

Science is dead Long live science!

Peter Stallinga, University of the Algarve, 28 november 2013

“If you see fraud and don't shout 'fraud!',
you are fraud!”

- Nassim Nicholas Taleb



Stallinga.org

Non-profit science organization

Overview

- Why am I talking to you today?
- History of science
- What is science?
- Our education system
- Our funding system
- Our peer-review system
- Examples. Heroes and fraudsters.

Science (definition)

Science = knowledge

Science is the search for knowledge

Science is the love for knowledge (philo-sophy)

Knowledge, and only knowledge (not important for whom, how, why or what)

Science (examples)

Ex. (actually not science). If you find out that

- Women have 8% smaller brain



Science (examples)

Controversial examples

- Women have 8% smaller brain,
- Men (&women) evolved from apes (Darwin),
- You can blow up the planet with nuclear fission (Curie),
- The capital is destroying humanity (Marx),
- God does not exist (Gödel).

No politics. No money. No religion (dogmas)

Note: in 2013, 3 out of 5 are still taboo

What science is not

- Science is not “knowing how to make things” (that is technology)
- Science is not “advanced (intelligent) research” (ex. tallying of fish stock, “knowing how many sardines in Algarve waters”)
- Science is not “solving problems” (ex. new solar panels to fight climate change)

“Philosophy is not a strategy”
- anonymous

History of science. 17Th/18th century Renaissance

- Science was the study of natural laws
- Studying and understanding the world around us
- Trying to describe it in simple laws
- Examples: Darwin, Galileo, Kepler, Newton

History of science. 19Th century

- Science is the research that follows the 'Scientific Method'
- Heydays of science. Science reached its maximum (ca. 1940)

History of science. Late 20th century

- Science is “reliable, teachable knowledge”

This makes all religions science ('reliable' is a fuzzy word!)

It makes all dogmas science. A dogma is per definition reliable!

You can call anything you want 'science'

“Dogmas are collective conceptual prisons. And the strange thing is that people love their prison cells because they give them a sense of security and a false sense of 'I know.' Nothing has inflicted more suffering on humanity than its dogmas”

- Eckhart Tolle

History of science. Late 20th century

- First (ca. 1950): distinction between “pure” / “fundamental” science and “applied” science. Money could be made that way (except for scientists*) and wars won.
Ex. “computer science” and “rocket science”
- In 2013 nearly all science is required to make 'profit' (be useful somehow)

*: Nobel Prize is about 1 million euros; About equal to annual salary of a manager of a tiny bank (ex. BPN), or one-tenth of salary of CR7, or one-thousandth of income of African president's daughter

History of science. 21st century

- Note: If you write a project proposal and have to explain why it is beneficial for society, it is not science! (It is 'research' at best)

How would Einstein write his project proposals in 2013?

“Anyone who thinks science is trying to make human life easier or more pleasant is utterly mistaken”

- Albert Einstein

History of science. 21st century

- In 2013, science has to be 'politically correct'

History of science. 21st century

- In 2013, science has to be 'politically correct'
Ex. Women have 8% smaller brain

Politically correct

Imagine writing “women have 8% less brains and are more stupid”



NEWS Study: Female Brains Are Smaller Than Male Brains, But Used More Efficiently

March 4, 2013 1

Like 998 Tweet 160 Share 200 View Comments



SACRAMENTO (CBS Sacramento) - The findings of a new study reveal that, while women do have smaller brains than men, women use the grey matter they do have more efficiently than their male counterparts.

According to The Daily Mail, a team of researchers from both the University of California and abroad in Madrid made the observation while trying to reconcile the discrepancy between male and female brain size and the equality of intelligence between the genders.

The female brain is reportedly 8 percent smaller than the male brain, on average.

Researchers involved in the study specifically looked at the different roles the region of the brain known as the hippocampus – which is a center of emotional and memory function in the

<http://sacramento.cbslocal.com/2013/03/04/study-female-brains-are-smaller-than-male-brains-but-used-more-efficiently/>

History of science. 21st century

- Intermezzo. A test how much you are programmed to give standard answers without thinking:

History of science. 21st century

- Intermezzo. A test how much you are programmed to give standard answers without thinking:

What is the oldest profession in the world?

(How long did it take you to come up with an answer? Have you ever thought about the question? Are you sure of your answer?)

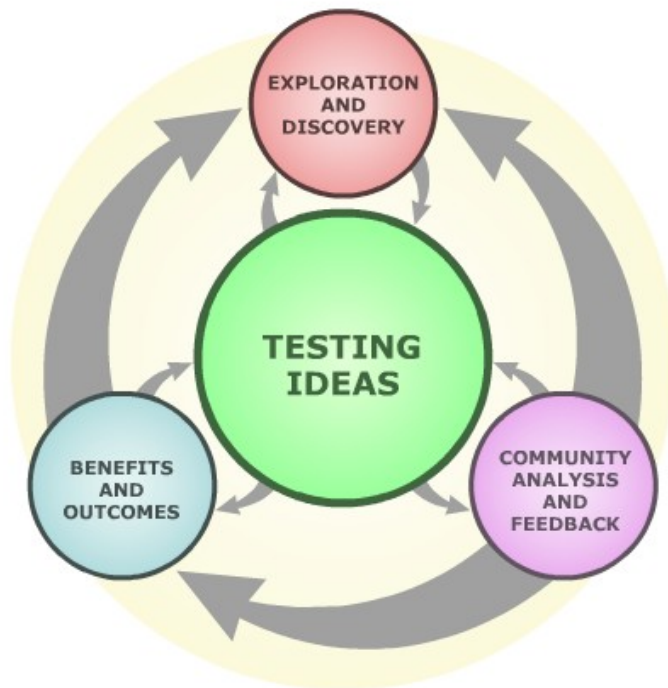
21st century science



How science works: The flowchart

This flowchart represents the process of scientific inquiry, through which we build reliable knowledge of the natural world. You can use it to trace the development of different scientific ideas and/or the research efforts of individual scientists. Most ideas take a circuitous path through the process, shaped by unique people and events.

Move your mouse pointer over the flowchart to reveal an additional level of detail. Click on items in the flowchart to get further information in Understanding Science 101.

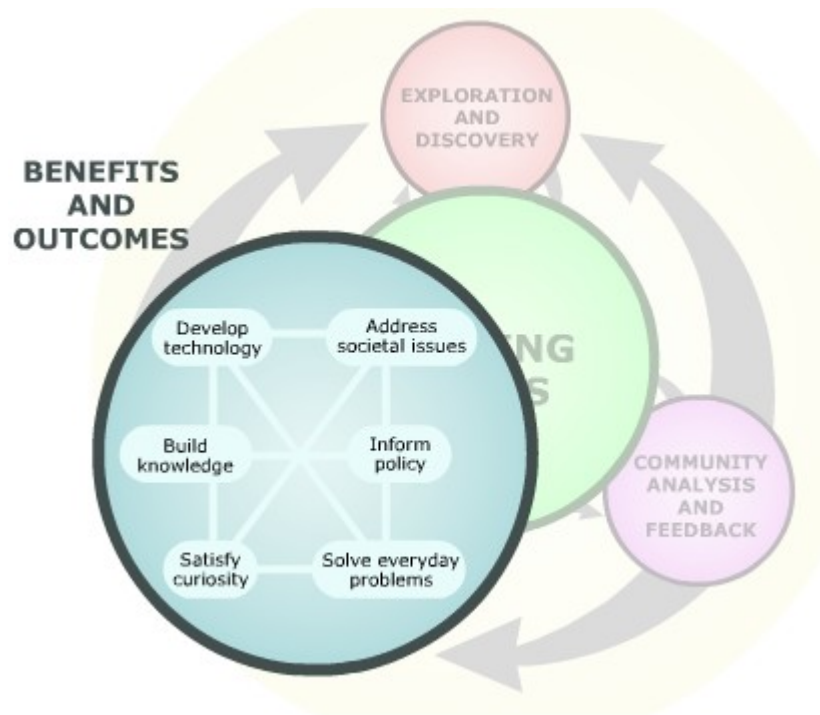


University of (California at) Berkeley definition of science*:

