

Science, Technology, and Public Policy

**Readings, Videos and Web Links**

By

M. Ali

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**Introduction to the Subject**

* What is Science Policy?: <http://en.wikipedia.org/wiki/Science_policy>
* White House Office of Science and Technology Policy, <http://www.whitehouse.gov/administration/eop/ostp>
* [Bird Flu Paper is Published After Debate](http://www.nytimes.com/2012/06/22/health/h5n1-bird-flu-research-that-stoked-fears-is-published.html?_r=0) by Donald McNeil, Jr. (2012)
* Bird flu researchers get green light to continue work on engineered virus,

<http://www.theguardian.com/science/2013/jan/23/bird-flu-researchers-engineered-virus>

* Tiles in a worldwide sci-art mosaic explore what science means to writers, scientists, school children, and others, [collaborative drawing activity](http://seedmagazine.com/content/article/surreal_science/)
* [Kurzweil Accelerating Intelligence](http://www.kurzweilai.net/).
* [The Proactionary Principle](http://www.maxmore.com/proactionary.html) by Max More (2005)
* [The Normative Structure of Science](http://www.collier.sts.vt.edu/5424/pdfs/merton_1973.pdf) by Robert K. Merton (1942)
* Nova's Do Scientists Cheat (1988) (in 7 parts on You Tube), <http://www.youtube.com/watch?v=VooaLRqTSPI>
* Is Google making us stupid? <http://www.theatlantic.com/magazine/archive/2008/07/is-google-making-us-stupid/306868/>
* Is Stupid Making Us Google? By James Bowman, <http://www.thenewatlantis.com/publications/is-stupid-making-us-google>

**Scientific Norms and Research Misconduct**

* [The Belmont Report](http://www.hhs.gov/ohrp/humansubjects/guidance/belmont.html)
* Chapter 1 Introduction: Professional Challenge in *The Policy Process* by Tim W. Clark (2002). Buy online from: <http://www.amazon.com/The-Policy-Process-Practical-Professionals/dp/0300090129>
* Chapter 1 Reason, Rationality, and Public Policy: The Puzzle of Human Behavior by Dipak Gupta, <http://www.amazon.com/Analyzing-Public-Policy-Concepts-Techniques/dp/1604265701>
* Chapter 2 Analysts: Their Role and Their Tools by Dipak Gupta, <http://www.amazon.com/Analyzing-Public-Policy-Concepts-Techniques/dp/1604265701>
* The Normative Structure of Science by Robert K. Merton (1942).
* Chapter 5 Problem Orientation: Focusing on Problems to Find Solutions, in *The Policy Process* by Susan Clark
* Chapter 4 The Policy Process, in *Analyzing Public Policy* by Dipak Gupta, <http://www.amazon.com/Analyzing-Public-Policy-Concepts-Techniques/dp/1604265701>

**Policy Process and Research Paper**

* [The Philosophy of the Technology of the Gun](http://www.theatlantic.com/technology/archive/2012/07/the-philosophy-of-the-technology-of-the-gun/260220/) by Evan Selinger (2012)
* [NSF under the Microscope](http://www.coburn.senate.gov/public/index.cfm?a=Files.serve&File_id=2dccf06d-65fe-4087-b58d-b43ff68987fa) by Senator Tom Coburn (2011)
* Academic Funding and the Public Interest: The Death of Political Science by Sarah Kendzior (2013), <http://www.aljazeera.com/indepth/opinion/2013/04/20134265610113939.html>
* A Neoliberal Economics of Science by Sheldon Krimsky (2011), <http://www.americanscientist.org/bookshelf/pub/a-neoliberal-economics-of-science>
* The Privatization of State Universities: It Makes Sense by Richard Vedder (2012), <http://chronicle.com/blogs/innovations/the-privatization-of-state-universities-it-makes-sense/31744>
* Society Shouldn't Pay for Your Higher Education (2012) by George Leef, <http://www.popecenter.org/commentaries/article.html?id=2710>
* The End of the University? by Louis Betty (2013), <http://www.insidehighered.com/views/2013/02/01/dont-panic-amid-predictions-higher-eds-demise-essay>

**Technology, Society, and the Tech-fix**

* Do Artifacts Have Politics? by Langdon Winner (1984), <http://innovate.ucsb.edu/wp-content/uploads/2010/02/Winner-Do-Artifacts-Have-Politics-1980.pdf>
* The Tragedy of the Commons by Garrett Hardin (1968), <http://www.garretthardinsociety.org/articles/art_tragedy_of_the_commons.html>
* Science - the Endless Frontier by Vannevar Bush (1945), <http://www.nsf.gov/od/lpa/nsf50/vbush1945.htm>
* Beyond Basic and Applied by Roger Pielke, Jr. and Radford Byerly, Jr. (1998), <http://sciencepolicy.colorado.edu/admin/publication_files/resource-166-1998.12.pdf>

