

# Reinventing Discovery The New Era Of Networked Science Michael Nielsen

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## Decoding Health Signals

Larry Dossey forever changed our understanding of the healing process with his phenomenal New York Times bestseller, *Healing Words*. Now the man considered one of the pioneers of mind/body medicine provides the scientific and medical proof that the spiritual dimension works in therapeutic treatment, exploding the boundaries of the healing arts with his most powerful book yet.

## Naked Genes

“Periodically a writer captures the pattern of comedy and tragedy that peppers office life like alternating colors of carpet squares. . . . As smart as Medoff’s critique of corporate inanity is, it’s tempered by compassion for these people, who are ultimately tender with each other, too. . . . Medoff finds plenty of hurt—but strains of hope, too.” —Ron Charles, *The Washington Post*

A razor-sharp and deeply felt novel that illuminates the pivotal role of work in our lives—a riveting fusion of *The Nest*, *Up in the Air*, and *Then We Came to the End* that captures the emotional complexities of five HR colleagues trying to balance ambition, hope, and fear as their small company is buffeted by economic forces that threaten to upend them. Rosa Guerrero beat the odds as she rose to the top of the corporate world. An attractive woman of a certain age, the longtime chief of human resources at Ellery Consumer Research is still a formidable presence, even if her most vital days are behind her. A leader who wields power with grace and discretion, she has earned the devotion and loyalty of her staff. No one admires Rosa more than her doting lieutenant Leo Smalls, a benefits vice president whose whole world is Ellery. While Rosa is consumed with trying to address the needs of her staff within the ever-constricting limits of the company’s

bottom line, her associate director, Rob Hirsch, a middle-aged, happily married father of two, finds himself drawing closer to his "work wife," Lucy Bender, an enterprising single woman searching for something—a romance, a promotion—to fill the vacuum in her personal life. For Kenny Verville, a senior manager with an MBA, Ellery is a temporary stepping-stone to bigger and better places—that is, if his high-powered wife has her way. Compelling, flawed, and heartbreakingly human, these men and women scheme, fall in and out of love, and nurture dreams big and small. As their individual circumstances shift, one thing remains constant—Rosa, the sun around whom they all orbit. When her world begins to crumble, the implications for everyone are profound, and Leo, Rob, Lucy, and Kenny find themselves changed in ways beyond their reckoning. Jillian Medoff explores the inner workings of an American company in all its brilliant, insane, comforting, and terrifying glory. Authentic, razor-sharp, and achingly funny, *This Could Hurt* is a novel about work, loneliness, love, and loyalty; about sudden reversals and unexpected windfalls; a novel about life.

## **Reinventing Medicine**

The world of science has been transformed. Where once astronomers sat at the controls of giant telescopes in remote locations, praying for clear skies, now they have no need to budge from their desks, as data arrives in their inbox. And what they receive is overwhelming; projects now being built provide more data in a few nights than in the whole of humanity's history of observing the Universe. It's not just astronomy either - dealing with this deluge of data is the major challenge for scientists at CERN, and for biologists who use automated cameras to spy on animals in their natural habitats. Artificial intelligence is one part of the solution - but will it spell the end of human involvement in scientific discovery? No, argues Chris Lintott. We humans still have unique capabilities to bring to bear - our curiosity, our capacity for wonder, and, most importantly, our capacity for surprise. It seems that humans and computers working together do better than computers can on their own. But with so much scientific data, you need a lot of scientists - a crowd, in fact. Lintott found such a crowd in the Zooniverse, the web-based project that allows hundreds of thousands of enthusiastic volunteers to contribute to science. In this book, Lintott describes the exciting discoveries that people all over the world have made, from galaxies to pulsars, exoplanets to moons, and from penguin behavior to old ship's logs. This approach builds on a long history of so-called "citizen science," given new power by fast internet and distributed data. Discovery is no longer the remit only of scientists in specialist labs or academics in ivory towers. It's something we can all take part in. As Lintott shows, it's a wonderful way to engage with science, yielding new insights daily. You, too, can help explore the Universe in your lunch hour.

## **Reinventing Childhood After World War II**

A pioneer of quantum computing describes how the Internet and powerful new online tools are democratising and

accelerating scientific discovery.

