Escepticismo

Jaime E. Forero Romero
Universidad de los Andes
Astronomía Popular

http://imgur.com/gallery/2jsfax6

http://psychedelicpreacher.tumblr.com/post/138167327662/share-if-you-like-terence-mckenna-find-people

How to Tell Shit from Shinola

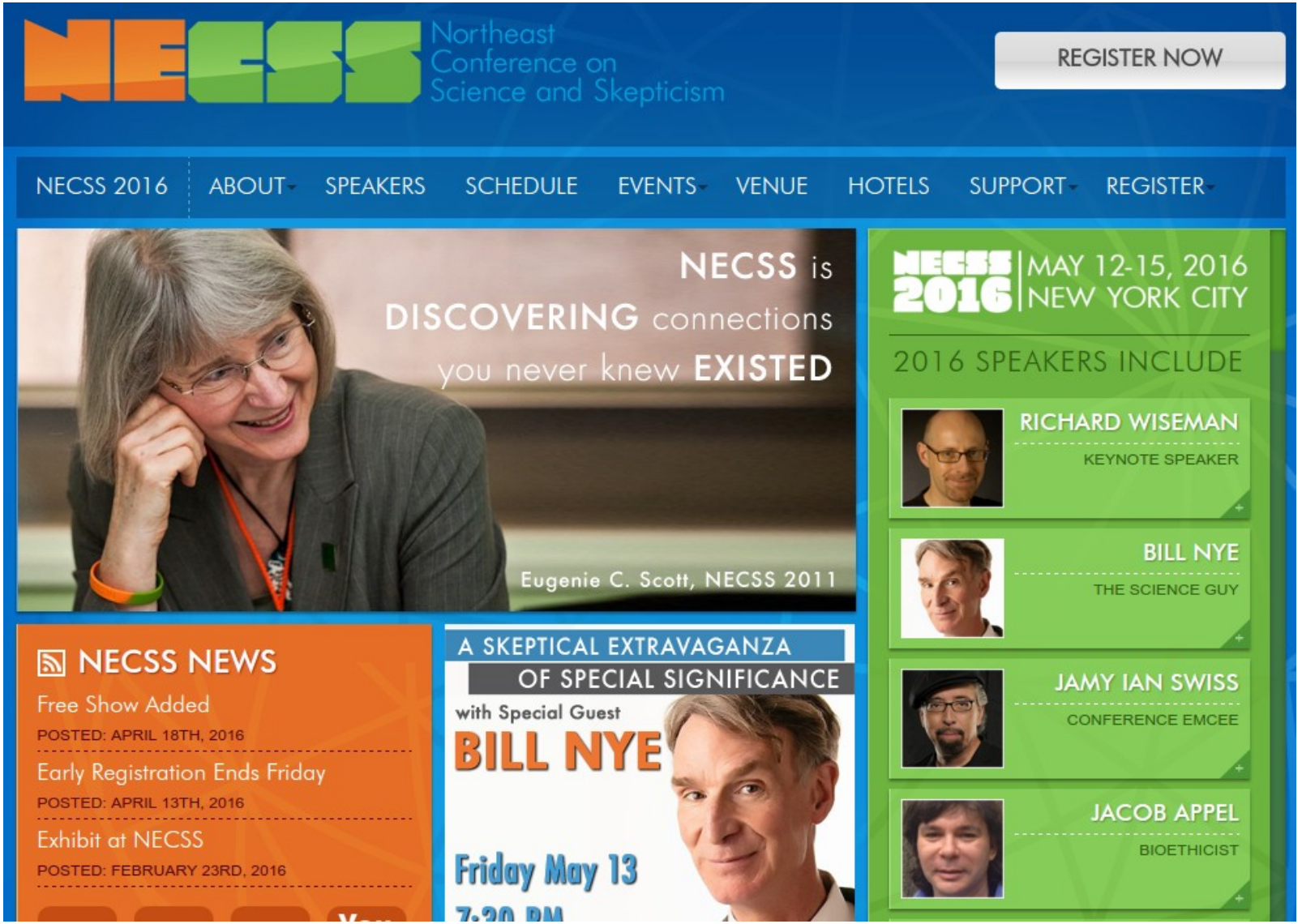
Plumbline Pictures

Subscribe 5,750

13,763 views

https://www.youtube.com/watch?v=p2WOF45uP-A

Escépticos Asociados



http://necss.org/

Crítico con los escépticos

So I'm a skeptic, but with a small S, not capital S. I don't belong to skeptical societies. I don't hang out with people who self-identify as capital-S Skeptics. Or Atheists. Or Rationalists.

When people like this get together, they become *tribal*. They pat each other on the back and tell each other how smart they are compared to those outside the tribe. But belonging to a tribe often makes you dumber.

Here's an example involving two idols of Capital-S Skepticism: biologist Richard Dawkins and physicist Lawrence Krauss. Krauss recently wrote a book, *A Universe from Nothing*. He claims that physics is answering the old question, Why is there something rather than nothing?

John Horgan, http://blogs.scientificamerican.com/cross-check/dear-skeptics-bash-homeopathy-and-bigfoot-less-mammograms-and-war-more/

No necesitamos experimentos

First, physics. For decades, physicists like Stephen Hawking, Brian Greene and Leonard Susskind have touted string and multiverse theories as our deepest descriptions of reality.

Here's the problem: strings and multiverses can't be experimentally detected. The theories aren't falsifiable, which makes them pseudo-scientific, like astrology and Freudian psychoanalysis.

Some string and multiverse true believers, like Sean Carroll, have argued that falsifiability should be discarded as a method for distinguishing science from pseudo-science. You're losing the game, so you try to change the rules.

John Horgan, http://blogs.scientificamerican.com/cross-check/dear-skeptics-bash-homeopathy-and-bigfoot-less-mammograms-and-war-more/

Somos una simulación

Physicists are even promoting the idea that our universe is a simulation created by super-intelligent aliens. Last month, Neil de Grasse Tyson said "the likelihood may be very high" that we're living in a simulation. Again, this isn't science, it's a stoner thought experiment *pretending* to be science.

