favor of human genetic engineering; parental blogs; and oral histories of people with intellectual disabilities. All are aspects of a vast cultural conversation. As the parent of a child with Down syndrome, essayist Estreich understands the fables we contend with and shows how people with disabilities resist these with stories of their own. He looks for patterns and assumptions, myths and fables, and through a mix of personal experience, cultural critique, and scholarship, he traces the roots of these narratives to mainstream American eugenics in the early 20th century. (224 pages)

#### QUANTUM REALITY: Grasping the Metaphysical Implications of Bell's Theorem by George S. Greenstein

A memoir of a physicist's struggles with and breakthroughs in his understanding of quantum mechanics and its metaphysical implications, specifically what is the ultimate nature of reality? The fastest route to insight on that question is provided by the remarkable Bell's theorem, regarded as the most important advance that has been achieved in quantum mechanics since the creation of the theory. This book also presents recent experiments that have been conducted to test Bell's theorem. Like Carlo Rovelli's *Seven Brief Lessons on Physics*, this brief, elegant book offers real-life examples to explain the complexities of a difficult subject to the interested reader. (150 pages)

# PIONEERS, HIDDEN CHAMPIONS, CHANGEMAKERS, AND UNDERDOGS: Lessons from China's Innovators by Mark Greeven, George S. Yip, and Wei Wei.

Innovation has long been considered the domain of places like Silicon Valley or Kendall Square while ignoring the hotbed of innovation in China. Companies like Didi Chuxing or Lenovo are just the tip of the iceberg and the authors reveal a much fuller picture of innovation in China, highlighting the innovators and firms that are quietly revolutionizing entire industries. From R&D to quiet innovation, this groundbreaking book questions the assumption that companies from developing economies can only catch up slowly. Multinational corporations and other firms in the global economy have a lot to learn from Chinese innovators, and this book provides the roadmap to do so. (192 pages)



#### THE SMART ENOUGH CITY: Putting Technology in Its Place to Reclaim Our Urban Future by Ben Green

In *The Smart Enough City*, Ben Green warns against seeing the city only through the lens of technology; taking an exclusively technical view of urban life will lead to cities that appear smart but under the surface are rife with injustice and inequality. He proposes instead that cities strive to be "smart enough", embracing technology as a powerful tool when used in conjunction with other forms of social change—but not over-valuing technology as an end in itself. Green describes smart city efforts gone wrong: self-driving cars with the run of downtown forcing out pedestrians; civic engagement limited to app interaction; police using algorithms to justify racist practices; and governments and private companies surveilling public spaces to control behavior. By recognizing the complexity of urban life rather than merely seeing the city as something to optimize, smart enough alternatives—attainable with the help of technology but not reducible to technology—create a livable, democratic, just, responsible, and innovative city. (256 pages)

#### SPIDER'S THREAD: Metaphor in Mind, Brain, and Poetry by Keith J. Holyoak

A psychologist and poet draws on the perspectives of the great poets, philosophers, and critics of how metaphor is a microcosm of the creative imagination. Beginning each chapter with a poem—from Coleridge to Neruda—Holyoak examines everwidening notions of metaphor and mind. Examples: Whitman's "A Noiseless Patient Spider" (on the relevance of analogy and conceptual combination to metaphor); Dickinson's "the brain is wider than the sky" (suggesting that the control and default networks in the brain may combine to support creativity); and the symbolism of Yeats and Jung. He considers the interplay of sound and meaning in poetry; indirect communication in poems; the active vs. passive processes in creativity; and whether artificial intelligence could create a good poem. A fascinating study of the outlines of creativity through the mechanisms of metaphor. (288 pages)