## **The Nature of the Future**

K. Eric Drexler is the founding father of nanotechnology—the science of engineering on a molecular level. In *Radical Abundance*, he shows how rapid scientific progress is about to change our world. Thanks to atomically precise manufacturing, we will soon have the power to produce radically more of what people want, and at a lower cost. The result will shake the very foundations of our economy and environment. Already, scientists have constructed prototypes for circuit boards built of millions of precisely arranged atoms. The advent of this kind of atomic precision promises to change the way we make things—cleanly, inexpensively, and on a global scale. It allows us to imagine a world where solar arrays cost no more than cardboard and aluminum foil, and laptops cost about the same. A provocative tour of cutting edge science and its implications by the field's founder and master, *Radical Abundance* offers a mind-expanding vision of a world hurtling toward an unexpected future.

## **Reinventing Fire**

## **Reinventing Discovery**

How to educate the next generation of college students to invent, to create, and to discover--filling needs that even the most sophisticated robot cannot. Driverless cars are hitting the road, powered by artificial intelligence. Robots can climb stairs, open doors, win Jeopardy, analyze stocks, work in factories, find parking spaces, advise oncologists. In the past, automation was considered a threat to low-skilled labor. Now, many high-skilled functions, including interpreting medical images, doing legal research, and analyzing data, are within the skill sets of machines. How can higher education prepare students for their professional lives when professions themselves are disappearing? In *Robot-Proof*, Northeastern University president Joseph Aoun proposes a way to educate the next generation of college students to invent, to create, and to discover--to fill needs in society that even the most sophisticated artificial intelligence agent cannot. A "robot-proof" education, Aoun argues, is not concerned solely with topping up students' minds with high-octane facts. Rather, it calibrates them with a creative mindset and the mental elasticity to invent, discover, or create something valuable to society--a scientific proof, a hip-hop recording, a web comic, a cure for cancer. Aoun lays out the framework for a new discipline, humanics, which builds on our innate strengths and prepares students to compete in a labor market in which smart machines work alongside human professionals. The new literacies of Aoun's humanics are data literacy, technological literacy, and human literacy. Students will need data literacy to manage the flow of big data, and technological literacy to

know how their machines work, but human literacy--the humanities, communication, and design--to function as a human being. Life-long learning opportunities will support their ability to adapt to change. The only certainty about the future is change. Higher education based on the new literacies of humanics can equip students for living and working through change.

## **A Crack in Creation**

The number of travelers along the information superhighway is increasing at a rate of 10 percent a month. How will this communications revolution affect our culture and society? Pierre Lévy shows how the unfettered exchange of ideas in cyberspace has the potential to liberate us from the social and political hierarchies that have stood in the way of mankind's advancement. Anthropologist, historian, sociologist, and philosopher, Lévy writes with a depth of scholarship and imaginative insight rare among media critics. At once a profound historical analysis of the development of human culture and a blueprint for the future, *Collective Intelligence* is a visionary work.

## **Where Good Ideas Come From**

Explores the hidden world of viruses, explaining how they profoundly affect human lives and updating the reader in current virus-related issues, such as the frenetic evolution of the HIV virus, which could pose greater dangers in the future. By the author of *Parasite Rex*.

## **Scientific Freedom**

The interaction between new forms of biological life and new forms of social life in modern democracies. The molecular life sciences are making visible what was once invisible. Yet the more we learn about our own biology, the less we are able to fit this knowledge into an integrated whole. Life is divided into new sub-units and reassembled into new forms: from genes to clones, from embryonic stages to the building-blocks of synthetic biology. Extracted from their scientific and social contexts, these new entities become not only visible but indeed "naked": ready to assume an essential status of their own and take on multiple values and meanings as they pass from labs to courts, from patent offices to parliaments and back. In *Naked Genes*, leading science scholar Helga Nowotny and molecular biologist Giuseppe Testa examine the interaction between these dramatic advances in the life sciences and equally dramatic political reconfigurations of our societies. Considering topics ranging from assisted reproduction and personalized medicine to genetic sports doping, they reveal both surprising continuities and radical discontinuities between the latest advances in the life sciences and long-standing human traditions.

## Radical Abundance

A profile of pioneering scientists Fritz Haber and Carl Bosch describes their seminal discovery of a way to pull nitrogen out of the air to create synthetic fertilizer, a process that offered a solution to the critical food shortage confronting a growing global population but also led to the development of the gunpowder and explosives that killed millions during the World Wars. 30,000 first printing.