John Horgan, http://blogs.scientificamerican.com/cross-check/dear-skeptics-bash-homeopathy-and-bigfoot-less-mammograms-and-war-more/

My Response to Responses to My Critique of "Skepticism"

Skeptics react with hostility and gratitude to a critique of their movement

By John Horgan on May 18, 2016 10

http://blogs.scientificamerican.com/cross-check/my-response-to-responses-to-my-critique-of-skepticism/

https://www.youtube.com/watch?v=DSbkIMh-aoY

Un problema elemental

A) Los científicos son humanos.

B) Los humanos son influenciados por su ambiente social.

C) Los científicos son influenciados por su ambiente social.

Fuentes de error

- Los efectos sociales y las distorsiones cognitivas pueden desviar las capacidades de razonamiento de un individuo.
- Ejemplos:
    - Escuchamos mejor cuando lo que dicen confirma nuestras creencias.
    - Creemos que algo es importante cuando lo oimos varias veces.
    - Nos ilusionamos con facilidad.
    - No nos gusta estar por fuera de un grupo.
    - No nos rendimos facilmente (Loss aversion)

¿Por qué es importante ahora?

- Las cosas hubieran podido ir más rápido.
- Empieza a ser importante cuando los datos experimentales se demoran en llegar.
- El ambiente de trabajo del científico ha cambiado de manera radical en el último siglo.

Los cambios de las ciencias

- Aumento en:
  - Número de científicos.
  - Comunicación.
  - Colaboración.
- Menos:
  - Apoyo para proyectos de larga duración.
  - Autores individuales.
  - Heterogeneidad.

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- Aumento en:
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  - Autores individuales.
  - Heterogeneidad.

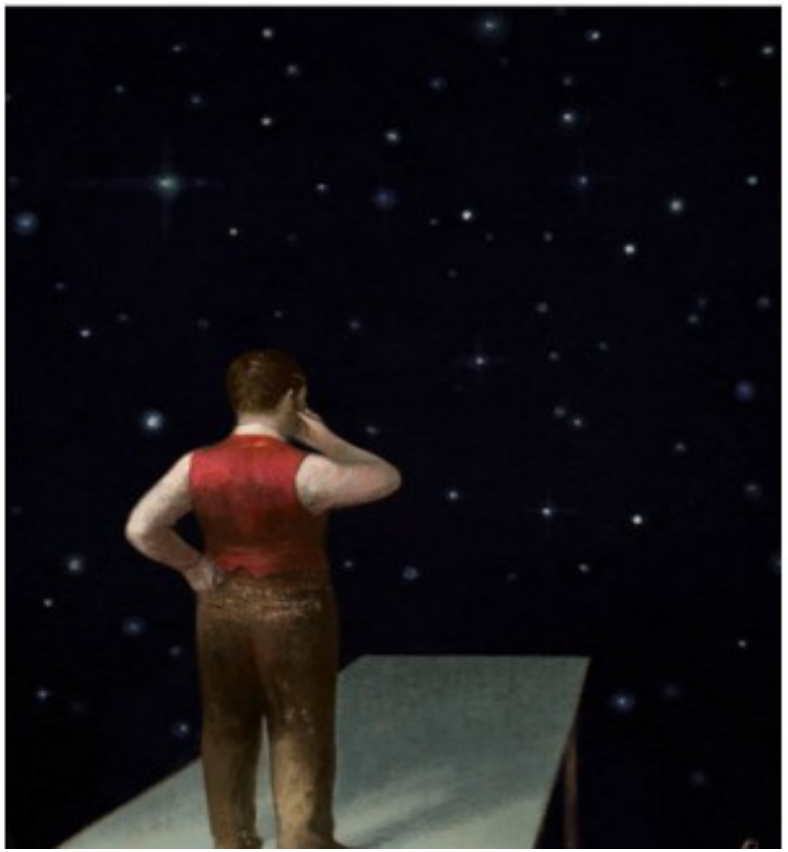
Esto **intensifica** los efectos sociales.

The Opinion Pages

A Crisis at the Edge of Physics

Gray Matter

By ADAM FRANK and MARCELO GLEISER JUNE 5, 2015



DO physicists need empirical evidence to confirm their theories?

You may think that the answer is an obvious yes, experimental confirmation being the very heart of science. But a growing controversy at the frontiers of physics and cosmology suggests that the situation is not so simple.

A few months ago in the journal Nature, two leading researchers, George Ellis and Joseph Silk, published a controversial piece called "Scientific Method: Defend the Integrity of Physics." They criticized a

http://www.nytimes.com/2015/06/07/opinion/a-crisis-at-the-edge-of-physics.html?_r=0

