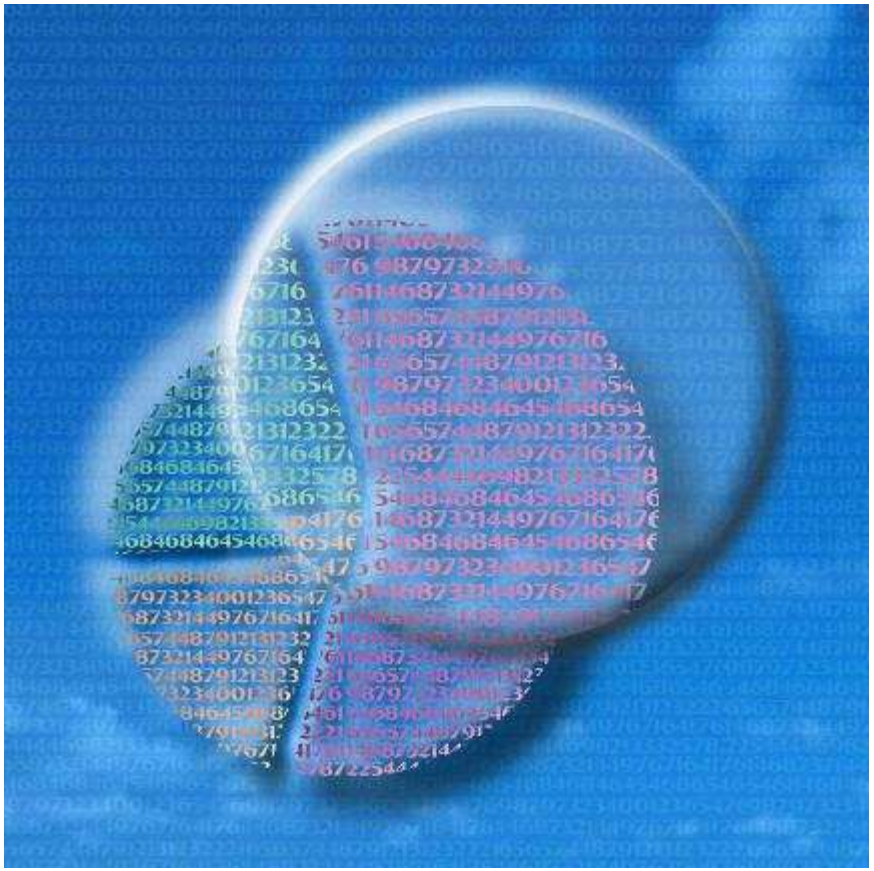

Is there a crisis in science? Implication for evidence based policy

Andrea Saltelli
Centre for the Study of the Sciences and the Humanities (SVT), University of Bergen (UIB) and
Institut de Ciència i Tecnologia Ambientals (ICTA) -Universitat Autonoma de Barcelona (UAB)

Masarykovy University, Joštova 10, Brno, April 19 2017

Where to find this talk: www.andreasaltelli.eu

sensitivity analysis, sensitivity auditing, science for policy, impact assessment

= more material on my web site

= discussion time

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Review

Cite this article: Colquhoun D. 2014 An investigation of the false discovery rate and the misinterpretation of *p*-values. *R. Soc. open sci.* **1**: 140216.
http://dx.doi.org/10.1098/rsos.140216

An investigation of the false discovery rate and the misinterpretation of *p*-values

David Colquhoun

Department of Neuroscience, Physiology and Pharmacology, University College London, Gower Street, London WC1 6BT, UK

"If you are foolish enough to define 'statistically significant' as anything less than p=0.05 then… you have a 29% chance (at least) of making a fool of yourself.

Who would take a risk like that? Judging by the medical literature, most people would. No wonder there is a problem"

Colquhoun D. 2014 An investigation of the false discovery rate and the misinterpretation of p-values. R. Soc. Open sci. 1: 140216. http://dx.doi.org/10.1098/rsos.140216

P values by way of an example

- Two groups, one with a placebo, one with the treatment
- Random allocation to groups (+more!)
- The difference *d* between the means of the two groups is tested (is it different from zero?)
- *p=0.05* implies that if there were no effect the probability of observing a value equal to *d* or higher would be *5%*

"At first sight, it might be thought that this procedure would guarantee that you would make a fool of yourself only once in every 20 times that you do a test"

Colquhoun D. 2014 An investigation of the false discovery rate and the misinterpretation of p-values. R. Soc. Open sci. 1: 140216. http://dx.doi.org/10.1098/rsos.140216

"The classical p-value does exactly what it says. But it is a statement about what would happen if there were no true effect. That cannot tell you about your long-term probability of making a fool of yourself, simply because sometimes there really is an effect. In order to do the calculation, **we need to know a few more things**"

Colquhoun D. 2014 An investigation of the false discovery rate and the misinterpretation of p-values. R. Soc. Open sci. 1: 140216. http://dx.doi.org/10.1098/rsos.140216

A classic exercise in screening

You test positive for AIDS (one test only). Time for despair?

Only one 1 in 100,000 has AIDS in your population

The test has a 5% false positive rate

Already one can say: in a population of say 100,000 one will have AIDS and 5,000 (5% of 100,000) will test positive

➔ Don't despair (yet)

Another exercise in screening (Colquhoun 2014)

You test positive for mild cognitive impairment (MCI) (one test only). Time to retire?

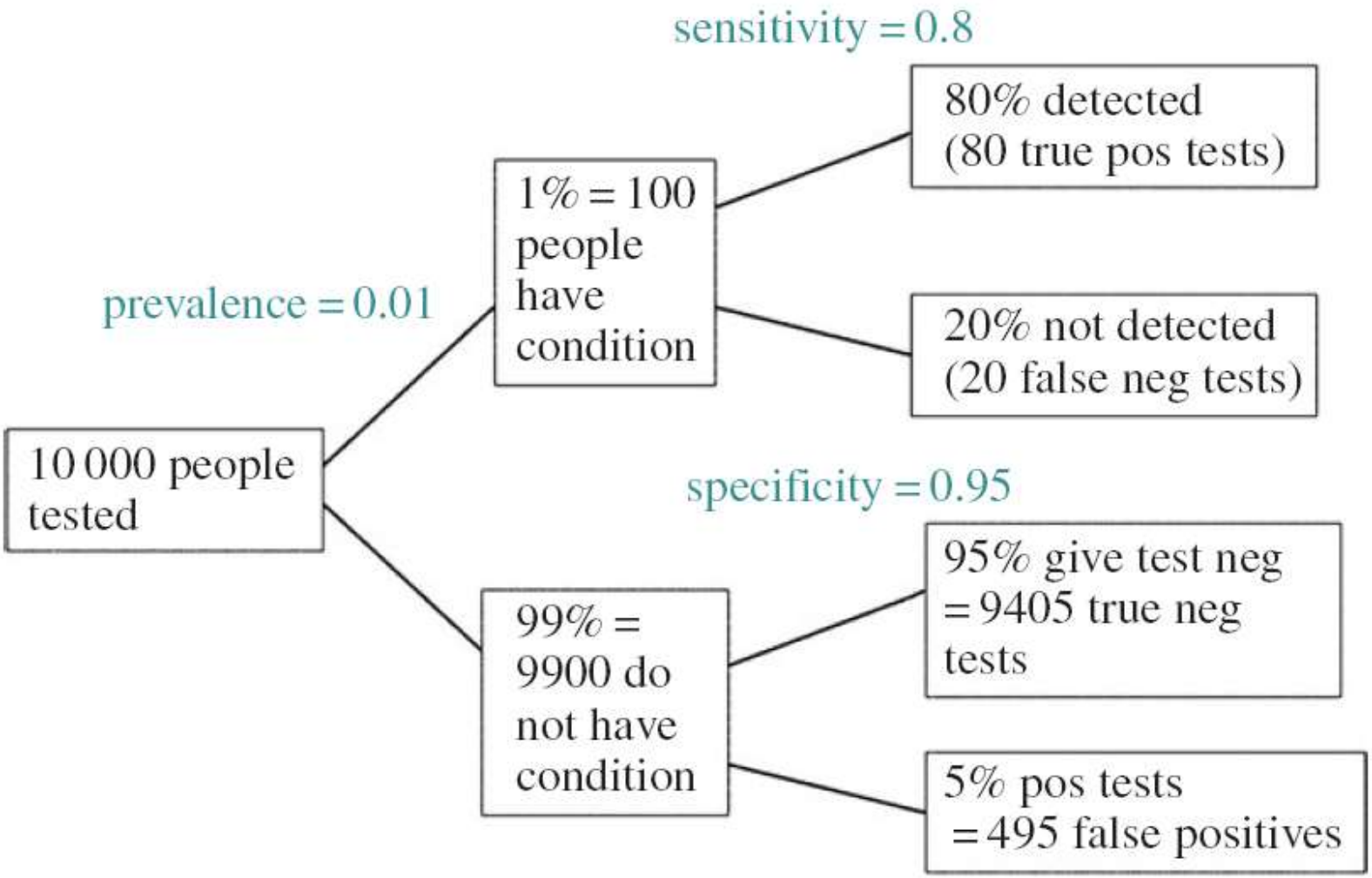
MCI prevalence in the population 1%, i.e. in a sample of 10,000 then 100 have MCI and 9,900 don't

The test has a 5% false positive rate; of the 9,900 who don't have MCI 495 test (false) positive and the remaining 9,405 (true) negative

The test does not pick all the 100 MCI but only 80; there will be 20 false negative. So we see 80+495=575 positive of which only 80 (a 14%) are true and the remaining 86% false

➔ It does not make sense to screen the population for MCI!

