

Summer Reading List 2014 for the MPhil in Technology Policy

The list is intended to be somewhat intimidating. One of the main goals of this year is to learn to process a huge of information quickly. There is no priority offered and books are simply listed alphabetical by title. We hope that *at least two or three* of these books might attract your interest and that you will read them before coming to Cambridge. If you can read more, then you will benefit even more from the programme. Several of the books listed are third party recommendations, for which we are most grateful. The list is not meant to be exhaustive, but rather to offer a taster of some of the issues that we will discuss over the course of the next year and reflect the diversity of the challenging topics that you will confront. We do not endorse every book but feel that even where we disagree, the arguments are important and worthy of consideration. Some are classics and others more recent offerings that address the latest technologies and controversies. The list includes some books that are science for policy or policy for science, others that are industrial policy or management of technology and still others take an even broader sweep through history and politics drawing on disciplines from psychology to economics. The authors include economists (e.g., Hirschman and Baumol), lawyers (Sunstein and Posner), historians (Darwin and Landes), journalists (Goldacre and Marsh), Cambridge colleagues (Taylor and Coates) and even a few scientists and engineers (Dawkins and Rees) as well as some modern and ancient classics (Kuhn, Snow, Sun Tzu). There are some themes that emerge (crises, risks and decision making, understanding history and context, business-government relations, the interaction between science and society, technological foresight). As a rule they are well written (not necessarily the norm for technology policy and management books) and a few even provide some useful guidance on how to write (which will come in handy, since by the time you graduate you will submit coursework or reports totalling some 50,000 words by the count of one alum!).

Title	Author (s)	Publisher	Edition	ISB No.	Comments
<i>After Tamerlane: The Global History of Empire</i>	John Darwin	Penguin	2008	978-0-1410-1022-9	Rich, entertaining and deeply illuminating review of the broad sweep of empire since Tamerlane in 1400. A truly global (i.e., non-Eurocentric) approach to world history.
<i>After the Music Stopped: The Financial Crisis, the Response, and the Work Ahead</i>	Alan S. Blinder	Penguin	2013	978-1594205309	A brilliant academic economist and former Vice Chair of the Federal Reserve under Clinton (and was frequently at odds with Alan Greenspan), this book is notably fair and clear on the facts.
<i>Age of Wonder: How the Romantic Generation Discovered the Truth and Horror of Science</i>	Richard Holmes	HarperPress	2008	978-0-0071-4952-0	Written for a generalist audience, a wonderfully crafted study of the advent of science during the Enlightenment by examining the stories of prominent individuals
<i>Bad Science</i>	Ben Goldacre	Harper Perennial	2009	978-0-0072-8487-0	An entertaining and sometimes damning review of current trends and fads in science and pseudo-science, especially how they are reported in the media
<i>Beyond Spinoff</i>	J Alic, L Branscomb, H Brooks, A Carter, and G Epstein	Harvard Business School Press	1992	0-87584-318-2	Dating from the end of the cold war this book discusses thinking around 'dual use' technologies and the inter-relationship of defence procurement and civil innovation.
<i>Big Data: A Revolution That Will Transform How We Live, Work and Think</i>	Viktor Mayer-Schonberger and Kenneth Cukier	John Murray	2013	978-1848547926	It seems almost too early to be predicting what effect big data have on society, but this is an excellent effort. Mayer-Schonberger's previous book 'Delete: The Virtue of Forgetting in the Digital Age' has helped shaped EU policy
<i>Blink</i>	Malcolm Gladwell	Little, Brown	2005	0-31617-232-4	By the author of <i>Tipping Point</i> – looks into the role of 'rapid cognition' or intuition when faced with complicated problems
<i>Brainwashed: The Seductive Appeal of Mindless Neuroscience</i>	Sally Satel and Scott O. Lilienfeld	Basic Books	2013	978-0465018772	A welcome challenge to the newfound infatuation with neuroscience. The problem, as they see it, is