Perimeter Institute and the crisis in modern physics

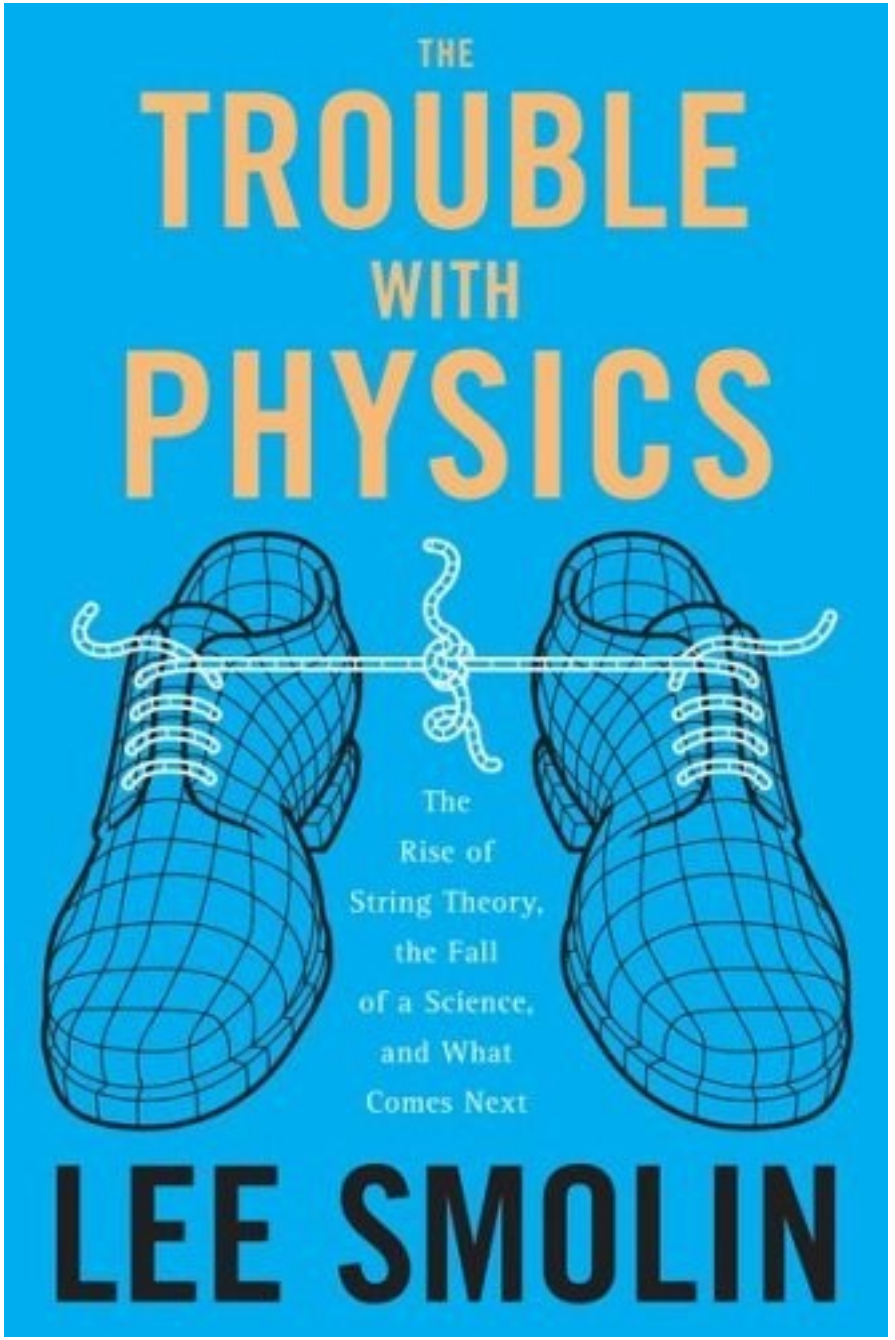
Neil Turok talks to Paul Wells about the ever-increasing complexity of theoretical physics

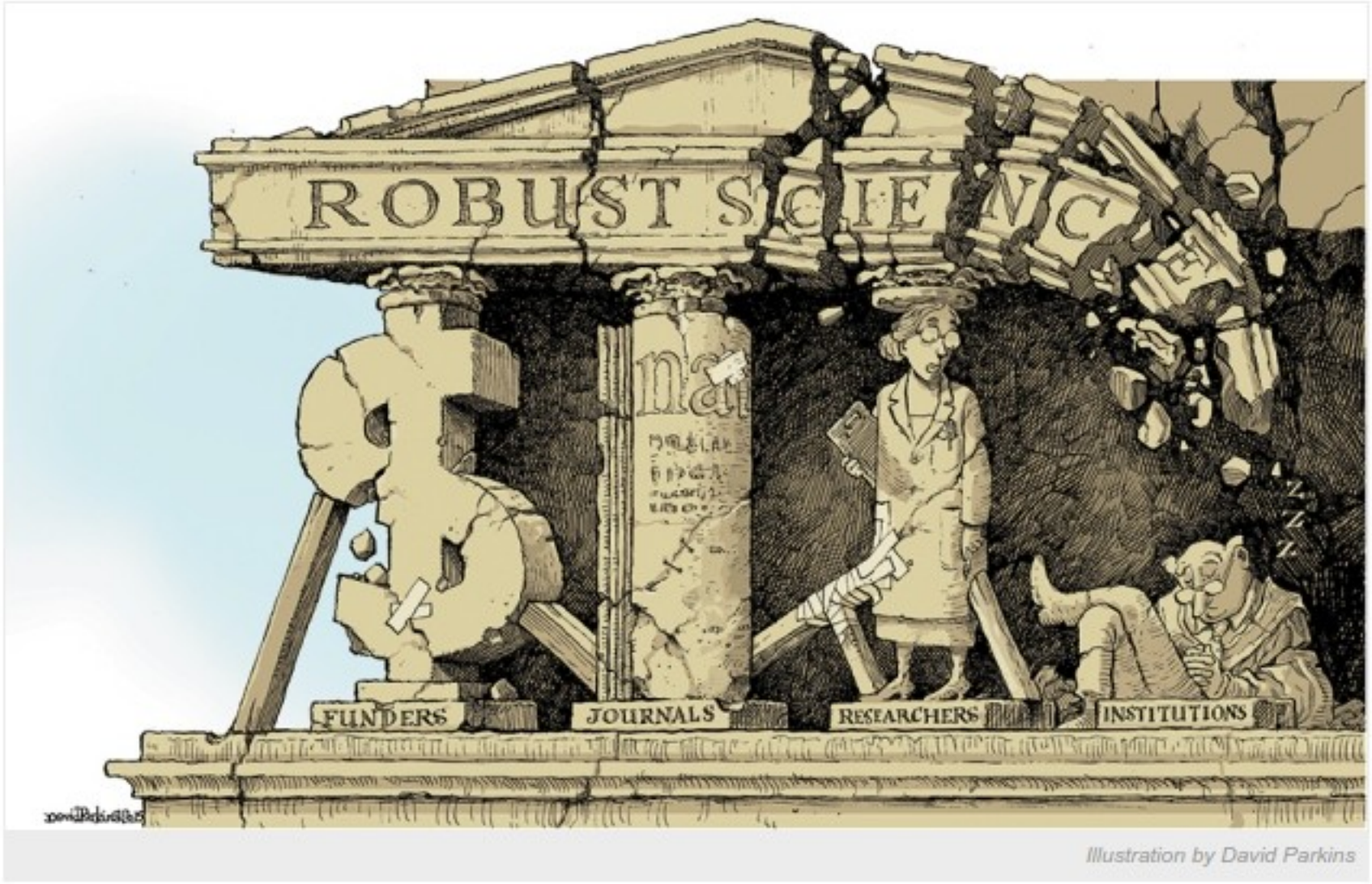
Paul Wells

September 5, 2013

In his welcome speech to this year's Perimeter Scholars International — captured on video and archived online as is every lecture ever delivered at Perimeter Institute — Neil Turok briefly

http://www.macleans.ca/politics/ottawa/perimeter-institute-and-the-crisis-in-modern-physics/


THE
TROUBLE
WITH
PHYSICS
The
Rise of
String Theory,
the Fall
of a Science,
and What
Comes Next
LEE SMOLIN



http://www.nature.com/news/robust-research-institutions-must-do-their-part-for-reproducibility-1.18259

Reality check on reproducibility

A survey of *Nature* readers revealed a high level of concern about the problem of irreproducible results. Researchers, funders and journals need to work together to make research more reliable.