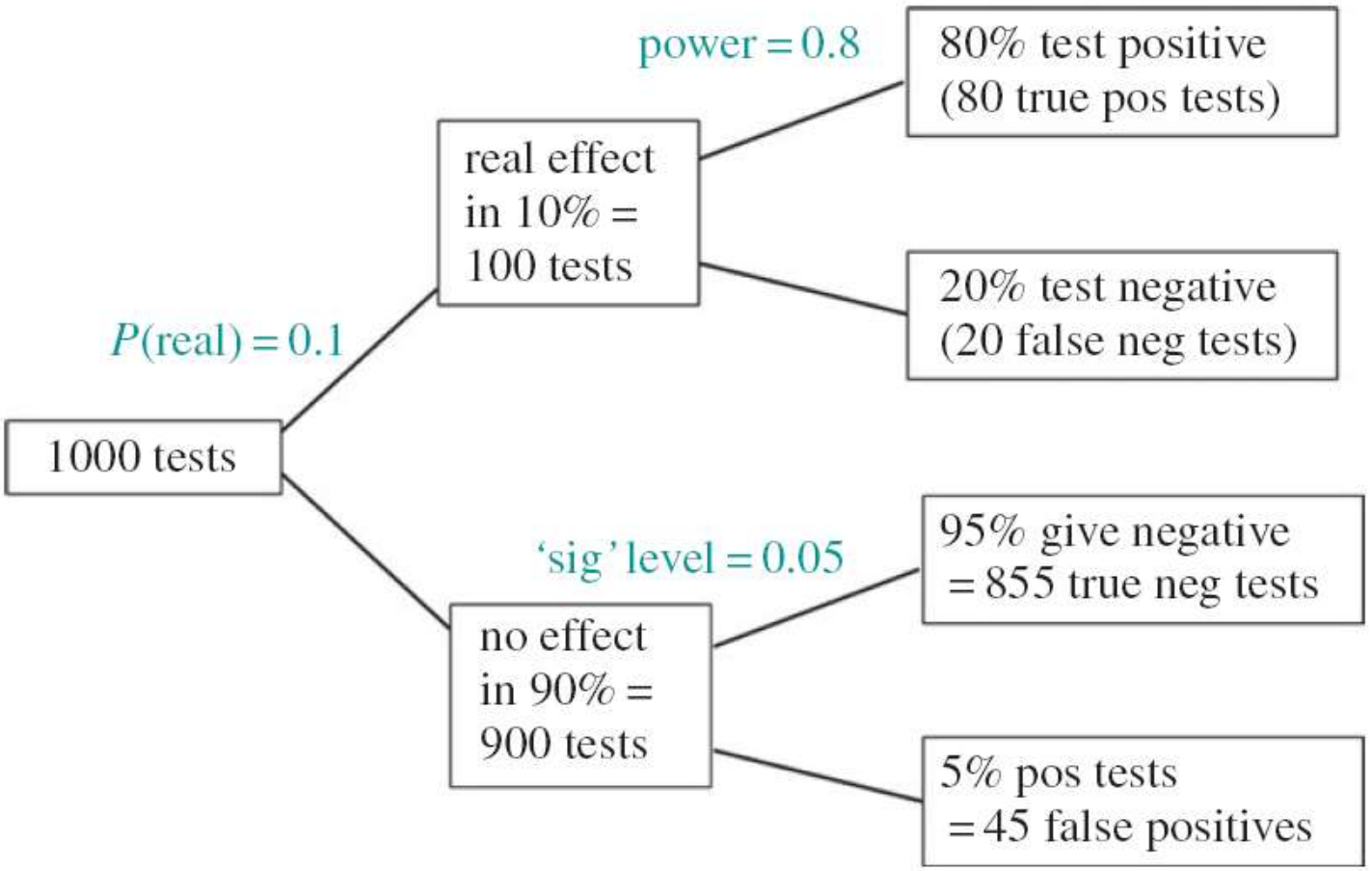
The number 86% = 495/(495+80) is our false discovery rate



Colquhoun D. 2014 An investigation of the false discovery rate and the misinterpretation of p-values. R. Soc. Open sci. 1: 140216. http://dx.doi.org/10.1098/rsos.140216

The same concept of false discovery rate applies to the problem of significance test

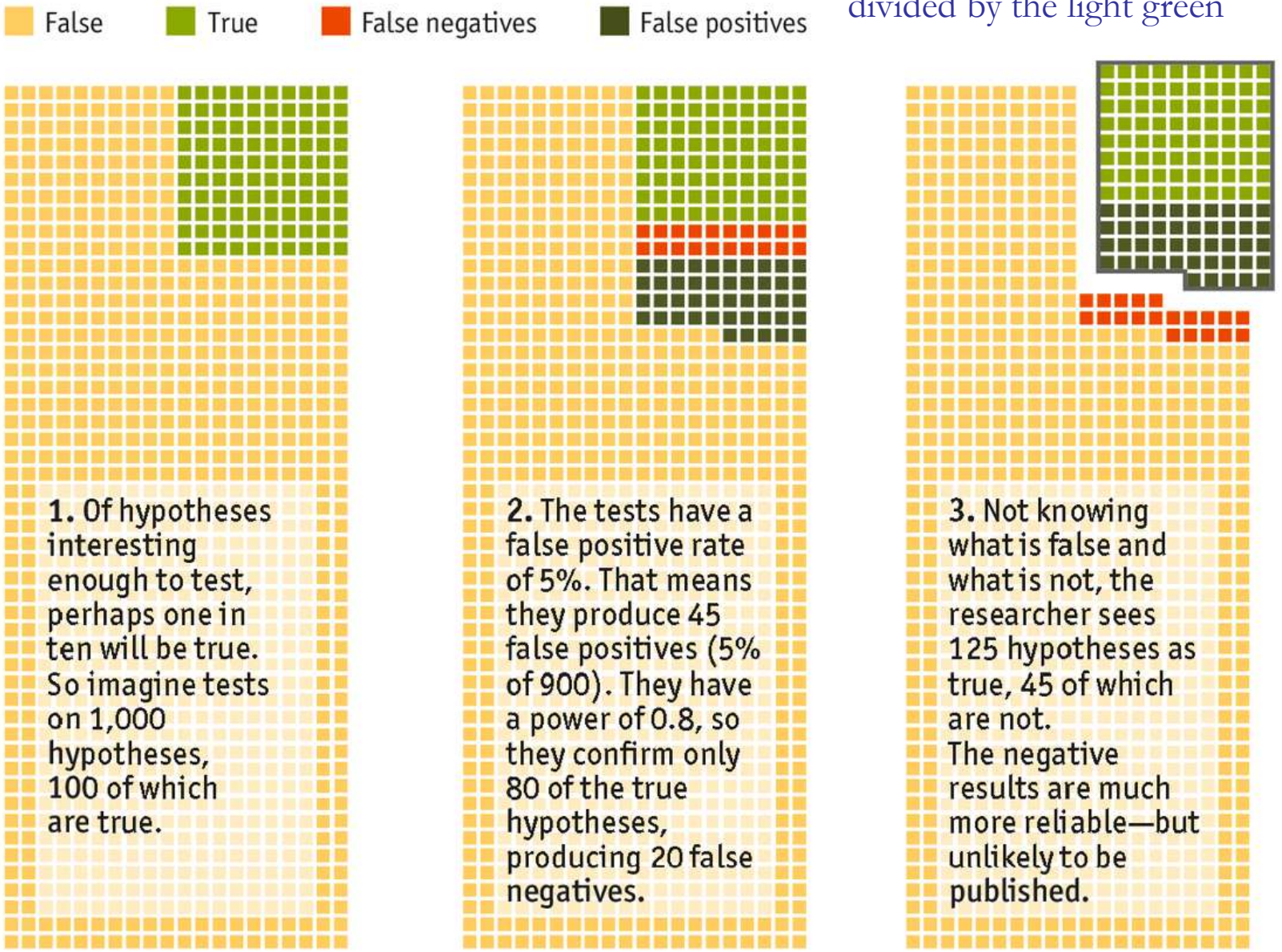
We now consider tests instead of individuals



Colquhoun D. 2014 An investigation of the false discovery rate and the misinterpretation of p-values. R. Soc. Open sci. 1: 140216. http://dx.doi.org/10.1098/rsos.140216

Unlikely results

How a small proportion of false positives can prove very misleading



Source: *The Economist*

The false discovery rate is ~the dark divided by the light green

➔ We see 125 hypotheses as true 45 of which are not; the false discovery rate is 45/125 = 36%

Significance p=0.05 ➔ false discovery rate of 36%

We now know that p=0.05 did not correspond to a chance in twenty of being wrong but in one in three

How many numbers did we need to know to reach this conclusion?

Unreliable research

Trouble at the lab

Scientists like to think of science as self-correcting. To an alarming degree, it is not

Oct 19th 2013 | From the print edition

Open access, freely available online

Essay

Why Most Published Research Findings Are False

John P. A. Ioannidis

field. In this framework, a research finding is less likely to be true when the studies conducted in a field are smaller; when effect sizes are smaller; when there is a greater number and lesser preselection of tested relationships; where there is greater flexibility in designs, definitions, outcomes, and analytical modes; when there is greater financial and other interest and prejudice; and when more teams are involved in a scientific field in chase of statistical significance.

J. P. A. Ioannidis, Why Most Published Research Findings Are False, PLoS Medicine, August 2005, 2(8), 696-701.

"Misuse of the P value — a common test for judging the strength of scientific evidence — is contributing to the number of research findings that cannot be reproduced"

Baker, M., 2016, Statisticians issue warning on P values, Nature, 531, 151

AMERICAN STATISTICAL ASSOCIATION RELEASES STATEMENT ON STATISTICAL SIGNIFICANCE AND *P*-VALUES

Provides Principles to Improve the Conduct and Interpretation of Quantitative Science

March 7, 2016

… and twenty 'dissenting' commentaries

Wasserstein, R.L. and Lazar, N.A., 2016. 'The ASA's statement on p-values: context, process, and purpose', The American Statistician, DOI:10.1080/00031305.2016.1154108.