- 1) Research (no restriction)
- 2) Community ('peer reviewing')
- 3) Benefits (for society)

*: <http://undsci.berkeley.edu/article/scienceflowchart>

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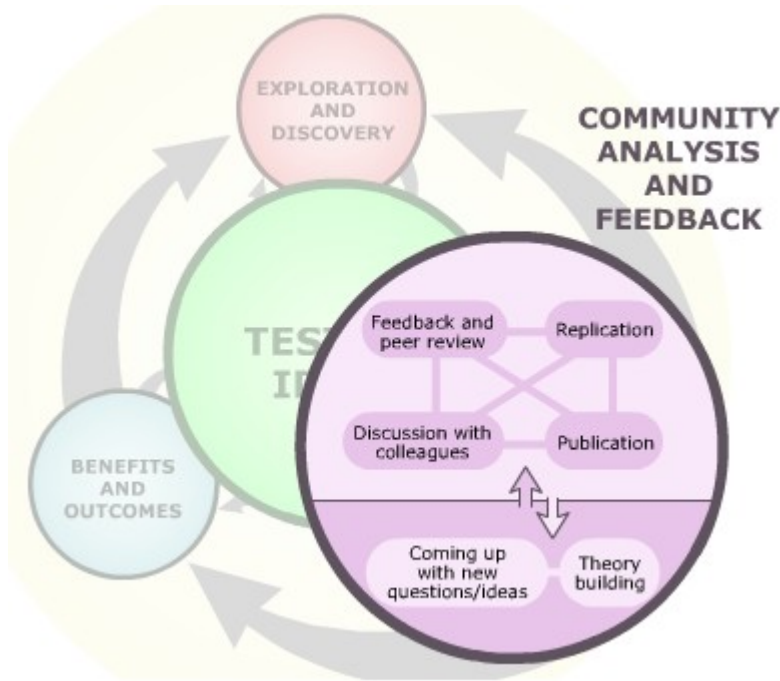
University of (California at) Berkeley definition of science*:

- 1) Research (no restriction)
- 2) Community ('peer reviewing')
- 3) Benefits (for society)

+ Satisfy curiosity. Build knowledge
- Develop technology. Address social issues. Inform policy.
Solve everyday problems

*: <http://undsci.berkeley.edu/article/scienceflowchart>

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University of (California at) Berkeley definition of science*:

- 1) Research (no restriction)
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+ Replication. Feedback. Discussion. Publication
- Peer review

Replication



NATURE | COMMENT



Reproducibility: The risks of the replication drive

Mina Bissell

20 November 2013

The push to replicate findings could shelve promising research and unfairly damage the reputations of careful, meticulous scientists, says Mina Bissell.



PDF



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Subject terms: Cell biology • Publishing • Research management



Repeating an experiment is essential in science.

2013: Need for replication is annoying (and is even outsourced to commercial entities)*

↓
Stallinga: “When a source of information has a stake in a discussion, its information has to be ignored”^o

*: <http://www.nature.com/news/reproducibility-the-risks-of-the-replication-drive-1.14184>

^o: Stallinga, “De mythe van klimaatsveranderingen”, Lulu (2010)

Peer review

- Peer review: Good, but who controls the controllers?

Editor forced to quit for accepting a bad paper
(If this were common practice, there would be no editors left anymore)

Political pressure!

Editors afraid to publish climate skeptic papers → scientific consensus!

nature.com : Sitemap

newsblog
Nature brings you breaking news from the world of science

News & Comment > News Blog > Post

Previous post
[Agency to consider endangered listing for US research chimps](#)

Next post
[Reliability of 'new drug target' claims called into question](#)

NATURE NEWS BLOG

Cool climate paper sinks journal editor

02 Sep 2011 | 22:09 GMT | Posted by [Richard Monastersky](#) | Category: [Earth, environment & ecology](#)

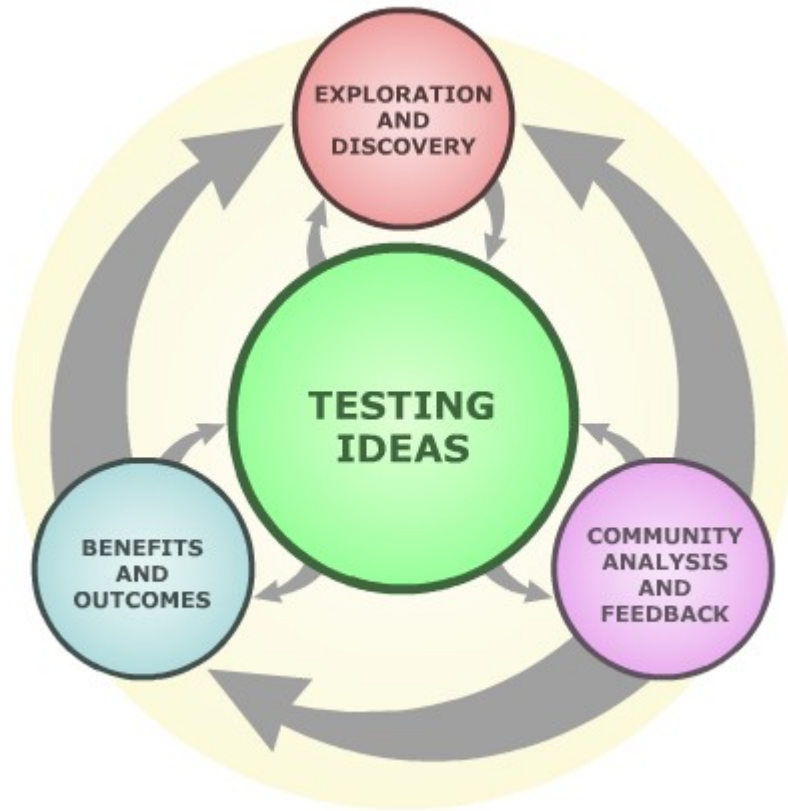
The editor of the journal *Remote Sensing* resigned today, saying in [an editorial](#) that his journal never should have published a controversial [paper](#) in July that challenged the reliability of climate models used to forecast global warming. The paper, by Roy Spencer and William Braswell of the University of Alabama in Huntsville, proposed that climate researchers have likely made a fundamental error by overestimating the sensitivity of the climate to greenhouse-gas pollution.



The climate-research blog [Real Climate](#) and other mainstream researchers complained that the paper was itself fundamentally flawed, but the *Remote Sensing* article garnered support from climate skeptics and significant press attention, thanks in part to an overly hyped [press release](#). The editor of *Remote Sensing*, Wolfgang Wagner of the Vienna University of Technology, said he now views the paper as "fundamentally flawed and therefore wrongly accepted by the journal. This regrettably brought me to the decision to resign as Editor-in-Chief—to make clear that the journal *Remote Sensing* takes the review process seriously."



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- 1) (General) research
(including technology and tallying)
- 2) Politically correct
- 3) Profit

Science does not even have to be the truth!
Science does not even have to be innovating

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- **MISCONCEPTION:** There is a single Scientific Method that all scientists follow.

CORRECTION: "The Scientific Method" is often taught in science courses as a simple way to understand the basics of scientific testing. In fact, the Scientific Method represents how scientists usually write up the results of their studies (and how a few investigations are actually done), but it is a grossly oversimplified representation of how scientists generally build knowledge. The process of science is exciting, complex, and unpredictable. It involves many different people, engaged in many different activities, in many different orders. To review a more accurate representation of the process of science, explore our [flowchart](#).

<http://undsci.berkeley.edu/teaching/misconceptions.php#b1>

Science has been redefined!

21st century science

- **MISCONCEPTION:** Scientists are completely objective in their evaluation of scientific ideas and evidence.

CORRECTION: Scientists do strive to be unbiased as they consider different scientific ideas, but scientists are people too. They have different personal beliefs and goals — and may favor different hypotheses for different reasons. Individual scientists may not be completely objective, but science can overcome this hurdle through the action of the scientific community, which scrutinizes scientific work and helps balance biases. To learn more, visit [Scientific scrutiny](#) in our section on the social side of science.