Title	Author (s)	Publisher	Edition	ISB No.	Comments
					not the science but dubious applications.
<i>Catastrophe: Risk And Response</i>	Richard Posner	Oxford University Press	2004	0-1951-7813-0	A remarkable and entertaining tour of a challenging issue written by the prolific judge and law professor.
<i>Consent of the Networked: The Worldwide Struggle For Internet Freedom</i>	Rebecca MacKinnon	Basic Books	2012	978-0465024421	Before the latest wave of controversies, MacKinnon tackles questions of what 'rights' we have in public and private spheres and how they are infringed. She is particularly good on China, offers a refreshingly global take on these issues.
<i>Doing Capitalism in the Innovation Economy: Markets, Speculation and the State</i>	William H Janeway	Cambridge University Press	2012	978-1107031258	In spite or perhaps because Janeway is one of the leaders of the field of venture capital (longtime Warburg Pincus now affiliated with Cambridge) this work extends far beyond VC and is a thoughtful historically and economically-rich account by one of 'our' own
<i>Endless Frontier: Vannevar Bush, Engineer of the American Century</i>	G. Pascal Zachary	MIT Press	1999	0-262-74022-2	Compelling biography on the most important figure in post-WWII American science policy
<i>Exit, Voice and Loyalty</i>	Albert O. Hirschman	Harvard University Press	1970	0-674-27660-4	A classic on ethics issues at work with wide application. Reading <i>anything</i> by Albert Hirschman is time well spent.
<i>Explaining Research: How to Reach Key Audiences to Advance Your Work</i>	Dennis Meredith	OUP USA	2010	0-199-73205-1	How to convey complicated ideas, data and technologies. Aimed at working scientists, Meredith offers a wide range of avenues by which science and technology can be explained to the public and how to do so well.
<i>The Free-Market Innovation Machine: Analyzing the Growth Miracle of Capitalism</i>	William J. Baumol	Princeton University Press	2003	978-0-6910-9615-5	Unlike many other economists, Baumol, one of the leading economists of our time, places innovation at the core of understanding the success of markets and the drivers of growth.
<i>Freakonomics: A Rogue Economist Explores the Hidden Side of Everything</i>	Steven D. Levitt & Stephen J. Dubner	Penguin Books	2006	0-141-01901-8	Best-seller that applies statistical methods and economic reasoning to non-traditional policy problems. See also: www.freakonomics.com
<i>Geek Manifesto</i>	Mark Henderson	Bantam Books	2012	978-0593068236	A call for more evidence-based policy making, more science in policy and taking the knowledge economy seriously by the former Science Editor of <i>The Times</i>
<i>Global Crises, Global Solutions</i>	Bjorn Lomborg	Cambridge University Press	2004	0-52-160614-4	Outcome of 2004 "Copenhagen Consensus". Eight economists ranked proposals for spending \$50 billion to address ten global problems
<i>Glut: Mastering Information Through the Ages</i>	Alex Wright	Joseph Henry Press	2008	0-30-910238-3	Examines how humans have collected, organised and shared information long before the advent of modern communications.
<i>Guns, Germs and Steel</i>	Jared Diamond	Vintage	1997	0-09-930278-0	Technology and its role in dividing mankind. Apart from its insights, it offers a masterclass in how to convey complicated issues clearly.
<i>The Great Convergence: Asia, the West, and the Logic of One</i>	Kishore Mahbubani	PublicAffairs	2013	978-1610390330	Mahbubani, a former Singaporean diplomat and dean at NUS, writes of a 'new global civilization'