See also Christie Aschwanden at http://fivethirtyeight.com/features/not-even-scientists-can-easily-explain-p-values/

Special Issue:
Bayesian Probability and Statistics in Management Research

Journal of Management
Vol. 41 No. 2, February 2015 421–440
DOI: 10.1177/0149206314547522

Editorial Commentary

Surrogate Science: The Idol of a Universal Method for Scientific Inference

Gerd Gigerenzer
Max Planck Institute for Human Development
Julian N. Marewski
University of Lausanne

There is no universal method of scientific inference …

…it is better to have no beliefs than to embrace falsehoods…

Statistical methods are not simply applied to a discipline; they change the discipline itself, …

Special Issue:
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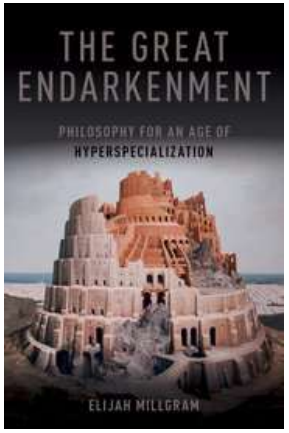
Editorial Commentary

Surrogate Science: The Idol of a Universal Method for Scientific Inference

Gerd Gigerenzer
Max Planck Institute for Human Development
Julian N. Marewski
University of Lausanne

How was it possible that this important statistical tool was misused for several decades with grave consequences for science?

The Great Endarkenment.
Philosophy for an Age of Hyperspecialization
By Elijah Millgram



Describes a world in which all knowledge and products are the result of some form of extremely specialized expertise, and in which expertise is itself highly circumscribed, since experts depend in turn on other experts whose knowledge claims and styles of argumentation cannot be exported from one discipline to the next. ➔ “serial hyperspecializers” (p. 26)

Experts thus become “logical aliens” (p. 32)

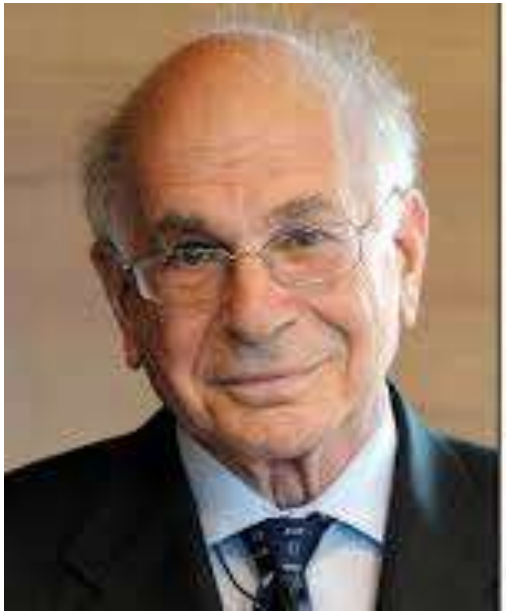
Replicability-Index
Improving the replicability of empirical research

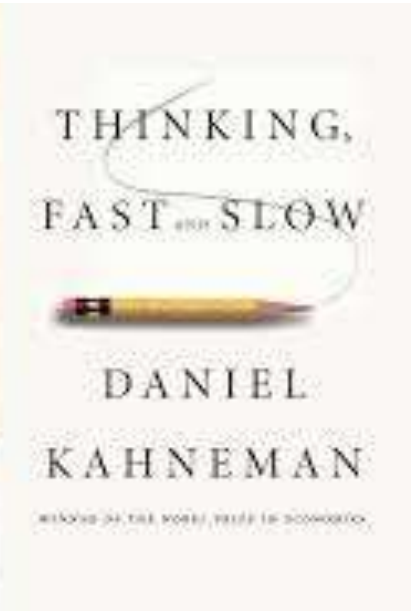
Reconstruction of a Train Wreck: How Priming Research Went off the Rails

February 2, 2017 Kahneman, Priming, r-index, Statistical Power, Thinking Fast and Slow

Authors: Ulrich Schimmack, Moritz Heene, and Kamini Kesavan

Reconstruction of a Train Wreck: How Priming Research Went off the Rails

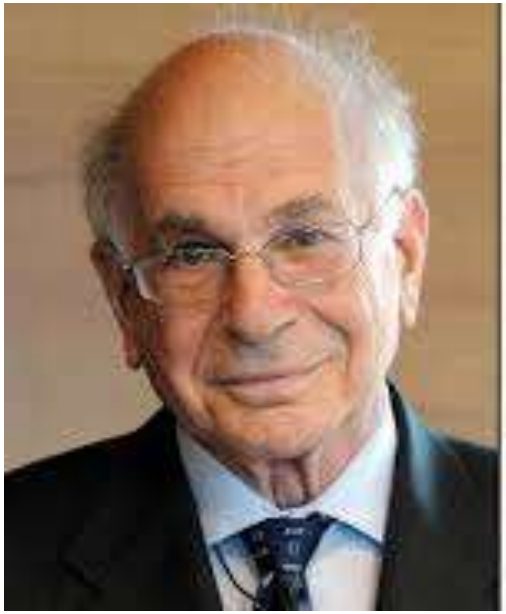


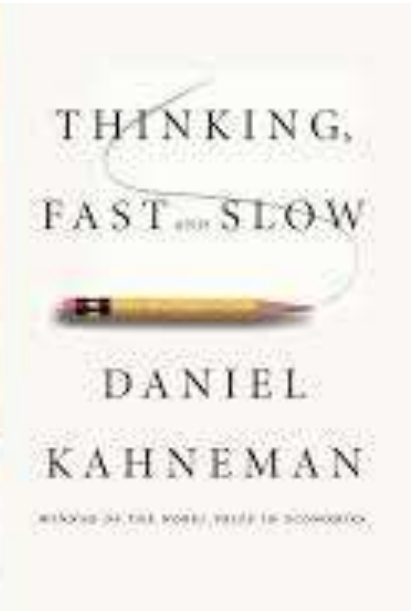


"[…]questions have been raised about the robustness of priming results … your field is now the poster child for doubts about the integrity of psychological research…"

https://replicationindex.wordpress.com/2017/02/02/reconstruction-of-a-train-wreck-how-priming-research-went-of-the-rails/comment-page-1/

Reconstruction of a Train Wreck: How Priming Research Went off the Rails

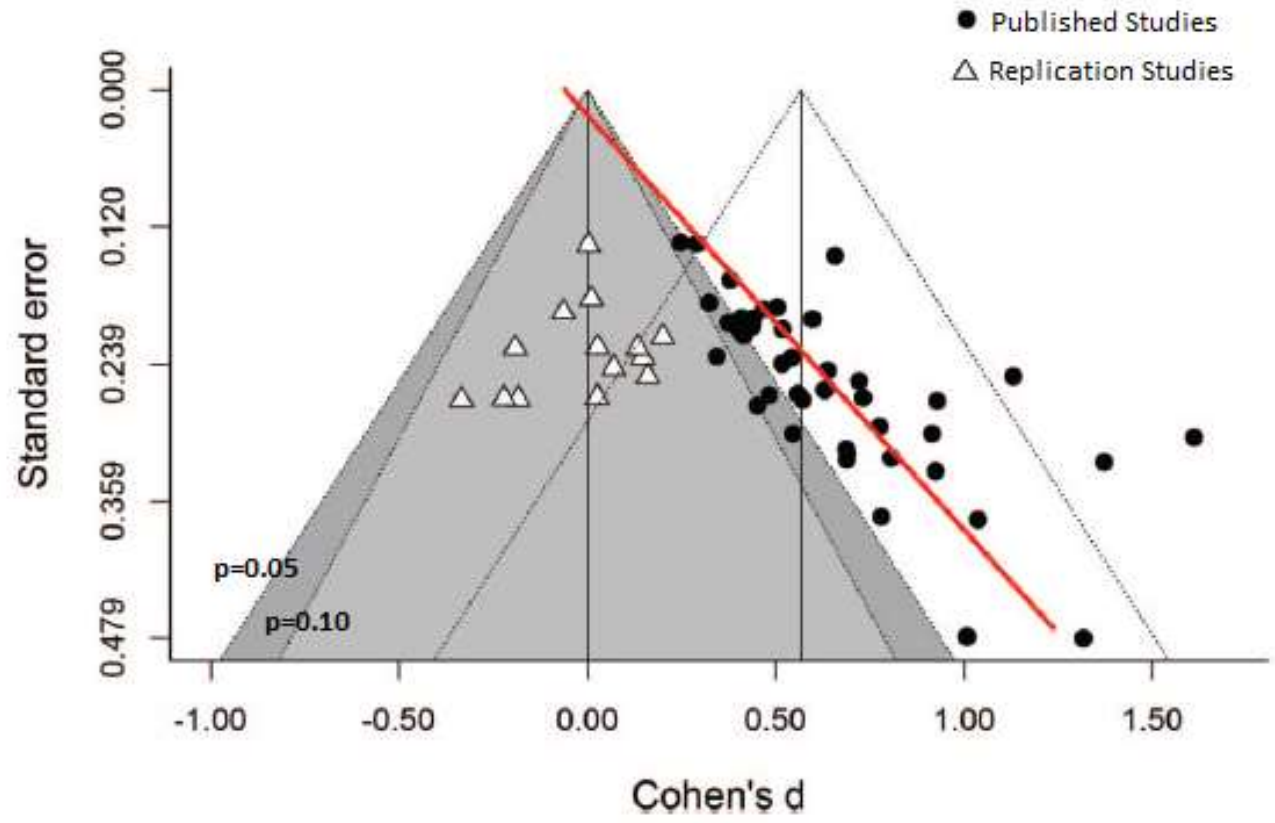




"… people have now attached a question mark to the field, and it is your responsibility to remove it… I recently wrote a book that emphasizes priming research … My reason for writing this letter is that I see a train wreck looming" (Kahneman, 2012)

https://replicationindex.wordpress.com/2017/02/02/reconstruction-of-a-train-wreck-how-priming-research-went-of-the-rails/comment-page-1/

P-hacking; a smoking gun?



