

Ignorance How It Drives Science

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[The Usefulness of Useless Knowledge](#) - Abraham Flexner 2017-02-21

A short, provocative book about why "useless" science often leads to humanity's greatest technological breakthroughs. A forty-year tightening of funding for scientific research has meant that resources are increasingly directed toward applied or practical outcomes, with the intent of creating products of immediate value. In such a scenario, it makes sense to focus on the most identifiable and urgent problems, right? Actually, it doesn't. In his classic essay "The Usefulness of Useless Knowledge," Abraham Flexner, the founding director of the Institute for Advanced Study in Princeton and the man who helped bring Albert Einstein to the United States, describes a great paradox of scientific research. The search for answers to deep questions, motivated solely by curiosity and without concern for applications, often leads not only to the greatest scientific discoveries but also to the most revolutionary technological breakthroughs. In short, no quantum mechanics, no computer chips. This brief book includes Flexner's timeless 1939 essay alongside a new companion essay by Robbert Dijkgraaf, the Institute's current director, in which he shows that Flexner's defense of the value of "the unobstructed pursuit of useless knowledge" may be even more relevant today than it was in the early twentieth century. Dijkgraaf describes how basic research has led to major transformations in the past century and explains why it is an essential precondition of innovation and the first step in social and cultural change. He makes the case that society can achieve deeper understanding and practical progress today and tomorrow only by truly valuing and substantially funding the curiosity-driven "pursuit of useless knowledge" in both the sciences and the humanities.

The Golem - Harry M. Collins 2012-03-29

Harry Collins and Trevor Pinch liken science to the Golem, a creature from Jewish mythology, powerful yet potentially dangerous, a gentle, helpful creature that may yet run amok at any moment. Through a series of intriguing case studies the authors debunk the traditional view that science is the straightforward result of competent theorisation, observation and experimentation. The very well-received first edition generated much debate, reflected in a substantial new Afterword in this second edition, which seeks to place the book in what have become known as 'the science wars'.

The Misinformation Age - Cailin O'Connor 2019-01-08

The social dynamics of "alternative facts": why what you believe depends on who you know "Empowering and thoroughly researched, this book offers useful contemporary analysis and possible solutions to one of the greatest threats to democracy."—Kirkus Reviews Editors' choice, New York Times Book Review • Recommended reading, Scientific American Why should we care about having true beliefs? And why do demonstrably false beliefs persist and spread despite bad, even fatal, consequences for the people who hold them? Philosophers of science Cailin O'Connor and James Weatherall argue that social factors, rather than individual psychology, are what's essential to understanding the spread and persistence of false beliefs. It might seem that there's an obvious reason that true beliefs matter: false beliefs will hurt you. But if that's right, then why is it (apparently) irrelevant to many people whether they believe true things or not? The Misinformation Age, written for a political era riven by "fake news," "alternative facts," and disputes over the validity of everything from climate change to the size of inauguration crowds, shows convincingly that what you believe depends on who you know. If social forces explain the persistence of false belief, we must understand how those forces work in order to fight misinformation effectively.

The Second Book of General Ignorance - John Lloyd 2011-10-11

From the brains behind the New York Times' bestseller, *The Book of General Ignorance* comes another wonderful collection of the most outrageous, fascinating, and mind-bending facts, taking on the hugely popular form of the first book in the internationally bestselling series. Just when you thought that it was safe to start showing off again, John Lloyd and John Mitchinson are back with another busload of mistakes and misunderstandings. Here is a new collection of simple, perfectly obvious questions you'll be quite certain you know the answers to. Whether it's history, science, sports, geography, literature, language, medicine, the classics, or common wisdom, you'll be astonished to discover that everything you thought you knew is still hopelessly wrong. For example, do you know who made the first airplane flight? How many legs does an octopus have? How much water should you drink every day? What is the chance of tossing a coin and it landing on heads? What happens if you leave a tooth in a glass of Coke overnight? What is house dust mostly made from? What was the first dishwasher built to do? What color are oranges? Who in the world is most likely to kill you? Whatever your answers to the questions above, you can be sure that everything you think you know is wrong. *The Second Book of General Ignorance* is the essential text for everyone who knows they don't know everything, and an ideal stick with which to beat people who think they do.