25 May 2016

PDF | Rights & Permissions

Is there a reproducibility crisis in science? Yes, according to the readers of *Nature*. Two-thirds of researchers who responded to a survey by this journal said that current levels of reproducibility are a major problem.

The ability to reproduce experiments is at the heart of science, yet failure to do so is a routine part of research. Some amount of irreproducibility is inevitable: profound insights can start as fragile

Related stories

- The pressure to publish pushes down quality

http://www.nature.com/news/reality-check-on-reproducibility-1.19961

The pressure to publish pushes down quality

Scientists must publish less, says Daniel Sarewitz, or good research will be swamped by the ever-increasing volume of poor work.

11 May 2016

PDF | Rights & Permissions

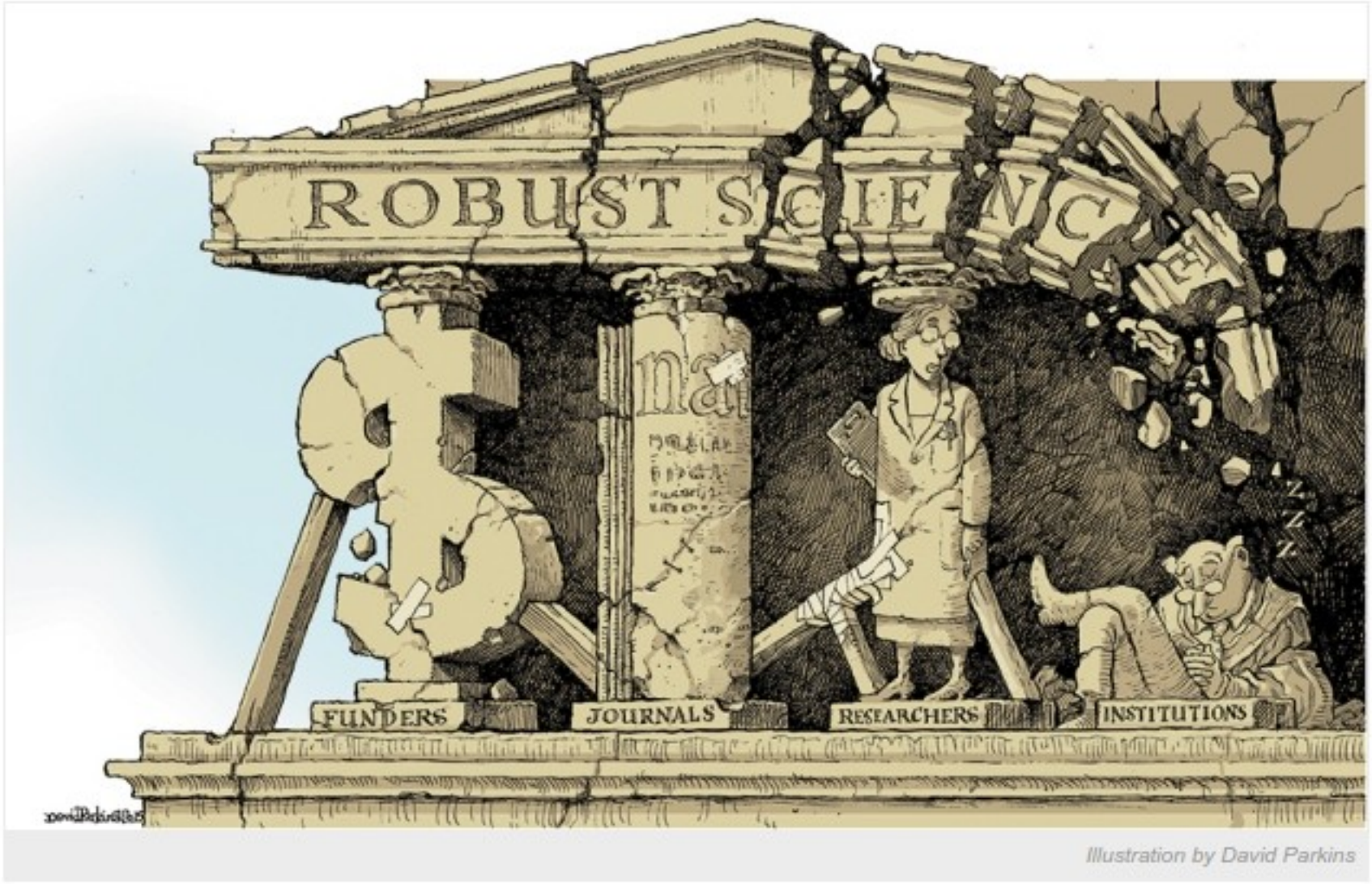
I am pleased to announce that as of the middle of April, my Elsevier publications had received 30,752 page views and 2,025 citations. I got these numbers in a promotional e-mail from Elsevier, and although I'm not sure what they mean, I presume that it would be even better to have even bigger numbers.

Indeed, the widespread availability of bibliometric data from sources such as Elsevier, Google Scholar and Thomson Reuters ISI makes it easy for scientists (with their employers looking over their shoulders) to obsess about their productivity and impact, and to compare their numbers with those of other scientists.

Related stories

- Papers with shorter titles get more citations
- The top 100 papers

http://www.nature.com/news/the-pressure-to-publish-pushes-down-quality-1.19887



http://www.nature.com/news/robust-research-institutions-must-do-their-part-for-reproducibility-1.18259

¿Cómo afecta esto a los teóricos?