Title	Author (s)	Publisher	Edition	ISB No.	Comments
<i>World</i>					where we will see convergence in both values and standard of living, but this will require a shift in the global balance of power.
<i>The Great Stagnation; How America Ate All the Low-Hanging Fruit of Modern History, Got Sick, and Will (Eventually) Feel Better</i>	Tyler Cowen	Dutton (ebook)	2011	978-1-101-50225-9	An American economist who argues that we are not innovative as we think we are. A controversial hypothesis, not always supported by the data, but a good challenge to a view of innovation as an inevitable source of progress
<i>How to Write a Lot: A Practical Guide to Productive Academic Writing</i>	Paul J. Silvia	American Psychological Association	2007	1-59-1477-433	Although the author is an academic psychologist and there is no one-size-fits-all approach to writing, there are some valuable suggestions on time management and overcoming problems.
<i>Inside the Black Box</i>	Nathan Rosenberg	Cambridge University Press	1995	0-521-27367-6	A serious and influential examination of the multi-faceted relationship between science, technology and economic growth.
<i>How to be a Minister</i>	Gerald Kaufman	Faber and Faber	1997	0-571-19080-4	Offers many interesting insights into the British public policy system. Now dated – but still recommended. Usually available second hand from amazon.
<i>Infotopia: How Many Minds Produce Knowledge</i>	Cass Sunstein	Oxford University Press	2006	0-195-18928-0	To quote Lawrence Lessig "This extraordinary work synthesizes the latest in how we know... map[s] more compellingly than any other book the promise and risk of the information society."
<i>International Business and Government Relations in the 21st Century</i>	Robert Grosse	Cambridge University Press	2011	1107402883	As with any edited volume, sometimes quite patchy, but does have the virtue of covering US, Korea, China, EU as well as human rights in Sudan and
<i>Knowledge & Wealth of Nations: A Story of Economic Discovery</i>	David Warsh	W.W. Norton	2008	0-393-32988-7	An enjoyable history of economic thought from Adam Smith to Paul Romer.
<i>Laws of Fear : Beyond the Precautionary Principle (The Seeley Lectures)</i>	Cass Sunstein	Cambridge University Press	2005	0-52-161-512-7	A sceptical view of the precautionary principle by a leading US thinker on law and regulation who was a key figure in the Obama Administration.
<i>Mass Flourishing: How Grassroots Innovation Created Jobs, Challenge, and Change</i>	Edmund Phelps	Princeton University Press	2013	978-0691158983	How to explain economic dynamism? Economics Nobel Laureate Phelps focuses on the role of the individual enterprise as the heart but worries about its fate with state and corporation placed ahead of the individual
<i>No Logo</i>	Naomi Klein	Flamingo	2001/2010	978-0007340774	Naomi Klein's polemic against the modern world of corporate marketing
<i>Nudge: Improving Decisions About Health, Wealth and Happiness</i>	Richard H Thaler and Cass R Sunstein	Penguin	2009	0-1410-4001-7	The concept of "nudge" became so fashionable so quickly in 2010 (notably in Whitehall and with the new Coalition government) that the backlash began not long after. Still, <i>Nudge</i> offers some important insights into influencing decision-making, particularly as government powers are increasingly circumscribed in many countries.
<i>Open Source Intelligence in a Networked World</i>	Anthoy Olcott	Continuum	2012	978-1441166081	As far back as 1998, the head of the US Defence Intelligence Agency argued that 90% of

Title	Author (s)	Publisher	Edition	ISB No.	Comments
					intelligence came from open sources. Olcott, a former open source officer, offers a rich history of how 'secrets' hide in plain sight.
<i>Oxford Book of Modern Science Writing</i>	Richard Dawkins	Oxford University Press	2009	0-1992-1681-9	A wonderful compendium of science writing, from JBS Haldane and CP Snow to Martin Rees and Steve Pinker. Edited by our most famous atheist and a leading scientist. Pay as much attention to the elegance of the prose as to the content.
<i>Pasteur's Quadrant</i>	Donald E Stokes	Brookings Institution Press	1997	0-8157-8177-6	A book built around a single interesting idea. How can national laboratories do fundamental science and yet best serve the national interest?
<i>Point Made: How to Write Like the Nation's Top Advocates</i>	Ross Guberman	OUP USA	2011	0-1953-9487-9	Written for lawyers, but offers many useful trips on how to write clearly, succinctly and effectively. Although the examples are all American and legal, it offers some excellent lessons.
<i>Policy Paradox: The Art of Political Decision Making, Revised Edition</i>	Deborah Stone	W W Norton	2002	0-393-97625-4	A key text for TP1. Political decision making – presents generalisable considerations, although it is undeniably an American perspective.
<i>Privatization and financial collapse in the nuclear industry - the origins and causes of the British Energy crisis of 2002.</i>	Simon Taylor	Routledge	2007	978-0415431750	Few academics or analysts would be better placed than Simon (who directs the MFin at Cambridge) to examine how government decisions, corporate strategy and finance collided and led to the collapse of British Energy.
<i>The Rational Optimist: How Prosperity Evolves</i>	Matt Ridley	Harper	2011	978-0007267125	Matt Ridley (Viscount Ridley) is nothing if not controversial. His views are less unusual in America (including both his libertarianism and his climate scepticism) but his belief in both technical and human progress is worth thought.
<i>Rescuing Prometheus</i>	Thomas P Hughes	Vintage Books	1998	0-679-73938-6	A real world insight into engineering systems – four massive projects that changed the world.
<i>Rewire: Digital Cosmopolitanism in the Age of Connection</i>	Ethan Zuckerman	W.W. Norton & Co	2013	978-0393082838	Does technology lead us to be more cosmopolitan or narrower in perspective? Zuckerman describes why technology falls short when it comes to bringing people together and bridging cultures.
<i>Our Final Century</i>	Martin Rees	Heinemann	2003	0-434-00809-5	The Astronomer Royal's pessimistic but thought provoking futurology.
<i>Science and Innovation: Rethinking the Rationales for Funding and Governance.</i>	Aldo Geuna, Ammon Salter, W. Edward Steinmueller	Edward Elgar	2003	1-84-376850-X	Edited volume looking at alternative rationales for publicly funded research
<i>Science and Technology Advice for Congress</i>	M Granger Morgan and JM Peha (eds)	RFF Press	2003	1-891853-74-0	A useful set of insights for TP1 that begins with the repercussions of abolishing the OTA in 1995.
<i>Science And Technology Policy in United States: Open Systems in Action</i>	Sylvia Kraemer	Rutgers University Press	2006	0-813538-27-0	A rare textbook on S&T policy in the US, which MIT use as a core text for their TPP intro class
<i>Scientific Century: Securing our Future Prosperity</i>	Royal Society	Royal Society	2010	Available at: http://royalso	A stellar advisory board chaired by Sir Martin Taylor takes a hard look at the state of British