[Understanding Ignorance](#) - Daniel R. Denicola 2018-09-04

An exploration of what we can know about what we don't know: why ignorance is more than simply a lack of knowledge. Ignorance is trending. Politicians boast, "I'm not a scientist." Angry citizens object to a proposed state motto because it is in Latin, and "This is America, not Mexico or Latin America." Lack of experience, not expertise, becomes a credential. Fake news and repeated falsehoods are accepted and shape firm belief. Ignorance about American government and history is so alarming that the ideal of an informed citizenry now seems quaint. Conspiracy theories and false knowledge thrive. This may be the Information Age, but we do not seem to be well informed. In this book, philosopher Daniel DeNicola explores ignorance—its abundance, its endurance, and its consequences. DeNicola aims to understand ignorance, which seems at first paradoxical. How can the unknown become known—and still be unknown? But he argues that ignorance is more than a lack or a void, and that it has dynamic and complex interactions with knowledge. Taking a broadly philosophical approach, DeNicola examines many forms of ignorance, using the metaphors of ignorance as place, boundary, limit, and horizon. He treats willful ignorance and describes the culture in which ignorance becomes an ideological stance. He discusses the ethics of ignorance, including the right not to know, considers the supposed virtues of ignorance, and concludes that there are situations in which ignorance is morally good. Ignorance is neither pure nor simple. It is both an accusation and a defense ("You are ignorant!" "Yes, but I didn't know!"). Its practical effects range from the inconsequential to the momentous. It is a scourge, but, DeNicola argues daringly, it may also be a refuge, a value, even an accompaniment to virtue.

[Death by Black Hole: And Other Cosmic Quandaries](#) - Neil deGrasse Tyson 2007-11-17

"[Tyson] tackles a great range of subjects...with great humor, humility, and—most important—humanity." —Entertainment Weekly Loyal readers of the monthly "Universe" essays in *Natural History* magazine have long recognized Neil deGrasse Tyson's talent for guiding them through the mysteries of the cosmos with clarity and enthusiasm. Bringing together more than forty of Tyson's favorite essays, *Death by Black Hole* explores a myriad of cosmic topics, from what it would be like to be inside a black hole to the movie

industry's feeble efforts to get its night skies right. One of America's best-known astrophysicists, Tyson is a natural teacher who simplifies the complexities of astrophysics while sharing his infectious fascination for our universe.

[Seven and a Half Lessons about the Brain](#) - Lisa Feldman Barrett 2020-11-17

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*

It's Not Rocket Science - Ben Miller 2012-07-12

The Top Ten Bestseller *Black holes. DNA. The Large Hadron Collider*. Ever had that sneaking feeling that you are missing out on some truly spectacular science? You do? Well, fear not, for help is at hand. Ben Miller was working on his Physics PhD at Cambridge when he accidentally became a comedian. But first love runs deep, and he has returned to his roots to share with you all his favourite bits of science. This is the stuff you really need to know, not only because it matters but because it will quite simply amaze and delight you. 'Let me show you another, perhaps less familiar side of Science; her beauty, her seductiveness and her passion. And let's do it quickly, while Maths isn't looking' Ben Miller 'This book makes climate change actually seem interesting. Not just important - it's obviously important - but interesting. As a result I bought lots of other books about climate change, something I now regret' David Mitchell Ben Miller is, like you, a mutant ape living through an Ice Age on a ball of molten iron, orbiting a supermassive black hole. He is also an actor, comedian and approximately one half of *Armstrong & Miller*. He's presented a BBC Horizon documentary on temperature and a Radio 4 series about the history of particle physics, and has written a science column for *The Times*. He is slowly coming to terms with the idea that he may never be an astronaut.

Uncertainty - Kostas Kampourakis 2019-10-07

Scientific knowledge is the most solid and robust kind of knowledge that humans have because of the self-correcting character inherent in its own processes. Nevertheless, anti-evolutionists, climate denialists, and anti-vaxxers, among others, question some of the best-established scientific findings, making claims that are unsupported by empirical evidence. A common aspect of these claims is the reference to the uncertainties in these areas of research, which leads to the conclusion that science is uncertain about evolution, climate change, and vaccination, among others. The truth of the matter is that while the broad picture is clear, there exist--and will always exist--uncertainties about the details of the respective phenomena. In this book Kampourakis and McCain show that uncertainty is an inherent feature of science that does not devalue it. In contrast, uncertainty actually makes science advance because it motivates further research. The first book of its kind, *Uncertainty* draws on philosophy of science to explain what uncertainty in science is and how it makes science advance. It contrasts evolution, climate change, and vaccination, where the uncertainties are exaggerated, to genetic testing and forensic science where the uncertainties are usually overlooked. Kampourakis and McCain discuss the scientific, psychological, and philosophical aspects of uncertainty in order to explain what it is really about, what kind of problems it actually poses, and why it ultimately makes science advance. Contrary to the public representations of scientific findings and conclusions that produce an intuitive but distorted view of science as certain, we need to understand and learn to live with uncertainty in science.