- En esta área el aparato principal es el cerebro.
- En principio se debería tratar de reconocer los errores sistemáticos en su funcionamiento para tenerlos bajo control.

¿Cómo afecta esto a los teóricos?

- En esta área el aparato principal es el cerebro.
- En principio se debería tratar de reconocer los errores sistemáticos en su funcionamiento para tenerlos bajo control.
- Pero los científicos creen que “la mano invisible” del método científico puede por sí sola corregir estos errores.

El método/sistema científico

- Se llega a un conjunto de hipótesis para ser probadas **experimentalmente**.
- Los científicos no prueban todas las hipótesis posibles. Hacen una pre-selección.
- La preselección siempre viene antes de las pruebas **experimentales**.

Pero cuando los experimentos tardan en llegar...

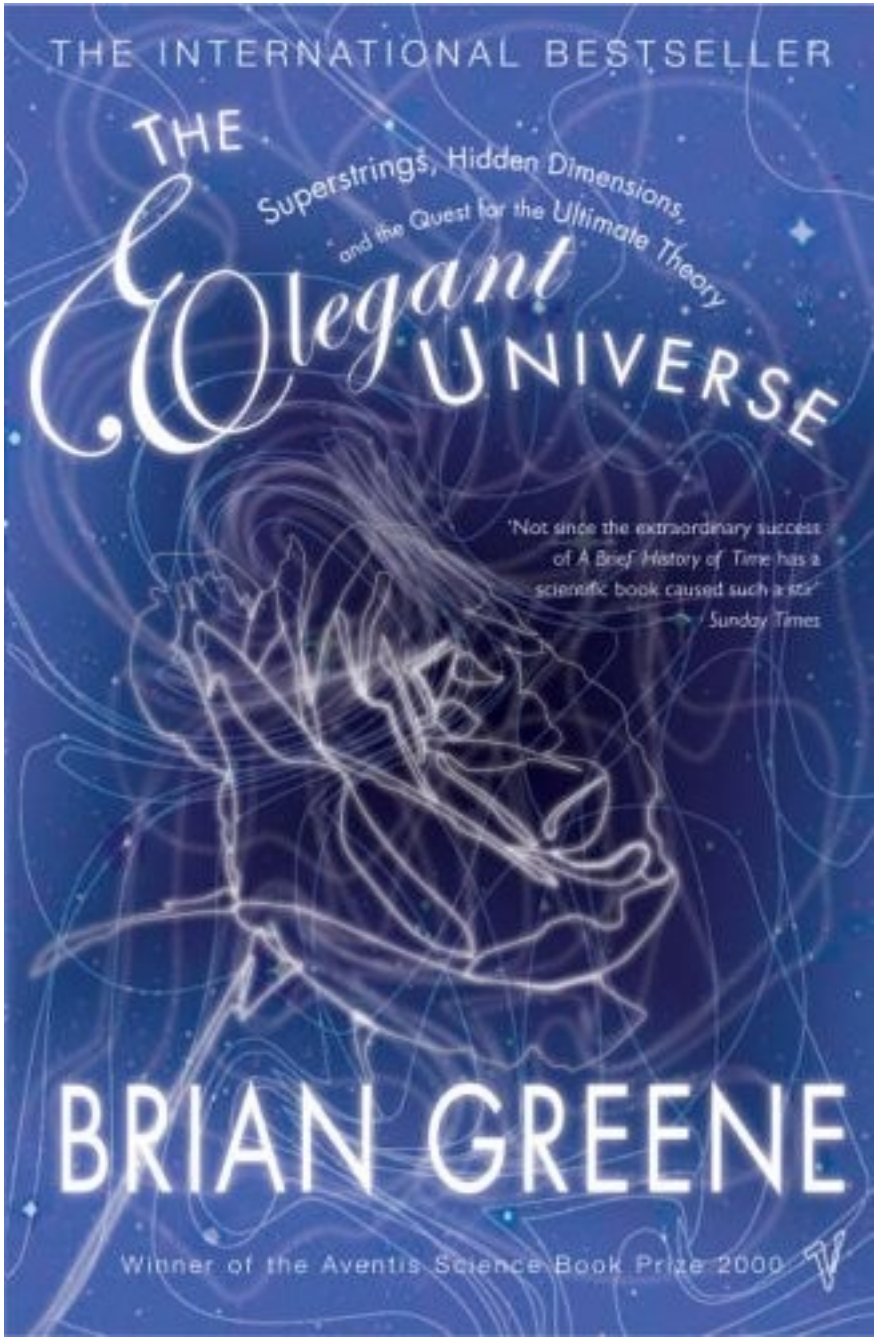
- Los efectos sociales se hacen más fuertes
  - Publicar lo que mis colegas encuentran interesante.
  - Publicar lo que mis colegas van a citar.
  - Publicar algo fácil y rápido, sin desviarse demasiado de lo que se publica en masa.

“My colleagues and I are the intellectual descendants of Albert Einstein; we like to think that we too search for beauty. Some physics equations are so ugly that we cannot bear to look at them, let alone write them down... 'Let us worry about beauty first and truth will take care of itself', Such is the rallying cry of fundamental physicists.” ~ Anthony Zee

“Having tasted beauty at the heart of the world we hunger for more. In this quest, I think, there is no more promising guide than beauty itself.”