<http://undsci.berkeley.edu/teaching/misconceptions.php#b1>

Science has been redefined!
“It's OK if you are biased, you're colleagues will correct you”

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- **MISCONCEPTION:** Science is pure. Scientists work without considering the applications of their ideas.

CORRECTION: It's true that some scientific research is performed without any attention to its applications, but this is certainly not true of all science. Many scientists choose specific areas of research (e.g., malaria genetics) because of the practical ramifications new knowledge in these areas might have. And often, basic research that is performed without any aim toward potential applications later winds up being extremely useful. To learn about some of the many applications of scientific knowledge visit [What has science done for you lately?](http://undsci.berkeley.edu/teaching/misconceptions.php#b1)

<http://undsci.berkeley.edu/teaching/misconceptions.php#b1>

Science has been redefined!
“Science should be useful”

Note: There is nothing wrong with studying something useful, but science itself is **not** interested in the usefulness. The usefulness is for engineers!

Philosophy

- Mother of science (philosophy): Main topic of philosophy:
God

21st century science

- **MISCONCEPTION: Science contradicts the existence of God.**

CORRECTION: Because of some vocal individuals (both inside and outside of science) stridently declaring their beliefs, it's easy to get the impression that science and religion are at war. In fact, people of many different faiths and levels of scientific expertise see no contradiction at all between science and religion. Because science deals only with natural phenomena and explanations, it cannot support or contradict the existence of supernatural entities — like God. To learn more, visit our side trip [Science and religion: Reconcilable differences](#).

<http://undsci.berkeley.edu/teaching/misconceptions.php#b1>

Freedom of belief is a Human Right.
Science should submit to these rights
(be 'politically correct')

Science and religion

In fact, science and religion **are** at war:

- Religion is believing without proof or question. It is faith
- vs.
- Science is knowing based on evidence, deduction, induction and falsification

Note: there is no war between religion and technology.
Engineers implementing the miracles of God

Science and religion



- Martin Luther

This is the biggest declaration of war imaginable.

In 2013, faith has won the battle. Reason is forbidden. As per declaration of the United Nations and adopted by universities (such as UCB)

Science and religion

In fact, science (philosophy) **can** make statements about supernatural beings.

Philosophy:



William of Ockham: Ockham's Razor: if two models (theories/hypotheses) can explain observations, the simpler model with less features is correct



Saint Exupéry: We should not be happy when there is nothing more to add to our model, but nothing more to remove

Science and religion

In fact, science (philosophy) **can** make statements about supernatural entities

God does not exist:

- 1) No entity is needed to explain the existence of the universe nor any of the observations made, therefore, this entity does not exist (Ockham's Razor)
- 2) If an entity is needed to explain a system so complex as our universe, i.e., a Creator, then who created the complex system of the Creator? (The unmovable Mover)

1+2: God does not exist

Read for example Engels' "Anti-Duehring"

Science and religion

In fact, science (philosophy) **can** make statements about supernatural beings.

God does exist (Ontological argument):

1) God is per definition perfect

2) The non existence of something makes that something less than perfect

1+2: God exists

Science and religion

As you can see, philosophy, the scientific reasoning, can (and does) make statements on this subject

In fact, science is addressing the related issue of the Big Bang and throws in all 'weapons'. It is a question that interests us all. We even build accelerators to find the so-called god-particle (Higgs boson*).

*: Note the search for the Higgs ('hoax') boson, however, is not science

Science and religion

Scientific ('double blind') statistical studies have been done on the effects of praying.

An example of praying for sick people*. Conclusion:

- People that did not know somebody was praying for them:
no effect
- People that did know somebody was praying for them:
increased death rate

Other research concludes the opposite, but have all been debunked (and never any editor of any journal was sacked!)

*: Described in Richard Dawkins, “the God Delusion”

Politics and public opinion

4. DSL at 14:00 PM on 3 September, 2011

What does Pielke mean by "politicized"? All science is politicized from the get-go because funding must be provided--in all sectors. Decisions about the worth of a study must be made. Those decisions are essentially political. I can only assume that Pielke means that Wagner only further brings climate science into the maw of mass media and public opinion, which is where it should be. People should be thinking about it. What the science indicates is serious trouble, and an informed public is never a bad thing. Pielke, then, laments the possibility of more people engaging the situation, for surely he couldn't be lamenting the idea that more idiots get a crack at the situation, not when he's let garbage slide right by him without correction or comment on various blogs and in association with the NIPCC. And he implicitly defends Spencer's work (surely he's read it and the criticisms).

Typical comment at typical blog

<http://www.skepticalscience.com/Journal-editor-resigns-over-fundamentally-flawed-paper-Roy-Spencer.html>

Climate change: **If** it is true, it is very very important and ...
therefore it is true, because we have to **act as if** it were true.

Then, because it is true, we must hire 'scientists' to **prove it**, and make propaganda to brainwash the people into **believing** it is true (because there is a benefit/profit to do so)!

Public opinion

Climate change: ***If*** it is true, it is very very important and .. ***therefore*** it is true

This is an example of Pascal's Wager:

“I do not know whether God exists, but I know that I have nothing to gain from being an atheist if he does not exist, whereas I have plenty to lose if he does. Hence this justifies my belief in God”

Even better than believing in God, is convincing others! (double bonus when knocking at the pearly gates of heaven). 'Jehova's Witness stance'.

Stallinga & Khmelinskii, “Psychology of global warming modeled with Game Theory decision tables” (Rev. Phil. Psych. 2013)
(Next week's seminar of DEEI)

Public opinion

Circular reasoning: Climate Change? **If** it is true, it is very very important and .. **therefore** it is true

The benefit for society (if true) is huge. Therefore, **we are morally obliged to force a consensus in science, and brainwash the public by all means possible**

Science needs benefit/outcome/relevance and thus we are allowed to be biased, omit data, falsify data, tell half truths, etc.

Result: Society is full of ignorant idiots that strongly believe in Global Warming and are shouting the words of the prophets, calling all real scientists Anti-Christ, etc.

It's all about the money \$



Science needs benefit/outcome/relevance and thus we are allowed to prove the need of a product any way we can if it makes profit

Example:

Statins (AstraZeneca) sold to fight alleged problems with cholesterol. AZ invented a medicine (statins) and *then* invented an illness to market the medicine. Paid research to prove the efficiency of statins (Or Tamiflu sold to fight the Mexican Flu 'epidemic')

That is what means 'benefits and outcomes' !

Stallinga prediction: the research will prove the benefit of statins just to the moment of expiration of the patent. The very next day, cholesterol will become a non-issue!

It's all about the money \$

CEO's of large pharmaceutical companies :

“We will not do research on finding **cures** for illnesses, but only for **treatments**, because we have to guarantee continuity – that we can also do research in 20 years from now – and for that we need a steady stream of money”

It's all about the money \$

Science needs benefit/outcome/relevance and thus we are allowed to prove the need of a product any way we can

Stallinga: “When a source of information has a stake in a discussion, its information has to be ignored”

Science and money are contradictory

It's all about politics

Now, imagine two groups of climatologist

- 1) “The end of the world is coming. The planet will heat up. You have to fund my research, or we are all doomed!!!!”
- 2) “There is nothing wrong with the climate. My work is therefore rather irrelevant, except to satisfy my (personal) curiosity. Can you please fund my research?”

It's all about politics

1) 1982: Roger Revelle* needed funding for his atmospheric research



Established 1845 **SCIENTIFIC AMERICAN** August 1982 Volume 247 Number 2

Carbon Dioxide and World Climate

That the atmospheric content of carbon dioxide is increasing now seems well established. As a result some latitudes could become warmer and wetter, but the effects may not all be bad

by Roger Revelle

The "carbon dioxide question," which has become the subject of extensive concern in recent years, is actually three questions. The first is how much carbon dioxide will be added

would be lower and the oceans might be a solid mass of ice.

Over geologic time vast quantities of carbon dioxide have been emitted by volcanoes. Almost all of it has been

over the previous 60 years might have been caused by an increase in atmospheric carbon dioxide from the burning of fossil fuels. Gilbert N. Plass argued along similar lines in the early 1950's.