Shanks et al. (2015) JEP:General

J Exp Psychol Gen. 2015 Oct 26. "Romance, Risk, and Replication: Can Consumer Choices and Risk-Taking Be Primed by Mating Motives?", Shanks DR, Vadillo MA, Riedel B, Clymo A, Govind S, Hickin N, Tamman AJ, Puhlmann LM.: http://www.ncbi.nlm.nih.gov/pubmed/26501730

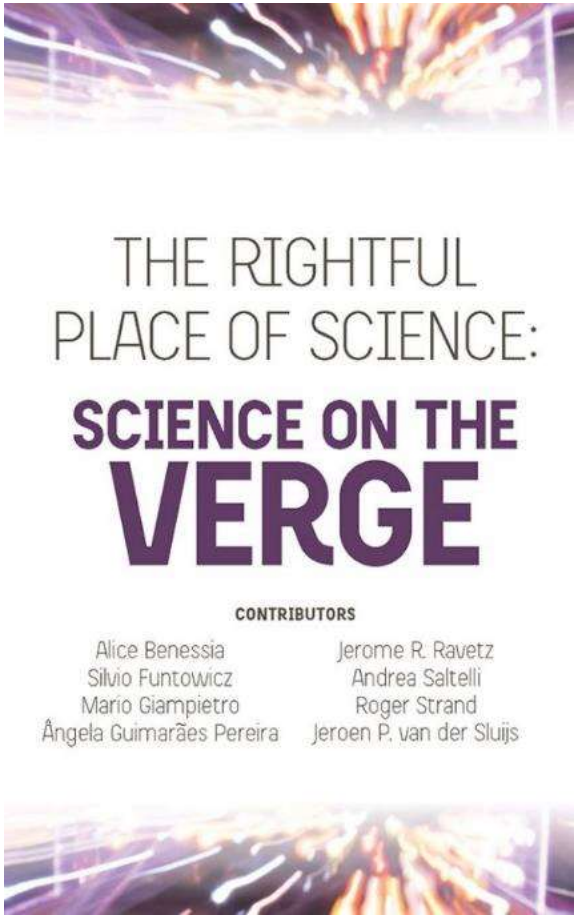
Is it just about statistics?

What if even she is wrong?

On TV series over series where lab-based forensics (science) adjudicates cases

Forensics [as well as medicine, biology, economics, health, nutrition …] has produced serious misdiagnoses

National Academy of Sciences (NAS) report "Strengthening Forensic Science in the United States: A Path Forward", https://www.ncjrs.gov/pdffiles1/nij/grants/228091.pdf



A crisis looms over the scientific enterprise. Not a day passes without news of retractions, failed replications, fraudulent peer reviews, or misinformed science-based policies

THE CONVERSATION

Academic rigour, journalistic flair

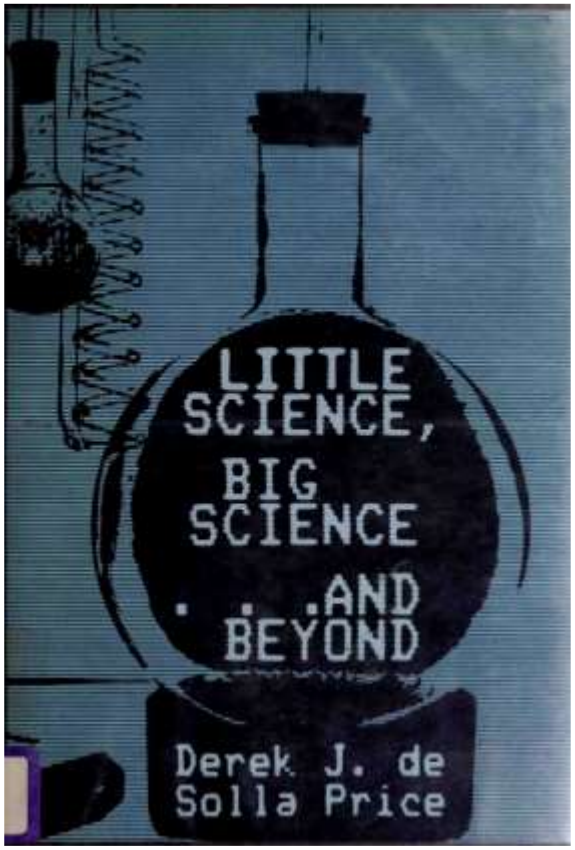
Arts + Culture | Business + Economy | Education | Environment + Energy | Health + Medicine | Politics + Society | Science + Technology

Science in crisis: from the sugar scam to Brexit, our faith in experts is fading

September 27, 2016 4.43pm AEST

https://theconversation.com/science-in-crisis-from-the-sugar-scam-to-brexit-our-faith-in-experts-is-fading-65016

In 1963 Derek J. de Solla Price prophesized that Science would reach saturation (and in the worst case senility) under its own weight, victim of its own success and exponential growth (pp 1-32).



Derek J. de Solla Price

de Solla Price, D.J., 1963, Little science big science, Columbia University Press.

Science/knowledge degenerates when it becomes a commodity for Ravetz (1971), Lyotard (1979) and Mirowski (2011).

Ravetz, J., 1971, Scientific Knowledge and its Social Problems, Oxford University Press, p. 22.

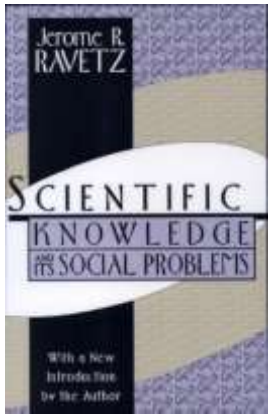
Lyotard, J.-F. 1979. La Condition postmoderne. Rapport sur le savoir, Paris : Minuit, Chapter 10.

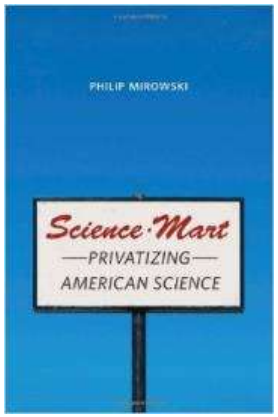
Mirowski, P. 2011. Science-Mart: Privatizing American Science, Harvard University Press.

Jerome R. Ravetz

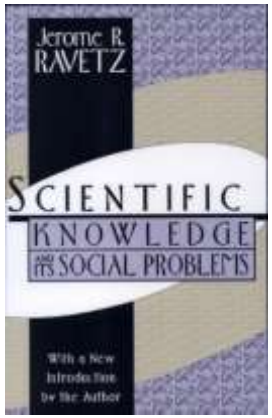
Jean-François Lyotard

Philip Mirowski





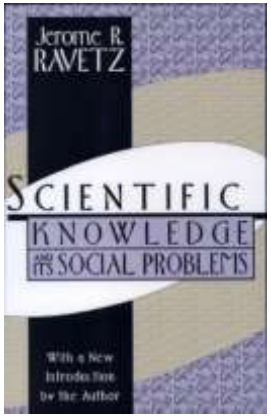
p.22: [⋯] The problem of quality control in science is thus at the centre of the social problems of the industrialized science of the present period."



Jerome R. Ravetz

Ravetz, J., 1971, Scientific Knowledge and its Social Problems, Oxford University Press, p.22.

p.22: “If [science] fails to resolve this problem [⋯] then the immediate consequences for morale and recruitment will be serious; and those for the survival of science itself, grave”

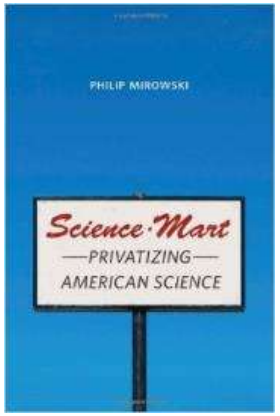


Jerome R. Ravetz

Ravetz, J., 1971, Scientific Knowledge and its Social Problems, Oxford University Press, p.22.

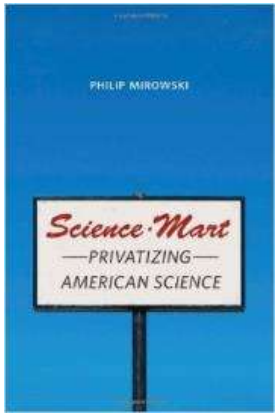
After the eighties neoliberal ideologies succeeded in decreasing state intervention in the funding of science, which became increasingly privatized … Knowledge as a monetized commodity replaces knowledge as public good…

Mirowski, P. 2011. Science-Mart: Privatizing American Science, Harvard University Press.



Philip Mirowski

In house science labs of major corporation were closed and research outsourced to universities which … became more and more looking as profit seeking organization (technology transfer offices in every campus) … then research ended up outsourced again to contract-based research organizations (CRO's)…



Philip Mirowski

Mirowski, P. 2011. Science-Mart: Privatizing American Science, Harvard University Press.

Summary Points

- Currently, many published research findings are false or exaggerated, and an estimated 85% of research resources are wasted.

