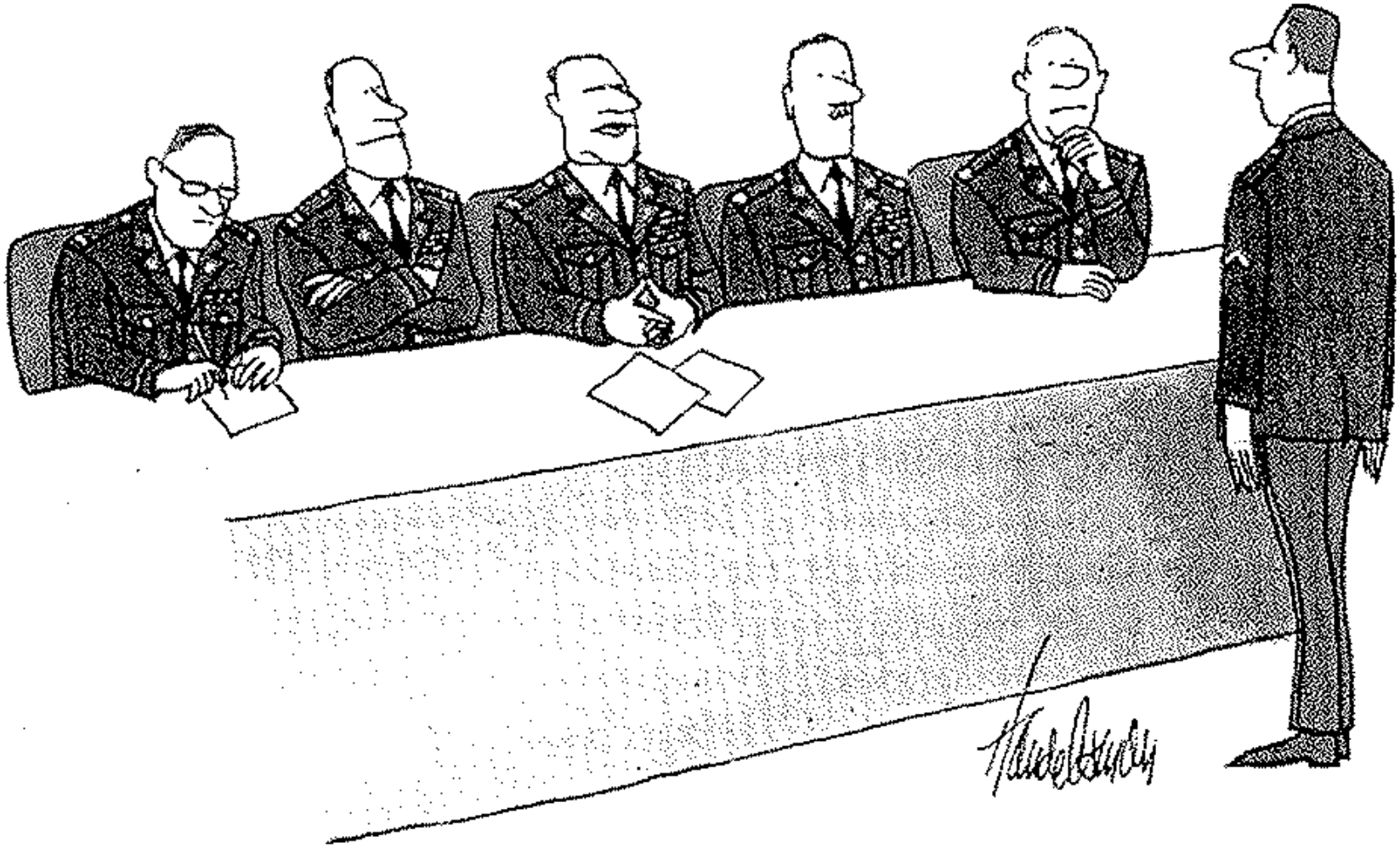
Argument from Authority

What is an argument from authority?

- "We should believe P because an *expert*, or *authority*, believes P."

"This fallacy is committed whenever we argue for some point, not because it is well grounded in fact or logic but because of the authority of the person who presented it. The standing or prestige of a recognised authority is said to guarantee the truth of the claim, and anyone who doubts it is made to feel presumptuous or egotistical. The thrust of the argument is, "Who are you to challenge the judgment of this authority or the experience of that expert?"

Burton Porter, *The Voice of Reason*, p. 96



"Aren't you being a little arrogant, son? Here's Lieutenant Colonel Farrington, Major Stark, Captain Truelove, Lieutenant Castle, and myself, all older and more experienced than you, and we think the war is very moral."

p. 97:

“In a sense, this seems reasonable because we do accept ideas on authority all the time. No one can check the evidence of everything that is claimed, so we must depend on the information provided by authorities.”

Some Questions

- Are the experts always right?
  - (No)
- Do the experts always agree?
  - (No)
  - So, which ones should we trust?

