

Pandora's Black Box – Thinking About Ethics and Technology

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Recommended Readings:

Budinger, Thomas F. and **Budinger**, Miriam D. (2006) *Ethics of Emerging Technologies: Scientific Facts and Moral Challenges*; John Wiley & Sons Inc., Hoboken, NJ, USA

Amazon Description: An insightful guide to understanding and navigating the ethical issues faced by anyone affected by the ethical dilemmas associated with current and emerging technologies. *Ethics of Emerging Technologies* provides the background, insight, and tools for approaching and solving ethical dilemmas across a broad range of topics. The text discusses ethical problems, using examples and reasoning tools that will aid engineers, scientists, managers, administrators, and the public who wish to understand risks, benefits, and possible approaches to resolving conflicts associated with new technologies in the context of the global community. Solutions we choose to ethical dilemmas accompanying new technologies will profoundly affect future generations. Scientific facts and guides to decision-making for all associated with emerging technologies are presented.

Dennett, Daniel (2006) *Breaking the Spell: Religion as a Natural Phenomenon*; Penguin Group, New York, NY

Amazon Description: Few forces in the world are as potent as religion: it comforts people in their suffering and inspires them to both magnificent and terrible deeds. In this provocative and timely book, Daniel C. Dennett seeks to uncover the origins of religion and discusses how and why different faiths have shaped so many lives, whether religion is an addiction or a genuine human need, and even whether it is good for our health. Arguing passionately for the need to understand this multifaceted phenomenon, "Breaking the Spell" offers a truly original - and comprehensive - explanation for faith.

Diamond, Jared (2006) *Collapse: How Societies Choose to Fail or Succeed*; Penguin Group, New York, NY

Amazon Description: In his Pulitzer Prize-winning bestseller *Guns, Germs, and Steel*, geographer Diamond laid out a grand view of the organic roots of human civilizations in flora, fauna, climate and geology. That vision takes on apocalyptic overtones in this fascinating comparative study of societies that have, sometimes fatally, undermined their own ecological foundations. Diamond examines storied examples of human economic and social collapse, and even extinction, including Easter Island, classical Mayan civilization and the Greenland Norse. He explores patterns of population growth, over farming, overgrazing and overhunting, often abetted by drought, cold, rigid social mores and warfare, that lead inexorably to vicious circles of deforestation, erosion and starvation prompted by the disappearance of plant and animal food sources. Extending his treatment to contemporary environmental trouble spots, from Montana to China to Australia, he finds today's global, technologically advanced civilization very far from solving the problems that plagued primitive, isolated communities in the remote past. At times Diamond comes close to a counsel of despair when contemplating the environmental havoc engulfing our rapidly industrializing planet, but he holds out hope at examples of sustainability from highland New Guinea's age-old but highly diverse and efficient agriculture to Japan's rigorous program of forest protection and, less convincingly, in recent green consumerism initiatives. Diamond is a brilliant expositor of everything from anthropology to zoology, providing a lucid background of scientific lore to support a stimulating, incisive historical account of these many declines and falls. Readers will find his book an enthralling, and disturbing, reminder of the indissoluble links that bind humans to nature.

Higgs, Eric; Light, Andrew; Strong, David (2000) *Technology and the Good Life?*; University of Chicago Press, Chicago, USA

Amazon Description: Can we use technology in the pursuit of a good life, or are we doomed to having our lives organized and our priorities set by the demands of machines and systems? How can philosophy help us to make technology a servant rather than a master? *Technology and the Good Life?* uses a careful collective analysis of Albert Borgmann's controversial and influential ideas as a jumping-off point from which to address questions such as these about the role and significance of technology in our lives. Contributors both sympathetic and critical examine Borgmann's work, especially his "device paradigm"; apply his theories to new areas such as film, agriculture, design, and ecological restoration; and consider the place of his thought within philosophy and technology studies more generally. Because this collection carefully investigates the issues at the heart of how we can take charge of life with technology, it will be a landmark work not just for philosophers of technology but for students and scholars in the many disciplines concerned with science and technology studies.

Fine, Cordelia (2006) *A Mind of Its Own: How Your Brain Distorts and Deceives*; W. W. Norton & Company, New Yourk, USA

Amazon Description: The brain's power is confirmed and touted every day in new studies and research. And yet we tend to take our brains for granted, without suspecting that those masses of hard-working neurons might not always be working for us. Cordelia Fine introduces us to a brain we might not want to meet, a brain with a mind of its own. She illustrates the brain's tendency toward self-delusion as she explores how the mind defends and glorifies the ego by twisting and warping our perceptions. Our brains employ a slew of inborn mind-bugs and prejudices, from hindsight bias to unrealistic optimism, from moral excuse-making to wishful thinking—all designed to prevent us from seeing the truth about the world and the people around us, and about ourselves.