~Frank Wilczek

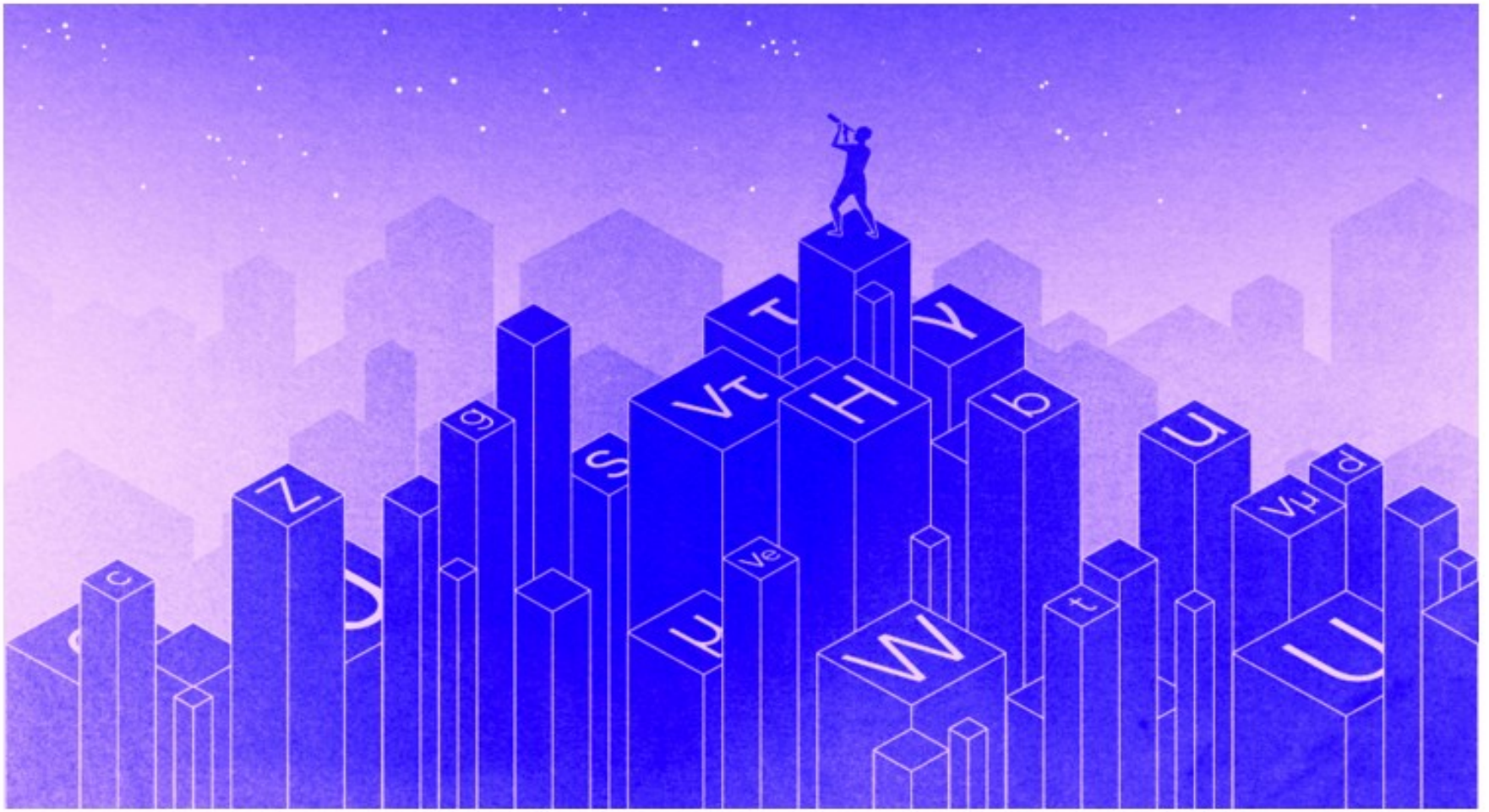
“Certainly when we read about new theories and we see how beautiful and simple they are, then they have a big advantage. We believe such theories have much more chances to be successful” ~ Gerard ´t Hooft


THE INTERNATIONAL BESTSELLER
THE
Elegant
UNIVERSE
Superstrings, Hidden Dimensions, and the Quest for the Ultimate Theory
'Not since the extraordinary success of A Brief History of Time has a scientific book caused such a stir'
Sunday Times
BRIAN GREENE
Winner of the Aventis Science Book Prize 2000

PARTICLE PHYSICS

What No New Particles Means for Physics

Physicists are confronting their "nightmare scenario." What does the absence of new particles suggest about how nature works?



Olena Shmahalo/Quanta Magazine

By Natalie Wolchover

August 9, 2016

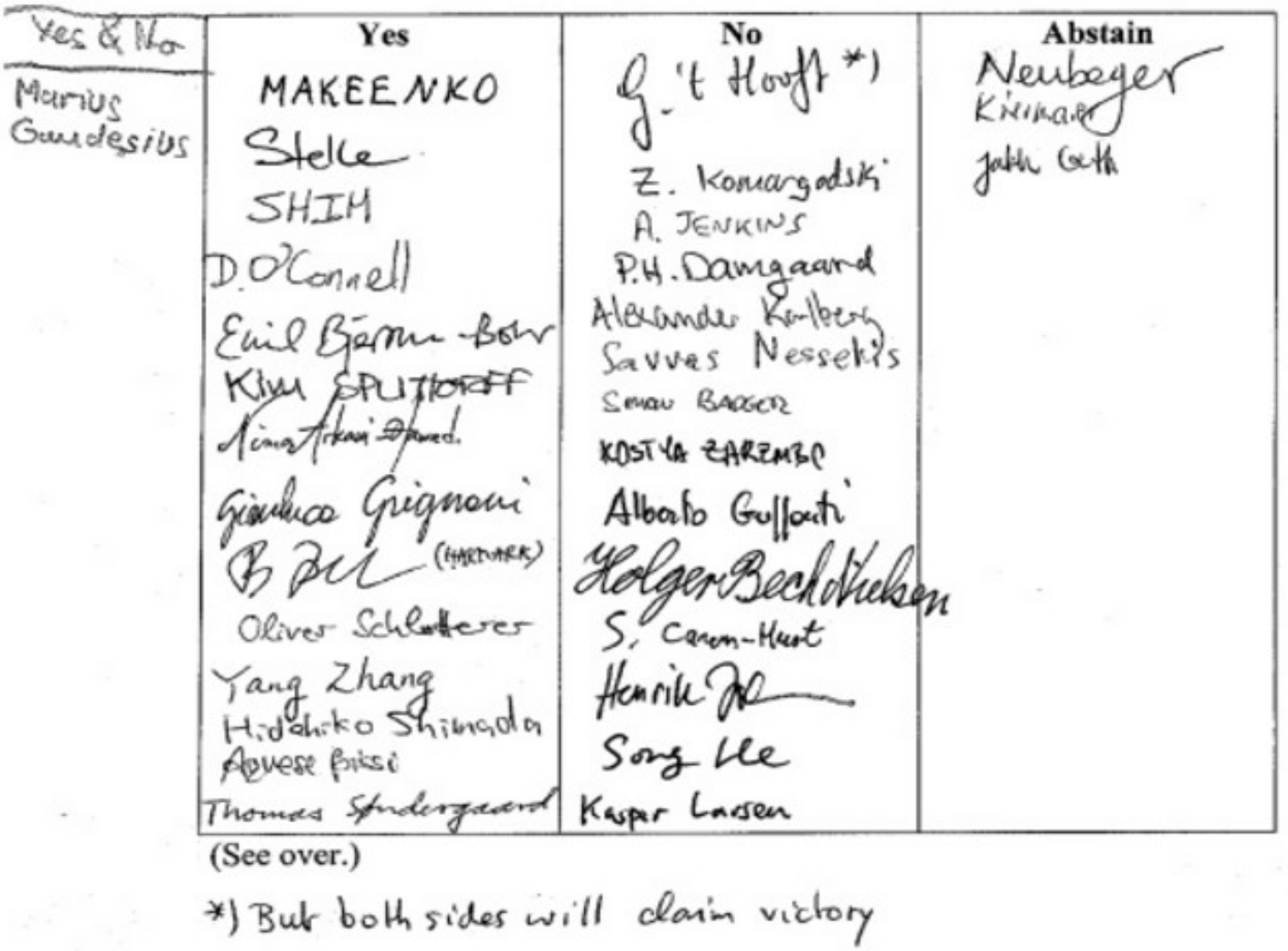
https://www.quantamagazine.org/20160809-what-no-new-particles-means-for-physics/