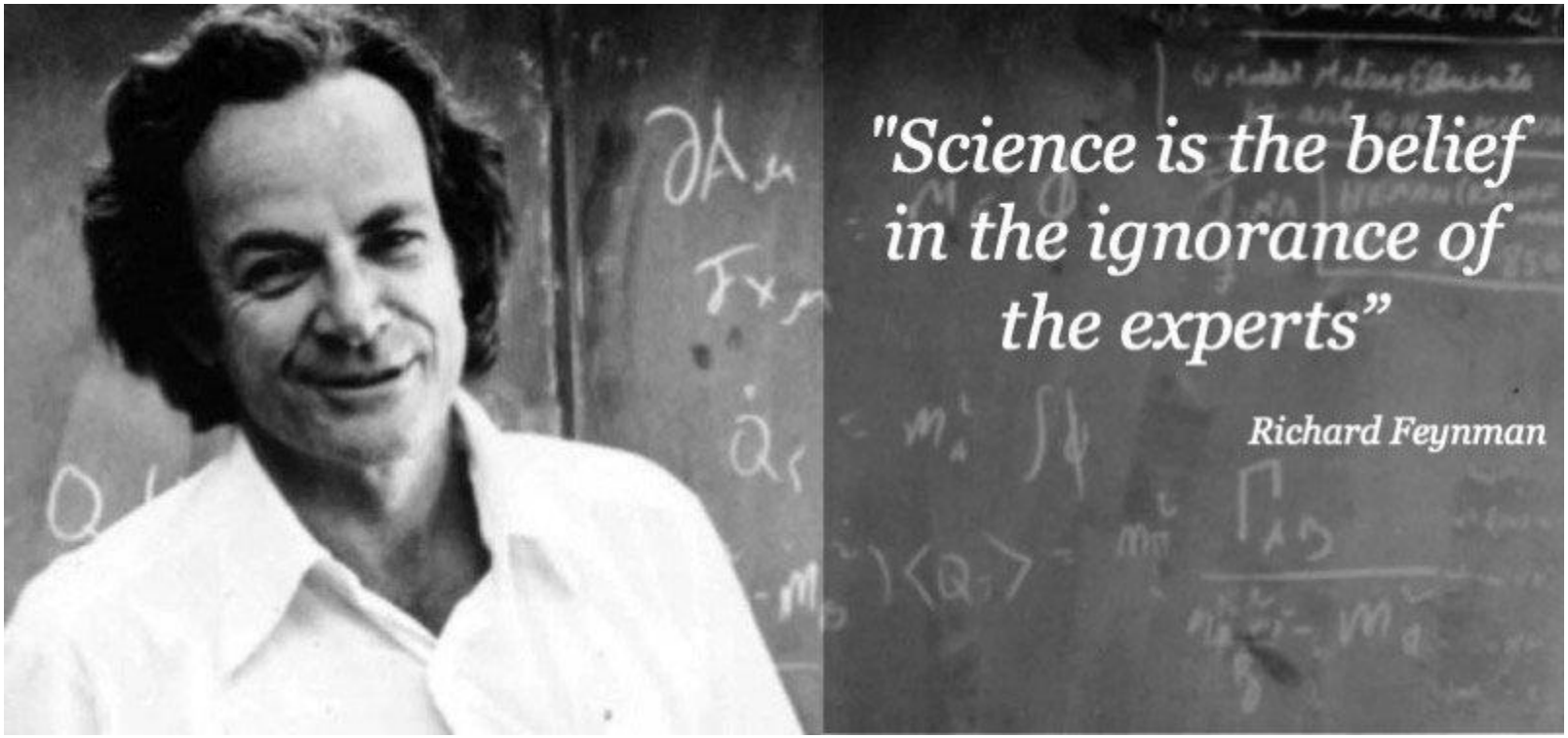
- Is a *consensus* of experts always right?
  - (No)
  - Can we tell when a consensus is wrong?