Ignorance - Stuart Firestein 2012-04-23

Knowledge is a big subject, says Stuart Firestein, but ignorance is a bigger one. And it is ignorance--not knowledge--that is the true engine of science. Most of us have a false impression of science as a surefire, deliberate, step-by-step method for finding things out and getting things done. In fact, says Firestein, more often than not, science is like looking for a black cat in a dark room, and there may not be a cat in the room. The process is more hit-or-miss than you might imagine, with much stumbling and groping after phantoms. But it is exactly this "not knowing," this puzzling over thorny questions or inexplicable data, that gets researchers into the lab early and keeps them there late, the thing that propels them, the very driving force of science. Firestein shows how scientists use ignorance to program their work, to identify what should be done, what the next steps are, and where they should concentrate their energies. And he includes a catalog of how scientists use ignorance, consciously or unconsciously--a remarkable range of approaches that includes looking for connections to other research, revisiting apparently settled questions, using small

questions to get at big ones, and tackling a problem simply out of curiosity. The book concludes with four case histories--in cognitive psychology, theoretical physics, astronomy, and neuroscience--that provide a feel for the nuts and bolts of ignorance, the day-to-day battle that goes on in scientific laboratories and in scientific minds with questions that range from the quotidian to the profound. Turning the conventional idea about science on its head, *Ignorance* opens a new window on the true nature of research. It is a must-read for anyone curious about science.

The Great American University - Jonathan R. Cole 2010-06-22

Americans and people throughout the world have become increasingly dependent on America's great research universities. Yet few of us truly understand to what we owe this extraordinary excellence or what we must do to keep it. From the development of technologies like the laser, the global positioning system, the MRI, radar, and even Viagra, to predicting weather patterns, American research universities are one of our most vital sources of economic growth and social welfare. They have flourished because of a system that has invested public tax dollars in their work and, more importantly, granted substantial autonomy to funding agencies and the universities. This system is now under attack, the university's preeminence endangered by the USA PATRIOT Act and other conservative policies. This revelatory and alarming book will show how this vital institution is at risk of tragically losing its dominant status and why a threat to the university is a threat to the health and wealth of our nation.

Interdisciplinary Environmental Studies - Gunilla Oberg 2011-06-09

Environmental issues are inherently interdisciplinary, and environmental academic programs increasingly use an interdisciplinary approach. This timely book presents a core framework for conducting high quality interdisciplinary research. It focuses on the opportunities rather than the challenges of interdisciplinary work and is written for those doing interdisciplinary work (rather than those studying it). It is designed to facilitate high quality interdisciplinary work and the author uses illustrative examples from student work and papers published in the environmental literature. This book's lucid, problem-solving approach is framed in an accessible easy-to-read style and will be indispensable for anyone embarking on a research project involving interdisciplinary collaboration. Readership: graduate students, advanced undergraduates, and researchers involved in the interface between human and natural environmental systems

The Immigrant Paradox in Children and Adolescents - Cynthia T. García Coll 2012

Many academic and public policies promote rapid immigrant assimilation. Yet, researchers have recently identified an emerging pattern, known as the immigrant paradox, in which assimilated children of immigrants experience diminishing developmental outcomes and educational achievements. This volume examines these controversial findings by asking how and why highly acculturated youth may fare worse academically and developmentally than their less assimilated peers, and under what circumstances this pattern is disrupted. This timely compilation of original research is aimed at understanding how acculturation affects immigrant child and adolescent development. Chapters explore the question "Is Becoming American a Developmental Risk?" through a variety of lenses--psychological, sociological, educational, and economic. Contributors compare differential health, behavioral, and educational outcomes for foreign- and native-born children of immigrants across generations. While economic and social disparities continue to present challenges impeding child and adolescent development, particularly for U.S.-born children of immigrants, findings in this book point to numerous benefits of biculturalism and bilingualism to preserve immigrants' strengths.