#### THE TECHNOLOGY FALLACY: How People Are the Real Key to Digital Transformation

by Gerald C. Kane, Anh Nguyen Phillips, Jonathan Copulsky, and Garth Andrus

Digital transformation has become the panacea in the business world, synonymous with "success." But while digital modernization is essential to compete and survive in today's business world, too often business leaders ignore their company's most valuable asset: its people. The authors – researchers from MIT's Sloan School of Management and Deloitte –surveyed over 16,000 people (66% outside the U.S.) and interviewed 75+ thought leaders from companies from Adobe to Walmart at various stages of the digital maturity spectrum. Each chapter ends by outlining actionable takeaways for business leaders providing an authoritative guide to digital maturity that assists leaders in leading their organization into a digital future at whatever level their influence allows. (256 pages)

#### GMOs DECODED: A Skeptic's View of Genetically Modified Foods by Sheldon Krimsky

The book also examines the controversies among scientists over the safety of genetically modified foods (GMOs), animal feeding studies, impact on the environment, their contribution to sustainable agriculture and world food resources. Krimsky takes on the role of interpreter of the scientific literature, distilling the arguments and counterarguments pertaining to the safety and social value of GMOs. The first book on the topic to present an analysis of the National Academies of Sciences 2016 study on genetically engineered crops and covers the international scope from European versus U.S. approaches. (200 pages)

#### WAYS OF HEARING by Damon Krukowski

Modeled after John Berger's 1972 landmark publication, *Ways of Seeing*, Krukowski seeks to popularize sound studies the way Berger's book did visual studies, by providing the general reader with a set of tools for critical listening in the digital age. And as Berger's project started as a BBC television series, *Ways of Hearing* is based on a modern digital equivalent: a six-part podcast produced for the groundbreaking public radio group *Radiotopia* (400,000 downloads). Each chapter explores a different way the switch from analog to digital is changing our perceptions: of time, space, love, money, and power. In text and graphic design, the book brings this aural project to the page and places earbuds can't reach. (104 pages)

#### **EXPERIENCING THE IMPOSSIBLE: The Science of Magic by Gustav Kuhn**

Magic, one of our most enduring forms of entertainment, poses fundamental philosophical and psychological questions; yet it has received little attention from professionals outside its sphere. In recent years psychologists, neuroscientists and philosophers have studied magic more systematically, and the science of magic is now a field of its own with scientific data gathered that helps explain psychological and neurological mechanisms that underpin these mystifying experiences. The author, a magician and psychologist, discusses the latest scientific research on magic, which provides intriguing, and often unsettling insights into the mysteries of the human mind. (344 pages)



#### CELESTIAL CALCULATIONS: A Gentle Introduction to Computational Astronomy by D. L. Lawrence

A "gentle" introduction for the beginner-to-intermediate amateur astronomy enthusiast with a general interest in space exploration. Lawrence offers the perfect "next step" for readers of Neil deGrasse Tyson who want to dig a deeper to understand more of the science and math behind astronomy, but without requiring a great deal of expertise in science or mathematics. He shows, using only basic mathematics, how to predict the location of a planet, star, the Sun, Moon, a satellite, etc. Included are examples and sample exercises (with answers provided), and computer programs to encourage a "learn-by-doing" approach to computational astronomy. (368 pages)

#### THERMODYNAMIC WEIRDNESS: From Fahrenheit to Clausius by Don S. Lemons

The author of the bestselling *Drawing Physics* offers "a steam-punk introduction" to the history, logic, and scope of classical thermodynamics. The book disentangles classical thermodynamics from subsequent non-essential additions to the subject such as those brought about by atomic theory, quantum physics, and statistical methods. For this purpose a verbal, that is, non-mathematical, exposition of its concepts and laws suffices. Excerpted primary sources, from Fahrenheit to Clausius that justify and provide context for the approach taken follow most chapters. The intent of the text is that classical thermodynamics might be understood and appreciated as a simple, self-sufficient, and logically coherent whole 20 b&w illus. (200 pages)