Ioannidis, J. P. (2014). How to Make More Published Research True. PLoS medicine, 11(10), e1001747

John P. A. Ioannides

For Lancet (2015) an estimated US$200 billion were wasted in the US in 2010.

Lancet, Editorial, 2015, Rewarding true inquiry and diligence in research, 385, p. 2121.

Ioannidis JPA, 2016, Why Most Clinical Research Is Not Useful, PLoS Med 13(6): e1002049. doi:10.1371/journal.pmed.1002049

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Archive > Volume 533 > Issue 7604 > News Feature > Article

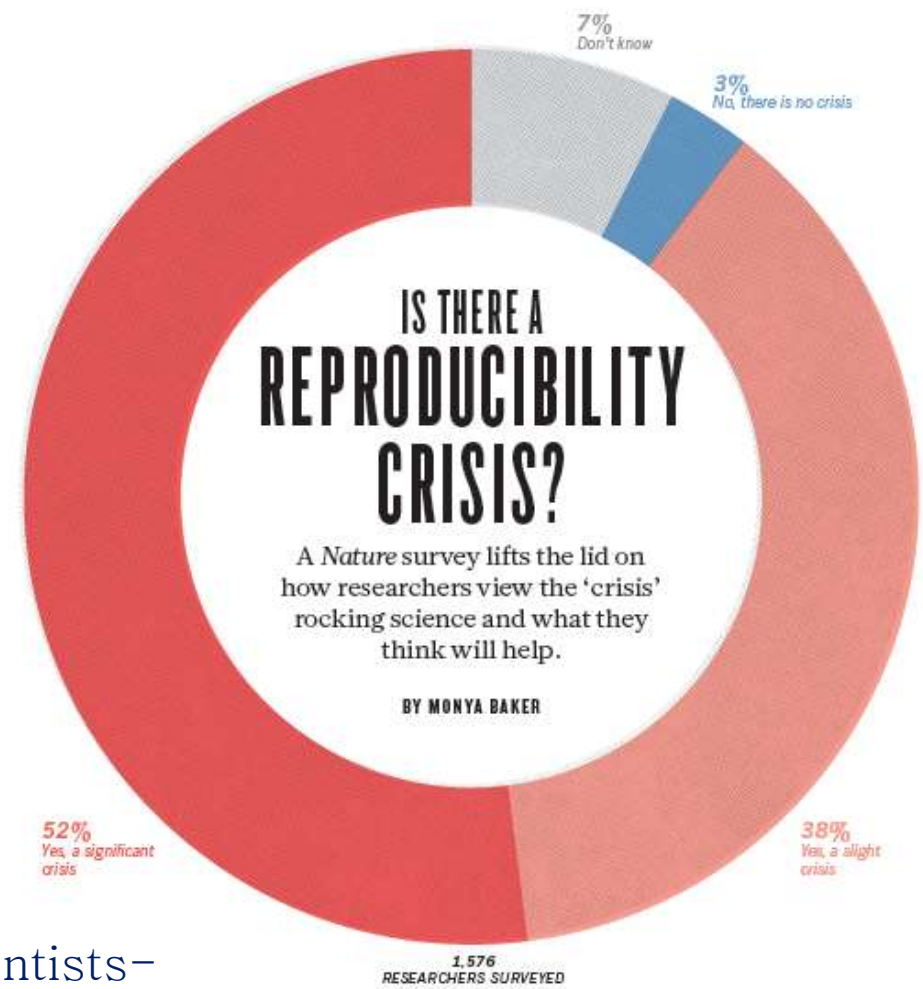
NATURE | NEWS FEATURE

1,500 scientists lift the lid on reproducibi

Survey sheds light on the 'crisis' rocking research.

Monya Baker

25 May 2016 | Corrected: 28 July 2016



http://www.nature.com/news/1-500-scientists-lift-the-lid-on-reproducibility-1.19970

nature International weekly journal of science

NATURE | NEWS FEATURE

1,500 scientists lift the lid on reproducibility

Survey sheds light on the 'crisis' rocking research.

Monya Baker

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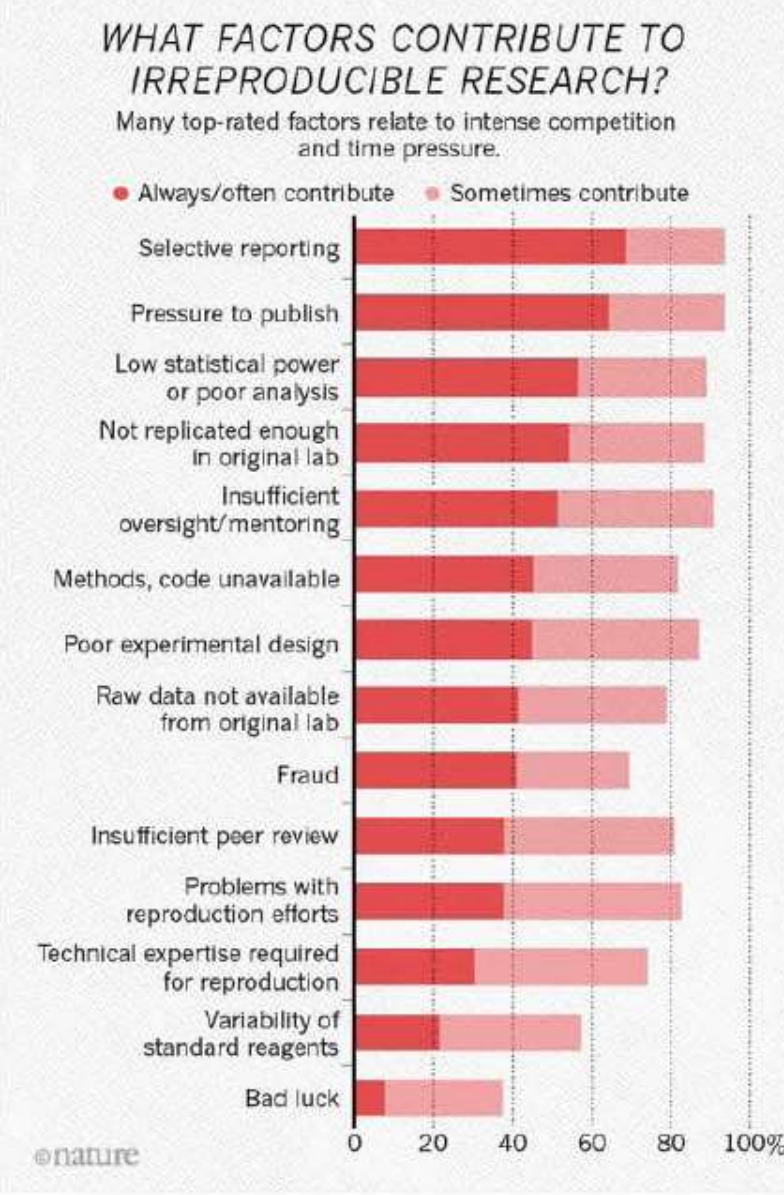


http://www.nature.com/news/1-500-scientists-lift-the-lid-on-reproducibility-1.19970

Why are we stunned by the discovery of science's predicaments?

Is this the end of a dream?

Francis Bacon
(1561-1626)

Magnalia Naturae, in the New Atlantis (1627), '*Wonders of nature, in particular with respect to human use*'

We call the Cartesian dream the idea of man as master and possessor of nature, of prediction and control, of Bacon's wonders of science and of Condorcet's mathematique sociale…

Nicolas de Caritat,
marquis de Condorcet
(1743- 1794)

'Sketch for a Historical Picture of the Progress of the Human Spirit'

René
Descartes
(1596-1650)

Discourse on Method
(1637)

Magnalia Naturae, in the New Atlantis (1627),

'Wonders of nature, in particular with respect to human use'

Francis Bacon
(1561–1626)

The prolongation of life; The restitution of youth in some degree; The retardation of age; The curing of diseases counted incurable; The mitigation of pain; More easy and less loathsome purgings; The increasing of strength and activity; The increasing of ability to suffer torture or pain; The altering of complexions, and fatness and leanness; The altering of statures; The altering of features; The increasing and exalting of the intellectual parts; Versions of bodies into other bodies; Making of new species; Transplanting of one species into another; Instruments of destruction, as of war and poison; Exhilaration of the spirits, and putting them in good disposition; Force of the imagination, either upon another body, or upon the body itself; Acceleration of time in maturations; Acceleration of time in clarifications; Acceleration of putrefaction; Acceleration of decoction; Acceleration of germination; Making rich composts for the earth; Impressions of the air, and raising of tempests; Great alteration; as in induration, emollition, &c; Turning crude and watery substances into oily and unctuous substances; Drawing of new foods out of substances not now in use; Making new threads for apparel ; and new stuffs, such as paper, glass, &c; Natural divinations; Deceptions of the senses; Greater pleasures of the senses; Artificial minerals and cements.

Francis Bacon
(1561–1626)

Magnalia Naturae, in the New Atlantis (1627),
'Wonders of nature, in particular with respect to human use'

The prolongation of life; The restitution of youth in some degree; The retardation of age; The curing of diseases counted incurable; The mitigation of pain;
[…]
Drawing of new foods out of substances not now in use; Making new threads for apparel; and new stuffs, such as paper, glass, &c; Natural divinations; Deceptions of the senses; Greater pleasures of the senses; Artificial minerals and cements.

The study of letters leading to "doubts and errors";

Comparing "disquisitions of the ancient moralists to very towering and magnificent palaces with no better foundation than sand and mud";

Condemnation of humanities and exaltation of mathematics.