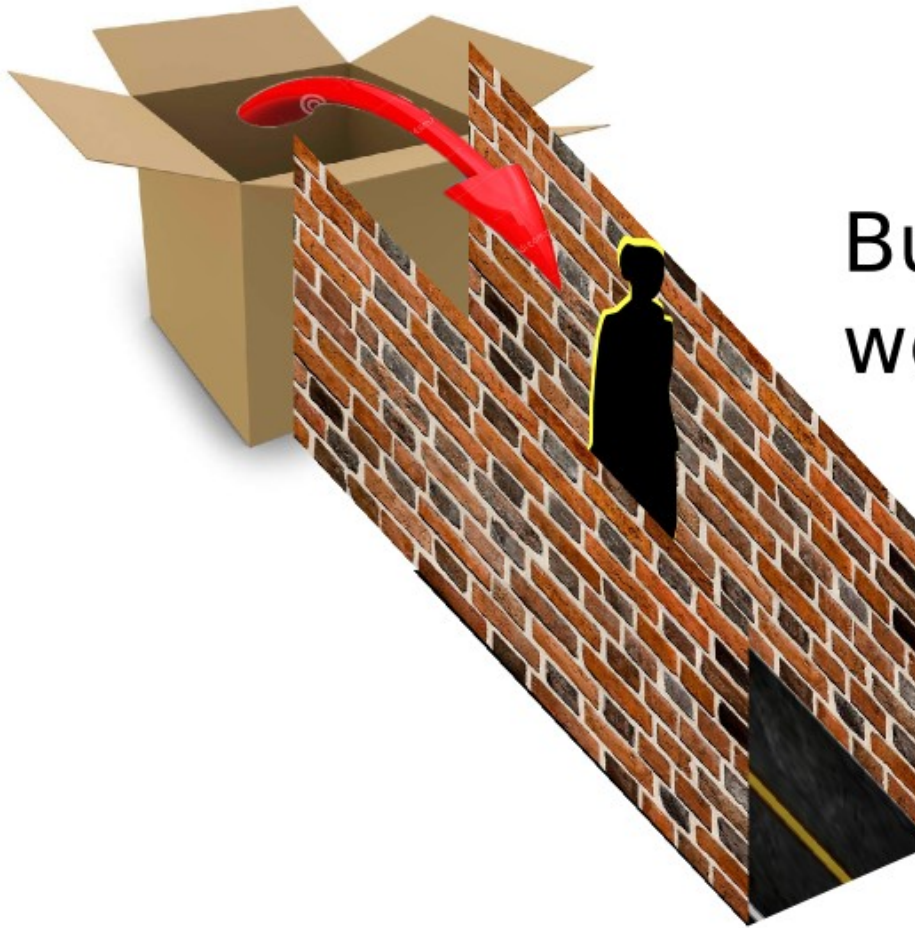
2) 1984: Alleged CO₂ problem used to break coal miners trade unions in UK by liberalist Ms. Margaret Thatcher, who later also inaugurated Hadley science center (IPCC main nucleus)^o

*: Roger Revelle is lifelong friend of Mr. Al Gore (Bachelor in Arts and politician)

^o: <http://blogs.telegraph.co.uk/news/jamesdelingpole/100211031/margaret-thatcher-godmother-of-global-warming/>

21st century science

Think outside the box



But within the boundaries
we have set for you!

- 1) (General) research
(including technology and tallying)
- 2) Politically correct
- 3) Profit

21st century science



Science?

Invent new products you can sell. Like a USB keyboard vacuum cleaner (which must be the most stupid idea of mankind ever. Just hold your keyboard upside down, duh!)

21st century science

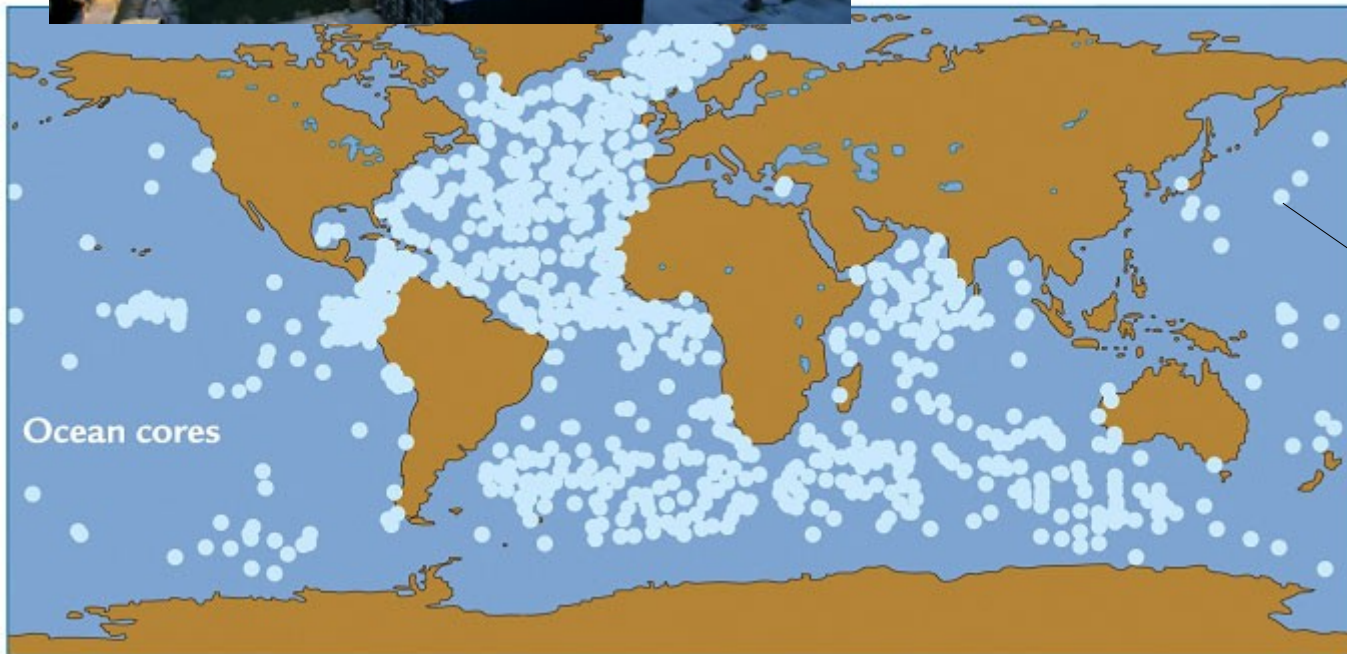
Science 2013? Stallinga's research:
Invent expensive new light sources (LEDs) to replace cheaper incandescent light bulbs and then let people heat their homes electrically (when it is dark, it is normally cold), while turning every city into some kind of Las Vegas. (No technology ever reduced energy consumption!)

21st century science



Science 2013?

Drill holes in arctic seabed to prove your thesis (what you already know) and even contribute massively to the alleged problem being studied



Every drill hole costs ca. \$10 million and has a huge CO2 footprint

Peer reviewing

So far we have seen:

- Individual scientist is allowed to be biased (Berkeley definition)
- Editors not politically correct are fired (see Spence paper). No true controllers of the controllers

Now let's see where this leads to

Peer reviewing

- 1) Referees are randomly taken from literature. More papers published, more chance of being selected for refereeing
- 2) Referees, with (allowed!) cognitive biases ignore scientific reasoning and accept papers in favor of their beliefs more readily than those against them

Result: **Positive feedback:**

If 'belief A' has a slight advantage over contradicting 'belief B', B will be filtered out completely in a Darwinistic way

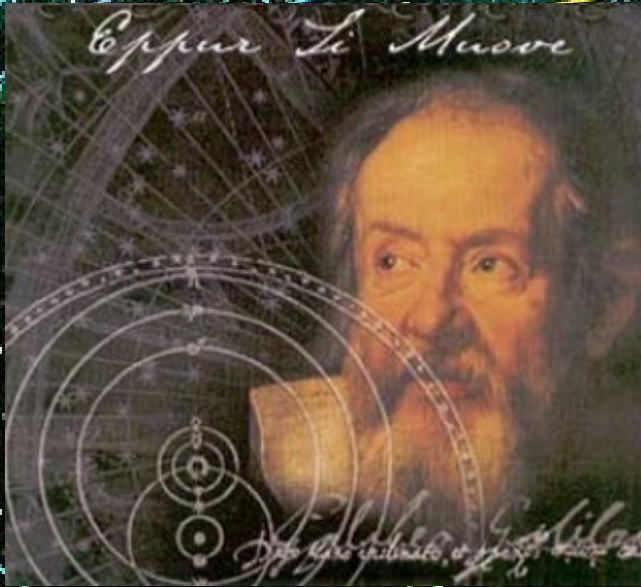
Belief B, without publications, will get no funding and will be without a job

Voilà The Great Heroic Consensus, 100% ('saturation'). A nice social network of like-minded dogmatic idiots. A religion!