## Reinventing Strategy

Native to the Kalahari Desert, *Hoodia gordonii* is a succulent plant known by generations of Indigenous San peoples to have a variety of uses: to reduce hunger, increase energy, and ease breastfeeding. In the global North, it is known as a natural appetite suppressant, a former star of the booming diet industry. In *Reinventing Hoodia*, Laura Foster explores how the plant was reinvented through patent ownership, pharmaceutical research, the self-determination efforts of Indigenous San peoples, contractual benefit sharing, commercial development as an herbal supplement, and bioprospecting legislation. Using a feminist decolonial technoscience approach, Foster argues that although patent law is inherently racialized, gendered, and Western, it offered opportunities for Indigenous San peoples, South African scientists, and *Hoodia* growers to make unequal claims for belonging within the shifting politics of South Africa. This radical interdisciplinary and intersectional account of the multiple materialities of *Hoodia* illuminates the co-constituted connections between law, science, and the marketplace, while demonstrating how these domains value certain forms of knowledge and matter differently. ♦

## Citizen Science

National Best Seller • Named a Best Book of the Year by: New York Times, Washington Post, San Francisco Chronicle, NPR, Vogue, The Atlantic, Newsday “A novel of head-snapping ambition and heart-stopping power—a novel that attests to its young author’s boundless and unflagging talents.” —Michiko Kakutani, New York Times New York City, 1976. Meet Regan and William Hamilton-Sweeney, estranged heirs to one of the city’s great fortunes; Keith and Mercer, the men who, for better or worse, love them; Charlie and Samantha, two suburban teenagers seduced by downtown’s punk scene; an obsessive magazine reporter and his idealistic neighbor—and the detective trying to figure out what any of them have to do with a shooting in Central Park on New Year’s Eve. The mystery, as it reverberates through families, friendships, and the corridors of power, will open up even the loneliest-seeming corners of the crowded city. And when the blackout of July 13, 1977, plunges this world into darkness, each of these lives will be changed forever. *City on Fire* is an unforgettable novel about love and betrayal and forgiveness, about art and truth and rock ‘n’ roll: about what people need from each other in

order to live . . . and about what makes the living worth doing in the first place. From the Hardcover edition.

## **Clinical and Translational Science**

“All it takes to become an artist is to start doing art.” –from *On Becoming an Artist* *On Becoming an Artist* is loaded with good news. Backed by her landmark scientific work on mindfulness and artistic nature, bestselling author and Harvard psychologist Ellen J. Langer shows us that creativity is not a rare gift that only some special few are born with, but rather an integral part of everyone’s makeup. All of us can express our creative impulses– authentically and uniquely–and, in the process, enrich our lives. Why then do so many of us merely dream of someday painting, someday writing, someday making music? Why do we think the same old thoughts, harbor the same old prejudices, stay stuck in the same old mud? Who taught us to think “inside the box”? No one is more qualified to answer these questions than Dr. Langer, who has explored their every facet for years. She describes dozens of fascinating experiments–her own and those of her colleagues–that are designed to study mindfulness and its relation to human creativity, and she shares the profound implications of the results–for our well-being, health, and happiness. Langer reveals myriad insights, among them: We think we should already know what only firsthand experience can teach us. . . . In learning the ways that all roses are alike, we risk becoming blind to their differences. . . . If we are mindfully creative, the circumstances of the moment will tell us what to do. . . . Those of us who are less evaluatively inclined experience less guilt, less regret, less blame, and tend to like ourselves more. . . . Uncertainty gives us the freedom to discover meaning. . . . Finally, what we think we’re sure of may not even exist. With the skill of a gifted logician, Langer demonstrates exactly how we undervalue ourselves and undermine our creativity. By example, she persuades us to have faith in our creative works, not because someone else approves of them but because they’re a true expression of ourselves. Her high-spirited, challenging book sparkles with wit and intelligence and inspires in us an infectious enthusiasm for our creations, our world, and ourselves. It can be of lifelong value to everyone who reads it. From the Hardcover edition.

## **This Could Hurt**

Modern information and communication technologies, together with a cultural upheaval within the research community, have profoundly changed research in nearly every aspect. Ranging from sharing and discussing ideas in social networks for scientists to new collaborative environments and novel publication formats, knowledge creation and dissemination as we know it is experiencing a vigorous shift towards increased transparency, collaboration and accessibility. Many assume that research workflows will change more in the next 20 years than they have in the last 200. This book provides researchers, decision makers, and other scientific stakeholders with a snapshot of the basics, the tools, and the underlying visions that drive the current scientific (r)evolution, often called ‘Open Science.’