Gardner, Dan (2010) *Future Babble: Why Expert Predictions Fail – and Why We Believe Them Anyway*; McLelland & Stewart Ltd., Toronto, Canada

Amazon Description: In 2008, experts predicted gas would hit \$20 a gallon; it peaked at \$4.10. In 1967, they said the USSR would be the world's fastest-growing economy by 2000; by 2000, the USSR no longer existed. In 1908, it was pronounced that there would be no more wars in Europe; we all know how that turned out. Face it, experts are about as accurate as dart-throwing monkeys. And yet every day we ask them to predict the future- everything from the weather to the likelihood of a terrorist attack. *Future Babble* is the first book to examine this phenomenon, showing why our brains yearn for certainty about the future, why we are attracted to those who predict it confidently, and why it's so easy for us to ignore the trail of outrageously wrong forecasts.

Gilbert, Daniel (2007) *Stumbling on Happiness*; Alfred A. Knopf, New York, USA

Amazon Description: Why are lovers quicker to forgive their partners for infidelity than for leaving dirty dishes in the sink? • Why will sighted people pay more to avoid going blind than blind people will pay to regain their sight? • Why do dining companions insist on ordering different meals instead of getting what they really want? • Why do pigeons seem to have such excellent aim; why can't we remember one song while listening to another; and why does the line at the grocery store always slow down the moment we join it? In this brilliant, witty, and accessible book, renowned Harvard psychologist Daniel Gilbert describes the foibles of imagination and illusions of foresight that cause each of us to misconceive our tomorrows and misestimate our satisfactions. Vividly bringing to life the latest scientific research in psychology, cognitive neuroscience, philosophy, and behavioral economics, Gilbert reveals what scientists have discovered about the uniquely human ability to imagine the future, and about our capacity to predict how much we will like it when we get there. With penetrating insight and sparkling prose, Gilbert explains why we seem to know so little about the hearts and minds of the people we are about to become.

Gleick, James (2011) *The Information: A History, A Theory, A Flood*; Random House of Canada Limited, Toronto, Canada

Amazon Description: In a sense, *The Information* is a book about everything, from words themselves to talking drums, writing and lexicography, early attempts at an analytical engine, the telegraph and telephone, ENIAC, and the ubiquitous computers that followed. But that's just the "History." The "Theory" focuses on such 20th-century notables as Claude Shannon, Norbert Wiener, Alan Turing, and others who worked on coding, decoding, and re-coding both the meaning and the myriad messages transmitted via the media of their times. In the "Flood," Gleick explains genetics as biology's mechanism for informational exchange--Is a chicken just an egg's way of making another egg?--and discusses self-replicating memes (ideas as different as earworms and racism) as information's own evolving meta-life forms. Along the way, readers learn about music and quantum mechanics, why forgetting takes work, the meaning of an "interesting number," and why "[t]he bit is the ultimate unsplitable particle." What results is a visceral sense of information's contemporary precedence as a way of understanding the world, a physical/symbolic palimpsest of self-propelled exchange, the universe itself as the ultimate analytical engine. If Borges's "Library of Babel" is literature's iconic cautionary tale about the extreme of informational overload, Gleick sees the opposite, the world as an endlessly unfolding opportunity in which "creatures of the information" may just recognize themselves. --*Jason Kirk*

Harris, Sam (2011) *The Moral Landscape: How Science Can Determine Human Values*; Free Press, New York, USA

Amazon Description: Sam Harris's first book, *The End of Faith*, ignited a worldwide debate about the validity of religion. In the aftermath, Harris discovered that most people—from religious fundamentalists to nonbelieving scientists—agree on one point: science has nothing to say on the subject of human values. Indeed, our failure to address questions of meaning and morality through science has now become the most common justification for religious faith. It is also the primary reason why so many secularists and religious moderates feel obligated to "respect" the hardened superstitions of their more devout neighbors. In this explosive new book, Sam Harris tears down the wall between scientific facts and human values, arguing that most people are simply mistaken about the relationship between morality and the rest of human knowledge. Harris urges us to think about morality in terms of human and animal well-being, viewing the experiences of conscious creatures as peaks and valleys on a "moral landscape." Because there are definite facts to be known about where we fall on this landscape, Harris foresees a time when science will no longer limit itself to merely describing what people do in the name of "morality"; in principle, science should be able to tell us what we ought to do to live the best lives possible. Bringing a fresh perspective to age-old questions of right and wrong and good and evil, Harris demonstrates that we already know enough about the human brain and its relationship to events in the world to say that there are right and wrong answers to the most pressing questions of human life. Because such answers exist, moral relativism is simply false—and comes at increasing cost to humanity. And the intrusions of religion into the sphere of human values can be finally repelled: for just as there is no such thing as Christian physics or Muslim algebra, there can be no Christian or Muslim morality. Using his expertise in philosophy and neuroscience, along with his experience on the front lines of our "culture wars," Harris delivers a game-changing book about the future of science and about the real basis of human cooperation.