*: (Stallinga & Khmelinskii, "Psychology of Global Warming modeled by Game Theory decision tables", 2013)

Peer reviewing; Consensus

Consensus is not a scientific argument

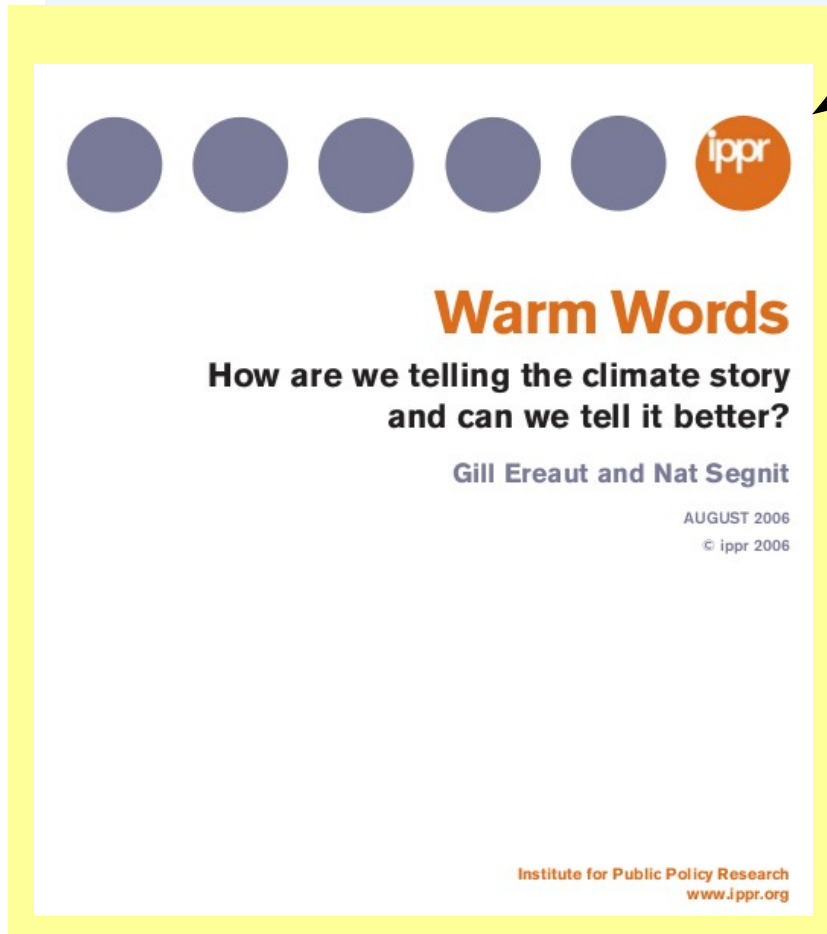


“Eppur si muove!”
- Galileo

(And yet, it moves ...)

People going against the consensus are scientific heroes.
Never the ones who repeat the consensus dogmas!

Politics. Brainwashing*



"The task of climate change agencies is not to persuade by rational argument ... Instead, we need to work in a more shrewd and contemporary way, using subtle techniques of engagement ... The 'facts' need to be treated as being so taken-for-granted that they need not be spoken. Ultimately, positive climate behaviours need to be approached in the same way as marketers approach acts of buying and consuming ... It amounts to treating climate-friendly activity as a brand that can be sold. This is, we believe, the route to mass behaviour change"

*: Brainwashing is called 'persuasion strategy' in political research jargon:
"Our hope is that researchers will design persuasion strategies that effectively change people's implicit attitudes without them having to suffer through a disaster"^o

^o: Rudman, Physiological Sci. (2013). DOI: 10.1177/0956797613492775

Politics. Indoctrination

spiked

Brendan O'Neill
**THE FIGHT FOR FREEDOM
OF SPEECH STARTS HERE**

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● ARTICLE

Global warming: the chilling effect on free speech

The demonisation of 'climate change denial' is an affront to open and rational debate.

BRENDAN O'NEILL



6 OCTOBER 2006

0 COMMENTS



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SIGN UP!

however thought that serious commentators would want it made illegal to have a row about the weather? One Australian columnist has proposed outlawing 'climate change denial'. 'David Irving is under arrest in Austria for Holocaust denial', she wrote. 'Perhaps there is a case for making climate change denial an offence. It is a crime against humanity, after all.' (1) Others have suggested that climate change deniers should be put on trial in the future, Nuremberg-style, and made to account for their attempts to cover up the 'global warming...Holocaust' (2).

The message is clear: climate change deniers are scum. Their words are so wicked and dangerous that they must be silenced, or criminalised, or forced beyond the pale alongside those other crackpots who claim there was no Nazi Holocaust against the Jews. Perhaps climate change deniers should even be killed off, hanged like those evil men who were tried Nuremberg-style the first time around.

Denying AGW =
denying Holocaust!

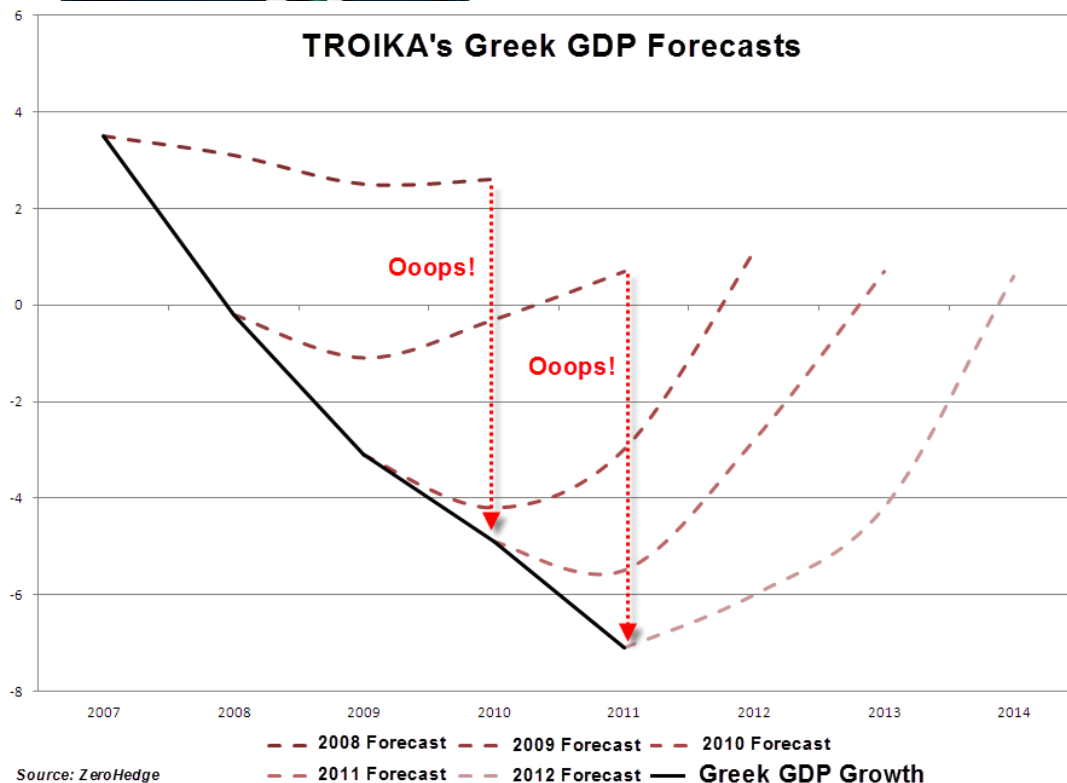
(Note: Skeptics do not deny anything, but want to do science)