## **Science--the Endless Frontier**

The present is a contest between the bright and dark sides of discovery. To avoid being torn apart by its stresses, we need to recognize the fact—and gain courage and wisdom from the past. Age of Discovery shows how. Now is the best moment in history to be alive, but we have never felt more anxious or divided. Human health, aggregate wealth and education are flourishing. Scientific discovery is racing forward. But the same global flows of trade, capital, people and ideas that make gains possible for some people deliver big losses to others—and make us all more vulnerable to one another. Business and science are working giant revolutions upon our societies, but our politics and institutions evolve at a much slower pace. That's why, in a moment when everyone ought to be celebrating giant global gains, many of us are righteously angry at being left out and stressed about where we're headed. To make sense of present shocks, we need to step back and recognize: we've been here before. The first Renaissance, the time of Columbus, Copernicus, Gutenberg and others, likewise redrew all maps of the world, democratized communication and sparked a flourishing of creative achievement. But their world also grappled with the same dark side of rapid change: social division, political extremism, insecurity, pandemics and other unintended consequences of discovery. Now is the second Renaissance. We can still flourish—if we learn from the first.

## **The Tangled Bank**

Creativity is an acquired skill, one that improves with practice. Cracking the Creativity Code shows you how! This book provides a proven method for generating world-changing ideas. It empowers individuals who have given up on their innate creativity, who believe that they have lost their creative powers through years of disuse. In a light, entertaining style, the authors describe their unique, structured approach to creativity. To bring the reader closer to this lost art, the authors present a 'Zoom in, Zoom out, Zoom in' technique to make 'creation' more accessible to everyone. Reinvigorate your personal creativity machines—once turned on, it will generate an unending stream of novel ideas that can change the world.

## **Reinventing Capitalism in the Age of Big Data**

Scientific Freedom is the first comprehensive collection covering both the state of scientific progress and the ethics, law and history of scientific research. The book gives readers a fascinating range of perspectives on matters of scientific research that directly affect all of us. Examining the ethical, legal, social, economic and political issues surrounding freedom of scientific research, the book evaluates ways in which national and international policies can impact upon individuals' access to potentially life-saving treatment, cures and technologies, and can therefore affect human life and death. With

contributions from Nobel Laureates, representatives of patients' associations, scientists, scholars and politicians, this book provides a concise and comprehensive view of the limitations and dangers facing the future of innovation and scientific progress.

## **Reinventing Discovery**

Lessons from HubSpot, Salesforce, Gainsight and Other Iconic Brands "The Uber of this" "The Salesforce of that" "It's like Instagram, but for" There is no such thing as an original idea anymore – right? Actually, it turns out that the world's most innovative companies have created so much more than just brand new products and technology. They've created entirely new market categories. The challenge is that successfully building new categories requires a perfect storm of luck and timing. Or does it? Category Creation is the first and only book on the topic written by executives and marketers actively building new categories. It explains how category creation has become the Holy Grail of marketing, and more importantly, how it can be planned and orchestrated. It's not about luck. You can use the same tactics that other category-defining companies have used to delight customers, employees, and investors. There's no better strategy that results in faster growth and higher valuations for the company on top. Author Anthony Kennada, former Chief Marketing Officer at Gainsight, explains how he led Gainsight in creating the "customer success" category, and shares success stories from fellow category-creators like Salesforce, HubSpot and others. It requires much more than just having the best product. You have to start and grow a conversation that doesn't yet exist, positioning a newly discovered problem in addition to your company and product offerings. The book explains the 7 key principles of category creation, including the importance of creating a community of early adopters who will rally around the problem they all share—especially if someone will lead them.

- Identify the "go" and "no go" signals for category creation in your business
- Activate customers and influencers as brand ambassadors
- Grow a community by investing in live events and experiences
- Prove the impact of category creation investments on growth, customer success, and company culture

Written for entrepreneurs, marketers, and executives from startups to large enterprises, Category Creation is the exclusive playbook for building a category defining brand in the modern economy.

## **The Crowd and the Cosmos**

One of the most cited books in physics of all time, Quantum Computation and Quantum Information remains the best textbook in this exciting field of science. This 10th anniversary edition includes an introduction from the authors setting the work in context. This comprehensive textbook describes such remarkable effects as fast quantum algorithms, quantum teleportation, quantum cryptography and quantum error-correction. Quantum mechanics and computer science are introduced before moving on to describe what a quantum computer is, how it can be used to solve problems faster than

'classical' computers and its real-world implementation. It concludes with an in-depth treatment of quantum information. Containing a wealth of figures and exercises, this well-known textbook is ideal for courses on the subject, and will interest beginning graduate students and researchers in physics, computer science, mathematics, and electrical engineering.