http://www.hep.caltech.edu/~smaria/

"We had figured it all out," said Maria Spiropulu, a particle physicist at the California Institute of Technology and a member of CMS. "If you ask people of my generation, we were almost taught that supersymmetry is there even if we haven't discovered it. We believed it."

https://www.quantamagazine.org/20160809-what-no-new-particles-means-for-physics/

Supersymmetry Bet Settled With Cognac



Yes & No	Yes	No	Abstain
Marius Gundesius	MAKEENKO	G. 't Hooft *)	Neubeger
	Stelle	Z. Komargodski	Kivinar
	SHIH	A. JENKINS	John Gath
	D. O'Connell	P.H. Damgaard	
	Emil Bjerrum-Bohr	Alexander Karlberg	
	Kiyu SPLITTORFF	Savvas Nesseris	
	Nima Arkani-Hamed	Simon BADGER	
		KOSTYA ZAREMBO	
	Gianluca Grignani	Alberto Gulfanti	
	(HARTMAN)	Holger Bech Nielsen	
	Oliver Schlotterer	S. Caron-Huot	
	Yang Zhang	Henrik	
	Hidehiko Shimada	Song Lee	
	Agnese Bissi		
	Thomas Sondergaard	Kaspar Larsen	

(See over.)

*) But both sides will claim victory

Courtesy of Poul Damgaard

The first page of signatures on a 2011 amendment to a supersymmetry bet originally placed in 2000. Click on the image to see the full document.

https://www.quantamagazine.org/20160822-supersymmetry-bet-settled-cognac/

simplest or most accessible form. “In the absence of any positive experimental evidence for supersymmetry,” Gross said, “it’s a good time to scare the hell out of the young people in the audience and tell them: ‘Don’t follow your elders. … Go out and look for something new and crazy and powerful and different. Different, especially.’ That’s definitely a good lesson. But I’m too old for that.”

https://www.quantamagazine.org/20160822-supersymmetry-bet-settled-cognac/

Fuentes de error

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    - No nos rendimos facilmente (Loss aversion)

Los sueños de un astrofísico contemporáneo

A Life in Research

But there is a way to have a long and fruitful career in research, a career where you can do what you want, when you want, attend the conferences you want, with nobody to answer to than yourself. Such a career is the dream of virtually every academic I have ever met, and it is possible. Want to know the secret?

Well, skip the PhD and spend the twenties making your fortune. Get a few million in the bank by the time you are thirty and then live of your investments. Effectively retire into research and become a "Gentleman scientist" (and they were virtually all men) of a bygone age.

You might be spluttering on your corn flakes at this point and be thinking that I have gone mad. But think about it.

cosmic-horizons.blogspot.com.

La vida diaria en la academia

Everyday Academia

So this brings us to people like me, every day academics. And if you look round the world, in the web and in the new, we appear to be a quite whiney lot. Lots of complaints about workload and the lack of time. The life of a modern everyday academic is anything but hours of musing about the mysteries of the Universe, but time is consumed by administration and teaching (two things that have hard, finite deadlines that cannot be missed), plus all of these roles that we have not been trained in, including financial and people management. The reward for research success, such as attracting more grants and students, is typically more work.

cosmic-horizons.blogspot.com.

Don't Become a Scientist!

Jonathan I. Katz

Professor of Physics

Washington University, St. Louis, Mo.

[my last name]@wuphys.wustl.edu

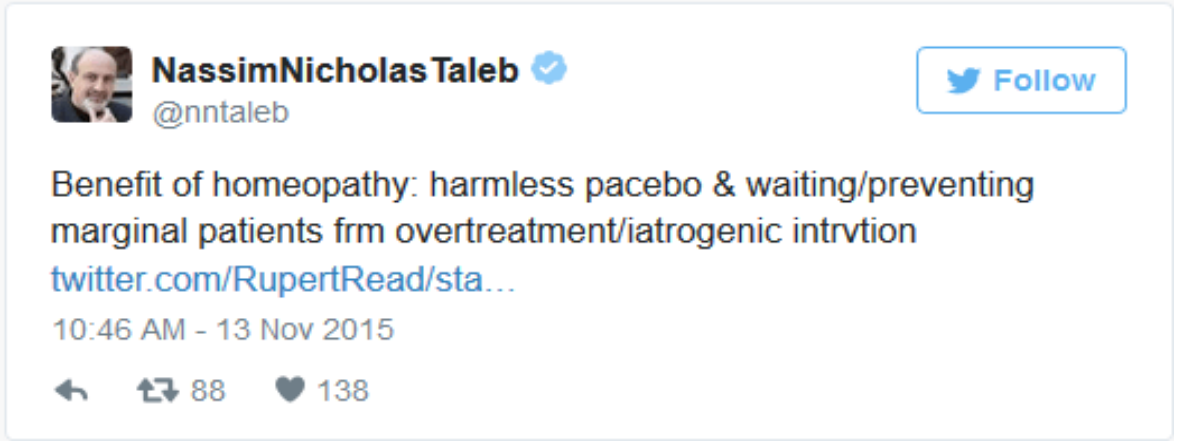
Are you thinking of becoming a scientist? Do you want to uncover the mysteries of nature, perform experiments or carry out calculations to learn how the world works? Forget it!