René Descartes (1596-1650)

Discourse on Method (1637)

"I perceived it to be possible to arrive at knowledge highly useful in life; and in room of the Speculative Philosophy [...], to discover a Practical, by means of which, knowing the force and action of fire, water, air, the stars, the heavens, and all the other bodies that surround us, [...]we might also apply them [...], and thus render ourselves the lords and possessors of nature."

René Descartes (1596-1650)

Discourse on Method (1637)

http://www.bartleby.com/34/1/6.html

In the formulation of Condorcet:

"All the errors in politics and in morals are founded upon philosophical mistakes, which, themselves, are connected with physical errors" (Ninth Epoch)

Nicolas de Caritat,
marquis de Condorcet
(1743- 1794)

'Sketch for a Historical Picture of the Progress of the Human Spirit'

http://oll.libertyfund.org/titles/1669

Overpopulation? War due to scarcity of resources? Will not happen because technical progress and ethical progress will go hand in hand. Man will understand that his duty “will consist not in the question of giving existence to a greater number of beings, but happiness.” (Tenth Epoch)

Nicolas de Caritat,
marquis de Condorcet
(1743- 1794)

‘Sketch for a Historical Picture of the Progress of the Human Spirit’

http://oll.libertyfund.org/titles/1669

‘Mathématique sociale’:

We still use today terms such as ‘Condorcet method’, ‘Condorcet winner’, ‘Condorcet-ranking procedure’

Nicolas de Caritat,
marquis de Condorcet
(1743- 1794)

‘Sketch for a Historical Picture of the Progress of the Human Spirit’

Condorcet’s algorithms and Descartes’ Geometry

Feldman, J., 2005, Condorcet et la mathematique sociale: enthousiasmes et bemols, Mathematics and Social Sciences, 172(4), 7-41, http://www.ehess.fr/revue-msh/pdf/N172R955.pdf
Munda G. (2007) - Social multi-criteria evaluation, Springer-Verlag, Heidelberg, New York, Economics Series

Condorcet's algorithms and Descartes' Geometry: the Cartesian dream always had a quantification agenda

Auguste Comte and the hierarchy of science

Daniele Fanelli's work: "Positive" Results Increase Down the Hierarchy of the Sciences

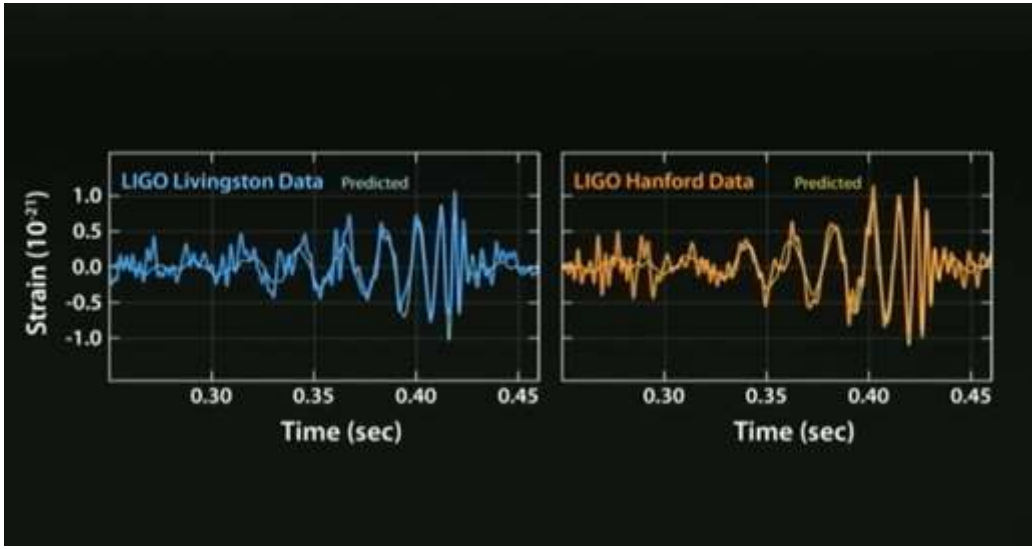
PLoS ONE, 2010, 5,(4) e10068

Closer to our times the dream was couched in the 'Endless Frontier' metaphor by Vannevar Bush, 1945:

"One of our hopes is that after the war there will be full employment. [...] To create more jobs we must make new and better and cheaper products [...] founded on [...] basic scientific research. [...the] Government [...] opened the seas to clipper ships and furnished land for pioneers. Although these frontiers have more or less disappeared, the frontier of science remains."

Vannevar Bush
(1890-1974)

Bush, V. (1945) Science: the endless frontier, United States Office of Scientific Research and Development, U.S. Govt. print office.



Making the dream true: Gravitational waves; from J. Weber's cylinder to LIGO

A Madman Dreams of Tuning Machines: The Story of Joseph Weber, the Tragic Hero of Science Who Followed Einstein's Vision and Pioneered the Sound of Space-Time, By Maria Popova, https://www.brainpickings.org/2016/04/25/black-hole-blues-janna-levin-joseph-weber/

Evidence based policy or its opposite?

PETRUCHIO: I say it is the moon.

KATHERINE: I know it is the moon.

PETRUCHIO: Nay, then you lie. It is the blessèd sun.

KATHERINE: Then God be blessed, it is the blessèd sun.

But sun it is not, when you say it is not,

And the moon changes even as your mind.

...

Shakespeare, the Taming of the Shrew, Act IV.

The expression 'Policy based evidence' has entered the public discourse.

Warring parties accuse one another of the sin.

"Greenpeace [...] wants is policy based evidence making not evidence based policy making" (Sanderson, 2015) ...

Wilkes, G., 2015, Free Lunch: Policy-based evidence-making, Financial Times, July 3.
Sanderson, A.B., 3 Feb 2015, Breitbart, see http://www.breitbart.com/london/2015/02/03/academic-attacks-greenpeace-for-ignoring-the-evidence-on-gm-crops/; the politician is UKIP Energy Spokesman Roger Helmer MEP.

Critiques of evidence based policy

“This need [for evidence] has been reified in the UK and elsewhere, as routines of 'evidence-based policy'-making have been hardwired into the business of Government.

[…]such approaches are fundamentally flawed [because] Government […] seeks to capture and control the knowledge producing processes to the point where this type of 'research' might best be described as 'policy-based evidence'.”

Boden, R. and Epstein D., 2006, Managing the Research Imagination? Globalisation and Research in Higher Education. *Globalisation, Societies and Education*, 223-236.

Accepted Manuscript

Title: What is wrong with evidence based policy, and how can it be improved?

Authors: Andrea Saltelli, Mario Giampietro

DOI: http://dx.doi.org/doi:10.1016/j.futures.2016.11.012
Reference: JFTR 2195

Evidence based policy = arbitrary framing (closure, ➔ policy based evidence), rhetorical use of mathematics, reductionism & hypocognition, power asymmetries, … need to explore wider set of frames

Discussion points

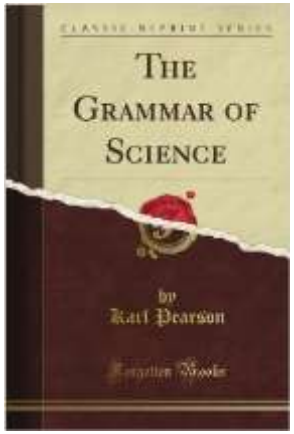
- Can we distinguish evidence based policy or policy based evidence?

Trust in science, trust in quantification

Is science always right? Karl Pearson (a social Darwinist) suggests not wasting resources on social programs as:

"No degenerate and feeble stock will ever be converted into healthy and sound stock by the accumulated effects of education, good laws, and sanitary surroundings"

Karl Pearson



Pearson, K., 1892, The Grammar of Science, Walter Scott Publisher, London, p.32.

Think Tank Scholar or Corporate Consultant? It Depends on the Day

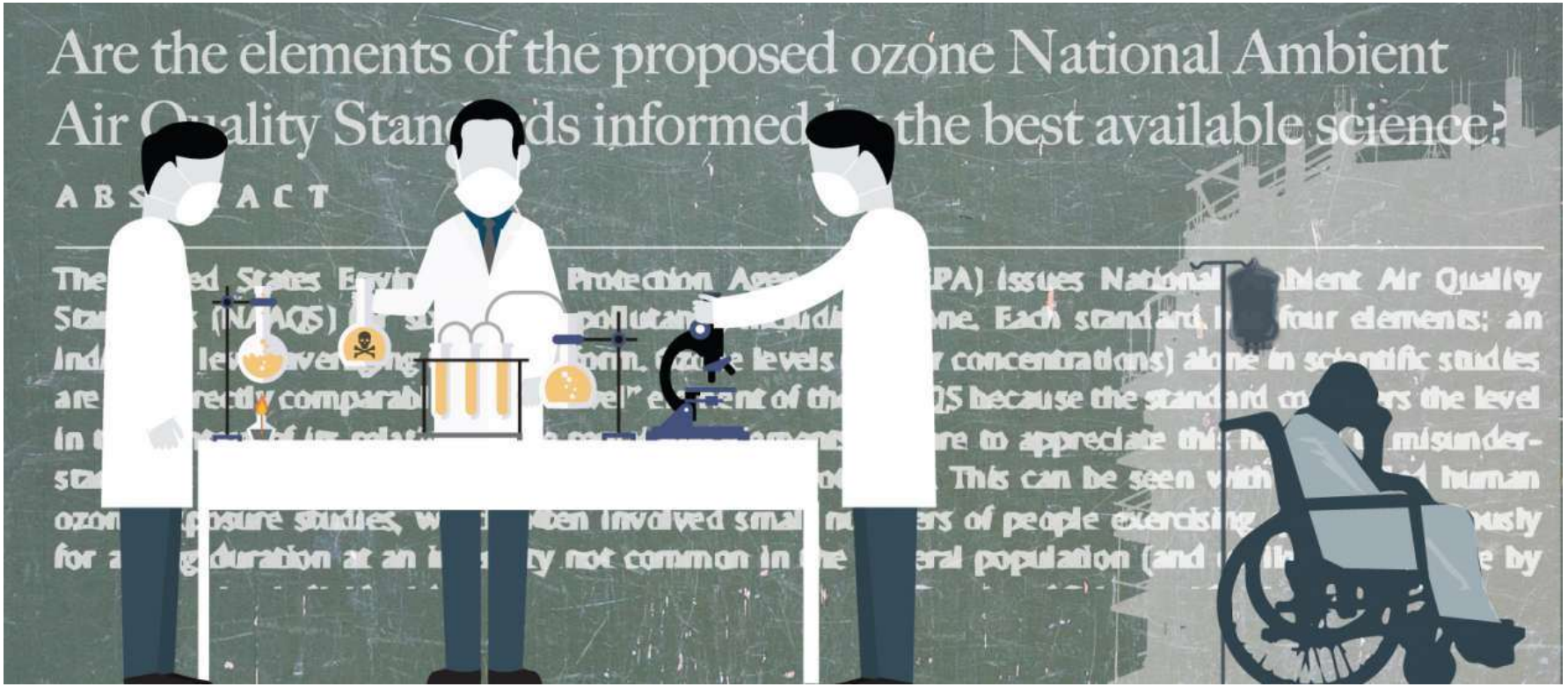
Acting as independent arbiters to shape government policy, many researchers also have corporate roles that are sometimes undisclosed.