## **Reinventing Hoodia**

A renowned futurist offers a vision of a reinvented world. Large corporations, big governments, and other centralized organizations have long determined and dominated the way we work, access healthcare, get an education, feed ourselves, and generally go about our lives. The economist Ronald Coase, in his famous 1937 paper “The Nature of the Firm,” provided an economic explanation for this: Organizations lowered transaction costs, making the provision of goods and services cheap, efficient, and reliable. Today, this organizational advantage is rapidly disappearing. The Internet is lowering transaction costs—costs of connection, coordination, and trade—and pointing to a future that increasingly favors distributed sources and social solutions to some of our most immediate needs and our most intractable problems. As Silicon Valley thought-leader Marina Gorbis, head of the Institute for the Future, portrays, a thriving new relationship-driven or socialstructured economy is emerging in which individuals are harnessing the powers of new technologies to join together and provide an array of products and services. Examples of this changing economy range from BioCurious, a members-run and free-to-use bio lab, to the peer-to-peer lending platform Lending Club, to the remarkable Khan Academy, a free online-teaching service. These engaged and innovative pioneers are filling gaps and doing the seemingly impossible by reinventing business, education, medicine, banking, government, and even scientific research. Based on extensive research into current trends, she travels to a socialstructured future and depicts an exciting vision of tomorrow.

## **Opening Science**

DIV Johann Sebastian Bach – celebrated pipe organist, court composer and master of sacred music – was also a technical pioneer. Working in Germany in the early eighteenth century, he invented new instruments and carried out experiments in tuning, the effects of which are still with us today. Two hundred years later, a number of extraordinary musicians have utilised the music of Bach to thrilling effect through the art of recording, furthering their own virtuosity and reinventing the composer for our time. In Reinventing Bach, Paul Elie brilliantly blends the stories of modern musicians with a polyphonic account of our most celebrated composer’s life to create a spellbinding narrative of the changing place of music in our lives. We see the sainted organist Albert Schweitzer playing to a mobile recording unit set up at London’s Church of All Hallows in order to spread Bach’s organ works to the world beyond the churches, and Pablo Casals’s Abbey Road recordings of Bach’s cello suites transform the middle-class sitting room into a hotbed of existentialism; we watch Leopold Stokowski persuade Walt Disney to feature his own grand orchestrations of Bach in the animated classical-music movie Fantasia – which made

Bach the sound of children's playtime and Hollywood grandeur alike – and we witness how Glenn Gould's Goldberg Variations made Bach the byword for postwar cool. Through the Beatles and Switched-on Bach and Gödel, Escher, Bach – through film, rock music, the Walkman, the CD and up to Yo-Yo Ma and the iPod – Elie shows us how dozens of gifted musicians searched, experimented and collaborated with one another in the service of a composer who emerged as the prototype of the spiritualised, technically savvy artist. /div

## **Age of Discovery**

The United States ushered in a new era of small-scale broadcasting in 2000 when it began issuing low-power FM (LPFM) licenses for noncommercial radio stations around the country. Over the next decade, several hundred of these newly created low-wattage stations took to the airwaves. In *Low Power to the People*, Christina Dunbar-Hester describes the practices of an activist organization focused on LPFM during this era. Despite its origins as a pirate broadcasting collective, the group eventually shifted toward building and expanding regulatory access to new, licensed stations. These radio activists consciously cast radio as an alternative to digital utopianism, promoting an understanding of electronic media that emphasizes the local community rather than a global audience of Internet users. Dunbar-Hester focuses on how these radio activists impute emancipatory politics to the "old" medium of radio technology by promoting the idea that "microradio" broadcasting holds the potential to empower ordinary people at the local community level. The group's methods combine political advocacy with a rare commitment to hands-on technical work with radio hardware, although the activists' hands-on, inclusive ethos was hampered by persistent issues of race, class, and gender. Dunbar-Hester's study of activism around an "old" medium offers broader lessons about how political beliefs are expressed through engagement with specific technologies. It also offers insight into contemporary issues in media policy that is particularly timely as the FCC issues a new round of LPFM licenses.