Kahneman, Daniel (2011) *Thinking, Fast and Slow*; Doubleday Canada, Toronto, Canada

Amazon Description: Daniel Kahneman, recipient of the Nobel Prize in Economic Sciences for his seminal work in psychology that challenged the rational model of judgment and decision making, is one of our most important thinkers. His ideas have had a profound and widely regarded impact on many fields—including economics, medicine, and politics—but until now, he has never brought together his many years of research and thinking in one book. In the highly anticipated *Thinking, Fast and Slow*, Kahneman takes

us on a groundbreaking tour of the mind and explains the two systems that drive the way we think. System 1 is fast, intuitive, and emotional; System 2 is slower, more deliberative, and more logical. Kahneman exposes the extraordinary capabilities—and also the faults and biases—of fast thinking, and reveals the pervasive influence of intuitive impressions on our thoughts and behavior. The impact of loss aversion and overconfidence on corporate strategies, the difficulties of predicting what will make us happy in the future, the challenges of properly framing risks at work and at home, the profound effect of cognitive biases on everything from playing the stock market to planning the next vacation—each of these can be understood only by knowing how the two systems work together to shape our judgments and decisions. Engaging the reader in a lively conversation about how we think, Kahneman reveals where we can and cannot trust our intuitions and how we can tap into the benefits of slow thinking. He offers practical and enlightening insights into how choices are made in both our business and our personal lives—and how we can use different techniques to guard against the mental glitches that often get us into trouble. *Thinking, Fast and Slow* will transform the way you think about thinking.

Shermer, Michael (2011) *The Believing Brain: From Ghosts and Gods to Politics and Conspiracies*; Times Books, Henry Holt and Company, New York, USA

Amazon Description: Bestselling author Michael Shermer's comprehensive and provocative theory on how beliefs are born, formed, reinforced, challenged, changed, and extinguished. In this work synthesizing thirty years of research, psychologist, historian of science, and the world's best-known skeptic Michael Shermer upends the traditional thinking about how humans form beliefs about the world. Simply put, beliefs come first and explanations for beliefs follow. The brain, Shermer argues, is a belief engine. From sensory data flowing in through the senses, the brain naturally begins to look for and find patterns, and then infuses those patterns with meaning. Our brains connect the dots of our world into meaningful patterns that explain why things happen, and these patterns become beliefs. Once beliefs are formed the brain begins to look for and find confirmatory evidence in support of those beliefs, which accelerates the process of reinforcing them, and round and round the process goes in a positive-feedback loop of belief confirmation. Shermer outlines the numerous cognitive tools our brains engage to reinforce our beliefs as truths. Interlaced with his theory of belief, Shermer provides countless real-world examples of how this process operates, from politics, economics, and religion to conspiracy theories, the supernatural, and the paranormal. Ultimately, he demonstrates why science is the best tool ever devised to determine whether or not a belief matches reality.

Tetlock, Philip E. (2005) *Expert Political Judgment: How Good is It? How Can We Know?* Princeton University Press, Princeton, NJ, USA

Amazon Description: The intelligence failures surrounding the invasion of Iraq dramatically illustrate the necessity of developing standards for evaluating expert opinion. This book fills that need. Here, Philip E. Tetlock explores what constitutes good judgment in predicting future events, and looks at why experts are often wrong in their forecasts. Tetlock first discusses arguments about whether the world is too complex for people to find the tools to understand political phenomena, let alone predict the future. He evaluates predictions from experts in different fields, comparing them to predictions by well-informed laity or those based on simple extrapolation from current trends. He goes on to analyze which styles of thinking are more successful in forecasting. Classifying thinking styles using Isaiah Berlin's prototypes of the fox and the hedgehog, Tetlock contends that the fox--the thinker who knows many little things, draws from an eclectic array of traditions, and is better able to improvise in response to changing events--is more successful in predicting the future than the hedgehog, who knows one big thing, toils devotedly within one tradition, and imposes formulaic solutions on ill-defined problems. He notes a perversely inverse relationship between the best scientific indicators of good judgment and the qualities that the media most prizes in pundits--the single-minded determination required to prevail in ideological combat. Clearly written and impeccably researched, the book fills a huge void in the literature on evaluating expert opinion. It will appeal across many academic disciplines as well as to corporations seeking to develop standards for judging expert decision-making.