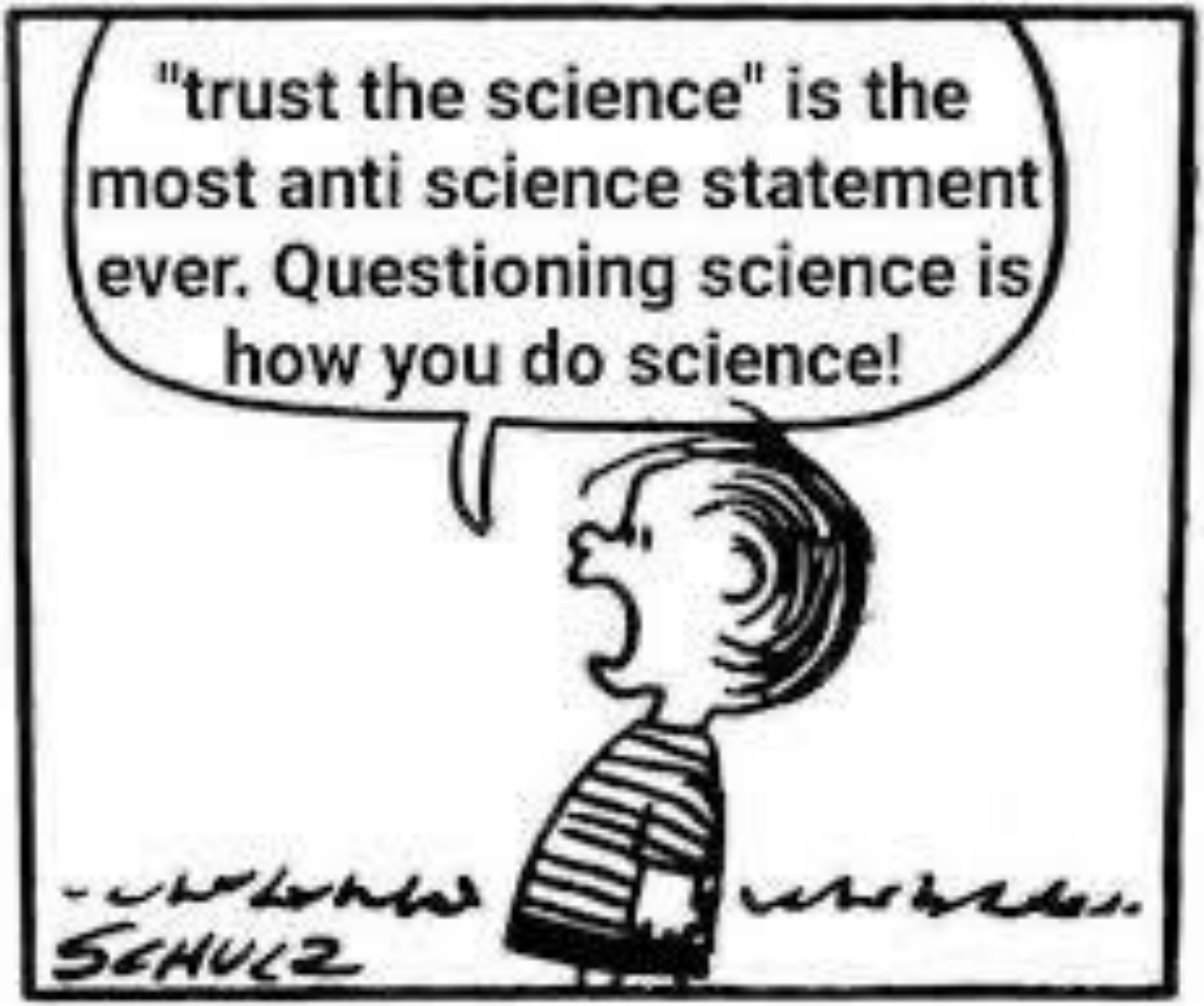
Experts are often wrong

- E.g.

  "Just as the doctrine of organic evolution is universally accepted among thinking biologists, so also the geosynclinal origin of the major mountain ranges is an established principle in geology."

  Thomas Clark and Colin Stearn, *The Geological Evolution of North America: A Regional Approach to Historical Geology*, p.43 (Ronald Press, 1960)


"Science is the belief in the ignorance of the experts"
Richard Feynman


"trust the science" is the most anti science statement ever. Questioning science is how you do science!
SCHULZ

Experts are fallible

- Covid cannot have come from a lab
- Ventilators are a good treatment for Covid patients.
- Masks are highly effective against Covid transmission
- Immunity from Covid infection is less than from vaccine
- “vaccinated people do not carry the virus, don’t get sick”
- Covid vaccines are as safe as other vaccines
- Children are at great risk from Covid

Whom should we trust?

- Given the fact that **experts tend to disagree with one another**, which experts can we trust?

Experts disagree about masks

Possible criteria

- Recognized, official qualifications (e.g. Ph.D.)
- *Relevant* expertise, on the topic in question.
- Published in a peer-reviewed scholarly journal
- Strong consensus among relevant experts.
- Absence of bias, or “conflict of interest”
- Good reputation or track record.
- Making public arguments, using public data.

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- Making public arguments, using public data. 

Public Arguments, Public Data

"If we accept people as authorities it is because we have confidence that they support their insights with good thinking and good evidence. Furthermore, *the evidence should be publicly verifiable*, whether in the form of reproducible experiments or rational reasons that anyone can consider."

(Porter)

Secret Arguments, Secret Data

- It seems right that we should be very wary of experts who keep their arguments, or data/premises secret.

- Although sometimes there might plausibly be a need for secrecy ("the data are proprietary", "for reasons of national security", etc.) it's *still* hard to trust experts in these cases.

thebmj covid-19 Research Education

Statins - a call for transparent data

"The panel **called for anonymised individual patient data from the clinical trials of statins to be made available for independent scrutiny**. Of particular interest was the extent of benefit from statins to people at low risk of heart disease, and whether the harms of statins have been characterised adequately in the trials."

British Medical Journal, Feb. 2019

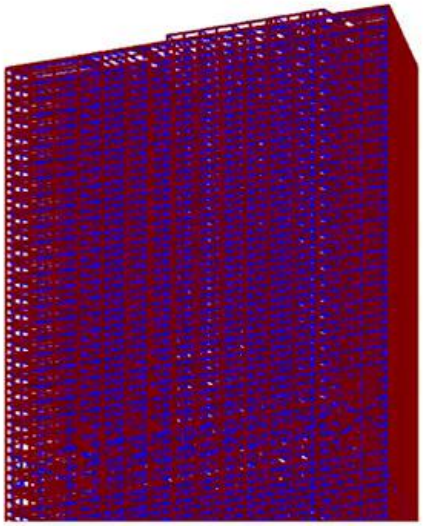
FINDING REGARDING PUBLIC SAFETY INFORMATION

Pursuant to Section 7(d) of the National Construction Safety Team Act, **I hereby find that the disclosure of the information described below**, received by the National Institute of Standards and Technology ("NIST"), in connection with its investigation of the technical causes of the collapse of the World Trade Center Towers and World Trade Center Building 7 on September 11, 2001, **might jeopardize public safety**. Therefore, NIST shall not release the following information: [all input data from their computer model of WTC 7]