Title	Author (s)	Publisher	Edition	ISB No.	Comments
				ciety.org/The-scientific-century/	science and engineering and the needs for the coming decades
<i>The Shallows: How the Internet is Changing the Way We Think, Read and Remember</i>	Nicholas Carr	Atlantic Books	2011	978-1848872271	Extending on his essay 'Does Google make us stupid?' Carr asks whether using the internet regularly impedes our ability to read books and concentrate for longer spells
<i>Smarter Than You Think: How Technology is Changing Our Minds for the Better</i>	Clive Thompson	William Collins	2013	978-0007427772	If <i>The Shallows</i> warns that the internet makes us dumber, Thompson claims the opposite, that technology makes us smarter and more creative.
<i>Something New Under the Sun</i>	Helen Gavaghan	Copernicus	1997	0-387-94914-3	The history of telecommunications satellites as strongly recommended by the Science Director of the European Space Agency
<i>Sustainable Energy without the Hot Air</i>	David MacKay	UIT	2009 (plus later editions)	978-0954452933	Anyone with the slightest interest in energy (or even simply in how to communicate technical issues) should read David's book. He returns full time to Cambridge in the autumn from being CSA at DECC. You can also download his book (in your preferred language/country) from: http://www.withouthotair.com/
<i>Technologies of Freedom</i>	Ithiel de Sola Pool	Harvard University Press	1983	0-674-87233-9	Remarkable given it was written in the early 1980s, Pool describes freedom's relation to technology. It posits the need for a type of communications the internet later made possible.
<i>The Art of War for Managers</i>	Sun Tzu & Gerald A Michaelson	Adams Media Corporation	2001	1-58062-459-6	Modern perspectives on Sun Tzu's classic military insights
<i>The Audit of War</i>	Correlli Barnett	Pan	1996	0-330-34790-X	A most enjoyable technological history of 20 th Century Britain. A bit of a polemic, but the thesis is compelling that UK WWII propaganda became UK history after victory, and that Britain was never a 20 th Century engineering powerhouse.
<i>The Big Switch: Rewiring the World, from Edison to Google</i>	Nicholas Carr	W.W. Norton & Co	2008	0-393-33394-9	A provocative and thoughtful book by the author of <i>Does IT Matter?</i> Here, Carr links the history of electrification to the growth of the internet
<i>The Challenger Launch Decision</i>	Diane Vaughan	Chicago University Press	1997	978-0226851761	A thorough overview of an important case study in Technology and Policy.
<i>The Economic Laws of Scientific Research</i>	Terence Kealey	Macmillan Press	1996	0-333-65755-1	A controversial book purporting to explain that if pure science were worth doing private industry would pay for it and that there is little role for public money in scientific research.
<i>The Emergence of Entrepreneurship Policy</i>	D M Hart (Ed.)	CUP	2003	0-521-82677-2	A review of national policies for economic growth from our new external examiner
<i>The Entrepreneurial State: Debunking Public vs Private Sector Myths</i>	Mariana Mazzucato	Anthem Press	2013	978-0857282521	Drawing on examples from DARPA and the NIH, Mazzucato argues that state plays an essential role in supporting science-based innovation, which is inevitably longer-term.
<i>The Future of the Internet--And How to Stop It</i>	Jonathan Zittrain	Yale University Press	2008	0-300-12487-2	An instant classic. As Hal Abelson of MIT argues in <i>American Scientist</i> : "This book is a must-read