#### ALL DATA ARE LOCAL: Thinking Critically in a Data-Driven Society by Yanni Alexander Loukissas

In our data-driven world, we assume a data are objective, transparent, and portable. A Professor of Media Studies at Georgia Tech and former fellow at Harvard's Berkman Center for Internet & Society argues that it is none of these things. Loukissas asserets that data – though machine-gathered – are created by humans at a time, in a place, with the instruments at hand, i.e. all data are local. Examining a series of data sources (Harvard's Arnold Arboretum, the Digital Public Library of America, UCLA's Television News Archive, and the real estate marketplace Zillow) he analyzes data settings rather than data sets. He sets out six principles: data are local; attached to place; collected from heterogeneous sources; entangled with algorithms; recontextualized by interfaces; and are indexes to local knowledge. By offering practical gudielines of analysis, he rebuts the "myth of digital universalism" and reminds us of the meaning-making power of the local. (224 pages)

#### THE SCIENTIFIC ATTITUDE: Understanding What Is Distinctive about Science by Lee McIntyre

Science – attacked by some, celebrated by others – remains misunderstood. Those who defend it focus on justifying scientific knowledge based on its achievements. McIntyre takes the opposite approach: focusing instead on its failures. For McIntyre, what is most essential about scientific reasoning is not its method but its attitude – the "scientific attitude" which tells us that we should (1) care about evidence and (2) be willing to change our theories on the basis of new evidence. The scientific attitude is embedded in a community of practitioners who critique and improve one another's work on the basis of its fit with empirical evidence. The attacks on science from climate change deniers, creationists, and others, can be most efficiently combatted by realizing that what is most distinctive about science is not its method, but the critical attitude embraced by its practitioners. (280 pages)

#### FOOD ROUTES: Growing Bananas in Iceland and Other Tales from the Logistics of Eating by Robyn Metcalfe

Media attention to food features inventive and charismatic chefs, the rise of farmer's markets and of food deserts, GMO controversies, the power of culture in cuisine, diet fads, and so on. But how does food, be it industrial or small scale, local or from around the globe, nutritious or unhealthy get to our plate? Changes occurring within the global food supply chain are well underway, causing us to re-imagine a future food system that may look very different from our traditional practice of delivering food from farms to plates. Technology is the key driver in this change, and the arrival of connectedness and Big Data, contribute to a revolutionary change in how we will feed ourselves in cities around the world. Future food may be engineered, networked, and nearly independent of crops grown in fields. (200 pages)

# THE IMPORTANCE OF SMALL DECISIONS by Michael J. O'Brien, R. Alexander Bentley, and William A. Brock

Not so long ago, economists looked at behavior in terms of rationality, the notion being that agents act rationally in terms of their choices. Today, any notion that humans deliberate long and hard before coming to a rational decision has gone out the window. To begin to understand why, the authors "map" of social behavior that helps capture essential elements of human decision-making with one axis of the map measuring how well people are informed about the risks and benefits of their decisions, and the other the degree to which people make their decisions individually or socially. They approach decision-making habits as a key element of the enormous stage upon which evolution plays out. A short but powerful study that should be of interest not only to marketers but to social and behavioral scientists. (136 pages)



#### DOUBLE JEOPARDY: Combating Nuclear Terror and Climate Change by Daniel B. Poneman

Humanity faces two existential threats: nuclear annihilation and catastrophic climate change. Both have human origins; both are linked to the use of nuclear energy. Can we use nuclear energy to reduce the threat of climate change without increasing the risk that nuclear weapons will be used? In his Belfer Lecture for International Security, the Former Deputy Secretary of Energy during the Obama administration argues that the world needs an "all-of-the-above" energy policy, one that advances the goal of decarbonizing the environment through all available means—including nuclear power. Poneman makes a persuasive case that we can use nuclear power to combat climate change even as we reduce the risks of nuclear terror through well-crafted laws and policies, implemented with an ethos of constant vigilance and embedded in a culture that weaves safety and security goals into the fabric of our nuclear programs. (152 pages)