http://katz.fastmail.us/scientist.html

Taleb

http://arriva.ru/publications/articles/28367/

homeopatía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Benefit of homeopathy: harmless pacebo & waiting/preventing marginal patients frm overtreatment/iatrogenic intrvtion
twitter.com/RupertRead/sta…
10:46 AM - 13 Nov 2015
88
138

iatrogénesis

Medical Intervention	Intended Effects	Unintended Effects
Rofecoxib (Vioxx, Ceoxx, Ceeoxx)	relieve osteoarthritis, dysmenorrhoea	myocardial infarctions [1]
Thalidomide (Immunoprin, Talidex, Talizer, Thalomid)	sedative	severe birth defects [2]
Fen-phen (Pondimin)	weight loss	valvular heart disease, pulmonary hypertension [3]
Diethylstilbestrol (Distilbene, Stilbestrol, Stilbetin)	reduce miscarriage	cancerous tumors in daughters exposed in utero [4]
Cerivastatin (Baycol, Lipobay)	lower cholesterol, reduce cardiovascular disease	Rhabdomyolysis leading to renal failure [5]
lobotomy	improve mental disorder	loss of personality, intellect [6]
Troglitazone (Rezulin, Resulin, Romozin, Noscal)	antidiabetic, antiinflammatory	drug-induced hepatitis [7]
Terfenadine (Seldane, Triludan, Teldane)	antihistamine	cardiac arrhythmia [8]
Phenylpropanolamine (Accutrim)	appetite suppressant, stimulant, decongestant	increased stroke [9]
hospitalization	patient treatment and monitoring	nosocomial infection; medication errors [10]
antibiotics	clear bacterial infections	treatment-resistant bacteria [11]
antidepressants	relieve depression	increased suicide risk [12]
Encainide (Enkaid), flecainide (Tambocor)	reduced arrhythmia	increased mortality [13]
Acetaminophen (Tylenol)	pain relief	liver damage [14]
coronary angioplasty	increased blood flow	increased risk of death/myocardial infarction [15]
cosmetic surgery	improved aesthetics	infection, death, deformity, other malfunction [16]
obsessive hygiene	keeping safe from 'germs'	autoimmune disorders [17]
ear-tubes	otitis media with effusion	tympanosclerosis [18]

Table 2: Examples of iatrogenics in the medical field. The upper portion of the table shows medications and treatments whose use has been significantly reduced or completely discontinued due to their undesired effects (which were discovered only after significant damage had been done). The lower portion of the table lists examples where unintended side effects are significant but treatment continues to be applied due to expected benefits.

https://docs.google.com/file/d/0B8nhAlfIk3QIbGFzOXF5UUN3N2c/edit

GMO

The Precautionary Principle (with Application to the Genetic Modification of Organisms)

Nassim Nicholas Taleb*, Rupert Read§, Raphael Douady‡, Joseph Norman†,Yaneer Bar-Yam†
*School of Engineering, New York University †New England Complex Systems Institute
‡ Institute of Mathematics and Theoretical Physics, C.N.R.S., Paris
§School of Philosophy, University of East Anglia

https://docs.google.com/file/d/0B8nhAlflk3QIbGFzOXF5UUN3N2c/edit

Tiempos mejores

The Decline of Violent Conflicts: What Do The Data Really Say?

Pasquale Cirillo and Nassim Nicholas Taleb[1]

Nobel Symposium 161: The Causes of Peace, June 15-18, 2016, Bergen, Norway, (Nobel Foundation)

Summary: We propose a methodology to look at violence in particular, and other aspects of quantitative historiography in general in a way compatible with statistical inference, which needs to accommodate the fat-tailedness of the data and the unreliability of the reports of conflicts. We investigate the theses of "long peace" and drop in violence and find that these are statistically invalid and resulting from flawed and naive methodologies, incompatible with fat tails and non-robust to minor changes in data formatting and methodologies. There is no statistical basis to claim that "times are different" owing to the long inter-arrival times between conflicts; there is no basis to discuss any "trend", and no scientific basis for narratives about change in risk. We describe naive empiricism under fat tails. We also establish that violence has a "true mean" that is underestimated in the track record. This is a historiographical adaptation of the results in Cirillo and Taleb (2016).

http://www.fooledbyrandomness.com/violencenobelsymposium.pdf

The Intellectual Yet Idiot

What we have been seeing worldwide, from India to the UK to the US, is the rebellion against the inner circle of no-skin-in-the-game policymaking "clerks" and journalists-insiders, that class of paternalistic semi-intellectual experts with some Ivy league, Oxford-Cambridge, or similar label-driven education who are telling the rest of us 1) what to do, 2) what to eat, 3) how to speak, 4) how to think… and 5) who to vote for.

https://medium.com/@nntaleb/the-intellectual-yet-idiot-13211e2d0577#.wqje33o6k

Escepticismo de Al-Ghazali

http://expositions.bnf.fr/splendeurs/grand/1-18.htm
Mohammad Ghazzâli L'Alchimie du bonheur

“The great medieval Arabic-language skeptic philosopher Algazel came up with the famous methapor of the pin. The pin doesn't have a single maker, but twenty five persons involved; these are all collaborating in the absence of a central planner. For not a single one knows how to produce it on its own.” *Antifragile*, N. N. Taleb.

“In the eyes of Algazel, a skeptic fideist (i.e. a skeptic with reluigious faith), knowledge was not in the hands of humans, but in those of God, while Adam Smith calls it the law of the market and some modern theorists present it as self-organization. The logic of things stands outside of us. **Not a single individual has a clue about the general process**.” *Antifragile*, N. N. Taleb.

¿Carroll o Taleb?