Cosmic Apprentice - Dorion Sagan 2013-05-01

In the pursuit of knowledge, Dorion Sagan argues in this dazzlingly eclectic, rigorously crafted, and deliciously witty collection of essays, scientific authoritarianism and philosophical obscurantism are equally formidable obstacles to discovery. As science has become more specialized and more costly, its questing spirit has been constrained by dogma. And philosophy, perhaps the discipline best placed to question orthodoxy, has retreated behind dense theoretical language and arcane topics of learning. Guided by a capacious, democratic view of science inspired by the examples set by his late parents--Carl Sagan, who popularized the study of the cosmos, and Lynn Margulis, an evolutionary biologist who repeatedly clashed with the scientific establishment--Sagan draws on classical and contemporary philosophy to intervene provocatively in often-charged debates on thermodynamics, linear and nonlinear time, purpose, ethics, the

links between language and psychedelic drugs, the search for extraterrestrial intelligence, and the occupation of the human body by microbial others. Informed by a countercultural sensibility, a deep engagement with speculative thought, and a hardheaded scientific skepticism, he advances controversial positions on such seemingly sacrosanct subjects as evolution and entropy. At the same time, he creatively considers a wide range of thinkers, from Socrates to Bataille and Descartes to von Uexküll, to reflect on sex, biopolitics, and the free will of Kermit the Frog. Refreshingly nonconformist and polemically incisive, *Cosmic Apprentice* challenges readers to reject both dogma and cliché and instead recover the intellectual spirit of adventure that should—and can once again—animate both science and philosophy.

A Passion for Ignorance - Renata Salecl 2020-09-29

"Drawing on philosophy, social and psychoanalytic theory, popular culture, and her own experience, Salecl explores how the passion for ignorance plays out in many different aspects of life today, from love, illness, trauma, and the fear of failure to genetics, forensic science, big data, and the Incel movement--and she concludes that ignorance is a complex phenomenon that can, on occasion, benefit individuals and society as a whole"--

Mind and Cosmos - Thomas Nagel 2012-11-22

The modern materialist approach to life has conspicuously failed to explain such central mind-related features of our world as consciousness, intentionality, meaning, and value. This failure to account for something so integral to nature as mind, argues philosopher Thomas Nagel, is a major problem, threatening to unravel the entire naturalistic world picture, extending to biology, evolutionary theory, and cosmology. Since minds are features of biological systems that have developed through evolution, the standard materialist version of evolutionary biology is fundamentally incomplete. And the cosmological history that led to the origin of life and the coming into existence of the conditions for evolution cannot be a merely materialist history, either. An adequate conception of nature would have to explain the appearance in the universe of materially irreducible conscious minds, as such. Nagel's skepticism is not based on religious belief or on a belief in any definite alternative. In *Mind and Cosmos*, he does suggest that if the materialist account is wrong, then principles of a different kind may also be at work in the history of nature, principles of the growth of order that are in their logical form teleological rather than mechanistic. In spite of the great achievements of the physical sciences, reductive materialism is a world view ripe for displacement. Nagel shows that to recognize its limits is the first step in looking for alternatives, or at least in being open to their possibility.

Anti-vaxxers - Jonathan M. Berman 2020-09-08

A "clear and insightful" takedown of the anti-vaccination movement, from its 19th-century antecedents to modern-day Facebook activists—with strategies for refuting false claims of friends and family (Financial Times) Vaccines are a documented success story, one of the most successful public health interventions in history. Yet there is a vocal anti-vaccination movement, featuring celebrity activists (including Kennedy scion Robert F. Kennedy Jr. and actress Jenny McCarthy) and the propagation of anti-vax claims through books, documentaries, and social media. In *Anti-Vaxxers*, Jonathan Berman explores the phenomenon of the anti-vaccination movement, recounting its history from its nineteenth-century antecedents to today's activism, examining its claims, and suggesting a strategy for countering them. After providing background information on vaccines and how they work, Berman describes resistance to Britain's Vaccination Act of 1853, showing that the arguments anticipate those made by today's anti-vaxxers. He discusses the development of new vaccines in the twentieth century, including those protecting against polio and MMR (measles, mumps, rubella), and the debunked paper that linked the MMR vaccine to autism; the CDC conspiracy theory promoted in the documentary *Vaxxed*; recommendations for an alternative vaccination schedule; Kennedy's misinformed campaign against thimerosal; and the much-abused religious exemption to vaccination. Anti-vaxxers have changed their minds, but rarely because someone has given them a list of facts. Berman argues that anti-vaccination activism is tied closely to how people see themselves as parents and community members. Effective pro-vaccination efforts should emphasize these cultural aspects rather than battling social media posts.