By ERIC LIPTON, NICHOLAS CONFESSORE and BROOKE WILLIAMS AUG. 8, 2016 The New York Times

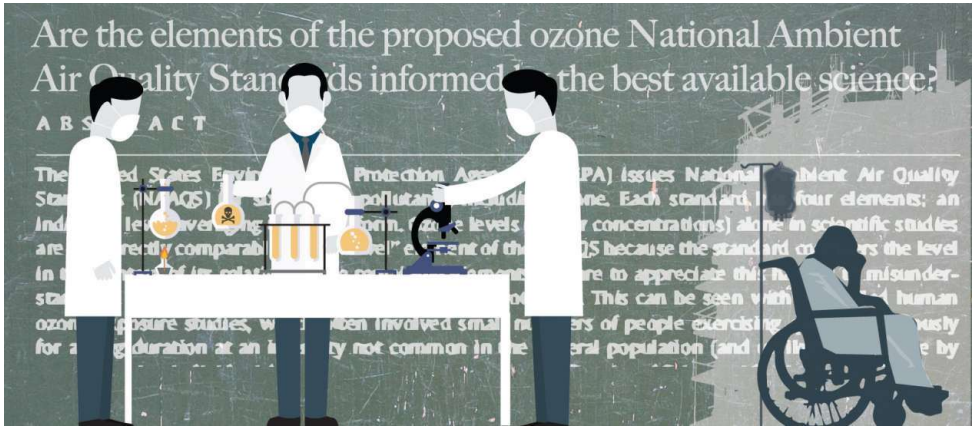
http://www.nytimes.com/2016/08/09/us/politics/think-tank-scholars-corporate-consultants.html?_r=0

Lobbyists recruit laws firms which in turn recruit scientific services for their customer;

http://www.publicintegrity.org/2016/02/08/19223/meet-rented-white-coats-who-defend-toxic-chemicals



"Nearly half of Gradient's articles that are peer-reviewed are published in two journals with strong ties to industry, *Critical Reviews in Toxicology* and *Regulatory Toxicology and Pharmacology*" [Gradient is the research services company enrolled by law firms]



http://www.publicintegrity.org/2016/02/08/19223/meet-rented-white-coats-who-defend-toxic-chemicals

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Special Communication | September 12, 2016

Sugar Industry and Coronary Heart Disease Research

A Historical Analysis of Internal Industry Documents

FREE

ONLINE FIRST

Cristin E. Kearns, DDS, MBA[1,2]; Laura A. Schmidt, PhD, MSW, MPH[1,3,4]; Stanton A. Glantz, PhD[1,5,6,7,8]

[+] Author Affiliations

JAMA Intern Med. Published online September 12, 2016. doi:10.1001/jamainternmed.2016.5394

Text Size: A A A

See also https://www.theguardian.com/society/2016/apr/07/the-sugar-conspiracy-robert-lustig-john-yudkin, and the story of US President Dwight Eisenhower heart attack,…

"our findings suggest the industry sponsored a research program in the 1960s and 1970s that successfully cast doubt about the hazards of sucrose while promoting fat as the dietary culprit in CHD [coronary hearth disease]"

http://archinte.jamanetwork.com/article.aspx?articleid=2548255

Feature

Coca-Cola's secret influence on medical and science journalists

BMJ 2017 ; 357 doi: https://doi.org/10.1136/bmj.j1638 (Published 05 April 2017)
Cite this as: *BMJ* 2017;357:j1638

Paul Thacker, freelance journalist

Author affiliations

thackerpd@gmail.com

“Industry money was used to covertly influence journalists with the message that exercise is a bigger problem than sugar consumption in the obesity epidemic, documents obtained under freedom of information laws show.

The documents detail how Coca-Cola funded journalism conferences at a US university in an attempt to create favourable press coverage of sugar sweetened drinks. When challenged about funding of the series of conferences, the academics involved weren’t forthcoming about industry involvement.”

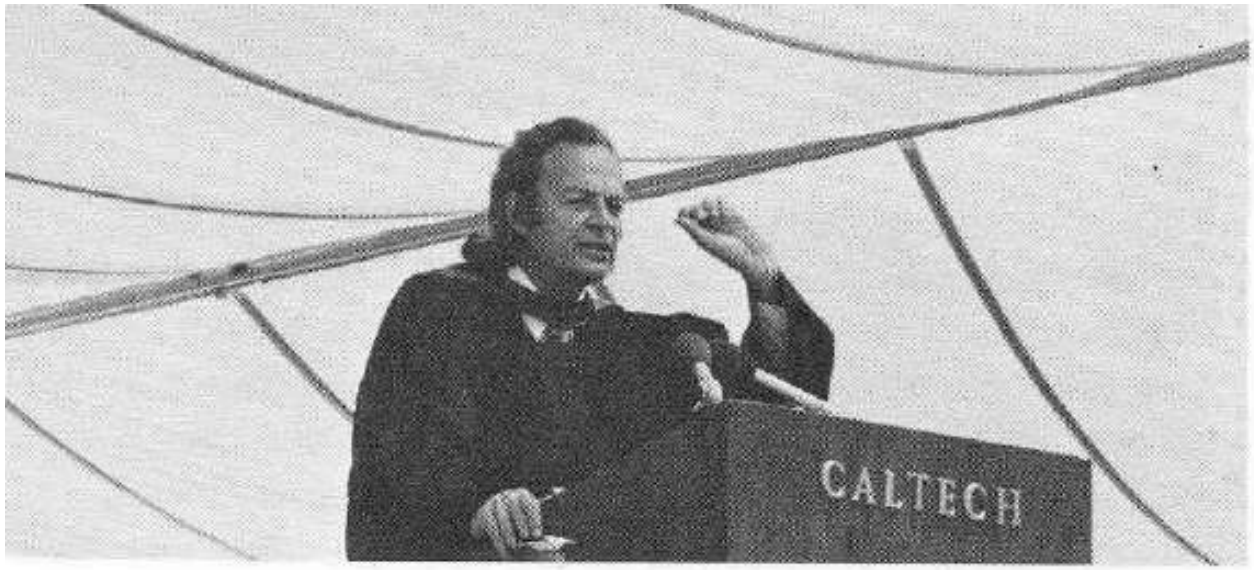
Economics?

The Mathiness discussion in Economics

"The style that I am calling mathiness lets academic politics masquerade as science. Like mathematical theory, mathiness uses a mixture of words and symbols, but instead of making tight links, it leaves ample room for slippage between statements in natural versus formal language and between statements with theoretical as opposed to empirical content."

Paul Romer
Since July 18
2016 Chief
Economist of
the World Bank

https://paulromer.net/mathiness/
See also https://paulromer.net/feynman-integrity/



Cargo Cult Science

by RICHARD P. FEYNMAN

Some remarks on science, pseudoscience, and learning how to not fool yourself. Caltech's 1974 commencement address.