**Science in Society**

* [Don't Bring Back the Saber-Toothed Tiger](http://www.slate.com/articles/health_and_science/future_tense/2013/03/de_extinction_isn_t_a_good_idea.html) by Frank Swain (2013)
* Affirming Gasland by Josh Fox (2010), <http://one.gaslandthemovie.com/whats-fracking/affirming-gasland>
* Selections from Science - The Endless Frontier by Vannevar Bush (1945), <http://www.nsf.gov/od/lpa/nsf50/vbush1945.htm>
* Beyond Basic and Applied by Roger Pielke, Jr. and Radford Byerly, Jr. (1998), <http://sciencepolicy.colorado.edu/admin/publication_files/resource-166-1998.12.pdf>

**Science in Environmental Policymaking**

* Watch the short film [The Sky is Pink](http://vimeo.com/44367635) by Josh Fox (2012)
* Watch the short film [Truth Land](http://www.truthlandmovie.com/) by Energy In Depth (2012)
* [Science and Environmental Policy: An Excess of Objectivity](http://www.cspo.org/products/articles/excess.objectivity.html) by Daniel Sarewitz (2000)

*Merchants of Doubt* by Naomi Oreskes and Erik Conway (2010). Buy online at <http://www.amazon.com/Merchants-Doubt-Handful-Scientists-Obscured/dp/1608193942>

**R&D Budgets**

* [NSF under the Microscope](http://www.coburn.senate.gov/public/index.cfm?a=files.serve&file_id=2dccf06d-65fe-4087-b58d-b43ff68987fa) by Senator Tom Coburn (2011)
* [Academic Funding and the Public Interest: The Death of Political Science](http://www.aljazeera.com/indepth/opinion/2013/04/20134265610113939.html) by Sarah Kendzior (2013).
* [A Neoliberal Economics of Science](http://www.americanscientist.org/bookshelf/pub/a-neoliberal-economics-of-science) by Sheldon Krimsky (2011)
* [The Privatization of State Universities: It Makes Sense](http://chronicle.com/blogs/innovations/the-privatization-of-state-universities-it-makes-sense/31744) by Richard Vedder (2012)
* [Society Shouldn't Pay for Your Higher Education](http://www.popecenter.org/commentaries/article.html?id=2710) (2012) by George Leef
* The End of the University as We Know it by Nathan Harden (2013), <http://www.the-american-interest.com/2012/12/11/the-end-of-the-university-as-we-know-it/>
* [The End of the University?](http://www.insidehighered.com/views/2013/02/01/dont-panic-amid-predictions-higher-eds-demise-essay) by Louis Betty (2013)

**The Function and Future of the University**

* Read the [altmetrics manifesto](http://altmetrics.org/manifesto/).

**Biotechnological Enhancements and Military Research**

* A Transhumanist Manifesto, <http://www.singularityweblog.com/a-transhumanist-manifesto/>
* Human Enhancement Ethics, <http://www.nickbostrom.com/ethics/human-enhancement-ethics.pdf>
* [Biomedical Enhancements Entering a New Era](http://www.issues.org/25.3/mehlman.html) by Maxwell Mehlman (2009).
* A quick look at the R&D being funded by [Defense Advanced Research Projects Agency](http://www.darpa.mil/).
* Military Funds, Moral Demands: Personal Responsibilities of the Individual Scientist by Douglas Lackey (1994), <http://onlinelibrary.wiley.com/doi/10.1111/j.1749-6632.1989.tb15057.x/abstract> (Download the pdf)
* In Defense of Drones, they're the worst form of war, except for all the others: <http://www.slate.com/articles/health_and_science/human_nature/2013/02/drones_war_and_civilian_casualties_how_unmanned_aircraft_reduce_collateral.html>

**Life Online . . . and Life on Mars?**

* [Friendship Does Not Compute](http://www.thenewatlantis.com/publications/friendship-does-not-compute) by Peter Lopatin (2012)
* [Springtime for Twitter](http://www.slate.com/articles/technology/future_tense/2011/07/springtime_for_twitter.html) by William Saletan (2011)
* Watch Terraforming Mars, <https://www.youtube.com/watch?v=O5k0MtlWPOs>
* [Energy Strategy: The Road Not Taken](http://www.rmi.org/knowledge-center/library/e77-01_energystrategyroadnottaken) by Amory Lovins (1976)
* Chapter 3 Soft Energy Illusions in *Energy Myths and Realities* by Vaclav Smil (2010), <http://www.amazon.com/Energy-Myths-Realities-Bringing-Science/dp/0844743283>
* Lovins and Smil articles (Read Introduction and Chapter 5 in *Big Coal* by Jeff Goodell (2006). Buy online at <http://www.amazon.com/Big-Coal-Secret-Behind-Americas/dp/0618872248>