Failure - Stuart Firestein 2016

In his sequel to *Ignorance* (Oxford University Press, 2012), Stuart Firestein shows us that the scientific

enterprise is riddled with mistakes and errors - and that this is a good thing! *Failure: Why Science Is So Successful* delves into the origins of scientific research as a process that relies upon trial and error, one which inevitably results in a hefty dose of failure.

Ignorance - Stuart Firestein 2012-04-23

Contrary to the popular view of science as a mountainous accumulation of facts and data, Stuart Firestein takes the novel perspective that ignorance is the main product and driving force of science, and that this is the best way to understand the process of scientific discovery.

The Why of Things - Peter V. Rabins 2013-08-20

Why was there a meltdown at the Fukushima power plant? Why do some people get cancer and not others?

Why is global warming happening? Why does one person get depressed in the face of life's vicissitudes while another finds resilience? Questions like these—questions of causality—form the basis of modern scientific inquiry, posing profound intellectual and methodological challenges for researchers in the physical, natural, biomedical, and social sciences. In this groundbreaking book, noted psychiatrist and author Peter Rabins offers a conceptual framework for analyzing daunting questions of causality.

Navigating a lively intellectual voyage between the shoals of strict reductionism and relativism, Rabins maps a three-facet model of causality and applies it to a variety of questions in science, medicine, economics, and more. Throughout this book, Rabins situates his argument within relevant scientific contexts, such as quantum mechanics, cybernetics, chaos theory, and epigenetics. A renowned communicator of complex concepts and scientific ideas, Rabins helps readers stretch their minds beyond the realm of popular literary tipping points, blinks, and freakonomic explanations of the world.

Ignorance - Robert Graef 2017

Sums up the many fields of study where ignorance can undermine our understanding, while showing how an awareness of ignorance can lead to exploration and the discovery of new knowledge. The flip side of knowledge is ignorance. This book explores the vast scope of ignorance, even in an age when we think we know more than ever before. By marking off this ocean of ignorance into manageable categories, the author provides a kind of navigational chart to the unknown, and a series of red flags to all those who claim certitude. The book first lays out the many branches of ignorance--in education, the media, politics, religion, science, and other major institutions. It then assesses the costs and consequences of that ignorance. World conflicts, endemic poverty, environmental damage, waste, racism, and the manipulative forces of industry and politics that use propaganda to manipulate the public may all be seen as rooted in ignorance. But there are positive aspects of ignorance as well. Scientists and artists, by recognizing what they don't know, are spurred on to new creative approaches and discoveries, which would never be found by those too comfortable with the tried and true. The author cites Socrates, whom the Delphic Oracle declared to be the wisest of all people simply because he realized how much he didn't know. This book gives you ways to follow in the path that Socrates forged, to counter the closed minds whose false sense of certainty cannot help but distort reality, and to be better prepared to take on even the most serious challenges of today.

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feel for the nuts and bolts of ignorance, the day-to-day battle that goes on in scientific laboratories and in scientific minds with questions that range from the quotidian to the profound. Turning the conventional idea about science on its head, Ignorance opens a new window on the true nature of research. It is a must-read for anyone curious about science.

The Island of Knowledge - Marcelo Gleiser 2014-06-03

A natural philosophy expert who is also a physics and astronomy professor discusses the limits of scientific explanations and how our knowledge of the universe and its nature will always remain necessarily incomplete. 15,000 first printing.

Reinventing Discovery - Michael Nielsen 2020-04-07

"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"--

Self-Knowledge for Humans - Quassim Cassam 2014-11-27

Human beings are not model epistemic citizens. Our reasoning can be careless and uncritical, and our beliefs, desires, and other attitudes aren't always as they ought rationally to be. Our beliefs can be eccentric, our desires irrational and our hopes hopelessly unrealistic. Our attitudes are influenced by a wide range of non-epistemic or non-rational factors, including our character, our emotions, and powerful unconscious biases. Yet we are rarely conscious of such influences. Self-ignorance is not something to which human beings are immune. In this book Quassim Cassam develops an account of self-knowledge which tries to do justice to these and other respects in which humans aren't model epistemic citizens. He rejects rationalist and other mainstream philosophical accounts of self-knowledge on the grounds that, in more than one sense, they aren't accounts of self-knowledge for humans. Instead he defends the view that inferences from behavioural and psychological evidence are a basic source of human self-knowledge. On this account, self-knowledge is a genuine cognitive achievement and self-ignorance is almost always on the cards. As well as explaining knowledge of our own states of mind, Cassam also accounts for what he calls 'substantial' self-knowledge, including knowledge of our values, emotions, and character. He criticizes philosophical accounts of self-knowledge for neglecting substantial self-knowledge, and concludes with a discussion of the value of self-knowledge. This book tries to do for philosophy what behavioural economics tries to do for economics. Just as behavioural economics is the economics of homo sapiens, as distinct from the economics of an ideally rational and self homo economics, so Cassam argues that philosophy should focus on the human predicament rather than on the reasoning and self-knowledge of an idealized homo philosophicus.