#### HACKING LIFE: Systematized Living and Its Discontents by Joseph Reagle

Life hackers track the food they eat, the hours they sleep, money they spend, how they pack suitcases, find dates, and load the dishwasher. They view everything as a system with algorithmic rules that can be understood, optimized, and subverted. Reagle sees these attempts to systematize our lives as the latest in a long series of self-improvement methods – a self-help tool for the digital age's creative class in the mode of Stephen Covey's 7 Habits of Highly Effective People, Timothy Ferriss's The 4-Hour Workweek, even Benjamin Franklin's Poor Richard's Almanack. This latest phase includes personal outsourcing, polyphasic sleep, the quantified self-movement, and hacks for pickup artists. Some are useful, some useless, and some downright harmful, but all are attempts by users to live an efficient, effective, "good life" in the new millennium. (208 pages)

## ITERATE: Ten Lessons in Design and Failure by John Sharp and Colleen Macklin

Failure is an inevitable part of any creative practice. As game designers, John Sharp and Colleen Macklin (MIT's Media Lab) have grappled with crises of creativity, false starts, and bad outcomes. Their tool for coping with the many varieties of failure: *iteration*, the cyclical process of conceptualizing, prototyping, testing, and evaluating. While most every creative discipline uses some form of iteration, most fields tend to stick to one or two methods, and tend not to seek out the best practices of other fields. *Iterate* is the first book to detail iterative methods from a wide spectrum of creative pursuits—the culinary arts, music, sports, writing, radio, user experience design, game design, film-making and product design—in order to extract innovative and productive ways to enhance and expand the ways iteration is used as a design methodology. From film maker Miranda July to wine maker Allison Tauziet to professional skateboarder Amelia Bródka, *Iterate* offers the best tools we have for making constructive use of our failures. (296 pages)

#### THE DEATH ALGORITHM AND OTHER DIGITAL DLIEMMAS by Roberto Simanowski

The German media studies scholar examines what it means to live in a society that views social, political, and ethical challenges as technological problems that can be fixed with the right algorithm, the best data, or the fastest computer. He describes smartphone zombies who remove themselves from the physical world to the parallel digital universe of social media; calls on Adorno to help parse Trump's tweeting; considers written text transformed into a post-literate object; compares the economic and social effects of the sharing economy to a sixteen-wheeler running over a plastic bottle on the road; and explains why philosophy might become the most important element in the automotive and technology industries. The "death algorithm" of the title is that which is programmed into a driverless car to calculate, in an extreme emergency, whether to plow into a group of pedestrians, a mother and child, or a brick wall. What does it mean to live in a world where such life-and-death decisions are no longer entrusted to human beings? (208 pages)

#### THE SCIENCE OF BREAKING BAD by Dave Trumbore and Donna J. Nelson

The recurring praise for the award-winning, critically acclaimed television show *Breaking Bad* was its grasp of the practical, real-world science. Trumbore and Nelson revisit the successful television series to shine a light on the show's portrayal of science: the chemistry, physics, and biology lessons laid out from character Walter White's classroom sessions and the criminal activities of his alter ego Heisenberg. Revisiting each and every instance of science portrayed in the series to explain their significance, explore the veracity, and determine just how closely the Hollywood versions of science hew to reality. And as an added bonus, the show's scientific advisor Dr. Donna Nelson, a coauthor on this book, provides insider anecdotes and behind-the-scenes trivia from her time with "Breaking Bad", making for a unique reading experience. (184 pages)



# Forthcoming FALL 2019

#### RESISTING REDUCTION: Designing Our Complex Future with Machines by Joi Ito

The author of the bestselling *Whiplash* and current director of MIT's Media Lab offers a crowd-sourced response to the futurist Norbert Wiener's and his 60-year old seminal essay "The Human Use of Human Beings". Ito has written the title essay – in an open access environment – and gathered responsive essays by other technologists, artists and thinkers. Each responds to Wiener's provocation with its warning "when human atoms are knit into an organization in which they are used, not in their full right as responsible human beings, but as cogs and levers and rods, it matters little that their raw material is flesh and blood."

#### **GROWTH** by Vaclav Smil

The follow-up to the bestselling *Energy and Civilization* by the global authority on humans' relationship with the world and its resources. Here Smil writes about human beings capacity for unfettered growth - and how the planet's ability to accommodate. Bill Gates chose *Energy and Civilization* as one of his "Top 5 Books of 2017" saying: "I wait for new Smil books the way some people wait for the next 'Star Wars' movie."