## **A Planet of Viruses**

Democracy came to South Africa in April 1994, when the African National Congress won a landslide victory in the first free national election in the country's history. That definitive and peaceful transition from apartheid is often cited as a model for others to follow. The new order has since survived several transitions of ANC leadership, and it averted a potentially destabilizing constitutional crisis in 2008. Yet enormous challenges remain. Poverty and inequality are among the highest in the world. Staggering unemployment has fueled xenophobia, resulting in deadly aggression directed at refugees and migrant workers from Zimbabwe and Mozambique. Violent crime rates, particularly murder and rape, remain grotesquely high. The HIV/AIDS pandemic was shockingly mishandled at the highest levels of government, and infection rates continue to be overwhelming. Despite the country's uplifting success of hosting Africa's first World Cup in 2010, inefficiency and

corruption remain rife, infrastructure and basic services are often semifunctional, and political opposition and a free media are under pressure. In this volume, major scholars chronicle South Africa's achievements and challenges since the transition. The contributions, all previously unpublished, represent the state of the art in the study of South African politics, economics, law, and social policy.

## **Collective Intelligence**

Used widely in non-majors biology classes, *The Tangled Bank* is the first textbook about evolution intended for the general reader. Zimmer, an award-winning science writer, takes readers on a fascinating journey into the latest discoveries about evolution. In the Canadian Arctic, paleontologists unearth fossils documenting the move of our ancestors from sea to land. In the outback of Australia, a zoologist tracks some of the world's deadliest snakes to decipher the 100-million-year evolution of venom molecules. In Africa, geneticists are gathering DNA to probe the origin of our species. In clear, non-technical language, Zimmer explains the central concepts essential for understanding new advances in evolution, including natural selection, genetic drift, and sexual selection. He demonstrates how vital evolution is to all branches of modern biology—from the fight against deadly antibiotic-resistant bacteria to the analysis of the human genome.

## **Robot-Proof**

*Clinical and Translational Science: Principles of Human Research, Second Edition*, is the most authoritative and timely resource for the broad range of investigators taking on the challenge of clinical and translational science, a field that is devoted to investigating human health and disease, interventions, and outcomes for the purposes of developing new treatment approaches, devices, and modalities to improve health. This updated second edition has been prepared with an international perspective, beginning with fundamental principles, experimental design, epidemiology, traditional and new biostatistical approaches, and investigative tools. It presents complete instruction and guidance from fundamental principles, approaches, and infrastructure, especially for human genetics and genomics, human pharmacology, research in special populations, the societal context of human research, and the future of human research. The book moves on to discuss legal, social, and ethical issues, and concludes with a discussion of future prospects, providing readers with a comprehensive view of this rapidly developing area of science. Introduces novel physiological and therapeutic strategies for engaging the fastest growing scientific field in both the private sector and academic medicine Brings insights from international leaders into the discipline of clinical and translational science Addresses drug discovery, drug repurposing and development, innovative and improved approaches to go/no-go decisions in drug development, and traditional and innovative clinical trial designs

## **Quantum Computation and Quantum Information**

In the Western world, the modern view of childhood as a space protected from broader adult society first became a dominant social vision during the nineteenth century. Many of the West's sharpest portrayals of children in literature and the arts emerged at that time in both Europe and the United States and continue to organize our perceptions and sensibilities to this day. But that childhood is now being recreated. Many social and political developments since the end of the World War II have fundamentally altered the lives children lead and are now beginning to transform conceptions of childhood. Reinventing Childhood After World War II brings together seven prominent historians of modern childhood to identify precisely what has changed in children's lives and why. Topics range from youth culture to children's rights; from changing definitions of age to nontraditional families; from parenting styles to how American experiences compare with those of the rest of the Western world. Taken together, the essays argue that children's experiences have changed in such dramatic and important ways since 1945 that parents, other adults, and girls and boys themselves have had to reinvent almost every aspect of childhood. Reinventing Childhood After World War II presents a striking interpretation of the nature and status of childhood that will be essential to students and scholars of childhood, as well as policy makers, educators, parents, and all those concerned with the lives of children in the world today.