Patrick Gallagher, Director, National Institute of Standards and Technology, July 9, 2009**.**

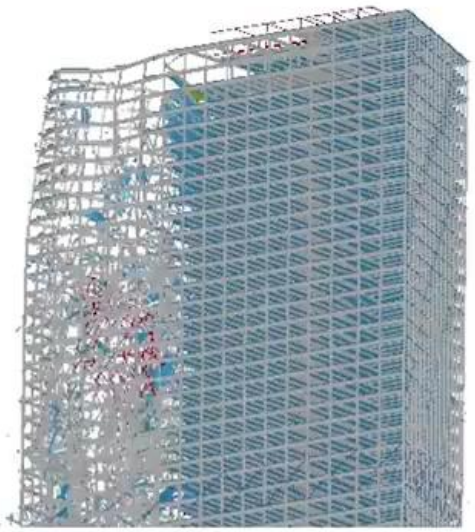
New study


UAF
INE
UAF
A Structural Reevaluation of the
Collapse of World Trade Center 7
September 2017 Progress Report
Dr. J. Leroy Hulsey, Professor
Dr. Feng Xiao, Post-doctoral Researcher
Zhili Quan, Ph.D. Student



UNIVERSITY OF ALASKA FAIRBANKS

WORLD TRADE CENTER BUILDING 7



U.S. GOVERNMENT

This conclusion is based primarily upon the finding that the simultaneous failure of all core columns over 8 stories followed 1.3 seconds later by the simultaneous failure of all exterior columns over 8 stories produces almost exactly the behavior observed in videos of the collapse, whereas no other sequence of failures that we simulated produced the observed behavior. We

Pay attention to qualifications?

- Believe the *most qualified* authority? Maybe, as a general policy.
- How do you judge which qualifications are better? Ph.D. beats M.A.? Number of publications? Professors beat those working in industry?
- Official credentials vs. “independent research”?

What is an expert?

What is an expert?

- Does *reading all the studies* make you an expert?
- Do you have to do your own empirical research and publish it?
- Do you need official certification?
- Does clinical practice help to make you an expert?

Can we trust a *consensus*?

- On some controversial questions, the public is urged to accept the view of a strong *consensus* of scientists in the relevant field(s).

  – E.g. on biological evolution, global warming, vaccine safety, safety of fracking, effectiveness of seatbelts, HIV is the cause of AIDS, etc.

Yet we should remember that a consensus among experts can emerge for various reasons.

"Anyone who has studied the history of science knows that scientists are not immune to the non-rational dynamics of the herd."

Jay Richards, in *The American* (the journal of the American Enterprise Institute, a right-leaning think tank) March 16, 2010.

E.g. the 'information cascade' mechanism.

The Calf-Path

One day, through the primeval wood,
A calf walked home, as good calves should;
But made a trail all bent askew,
A crooked trail, as all calves do.

Since then three hundred years have fled,
And, I infer, the calf is dead.
But still he left behind his trail,
And thereby hangs my moral tale. …

Sam Walter Foss (1858-1911)

- “Because of [the information cascade], groups are surprisingly prone to reach mistaken conclusions even when most of the people started out knowing better, according to the economists Sushil Bikhchandani, David Hirshleifer and Ivo Welch. …
- Cascades are especially common in medicine as doctors take their cues from others, leading them to overdiagnose some faddish ailments (called bandwagon diseases) and overprescribe certain treatments (like the tonsillectomies once popular for children). Unable to keep up with the volume of research, doctors look for guidance from an expert — or at least someone who sounds confident.”
- John Tierney, *New York Times,* October 9, 2007.

Droplets or aerosols?

Select Subcommittee on the Corona ···
@COVIDSelect

✓Dr. Fauci claimed that the "6 feet apart" social distancing recommendation promoted by federal health officials was likely not based on any data.

"It just sort of appeared."

12:41 PM · Jan 10, 2024 · **548.5K** Views

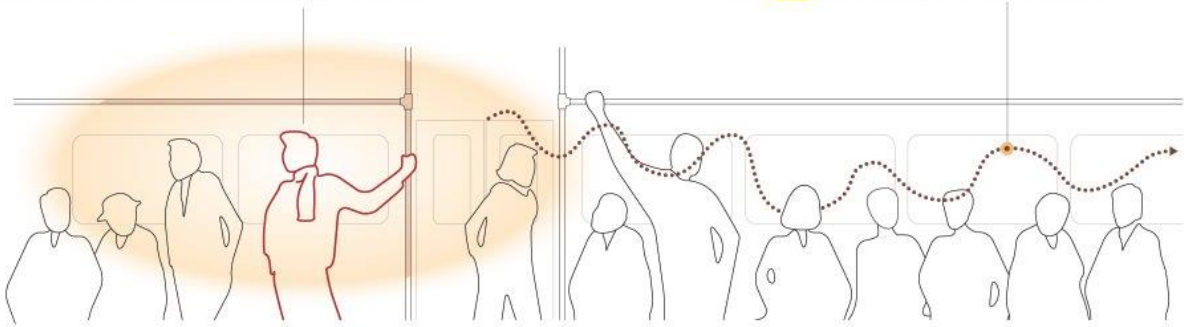
New York Times, Feb. 28, 2020

These droplets fall to the ground within a few feet. That makes the virus harder to get than pathogens like measles, chickenpox and tuberculosis, which can travel 100 feet through the air. But it is easier to catch than H.I.V. or hepatitis, which spread only through direct contact with the bodily fluids of an infected person.