<http://www.spiked-online.com/newsite/article/1782#.UpCtYKp-yIM>

Politics. Consensus



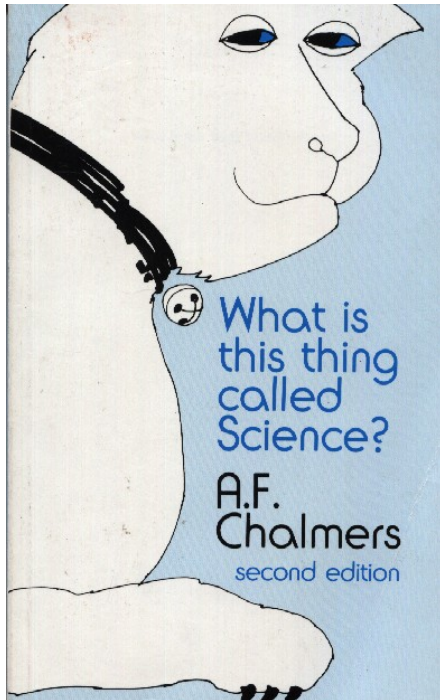
Troika: “>90% national debt is bad. Hand over all your money to the capital and everything will be OK”



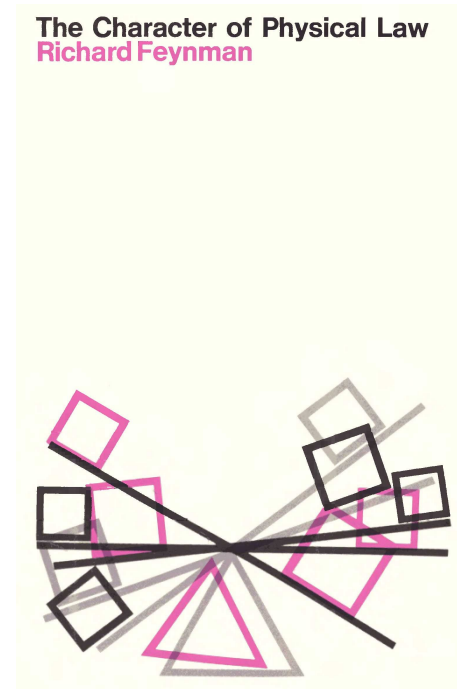
.. and, just ignore reality

(Krugman: they made the classical scientific error of confusing 'correlation' with 'causation')
arXiv:1305.5373

Definition of science (mid 20th century)



ISBN: 0-335-10107-0



ISBN: 978-0262560030

The five basic principles of the Scientific Method (of Karl Popper)

The 'Scientific Method'

1. - A '**hypothesis**' (model) is developed (based on observations, deductions and inductions)



KEEP
CALM
AND
FORM A
HYPOTHESIS

Ants

- A scientists shouts to ants “go”, and the ants walk
- Scientist cuts of legs, shouts “go” and the ants don't walk

Conclusion: Ants hear with their legs!



The 'Scientific Method'

2. - Effort is spent (by the author) on proving it wrong.
Falsification*
- Author of hypothesis says where the model is strong, but also, where it is weak

*: “In other words, we are trying to prove ourselves wrong as quickly as possible, because only that way we can find progress”

- Richard Feynman

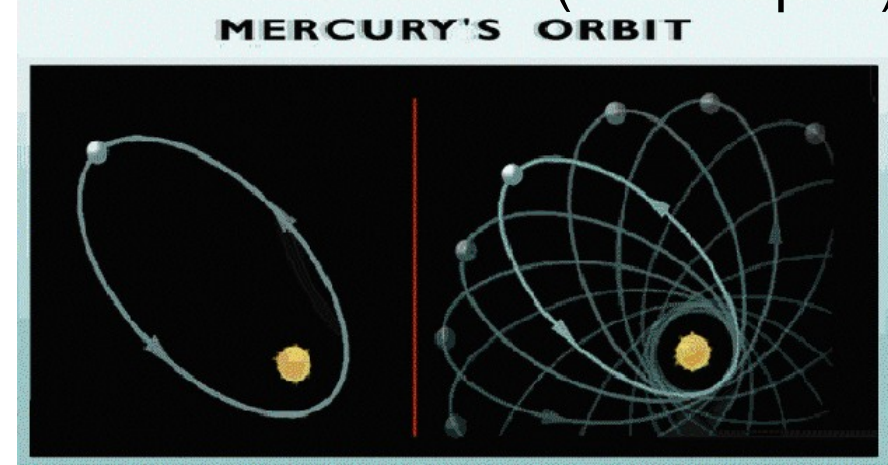
The 'Scientific Method'

3. - Creators of the model should convince the readers that it is the **only** model that explains the observations

The 'Scientific Method'

4. - The model should contain a **verifiable prediction**
(It should be possible to apply Item 2, falsification)*

Ex.: prediction of Einstein of anomalous (non-Kepler) orbit of Mercury



*: “Science is only useful if it tells you about some experiment that has not been done, it is no good if it only tells you what went on”

- Richard Feynman

The 'Scientific Method'

5. - **Replication.** Other scientists can repeat the work presented

After you have tried to destroy your own theory and haven't managed, publish your work and let others have a go at it, for that they need:

- the description of the techniques used
- the logic reasoning used
- the raw data

The 'Scientific Method'

No mention of

- political correctness
- consensus
- benefits and outcomes
- peer reviewing (in first step)
- restriction of subjects to study

Science in 2000

Foundations of Science (2006) 11: 275–286
DOI 10.1007/s10699-004-5922-1

© Springer 2006

SVEN OVE HANSSON

FALSIFICATIONISM FALSIFIED

ABSTRACT. A conceptual analysis of falsificationism is performed, in which the central falsificationist thesis is divided into several components. Furthermore, an empirical study of falsification in science is reported, based on the 70 scientific contributions that were published as articles in Nature in 2000. Only one of these articles conformed to the falsificationist recipe for successful science, namely the falsification of a hypothesis that is more accessible to falsification than to verification. It is argued that falsificationism relies on an incorrect view of the nature of scientific inquiry and that it is, therefore, not a tenable research methodology.

KEY WORDS: falsification, falsificationism, verification, hypothesis testing, explorative research, Karl Popper

Out of 70 papers of the journal Nature in 2000, only **one** used the Scientific Method that includes a falsification of a hypothesis

The 'Scientific Method'

Higgs Boson?

- 1: Hypothesis
- 2: Falsification
- 3: Only model
- 4: Prediction
- 5: Replication

ok

x

?

ok

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They only spent effort on proving themselves right.

The theory did not include a falsifiable point “Higgs boson does **not** exists if ...”



Hoax boson!