## **On Becoming an Artist**

It's a tough time to be a scientist: universities are shuttering science departments, federal funding agencies are facing flat budgets, and many newspapers have dropped their science sections altogether. But according to Marc Kuchner, this antiscience climate doesn't have to equal a career death knell-it just means scientists have to be savvier about promoting their work and themselves. In Marketing for Scientists, he provides clear, detailed advice about how to land a good job, win funding, and shape the public debate. As an astrophysicist at NASA, Kuchner knows that "marketing" can seem like a superficial distraction, whether your daily work is searching for new planets or seeking a cure for cancer. In fact, he argues, it's a critical component of the modern scientific endeavor, not only advancing personal careers but also society's knowledge. Kuchner approaches marketing as a science in itself. He translates theories about human interaction and sense of self into methods for building relationships-one of the most critical skills in any profession. And he explains how to brand yourself effectively-how to get articles published, give compelling presentations, use social media like Facebook and Twitter, and impress potential employers and funders. Like any good scientist, Kuchner bases his conclusions on years of study and experimentation. In Marketing for Scientists, he distills the strategies needed to keep pace in a Web 2.0 world.

## **Reinventing Management**

Oil and coal have built our civilisation, created our wealth and enriched the lives of billions. Yet their rising costs to our security, economy, health and environment are starting to outweigh their benefits. Moreover, the tipping point where alternatives work better and compete purely on cost is not decades in the future - it is here and now. And that tipping point has become the fulcrum of economic transformation. In *Reinventing Fire*, Amory Lovins and the Rocky Mountain Institute offer a new vision to revitalise business models and win the clean energy race - not forced by public policy but led by business for long-term advantage. This independent and rigorous account offers market-based solutions integrating transportation, buildings, industry and electricity. It maps pathways for running a 158%-bigger US economy in 2050 but needing no oil, no coal, no nuclear energy, one-third less natural gas and no new inventions. This transition would cost \$5 trillion less than business-as-usual - without counting fossil fuels' huge hidden costs. Whether you care most about profits and jobs, or national security, or environmental stewardship, climate, and health, *Reinventing Fire* makes sense. It's a story of astounding opportunities for creating the new energy era. -- Publisher description.

## **The NeuroGeneration**

An intellectual history of the key institutions that organized knowledge in the Western World offers insight into primary cultural transformations that took place from the classical period to the present.

## **Low Power to the People**

The economic crisis was not just caused by a failure of regulation or economic policy; it was a story of the failure of management in a fundamental sense—a deeply flawed approach to management that encouraged bankers to pursue opportunities without regard for their long-term consequences, and to put their own interests ahead of those of their employers and their shareholders. The revised edition of this best-selling book shows convincingly that many of today's major economic problems in the west can be traced to a failure of management. In this updated edition the author draws our attention to new examples of failed management, from Rupert Murdoch's News Corp, and the disaster at BP, to the ongoing problems in financial services companies such as UBS and RBS. Throughout the book the references and statistics have been updated, to make this a current, highly relevant analysis of the problems besetting modern business and how managers need to tackle them.

## **Category Creation**

## **Reinventing Discovery**

Look out for Johnson's new book, *Wonderland*, now on sale. The printing press, the pencil, the flush toilet, the battery--these are all great ideas. But where do they come from? What kind of environment breeds them? What sparks the flash of brilliance? How do we generate the breakthrough technologies that push forward our lives, our society, our culture? Steven Johnson's answers are revelatory as he identifies the seven key patterns behind genuine innovation, and traces them across time and disciplines. From Darwin and Freud to the halls of Google and Apple, Johnson investigates the innovation hubs throughout modern time and pulls out the approaches and commonalities that seem to appear at moments of originality.

## **Reinventing Knowledge: From Alexandria to the Internet**

How the internet and powerful online tools are democratizing and accelerating scientific discovery *Reinventing Discovery* argues that we are living at the dawn of the most dramatic change in science in more than three hundred years. This change is being driven by powerful cognitive tools, enabled by the internet, which are greatly accelerating scientific discovery. There are many books about how the internet is changing business, the workplace, or government. But this is the first book about something much more fundamental: how the internet is transforming our collective intelligence and our understanding of the world. From the collaborative mathematicians of the Polymath Project to the amateur astronomers of Galaxy Zoo, *Reinventing Discovery* tells the exciting story of the unprecedented new era in networked science. It will interest anyone who wants to learn about how the online world is revolutionizing scientific discovery—and why the revolution is just beginning.

## **Cracking the Creativity Code**

"*Reinventing Discovery* argues that we are in the early days of the most dramatic change in how science is done in more than 300 years. This change is being driven by new online tools, which are transforming and radically accelerating scientific discovery"--Provided by publisher.