How far viruses travel

Coronaviruses can travel only about six feet from the infected person. It's unknown how long they live on surfaces.

Some other viruses, like **measles**, can travel up to 100 feet and stay alive on surfaces for hours.

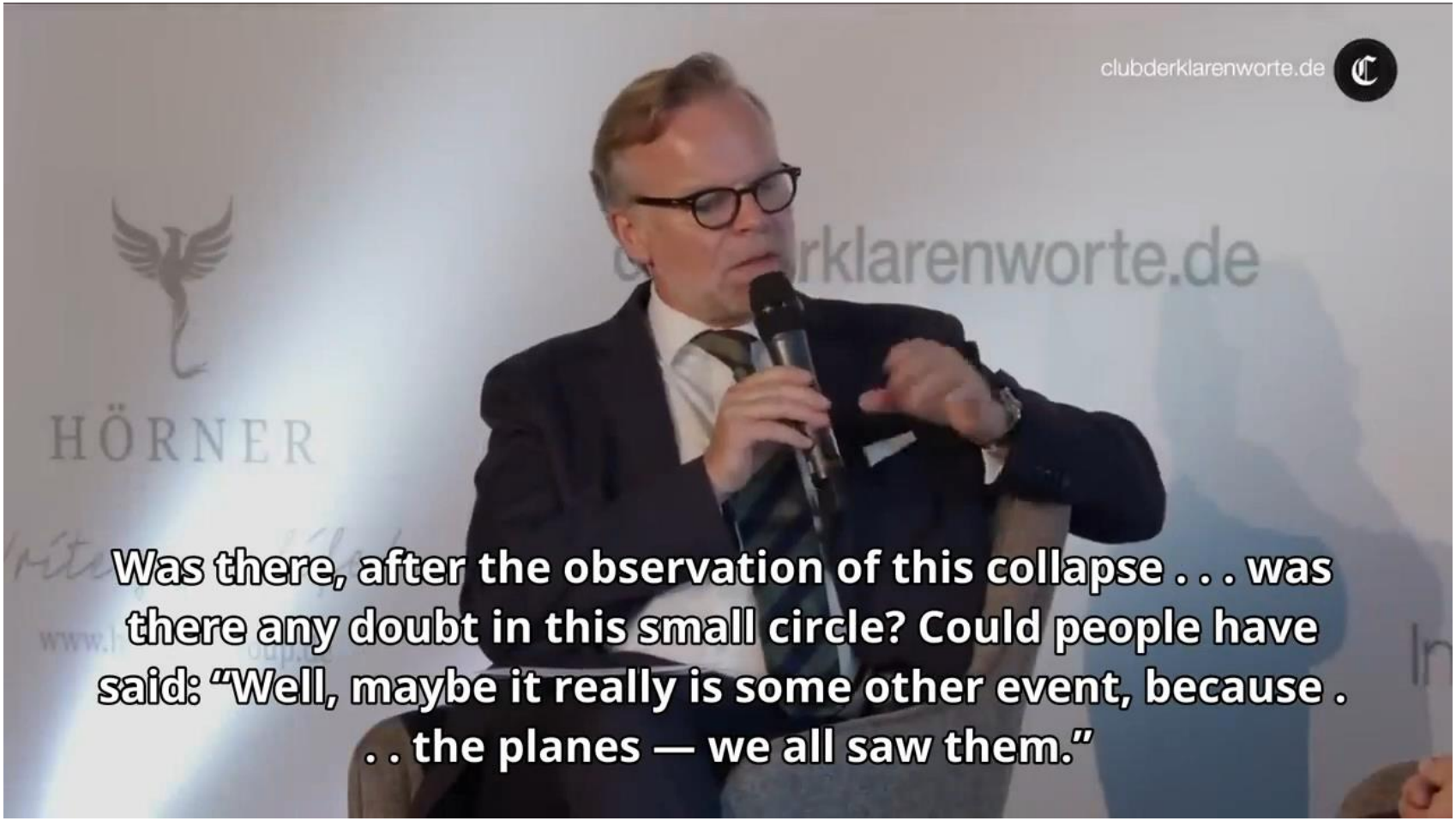


Given that there are such cases, where a strong consensus turned out to be flat wrong:

"We want to know whether a scientific consensus is based on solid evidence and sound reasoning, or social pressure and groupthink. … the "power of the paradigm" often shapes the thinking of scientists so strongly that they become unable to accurately summarize, let alone evaluate, radical alternatives. Question the paradigm, and some respond with dogmatic fanaticism …

(Jay Richards, op. cit.)

Why do scientists stay quiet?



Most mavericks are cranks

"… We shouldn't, of course, forget the other side of the coin. There are always cranks and conspiracy theorists. No matter how well founded a scientific consensus, there's someone somewhere— easily accessible online—that thinks it's all hokum. Sometimes these folks turn out to be right. But often, they're just cranks whose counsel is best disregarded." (Jay Richards, op. cit.)