#### **CURIOUS MINDS** by Danielle S. Bassett and Perry Zurn

What is curiosity? How does it work? And where does its seemingly limitless power to shape the mind and reshape society come from? Network neuroscientist Danielle Bassett and political philosopher Perry Zurn (siblings) address the emerging field of curiosity studies, bringing fresh insights to this age-old phenomenon. Bassett is a MacArthur Fellow and associate professor of bioengineering at the University of Pennsylvania; Zurn is assistant professor of philosophy at American University.

# THE FEELING OF LIFE ITSELF: The Physical Basis of Consciousness, Why Your Brain is No Mere Computer and Your Mind is Not Software by Christof Koch

The president of the Allen Institute for Brain Science in Seattle, former professor for neuroscience at Cal Tech and author of the bestselling *Consciousness* explores how the brain is much more than a neural network of algorithms and seeks to define the elusive "consciousness." According to Koch: "It's my experience, it's my pain, my pleasure, my hopes, my aspirations, my fears... it's the feeling of life itself. All of that is consciousness."

# CODING DEMOCRACY: How a Growing Hacking Movement is Disrupting Concentrations of Power, Mass Surveillance, and Authoritarianism in the Digital Age by Maureen Webb

This timely sequel to Steven Levy's thirty year old seminal primer *Hackers* offers a comprehensive examination of the modern militant hacker movement including the momentous stories of the Snowden leaks and Russian hacking in the American electoral process. Webb, a journalist, attorney and activist for civil and human rights causes, shows how with the advent of digital, activism and agitation has never had the capacity to be more disruptive.

#### RECKONING AND JUDGMENT: Prospects for Artificial Intelligence by Brian Cantwell Smith

The MIT trained, Stanford and Univ. of Toronto cognitive scientist summarizes his decades-long investigation into the philosophical and metaphysical foundations of computation, artificial intelligence and cognitive science. Smith is founder of the Center for the Study of Language and Information at Stanford University and first president of Computer Professionals for Social Responsibility and the former principal scientist at the Xerox Palo Alto Research Center.

# THE LOST PLANETS: Peter Van de Kamp and the Vanishing Exoplanets around Barnard's Star by John Wenz

A 1960's scientific discovery tale of new planetary systems – and the subsequent controversy that arose when the scientific community refuted the claims. Van de Kamp, the Dutch astronomer and director of Swarthmore's Sproul Observatory, asserted that Barnard's star had a planetary system like our own, the first such discovery of its kind. But his research was called into question and dismissed from the 1970's onward. Yet with the recent discoveries of numerous planetary systems, Van de Kamp's original premise has been vindicated.



#### THE DIGITAL CHILD: How Technology Is Changing Children's Minds by Bruce D. Homer

The CUNY Graduate Center educational psychologist's research has been funded by the National Science Foundation, National Institute of Health, and the Institute for Educational Sciences, showing the importance and reach of his work on the developing habits of our next generation. He examines how children acquire and use "cultural tools" - language and literacy and, increasingly, information technologies - to store and transmit knowledge and contribute to society.

#### BREAK ON THROUGH: Radical Mental Health in the 1970s by Lucas Richert, PhD

The book is about the American mind and developments in mental health during the 1970s, including the radicalization of psychiatry through emergent mental health therapies (transactional analysis, Primal Therapy), Scientology, the rise of parapsychology, and religious cults. It explores 'radical' and 'anti-psychiatry', and places these movements alongside changes in the Diagnostic and Statistical Manual of Mental Disorders and society more broadly.

#### **DATA FEMINISM** by Catherine D'Ignazio and Lauren Klein

In this age of Big Data and data analytics where myriad connections and interpretations can be made at a single glance, it is imperative that we question how our data is presented, by whom and for whom. The authors offer a way of thinking about data – its visualization and subsequent analysis – informed by the past several decades of feminist thinking.