Wells, Spencer (2010) *Pandora's Seed: The Unforeseen Cost of Civilization*; Random House, Toronto, Canada

Amazon Description: In **The Journey of Man**, renowned geneticist and anthropologist Spencer Wells traced human evolution back to our earliest ancestors, creating a remarkable and readable map of our distant past. Now, in his thrilling new book, he examines our cultural inheritance in order to find the turning point that led us to the path we are on today, one he believes we must veer from in order to survive. **Pandora's Seed** takes us on a powerful and provocative globe-trotting tour of human history, back to a seminal event roughly ten thousand years ago, when our species made a radical shift in its way of life: We became farmers rather than hunter-gatherers, setting in motion a momentous chain of events that could not have been foreseen at the time. Although this decision to control our own food supply is what propelled us into the modern world, Wells demonstrates—using the latest genetic and anthropological data—that such a dramatic shift in lifestyle had a downside that we're only now beginning to recognize. Growing grain crops ultimately made humans more sedentary and unhealthy and made the planet more crowded. The expanding population and the need to apportion limited resources such as water created hierarchies and inequalities. The desire to control—and no longer cooperate with—nature altered the concept of religion, making deities fewer and more influential, foreshadowing today's fanaticisms. The proximity of humans and animals bred diseases that metastasized over time. Freedom of movement and choice were replaced by a pressure to work that is the forebear of the anxiety and depression millions feel today. Wells offers a hopeful prescription for altering a life to which we were always ill suited, recommending that we change our priorities and self-destructive appetites before it's too late. A riveting and accessible scientific detective story, **Pandora's Seed** is an eye-opening book for anyone fascinated by the past and concerned about the future.

What Garth is Reading Now:

Hedges, Chris (2010) *Empire of Illusion: The End of Literacy and the Triumph of Spectacle*; Alfred A. Knopf Canada

Amazon Description: In this New York Times bestseller, Pulitzer Prizewinning journalist Chris Hedges has written a shattering meditation on American obsession with celebrity and the epidemic of illiteracy that threatens our cultural integrity. Reporting on such phenomena as professional wrestling, the pornographic film industry, and unchecked casino capitalism, Hedges exposes the mechanisms used to divert us from confronting the economic, political, and moral collapse around us. *Empire of Illusion* shows us how illiteracy and the embrace of fantasy have impoverished our working class, allowed for the continuance of destructive public policy, and ushered in cultural bankruptcy.

Krauss, Lawrence M. (2011) *A Universe from Nothing: Why There Is Something Rather than Nothing*; Free Press, New York, USA

Amazon Description: Lawrence Krauss's provocative answers to these and other timeless questions in a wildly popular lecture now on YouTube have attracted almost a million viewers. The last of these questions in particular has been at the center of religious and philosophical debates about the existence of God, and it's the supposed counterargument to anyone who questions the need for God. As Krauss argues, scientists have, however, historically focused on other, more pressing issues—such as figuring out how the universe actually functions, which can ultimately help us to improve the quality of our lives. Now, in a cosmological story that rivets as it enlightens, pioneering theoretical physicist Lawrence Krauss explains the groundbreaking new scientific advances that turn the most basic philosophical questions on their heads. One of the few prominent scientists today to have actively crossed the chasm between science and popular culture, Krauss reveals that modern science *is* addressing the question of why there is something rather than nothing, with surprising and fascinating results. The staggeringly beautiful experimental observations and mind-bending new theories are all described accessibly in *A Universe*

from Nothing, and they suggest that not only *can* something arise from nothing, something will *always* arise from nothing. With his characteristic wry humor and wonderfully clear explanations, Krauss takes us back to the beginning of the beginning, presenting the most recent evidence for how our universe evolved—and the implications for how it’s going to end. It will provoke, challenge, and delight readers as it looks at the most basic underpinnings of existence in a whole new way. And this knowledge that our universe will be quite different in the future from today has profound implications and directly affects how we live in the present. As Richard Dawkins has described it: This could potentially be the most important scientific book with implications for supernaturalism since Darwin. A fascinating antidote to outmoded philosophical and religious thinking, *A Universe from Nothing* is a provocative, game-changing entry into the debate about the existence of God and everything that exists. “Forget Jesus,” Krauss has argued, “the stars died so you could be born.”