Reasons to be suspicious of consensus

- The topic is tied up with politics, money, religion, morality …
- There is no direct empirical test of the consensus view
- Within the present paradigm, 'TINA' (There Is No Alternative)
- The consensus view is opposed by a *substantial* minority of credentialed scientists, with no apparent axe to grind.
- Critics of the orthodoxy are often attacked personally, called nasty names, have their views misrepresented, get fired, etc. (So scientists are pressured to toe the party line.)
- The consensus scientists say that *all* the evidence supports their view, and that dissenters have no valid criticisms.
- Different claims get bundled together.
- The expert community is heavily invested in the consensus theory, so that giving it up would be very costly or embarrassing.

In the text below, identify briefly any indications that the former consensus against Wegener's theory of continental drift ("mobilism") was possibly not well founded.

When Wegener's "mobilist" ideas were first published in English, in 1922, many English geologists attacked them as 'German pseudo-science'. Wegener's views were also strongly contrary to the established "fixist" tradition, leading one geologist to say, "If we are to believe Wegener's hypothesis we must forget everything that has been learned in the past 70 years and start all over again". It didn't help that the Drift hypothesis itself was often linked in people's minds to Wegener's proposed (and refuted) mechanism for moving the continents. At the time it was not possible to measure continental movements directly, so arguments were indirect, depending on background assumptions. Nevertheless a small but stubborn group of professional geologists did take Wegener's view seriously and various mobilist theories were developed.

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1. Personal attack/ Nationalistic bias
2. The old paradigm is hard to let go
3. Bundling of ideas
4. No direct empirical test
5. There was a substantial group of dissenters

Part 2

Trust the experts?

Authority and Peer Review

- One of the main symbols of authority in academic communities, including science, is the *peer-reviewed journal article*.

- Work that hasn't been published in a "proper peer-reviewed journal" isn't worth taking seriously. But peer-reviewed work has an aura of invincibility.

"My work on the ecology of slime moulds has been published in the journal *Nature.*"

Read as:

"My work on the ecology of slime moulds has been published in the journal NATURE"

Criticisms of Peer review

"There seems to be no study too fragmented, no hypothesis too trivial, no literature too biased or too egotistical, no design too warped, no methodology too bungled, no presentation of results too inaccurate, too obscure, and too contradictory, no analysis too self-serving, no argument too circular, no conclusions too trifling or too unjustified, and no grammar and syntax too offensive for a paper to end up in print."

Drummond Rennie, deputy editor of *Journal of the American Medical Association* (quoted from Wikipedia)

Richard Horton, editor of the British medical journal *The Lancet*:

"We portray peer review to the public as a quasi-sacred process that helps to make science our most objective truth teller. But we know that the system of peer review is biased, unjust, unaccountable, incomplete, easily fixed, often insulting, usually ignorant, occasionally foolish, and frequently wrong."

Peer review is “easily fixed”

‘This reminds me of a paper that was being reviewed by the boss of the lab I was in. He passed it around to see what people thought. I told him that I thought it was pretty poor. He said, “Yeah I know. They cite us really well so I am going to accept it anyway.”’

(a scientist writing on a private email list)

Hundreds of dissenters

- If a few hundred experts in a certain field disagree with the consensus view, what should we think?

- Should we take it seriously?

“Dissent from Darwin” petition (2001)

“We are skeptical of claims for the ability of random mutation and natural selection to account for the complexity of life. Careful examination of the evidence for Darwinian theory should be encouraged.”

- More than 700 “scientists” signed this (must either hold a Ph.D. in a scientific field such as biology, chemistry, mathematics, engineering, computer science, or one of the other natural sciences, or be a professor of medicine).

“Project Steve” petition

“Evolution is a vital, well-supported, unifying principle of the biological sciences, and the scientific evidence is overwhelmingly in favor of the idea that all living things share a common ancestry. Although there are legitimate debates about the patterns and processes of evolution, there is no serious scientific doubt that evolution occurred or that natural selection is a major mechanism in its occurrence…”

- (More than 1100 scientists signed this. Need a Ph.D. in biology, geology, paleontology, or a related scientific field, *and* be called Steven, Stephanie, Esteban, Stefano, etc.)

- Beware “bundling” of claims:
  - The “Dissent from Darwin” petition questioned whether mutation and selection is able to produce novel complex structures.
  - The “Project Steve” petition affirms evolution and common ancestry, and selection as a “major” mechanism for it.