The Scientific Attitude - Lee McIntyre 2020-04-07

An argument that what makes science distinctive is its emphasis on evidence and scientists' willingness to change theories on the basis of new evidence. Attacks on science have become commonplace. Claims that climate change isn't settled science, that evolution is "only a theory," and that scientists are conspiring to keep the truth about vaccines from the public are staples of some politicians' rhetorical repertoire. Defenders of science often point to its discoveries (penicillin! relativity!) without explaining exactly why scientific claims are superior. In this book, Lee McIntyre argues that what distinguishes science from its rivals is what he calls "the scientific attitude"—caring about evidence and being willing to change theories on the basis of new evidence. The history of science is littered with theories that were scientific but turned out to be wrong; the scientific attitude reveals why even a failed theory can help us to understand what is special about science. McIntyre offers examples that illustrate both scientific success (a reduction in childbed fever in the nineteenth century) and failure (the flawed "discovery" of cold fusion in the twentieth century). He describes the transformation of medicine from a practice based largely on hunches into a science based on evidence; considers scientific fraud; examines the positions of ideology-driven denialists, pseudoscientists, and "skeptics" who reject scientific findings; and argues that social science, no less than natural science, should embrace the scientific attitude. McIntyre argues that the scientific attitude—the grounding of science in evidence—offers a uniquely powerful tool in the defense of science.

Science and the Production of Ignorance - Janet Kourany 2020-02-18

An introduction to the new area of ignorance studies that examines how science produces ignorance—both

actively and passively, intentionally and unintentionally. We may think of science as our foremost producer of knowledge, but for the past decade, science has also been studied as an important source of ignorance. The historian of science Robert Proctor has coined the term agnotology to refer to the study of ignorance, and much of the ignorance studied in this new area is produced by science. Whether an active or passive construct, intended or unintended, this ignorance is, in Proctor's words, "made, maintained, and manipulated" by science. This volume examines forms of scientific ignorance and their consequences. A dialogue between Proctor and Peter Galison offers historical context, presenting the concerns and motivations of pioneers in the field. Essays by leading historians and philosophers of science examine the active construction of ignorance by biased design and interpretation of experiments and empirical studies, as seen in the "false advertising" by climate change deniers; the "virtuous" construction of ignorance—for example, by curtailing research on race- and gender-related cognitive differences; and ignorance as the unintended by-product of choices made in the research process, when rules, incentives, and methods encourage an emphasis on the beneficial and commercial effects of industrial chemicals, and when certain concepts and even certain groups' interests are inaccessible in a given conceptual framework. Contributors Martin Carrier, Carl F. Cranor, Peter Galison, Paul Hoyningen-Huene, Philip Kitcher, Janet Kourany, Hugh Lacey, Robert Proctor, Londa Schiebinger, Miriam Solomon, Torsten Wilholt

The Book of General Ignorance - John Mitchinson 2007-08-07

NEW YORK TIMES BESTSELLER • Misconceptions, misunderstandings, and flawed facts finally get the heave-ho in this humorous, downright humiliating book of reeducation based on the phenomenal British bestseller. Challenging what most of us assume to be verifiable truths in areas like history, literature, science, nature, and more, *The Book of General Ignorance* is a witty "gotcha" compendium of how little we actually know about anything. It'll have you scratching your head wondering why we even bother to go to school. Think Magellan was the first man to circumnavigate the globe, baseball was invented in America, Henry VIII had six wives, Mount Everest is the tallest mountain? Wrong, wrong, wrong, and wrong again. You'll be surprised at how much you don't know! Check out *The Book of General Ignorance* for more fun entries and complete answers to the following: How long can a chicken live without its head? About two years. What do chameleons do? They don't change color to match the background. Never have; never will. Complete myth. Utter fabrication. Total Lie. They change color as a result of different emotional states. How many legs does a centipede have? Not a hundred. How many toes has a two-toed sloth? It's either six or eight. Who was the first American president? Peyton Randolph. What were George Washington's false teeth made from? Mostly hippopotamus. What was James Bond's favorite drink? Not the vodka martini.