#### HOW TO BE A CRAZY PHILOSOPHER by Eric Schwitzgebel

Do you always feel you are surrounded by fools? The only reasonable person in the room? In a series of short essays with titles like "A Theory of Jerks", the University of California professor of philosophy and decade-long blogger refreshes the short form essay in a series of philosophical queries about our everyday frustrations. For readers of Daniel Dennett and Steven Pinker.

#### THE ALCHEMY OF US: How Humans and Matter Transform One Another by Ainissa Ramirez.

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# FROM INFRASTRUCTURE TO INFORMATION: Engineers and Radical Innovation since 1920 by David P. Billington Jr.

David P. Billington, Sr. authored the recent classic *Power, Speed, and Form*, a history of the transformation of American life in the 20<sup>th</sup> century told through eight breakthrough engineering innovations from the early part of the century. Billington Jr. takes up where his father left off bringing the story into the 21<sup>st</sup> century and the digital age. The previous book was a CHOICE Outstanding Academic Title for 2007.

# THE PREDATORS WITHIN: How Our Resident Viruses Contribute to a Healthy Human Ecosystem by Forest Rohwer and Breeann Kirby

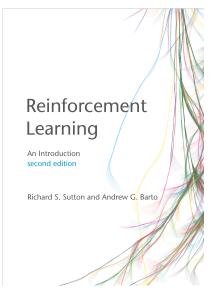
From therapeutics to gene transfer, the authors trace the research history and validation of bacteriophages as a sustainable and powerful method of controlling microbes. From the Hershey - Chase studies of the 1950's to Crick, Watson & Franklin's studies of the double nelix and on ward to today's DNA research, the San Diego State University researchers offer scientific history of these bacteria-infecting viruses.

#### BODY AM I: The New Science of Self-Consciousness by Moheb Costandi

Perhaps the first popular science book to explain self-identity in terms of bodily awareness, *Body Am I* uses neurological and psychiatric disorders to demonstrate the importance of bodily awareness to our definition of self. Costandi weaves advanced neuroscience research and patient interviews with examples from art, literature, philosophy, and pop culture to offer a uniquely human perspective of how so called "limitations" often inform and empower our sense of self.



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by Richard Sutton nd Andrew G. Barto.

"The bible of reinforcement learning, and the new edition is particularly timely given the burgeoning activity in the field. No one with an interest in the problem of learning to act - student, researcher, practitioner, or curious non-specialist - should be without it."

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#### **INTRODUCTION TO DEEP LEARNING** by Eugene Charniak

A concise, project-driven guide to deep learning takes students through a series of program-writing tasks that introduce them to the use of deep learning in such areas of artificial intelligence as computer vision, natural-language processing, and reinforcement learning. The author, a longtime artificial intelligence researcher specializing in natural-language processing, covers feed-forward neural nets, convolutional neural nets, word embeddings, recurrent neural nets, sequence-to-sequence learning, deep reinforcement learning, unsupervised models, and other fundamental concepts and techniques. Students learn the basics of deep learning by working through programs in Tensorflow, an open-source machine learning framework. Familiarity with linear algebra, multivariate calculus, and probability and statistics is required, as is a rudimentary knowledge of programming in Python. The book can be used in both undergraduate and graduate courses, and as a reference for practitioners. (184 pages)

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#### FOUNDATIONS OF MACHINE LEARNING, Second Edition

by Mohri, Mehryar, Afshin Rostamizadeh, and Ameet Talwalkar.

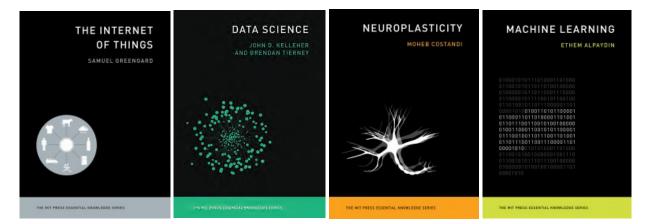
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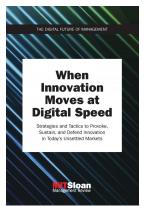
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