**Energy and Climate Policy**

* [Global Warming's Terrifying New Math](http://www.rollingstone.com/politics/news/global-warmings-terrifying-new-math-20120719) by Bill McKibben (2012)
* Lecture on the STP dimensions of climate change - focus on [IPCC](http://www.ipcc.ch/) and [USGCRP](http://www.globalchange.gov/).
* [The Doomslayer](http://www.wired.com/wired/archive/5.02/ffsimon_pr.html) by Ed Regis (1993).
* Watch Debate: [Does the World Need Nuclear Energy?](https://www.youtube.com/watch?v=uk8ccwszkic) (Ted Talk forum, 2010)
* Watch Does the World Need Nuclear Energy? (Ted Talk forum, 2010), <http://www.ted.com/talks/debate_does_the_world_need_nuclear_energy.html>
* Read selections from Energy Strategy: The Road Not Taken by Amory Lovins (1976), <http://softpathinnovations.com/SoftPath/About_Us_files/Energy%20Strategy-%20The%20Road%20Not%20Taken.pdf>
* Chapter 3 Soft Energy Illusions in *Energy Myths and Realities* by Vaclav Smil (2010), <http://www.amazon.com/Energy-Myths-Realities-Bringing-Science/dp/0844743283>
* Introduction and Chapter 5 in *Big Coal* by Jeff Goodell (2006), Buy online at <http://www.amazon.com/Big-Coal-Secret-Behind-Americas/dp/0618872248>

**Development and Geo-engineering**

* Read [Re-Engineering the Earth](http://www.theatlantic.com/magazine/archive/2009/07/re-engineering-the-earth/307552/) by Graeme Wood (2009)
* Read Needs by Ivan Ilich1992, <http://www.surrenderworks.com/ivanillich/1990_needs.pdf>
* [Human Development Indices and Data](http://hdr.undp.org/en/statistics/)
* Read Chapter 1 Why We Must Disestablish School in *Deschooling Society* by Ivan Illich (1970), <https://blogs.commons.georgetown.edu/voke-foundsofeducation/2008/01/14/ivan-illich-why-we-must-disestablish-school/>
* Watch [Climate of Doubt](http://www.pbs.org/wgbh/pages/frontline/climate-of-doubt/) PBS Frontline (2012)

**Healthcare and Agriculture**

* [The Cost Conundrum](http://www.newyorker.com/reporting/2009/06/01/090601fa_fact_gawande) by Atul Gawande (2009)
* [The Quagmire](http://www.tnr.com/article/economy/magazine/88631/american-medicine-health-care-costs) by Daniel Callahan and Sherwin Nuland (2011).
* [The Case for Big Ag](http://www.washingtonmonthly.com/features/2009/0907.grunwald.html) by Michael Grunwald (2009)
* [Our Decrepit Food Factories](http://michaelpollan.com/articles-archive/our-decrepit-food-factories/) by Michael Pollan (2007)

**Research Paper Symposium**

* Why I Froze My Eggs (And You Should Too) by Sarah Elizabeth Richards (2013), <http://online.wsj.com/article/SB10001424127887323628004578458882165244260.html>
* [Why the Future Doesn't Need Us](http://www.wired.com/wired/archive/8.04/joy.html) by Bill Joy (2000)
* Watch The Coming Singularity Ray Kurzweil (2009) and other videos there, <https://www.youtube.com/watch?v=1uIzS1uCOcE>
* Watch and debate Terraforming Mars video. <http://youtu.be/O5k0MtlWPOs>

**Miscellaneous**

* A Collective of Humans and Nonhumans, <http://www.uio.no/studier/emner/matnat/ifi/INF9200/h12/readings/papers/Latour2.pdf>
* Intellectual Property Rights and Access to Essential Medicines, <http://siteresources.worldbank.org/INTDECINEQ/Resources/IntellectualPropRts.pdf>
* Springtime for Twitter: Is the Internet driving the revolutions of the Arab Spring? <http://www.slate.com/articles/technology/future_tense/2011/07/springtime_for_twitter.html>
* The Case Against Perfection: What's wrong with designer children, bionic athletes, and genetic engineering <http://www.theatlantic.com/magazine/archive/2004/04/the-case-against-perfection/302927/>
* Re-Engineering the Earth By Graeme Wood, <http://www.theatlantic.com/magazine/archive/2009/07/re-engineering-the-earth/307552/>
* Are Machines Really Taking Our Jobs? A brief history of technological progress and why it's not necessarily a bad thing, <http://www.theatlantic.com/business/archive/2013/08/are-machines-really-taking-our-jobs/278755/>
* In Defense of Posthuman Dignity by Nick Bostrom, <http://www.psy.vanderbilt.edu/courses/hon182/Posthuman_dignity_Bostrom.pdf>
* Technology Diffusion and Productivity Growth in Health Care,

<http://www.nber.org/papers/w14865>