Knowledge and Ignorance of Self in Platonic Philosophy - James M. Ambury 2019

The only available volume of essays from scholars of every interpretative viewpoint on self-knowledge and self-ignorance in Plato's thought.

Writing Science - Joshua Schimel 2012-01-26

This book takes an integrated approach, using the principles of story structure to discuss every aspect of successful science writing, from the overall structure of a paper or proposal to individual sections, paragraphs, sentences, and words. It begins by building core arguments, analyzing why some stories are engaging and memorable while others are quickly forgotten, and proceeds to the elements of story structure, showing how the structures scientists and researchers use in papers and proposals fit into classical models. The book targets the internal structure of a paper, explaining how to write clear and professional sections, paragraphs, and sentences in a way that is clear and compelling.

The End of Ignorance - John Mighton 2011-06-01

A revolutionary call for a new understanding of how people learn. The End of Ignorance conceives of a world in which no child is left behind – a world based on the assumption that each child has the potential to be successful in every subject. John Mighton argues that by recognizing the barriers that we have experienced in our own educational development, by identifying the moment that we became disenchanted with a certain subject and forever closed ourselves off to it, we will be able to eliminate these same barriers from standing in the way of our children. A passionate examination of our present education system, *The End of Ignorance* shows how we all can work together to reinvent the way that we are taught. John Mighton, the author of *The Myth of Ability*, is the founder of JUMP Math, a system of learning based on the

fostering of emergent intelligence. The program has proved so successful an entire class of Grade 3 students, including so-called slow learners, scored over 90% on a Grade 6 math test. A group of British children who had effectively been written off as too unruly responded so enthusiastically and had such impressive results using the JUMP method that the school board has adopted the program. Inspired by the work he has done with thousands of students, Mighton shows us why we must not underestimate how much ground can be covered one small step at a time, and challenges us to re-examine the assumptions underlying current educational theory. He pays attention to how kids pay attention, chronicles what captures their imaginations, and explains why their sense of self-confidence and ability to focus are as important to their academic success at school as the content of their lessons.

Life as a Geological Force - Pieter Westbroek 1992

Those who funded the sciences of geology 150 years ago intuitively saw the Earth as a unified whole. Since that time, the sciences have specialized into physics, chemistry, biology and geology - specialization that has brought advances, but has unfortunately obscured our view of the unique role that life and death play on our planet.

Uncertain Science ... Uncertain World - Henry N. Pollack 2005-06-23

Is the world warming due to the Greenhouse Effect? Can nuclear weapon arsenals be relied upon without periodic testing? Is the world running out of oil? What action should be taken against an outbreak of foot-and-mouth or BSE? Why can't scientists provide certain answers to these and many other questions? The uncertainty of science is puzzling. It arises when scientists have more than one answer to a problem or disagree amongst themselves. In this engaging book, Henry Pollack guides the reader through the maze of contradiction and uncertainty, acquainting them with the ways that uncertainty arises in science, how scientists accommodate and make use of uncertainty, and how in the face of uncertainty they reach their conclusions. Taking examples from recent science headlines and every day life, Uncertain Science ... Uncertain World enables the reader to evaluate uncertainty from their own perspectives, and find out more about how science actually works.

Arguments from Ignorance - Douglas Walton 2010-11-01

Physics of the Future - Michio Kaku 2011-03-15

Imagine, if you can, the world in the year 2100. In Physics of the Future, Michio Kaku—the New York Times bestselling author of Physics of the Impossible—gives us a stunning, provocative, and exhilarating vision of the coming century based on interviews with over three hundred of the world's top scientists who are already inventing the future in their labs. The result is the most authoritative and scientifically accurate description of the revolutionary developments taking place in medicine, computers, artificial intelligence, nanotechnology, energy production, and astronautics. In all likelihood, by 2100 we will control computers via tiny brain sensors and, like magicians, move objects around with the power of our minds. Artificial intelligence will be dispersed throughout the environment, and Internet-enabled contact lenses will allow us to access the world's information base or conjure up any image we desire in the blink of an eye. Meanwhile, cars will drive themselves using GPS, and if room-temperature superconductors are discovered, vehicles will effortlessly fly on a cushion of air, coasting on powerful magnetic fields and ushering in the age of magnetism. Using molecular medicine, scientists will be able to grow almost every organ of the body and cure genetic diseases. Millions of tiny DNA sensors and nanoparticles patrolling our blood cells will silently scan our bodies for the first sign of illness, while rapid advances in genetic research will enable us to slow down or maybe even reverse the aging process, allowing human life spans to increase dramatically. In space, radically new ships—needle-sized vessels using laser propulsion—could replace the expensive chemical rockets of today and perhaps visit nearby stars. Advances in nanotechnology may lead to the fabled space elevator, which would propel humans hundreds of miles above the earth's atmosphere at the push of a button. But these astonishing revelations are only the tip of the iceberg. Kaku also discusses emotional robots, antimatter rockets, X-ray vision, and the ability to create new life-forms, and he considers the development of the world economy. He addresses the key questions: Who are the winner and losers of