Title	Author (s)	Publisher	Edition	ISB No.	Comments
					for any student of technology and policy”
<i>The Honest Broker: Making Sense of Science in Policy and Politics</i>	Roger Pielke Jr	CUP	2007	0-521-69481-7	A critical analysis of the interactions between science, scientists and policy that is useful for TP1 and beyond
<i>The Hour Between Dog and Wolf: Risk-taking, Gut Feelings and the Biology of Boom and Bust</i>	John Coates	Fourth Estate	2012	978-0007413515	JBS finance lecturer and former Wall Street trader provides insights into how human biology is linked to bubbles and crashes. Traders are risk-prone and testosterone-driven (literally, not figuratively!) during a bull market and risk-averse in a bear market.
<i>The Machine that changed the world *</i>	James Wormack, Daniel T Jones, & Daniel Roos	Harper Perennial	1991	0-06-097417-6	A readable and entertaining examination of Toyota’s revolutionary introduction of ‘lean production’.
<i>The New Industrial Revolution: Consumers, Globalization and the End of Mass Production</i>	Peter Marsh	Yale University Press	2012	978-0300117776	A lovely book by an FT journalist that takes a dive into the history of manufacturing and uses some illuminating technology-rich cases.
<i>The Second Century</i>	Matthias Holweg and F K Pil	MIT Press	2004	0-262-08332-9	The second century of the car. This book extends the research underpinning ‘Machine That Changed the World’
<i>The Signal and the Noise: The Art and Science of Prediction</i>	Nate Silver	Allen Lane/ Penguin Press	2012	978-1846147524	The analytical ‘hero’ of the 2012 US election offers a wider view of the role of experts and applied statistics.
<i>The Social Amplification of Risk</i>	Nick Pidgeon, Roger E. Kasperson, and Paul Slovic, eds.	CUP	2003	0-521-52044-4	Builds on the classic 1988 study by Kasperson and offers a wide range of essays on risks and public perceptions
<i>The Social Conquest of Earth</i>	Edward O. Wilson	W.W. Norton	2012	978-0871404138	E.O. Wilson, author of <i>The Ants</i> , <i>Sociobiology</i> , <i>Consilience</i> , <i>Biophilia</i> and <i>Naturalist</i> , a Pulitzer prize winner and eminent biologist tackles little things like philosophy, religion and history and how all stems from biology.
<i>The Structure of Scientific Revolutions</i>	Thomas Kuhn	University of Chicago Press	1996	0-22-645808-3	A classic that posits science as being determined by social construction of facts using concepts such as “normal science” and “paradigm shifts”
<i>The Two Cultures</i>	C P Snow	Cambridge University Press	1996	0-521-45730-0	The title has almost become a cliché in modern science policy. Although inaccurate, even when written, the central theme is still sufficiently resonant to be cited today.
<i>The Unbound Prometheus: Technical Change and Industrial Development in Western Europe from 1750 to Present</i>	David S. Landes	Cambridge University Press, 2 nd edition	2003	0-521-53402-X	Newer edition of a forty-year-old classic. Richly detailed study of the reverberations created by the Industrial Revolution with a particular focus on Europe.
<i>Thinking, Fast and Slow</i>	Daniel Kahneman	<i>Farrar, Straus & Giroux</i>	2011	978-1846140556	A master work summarising the many ways in which human biases and heuristics do not coincide with standard economic thinking, by the Nobel laureate and father of behavioural economics
<i>Ubiquity</i>	Mark Buchanan	Phoenix	2000	0-75381-297-5	Why the natural world is not as complicated as it may appear with insights into critical states and

Title	Author (s)	Publisher	Edition	ISB No.	Comments
					knife-edge instabilities.
<i>Where Good Ideas Come From: The Natural History of Innovation</i>	Steven Johnson	Allen Lane	2010	978-1846140518	From across a wide range of disciplines and sectors, Johnson tries to identify some principles that underpin the generation of great ideas
<i>Why Nations Fail: The Origins of Power, Prosperity and Poverty</i>	Daron Acemoglu and James A. Robinson	Profile Books	2012	978-1846684296	Although there are many books along these lines, this is one of the best recent books that brings together economics and politics and in particular focuses on the role of institutions rather than climate, geography or culture.
<i>Writing on the Wall: Social Media – The First 2,000 Years</i>	Tom Standage	Bloomsbury	2013	978-1408842065	Social media before Facebook (and Friendster and Myspace)?! Standage shows how the diffuse networks of today echo the use of social media since Roman times and that they have long had the ability to shape society.
<i>Yes! 50 Secrets From the Science of Persuasion</i>	N Goldstein, S Martin and R Cialdini	Profile Books	2007	978-1846680168	A highly readable set of stories and anecdotes illustrating the power of psychology. Many of the examples relate to technology-based business.