Appeals to Richard Feynman's famous speech

https://paulromer.net/feynman-integrity/

The Trouble With Macroeconomics

PAUL ROMER
Stern School of Business
New York University

Wednesday 14th September, 2016

https://paulromer.net/wp-content/uploads/2016/09/WP-Trouble.pdf

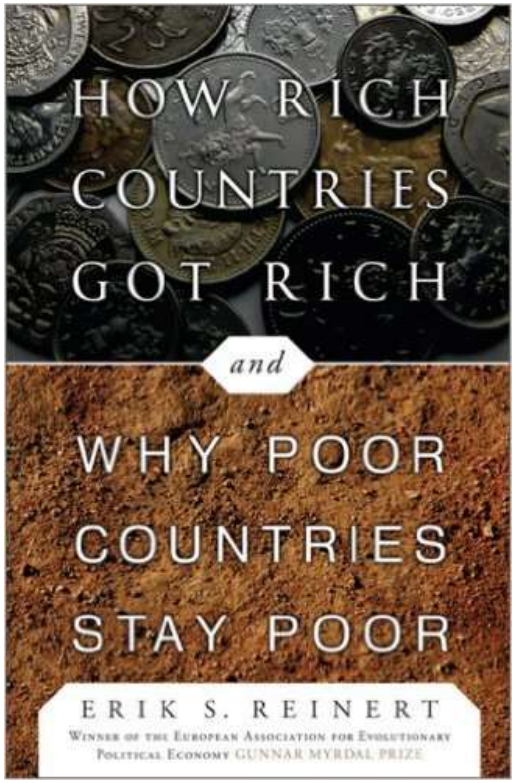
A different diagnosis for a diseased economics: for Erik Reinert's: economics has reverted to scholasticism

Erik Reinert

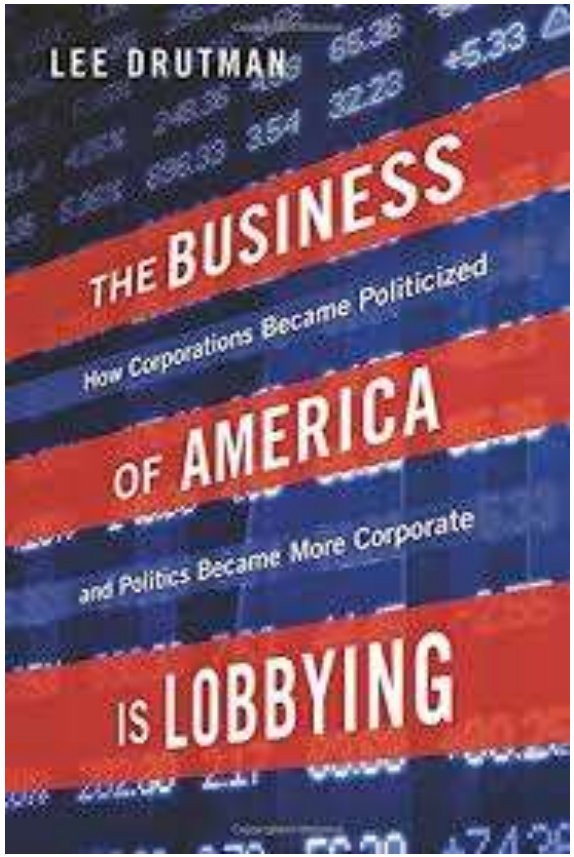
… forgetting an important continental tradition

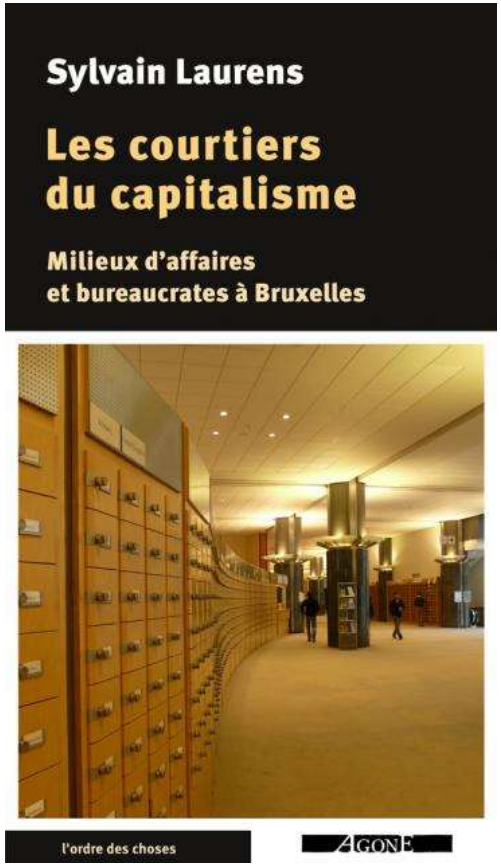
… implications for developments

http://www.andreasaltelli.eu/file/repository/Full_Circle_scholasticism_2.pdf



Evidence as the currency of lobbies





Lee Drutman

Sylvain Laurens

Some quick read:
http://www.nybooks.com/articles/2016/04/07/how-lobbyists-win-in-washington/
http://www.contretemps.eu/lectures/lire-extrait-courtiers-capitalisme-sylvain-laurens

Both works (resp. US, EU) make the point that evidence is the currency of lobbies

In the use of evidence actors with deepest pockets may prevail. A worrying asymmetry

A truly black pearl: a candid admission in a book written for the lobbyists: The regulation game, Owen & Braeutigam, 1978

"Regulatory policy is increasingly made with the participation of experts, especially academics. A regulated firm or industry should be prepared whenever possible to co-opt these experts. This is most effectively done by identifying the leading expert in each relevant field and hiring them as consultants or advisors or giving them research grant or the like"

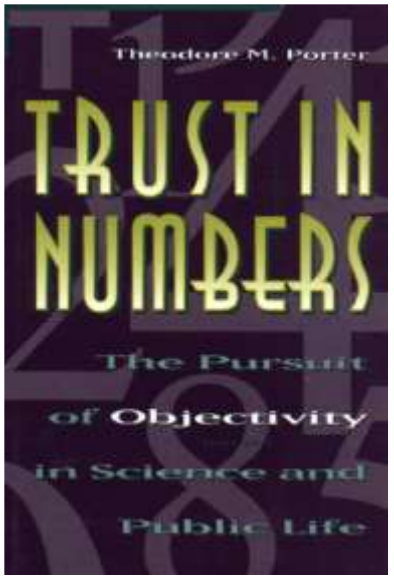
Book written for the lobbyists: The regulation game, Owen & Braeutigam, 1978

"This activity requires a modicum of finesse; it must not be too blatant, for the experts themselves must not recognize that they have lost their objectivity and freedom of action"

Owen B. M. and Braeutigam, R., Regulation Game: Strategic Use of the Administrative Process, page 7, Harper Business (1978)

Trust and quantification.

Theodor M. Porter



Theodore M. Porter, Trust in Numbers, The Pursuit of Objectivity in Science and Public Life, Princeton 1995

Trust, authority and styles of quantification: two different stories

ECOLE NATIONALE
DES PONTS ET CHAUSSEES

US Army Corps of Engineers®

Porter's story: Quantification needs judgment which in turn needs trust …without trust quantification becomes mechanical, a system, and systems can be played

ECOLE NATIONALE
DES PONTS ET CHAUSSEES

The myth of scientific quantification via risk or cost benefit analyses, including of the impact of new technologies, has been at the hearth of the critique of the ecological moment (e.g. Schumacher, 1973; Winner, 1986; Funtowicz and Ravetz, 1994)

E. F. Schumacher, 1973, Small Is Beautiful. Economics as if People Mattered, Penguin Perennial,

Winner, L., 1986. The Whale and the Reactor: a Search for Limits in an Age of High Technology. The University of Chicago Press, 1989 edition.

Funtowicz, S.O. and Ravetz, J.R. (1994). The worth of a songbird: Ecological economics as a post-normal science. Ecological Economics 10(3), 197-207.

[…] quality is much more difficult to 'handle' than quantity, just as the exercise of judgment is a higher function than the ability to count and calculate.

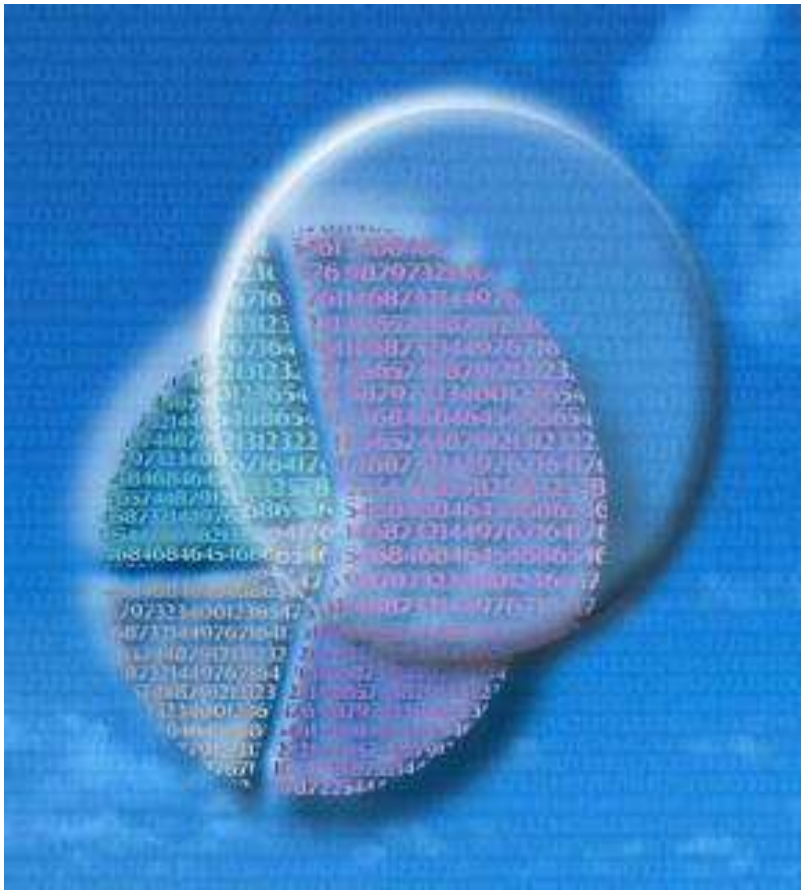
Ernst Friedrich "Fritz" Schumacher

Quantitative differences can be more easily grasped and certainly more easily defined than qualitative differences: their concreteness is beguiling and gives them the appearance of scientific precision, even when this precision has been purchased by the suppression of vital differences of quality.

E. F. Schumacher, 1973, Small Is Beautiful. Economics as if People Mattered, Penguin Perennial,

Discussion points

- Do I see a relationship between trust and quantification?
- Are we (my team, my organization) more like the ‘corps des ingénieurs des ponts et chaussées’ or the US Army corps of Engineers?



END

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