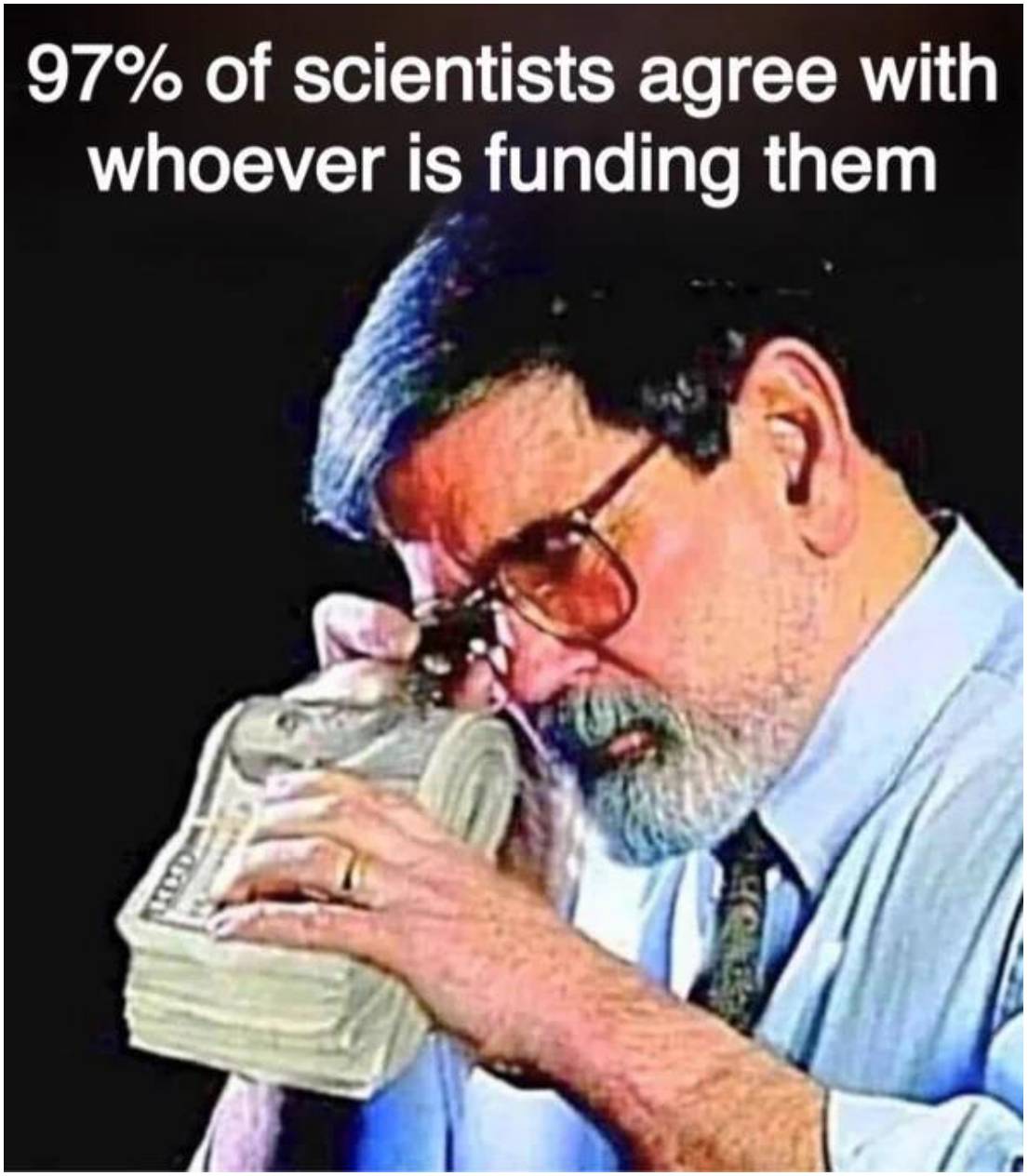
(Personally, I could sign both of them, since ‘major’ is vague enough. I would not say ‘creative and crucial’.)

"… **the book's contention that natural selection's importance for evolution has been hugely overstated represents a point of view that has a growing set of adherents**. (A few months ago, I was amazed to hear it expressed, in the strongest terms, from another highly eminent microbiologist.) My impression is that evolutionary biology is increasingly separating into two camps, divided over just this question. On the one hand are the population geneticists and evolutionary biologists who continue to believe that selection has a "creative" and crucial role in evolution and, on the other, there is a growing body of scientists (largely those who have come into evolution from molecular biology, developmental biology or developmental genetics, and microbiology) who reject it."

Adam S. Wilkins, review of James Shapiro's *Evolution: A View from the 21st Century*, in *Genome Biology and Evolution*, January 2012.

Bias

- Regardless of academic credentials, it seems that authority can be destroyed by bias.
- **Bias isn't the same as having an opinion**. It all depends on *why* one has an opinion.
- A bias is defined as a *non-epistemic source of belief*. In other words, one's belief is caused by something other than the proper reasons for belief, such as evidence and argument.


97% of scientists agree with
whoever is funding them

Bias is “conflict of interest”

- Let’s say a public official is supposed to decide which of 3 bids for a construction project to accept. She’s supposed to choose the one that will best serve the public interest.
- But what if her brother works for one of the bidding companies, and badly needs the work? (Also, that company’s bid isn’t the strongest.) What will she do?

conflict of interest

- One can see *every* kind of bias as a conflict of interest, if “interest” is construed broadly enough. Bias means that *some non-rational factor* is competing with the usual goal of forming true belief.

  “It is difficult to get a man to understand something, when his salary depends upon his not understanding it!” (Upton Sinclair)

Examples of Biased Beliefs

- A mother cannot believe that her son, her “baby boy”, has committed the crime he is accused of.
- A professor is sure that his pet theory, the one his entire career is based on, is true.
- A scientist sponsored by BP assures us that most of the oil spilled into the Gulf of Mexico has been eaten by bacteria already.

Confirmation Bias

"The moment one has offered an original explanation for a phenomenon which seems satisfactory, that moment **affection for his intellectual child** springs into existence; and as the explanation grows into a definite theory, his parental affections cluster about his intellectual offspring… There is [then] an **unconscious selection and magnifying of phenomena that fall into harmony with the theory and support it**, and an unconscious neglect of those that fail of coincidence. The mind **lingers with pleasure** upon the facts that fall happily into the embrace of the theory, and **feels a natural coldness toward those that seem refractory**."