## **City on Fire**

Brain science is at the dawn of a new era—and the technologies emerging as a result could forever alter what it means to be human. Welcome to what tech pioneer and inventor Tan Le calls “the NeuroGeneration.” It will blow your mind. The human brain is perhaps the most powerful and mysterious arrangement of matter in the known universe. New discoveries that unravel this mystery and let us tap into this power offer almost limitless potential—the ability to reshape ourselves and our thought processes, to improve our health and extend our lives, and to enhance and augment the ways we interact with the world around us. It may sound like the stuff of science fiction, but it is quickly becoming reality. In *The NeuroGeneration*,

award-winning inventor Tan Le explores exciting advancements in brain science and neurotechnology that are revolutionizing the way we think, work, and heal. Join Le as she criss-crosses the globe, introducing the brilliant neurotech innovators and neuroscientists at the frontiers of brain enhancement. Along the way, she shares incredible stories from individuals whose lives are already being transformed by their inventions—an endurance racer paralyzed in a fall, who now walks thanks to neural stimulation and an exoskeleton; a man who drives a race car with his mind; even a color-blind “cyborg” whose brain implant allows him to “hear” colors. The NeuroGeneration reveals the dizzying array of emerging technologies—including cranial stimulation that makes you learn faster, an artificial hippocampus that restores lost memories, and neural implants that aim to help us keep up with or even outpace artificial intelligence—that promise to alter the brain in unprecedented ways, unlocking human potential we never dreamed possible. Le also explores how these futuristic innovations will impact our world, disrupt the way we do business, upend healthcare as we know it, and remake our lives in wondrous and unexpected ways. As fascinating as it is timely, The NeuroGeneration offers a thrilling glimpse of the future of our species, and how changing our brains can change human life as we know it.

### **Reinventing Bach**

BY THE WINNER OF THE 2020 NOBEL PRIZE IN CHEMISTRY Finalist for the Los Angeles Times Book Prize “The future is in our hands as never before, and this book explains the stakes like no other.” — George Lucas “Required reading for every concerned citizen.” — New York Review of Books Not since the atomic bomb has a technology so alarmed its inventors that they warned the world about its use. That is, until 2015, when biologist Jennifer Doudna called for a worldwide moratorium on the use of the gene-editing tool CRISPR—a revolutionary new technology that she helped create—to make heritable changes in human embryos. The cheapest, simplest, most effective way of manipulating DNA ever known, CRISPR may well give us the cure to HIV, genetic diseases, and some cancers. Yet even the tiniest changes to DNA could have myriad, unforeseeable consequences, to say nothing of the ethical and societal repercussions of intentionally mutating embryos to create “better” humans. Writing with fellow researcher Sam Sternberg, Doudna—who has since won the Nobel Prize for her CRISPR research—shares the thrilling story of her discovery and describes the enormous responsibility that comes with the power to rewrite the code of life. “An invaluable account . . . We owe Doudna several times over.” — Guardian

### **Marketing for Scientists**

From the New York Times bestselling author of Big Data, a prediction for how data will revolutionize the market economy and make cash, banks, and big companies obsolete In modern history, the story of capitalism has been a story of firms and financiers. That's all going to change thanks to the Big Data revolution. As Viktor Mayer-Schönberger, bestselling author of Big Data, and Thomas H. Davenport, who writes for The Economist, show, data is replacing money as the driver of market

behavior. Big finance and big companies will be replaced by small groups and individual actors who make markets instead of making things: think Uber instead of Ford, or Airbnb instead of Hyatt. This is the dawn of the era of data capitalism. Will it be an age of prosperity or of calamity? This book provides the indispensable roadmap for securing a better future.

## **After Apartheid**

## **The Alchemy of Air**

Citizen science, the active participation of the public in scientific research projects, is a rapidly expanding field in open science and open innovation. It provides an integrated model of public knowledge production and engagement with science. As a growing worldwide phenomenon, it is invigorated by evolving new technologies that connect people easily and effectively with the scientific community. Catalysed by citizens' wishes to be actively involved in scientific processes, as a result of recent societal trends, it also offers contributions to the rise in tertiary education. In addition, citizen science provides a valuable tool for citizens to play a more active role in sustainable development. This book identifies and explains the role of citizen science within innovation in science and society, and as a vibrant and productive science-policy interface. The scope of this volume is global, geared towards identifying solutions and lessons to be applied across science, practice and policy. The chapters consider the role of citizen science in the context of the wider agenda of open science and open innovation, and discuss progress towards responsible research and innovation, two of the most critical aspects of science today.

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