Global Warming

1: Hypothesis: **Yes:**

- “Human CO₂ causes T increase”

2: Falsification: **No:**

- Only effort spent on proving it (no funding for opposite)
- Publications and research filtered out in Darwinian feedback way
- Falsification is 'politically incorrect' and equal to denying Holocaust
- Not falsifiable with observations. Models (Bayesian) change every year
- Contradicting data seen as proof (ex. Icebergs in Australia)*

3: Only model. **No:**

- Models “no warming” and “linear warming” not rejected yet
- Model Bayesian adjusted (retrodiction). A set of models exists

4: Prediction. **No:**

- Predictions made, all failed. Hypothesis not rejected, though

5: Replication. **No:**

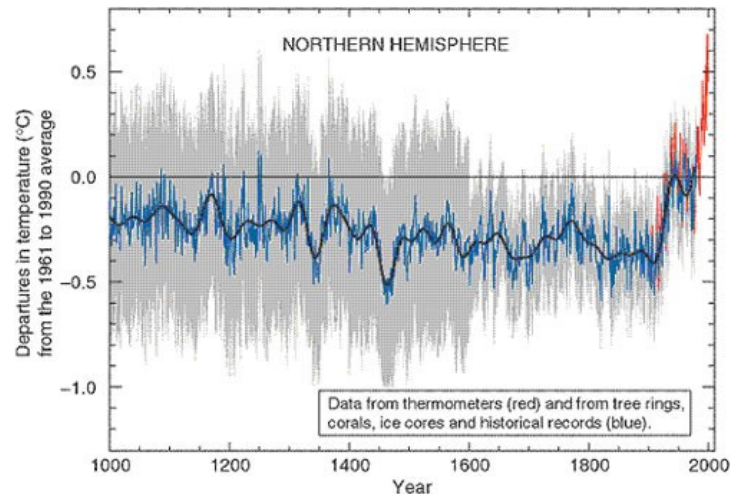
- Models and reasoning not published. Only results of simulations

*: Cognitive bias called 'backfire' of Festinger. See Stallinga & Khmelinskii, “Psychology of global warming modeled with Game Theory decision tables” (Rev. Phil. Psych. 2013)(Next week's seminar of DEEI)

Global Warming

5: Replication. No:

- Models and reasoning not published. Only results of simulations



- Steve McIntyre asked Michael Mann for data that resulted in famous Hockey Stick (see above)
- Mann **refused to give data**. McIntyre put him and university (Penn State) in court and won
- Data released show that Hockey Stick is a fraud

“Mann performed his original r^2 tests [...] showed his procedure was bad (ie **it created hockey sticks whatever numbers were fed in**, and he knew it)”*

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Government Law

POLICY > GOVERNMENT

The ZOD FILES: Climate documents from 2007 'must stay SECRET'

Nobody can ever know the TRUTH of the U.N. ZERO ORDERS

By Andrew Orlowski, 18th November 2013 [Follow](#) 563 followers

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RELATED STORIES

Hello Warsaw: Greenland ice loss will be OK 'even under extreme scenarios'

Secret UN 'ZOD' climate deliberations: UK battles to suppress details

BBC: What YOU spent on our lawyers in Secret Climate 28 debacle

The UK's Met Office has refused to release historic climate discussions dating from before 2007, even though such scientific discussions are required to be "open and transparent".

David Holland, the man whose FoI requests - refused by the Met Office - triggered the Climategate scandal, wants to see what scientists are discuss at an early, important stage of the IPCC process - called the "Zero Order Draft" stage. Subsequent stages One and Two involve NGOs and government officials, so the ZOD stage - the only part of the process which doesn't have bureaucrats in the room - is an important one.

In an information tribunal held in May, [Holland pointed out](#) that much of the ZOD material is already on the web. He argued that the UK, as a signatory to the UN's Aarhus convention, should allow these discussions to be made available to the people who pay for them.

The Met Office, standing in because Whitehall wouldn't release the UK government's liaison officer to the IPCC, argued that the release of the information would damage "international relations". Climate scientists in other countries would shun our own.



Other scandal in 2007

*: <http://johnosullivan.wordpress.com/2012/10/28/michael-mann-retracts-false-nobel-prize-claims-in-humiliating-climbdown/>

Dark ages of science are back

- Science and technology/engineering have been mixed ('science' sounds more sexy?). Ex. In 2013 an Engineer gets a PhD diploma
- Education is 'dogmatic'. We tell the students that we know how the world works and there is no room for doubt
- Made worse by 'standardizing' education. Ex. 'Bologna' (People advocating 'biodiversity' are normally against 'intellectual diversity'!)
- The idea is 'science is settled'. We just can now work out the details (technology). Ex. Build a Large(r) Hadron Collider if Higgs boson is discovered.
- Situation similar to the beginning of 20th century
- Research is only technology (Ex. Projects include 'milestones' and 'deliverables') and is aimed at proving what we already know. Ex. How would Einstein do in 2013?

Serendipity

“Advances are made by answering questions. Discoveries are made by questioning answers”

- Bernard Haisch

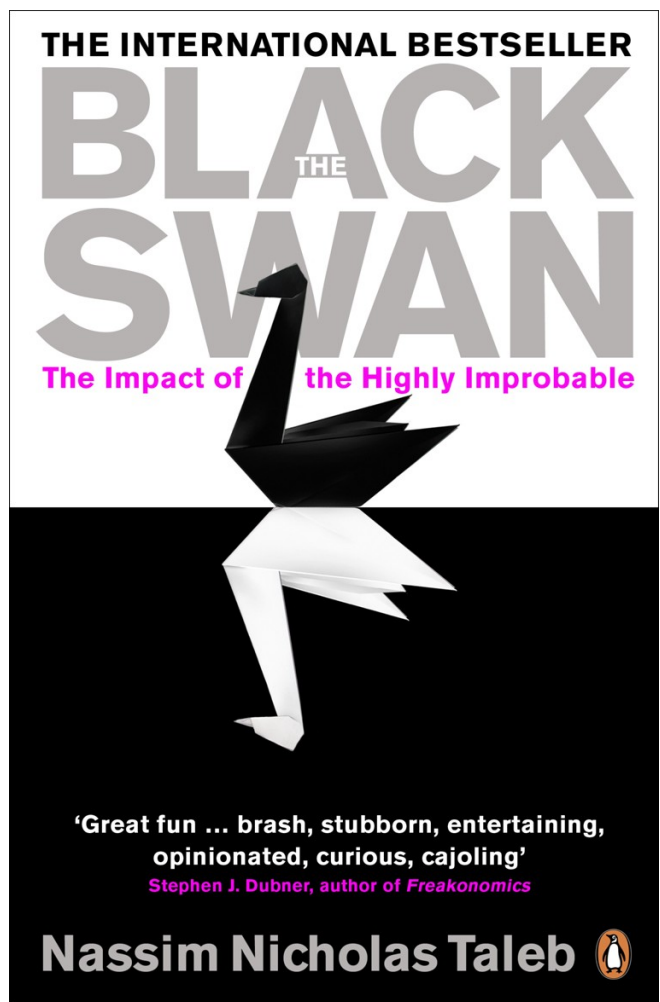
An underestimated feature in 2013: **Serendipity**. (Discovering things by random 'error')

- A scientist should be multi-area and not have a limited vision
- Difficult in a culture 'publish or perish'
- Stop the publication spam!

The rest is technology

Long live science!

Science is unstoppable. Even if it is not done by 'scientists'



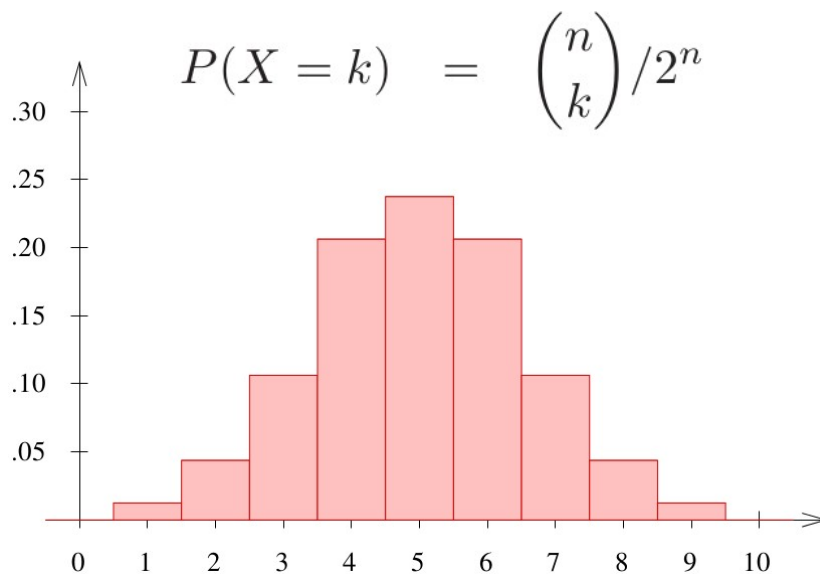
Nassim Nicholas Taleb
(A successful stock market broker.
Not a [professional] scientist!)