the future? Who will have jobs, and which nations will prosper? All the while, Kaku illuminates the rigorous scientific principles, examining the rate at which certain technologies are likely to mature, how far they can advance, and what their ultimate limitations and hazards are. Synthesizing a vast amount of information to construct an exciting look at the years leading up to 2100, Physics of the Future is a thrilling, wondrous ride through the next 100 years of breathtaking scientific revolution.

Merchants of Doubt - Naomi Oreskes 2011-05-31

Documents the troubling influence of a small group of scientists who the author contends misrepresent scientific facts to advance key political and economic agendas, revealing the interests behind their detractions on findings about acid rain, DDT, and other hazards.

Human Nature and the Limits of Science - John Dupré 2001

Dupré warns that our understanding of human nature is being distorted by two faulty and harmful forms of pseudo-scientific thinking. He claims it is important to resist scientism - an exaggerated conception of what science can be expected to do.

Conspiracy Theories and the People Who Believe Them - Joseph E. Uscinski 2018-11-12

Conspiracy theories are inevitable in complex human societies. And while they have always been with us, their ubiquity in our political discourse is nearly unprecedented. Their salience has increased for a variety of reasons including the increasing access to information among ordinary people, a pervasive sense of powerlessness among those same people, and a widespread distrust of elites. Working in combination, these factors and many other factors are now propelling conspiracy theories into our public sphere on a vast scale. In recent years, scholars have begun to study this genuinely important phenomenon in a concerted way. In Conspiracy Theories and the People Who Believe Them, Joseph E. Uscinski has gathered forty top researchers on the topic to provide both the foundational tools and the evidence to better understand conspiracy theories in the United States and around the world. Each chapter is informed by three core questions: Why do so many people believe in conspiracy theories? What are the effects of such theories when they take hold in the public? What can or should be done about the phenomenon? Combining systematic analysis and cutting-edge empirical research, this volume will help us better understand an extremely important, yet relatively neglected, phenomenon.

Bad Science - Ben Goldacre 2010-10-12

Have you ever wondered how one day the media can assert that alcohol is bad for us and the next unashamedly run a story touting the benefits of daily alcohol consumption? Or how a drug that is pulled off the market for causing heart attacks ever got approved in the first place? How can average readers, who aren't medical doctors or Ph.D.s in biochemistry, tell what they should be paying attention to and what's, well, just more bullshit? Ben Goldacre has made a point of exposing quack doctors and nutritionists, bogus credentialing programs, and biased scientific studies. He has also taken the media to task for its willingness to throw facts and proof out the window. But he's not here just to tell you what's wrong. Goldacre is here to teach you how to evaluate placebo effects, double-blind studies, and sample sizes, so that you can recognize bad science when you see it. You're about to feel a whole lot better.

Race and Epistemologies of Ignorance - Shannon Sullivan 2012-02-01

Offering a wide variety of philosophical approaches to the neglected philosophical problem of ignorance, this groundbreaking collection builds on Charles Mills's claim that racism involves an inverted epistemology, an epistemology of ignorance. Contributors, explore how different forms of ignorance linked to race are produced and sustained and what role they play in promoting racism and white privilege. They argue that the ignorance that underpins racism is not a simple gap in knowledge, the accidental result of an epistemological oversight. In the case of racial oppression, ignorance often is actively produced for purposes of domination and exploitation. But as these essays demonstrate, ignorance is not simply a tool of oppression wielded by the powerful. It can also be a strategy for survival, an important tool for people of color to wield against white privilege and white supremacy. The book concludes that understanding ignorance and the politics of such ignorance should be a key element of epistemological and social/political analyses, for it has the potential to reveal the role of power in the construction of what is known and provide a lens for the political values at work in knowledge practices. Book jacket.