“Deluded by the simplicity of the bell curve”

- Nassim Nicholas Taleb

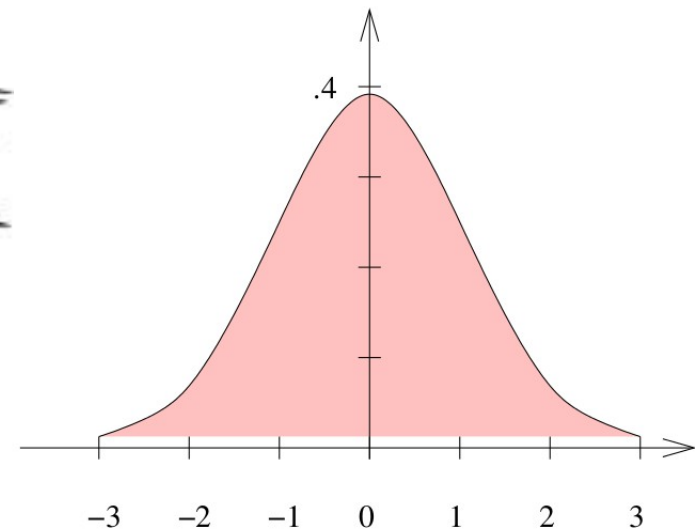
Bell curves as coin flipping

10 flips



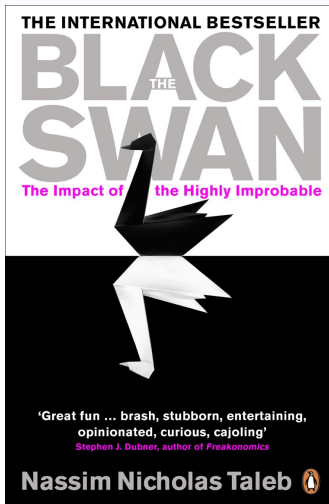
infinite flips

$$f(x) = \frac{1}{\sqrt{2\pi}} e^{-\frac{x^2}{2}}$$



+: Central Limit Theorem: Any random variable will become Gaussian when repeated infinitely

Ludic Fallacy

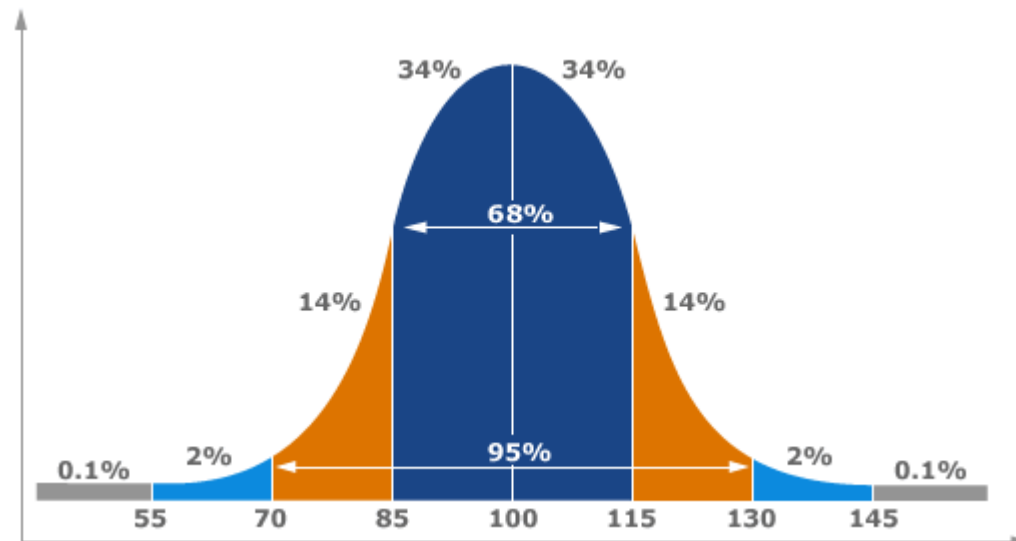


Nassim Nicholas Taleb, *The Ludic Fallacy*:

Analysts describe the past with bell curves (Gaussian, Normal distribution), not because that is the true distribution, but because the ignorami do not know anything better

**Reality is not a bell curve
(combination of a large
number of 'coin flips') but a
scalable function**

Result: every now and then an 'impossible' event, 'Black Swan', occurs that destroys everything (Ex. Stock market crash)

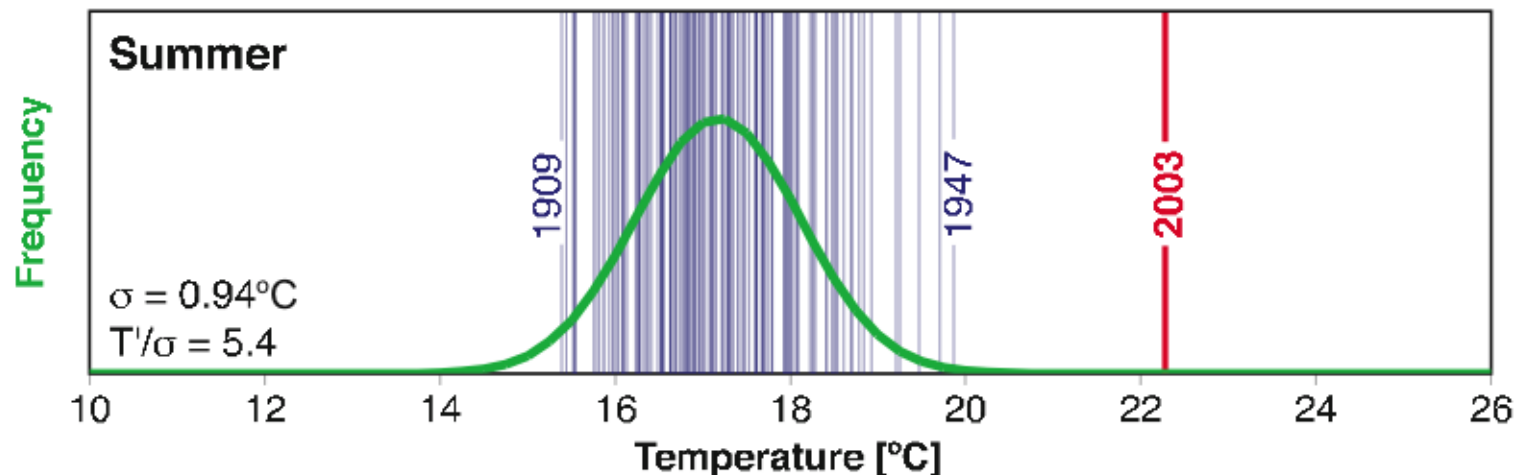


Ludic Falacy

Stallinga: Apply this to the weather/climate:

Nature is not flipping coins.


“30% chance of rain tomorrow” is not that tomorrow nature will flip a coin and decide if it will rain or not. The chance of rain is either 0% or 100%, but **our** uncertainty makes us attribute a probability.



IPCC FAQ 9.1
Using bell curve to
prove climate
changes in
Switzerland


The 'truth'

“The belief that there is only one truth and that oneself is in possession of it seems to me the deepest root of all evil that is in the world.”



—Max Born,
German physicist
Dec. 11, 1882 - Jan. 5, 1970

NOVA
PBS.ORG/NOVA



The greatest enemy of knowledge is not ignorance, it is the illusion of knowledge.

—Stephen Hawking

In other words, people that say they know the truth (example by consensus), are complete idiots

Conclusions

- Science is dead (not performed by professionals). “Science is not a strategy” (technology is!). “Horizons 2020” is a political program to replace human labor with technology and push humans into poverty
- Science is alive. You cannot stop people to think and come up with beautiful ideas
- There is still a lot of work to be done, also in technology and engineering. Note: science is not better than technology. (It is just different)
- Don't be ashamed of your own ideas. Really think out of **their** box. Don't be afraid being politically incorrect, or to go against dogmas. Be a skeptic! Be agnostic! Don't be a sucker!

Special thanks to Prof. Igor Khmelinskii

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