Chamberlin, T. C. (1890). "The method of multiple working hypotheses", *Science*, 15, p. 93

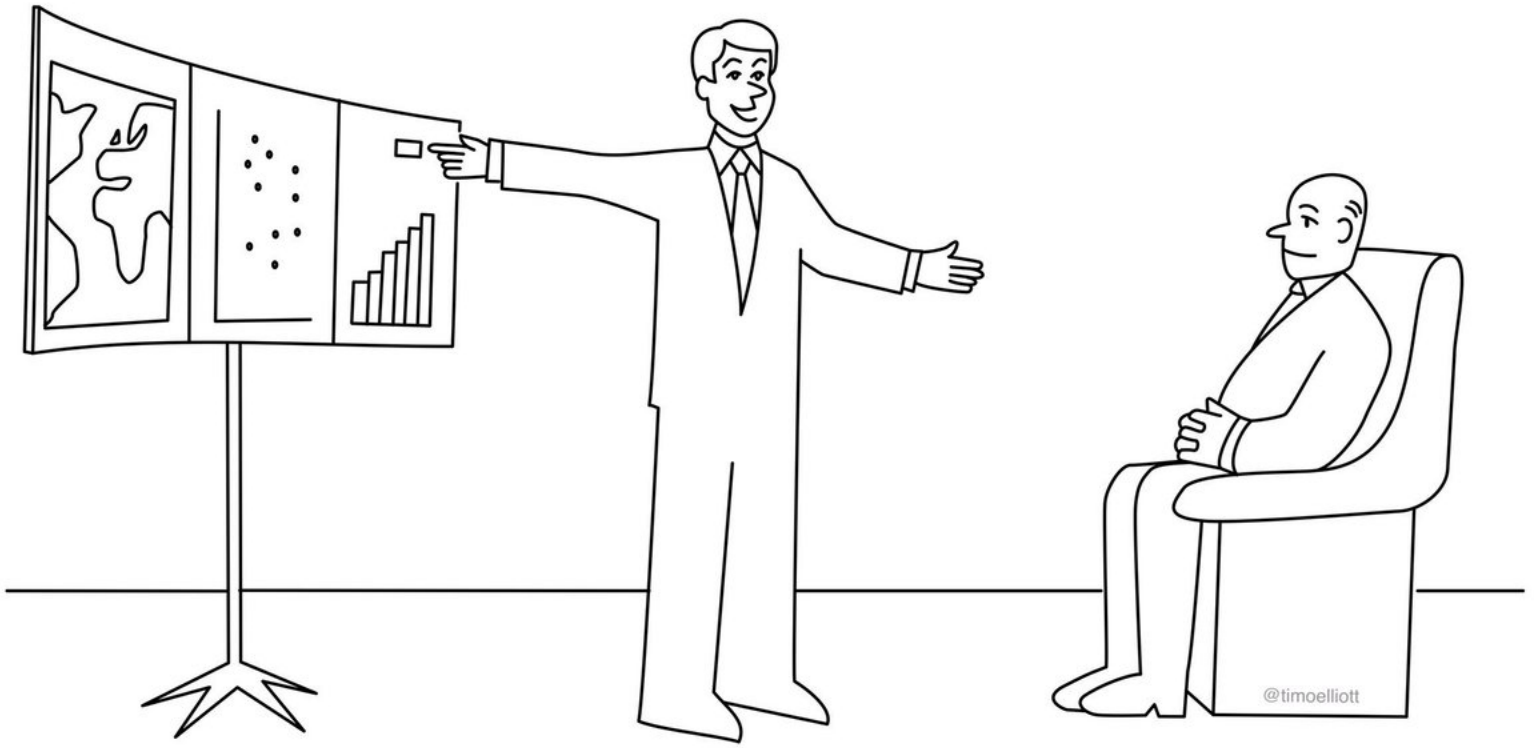
New Study Suggests Cyclists are Better People than Drivers

The Journal for Environmental Psychology says that riders are more interested in the common good than drivers.

Updated Nov 2, 2023 • ALVIN HOLBROOK •

It sounds right to me!!

Confirmation bias (YouTube, etc.)



"And our unique JustifyIt™ feature uses deep learning to find data that agrees with your point of view!"

Bias in medicine

- The United States Preventive Services Task Force, appointed by the Dept. of Health and Human Services, has released (Oct. 2011) an update for the invasive and fear-provoking male screening test, the P.S.A. blood test and manual exam for prostate cancer.

Bias in medicine

"(T)he test does not save lives over all and often leads to more tests and treatments that needlessly cause pain, impotence and incontinence in many,"

However …

"Treating men with high P.S.A. levels has become a lucrative business."

“From 1986 through 2005, one million men received surgery, radiation therapy or both who would not have been treated without a P.S.A. test ... Among them, at least 5,000 died soon after surgery and 10,000 to 70,000 suffered serious complications. Half had persistent blood in their semen, and 200,000 to 300,000 suffered impotence, incontinence or both.”

“Doctors also acknowledged that financial incentives from the fee-for-service payment model encouraged them to do more rather than less. Thirty-nine percent said **other** primary-care doctors would order fewer diagnostic tests if those tests didn’t generate extra revenue for them, and 62% said medical subspecialists would cut back if the tests didn’t come with financial incentives.”

Other cases of bias

- Pharmaceutical companies have hired ghost writers to place “product-friendly” articles in prestigious medical journals, *under the name of a recognised scientist*.
- Oil companies have supported the research of scientists who cast doubt on the view that global warming is caused by use of fossil fuels.

Part 3

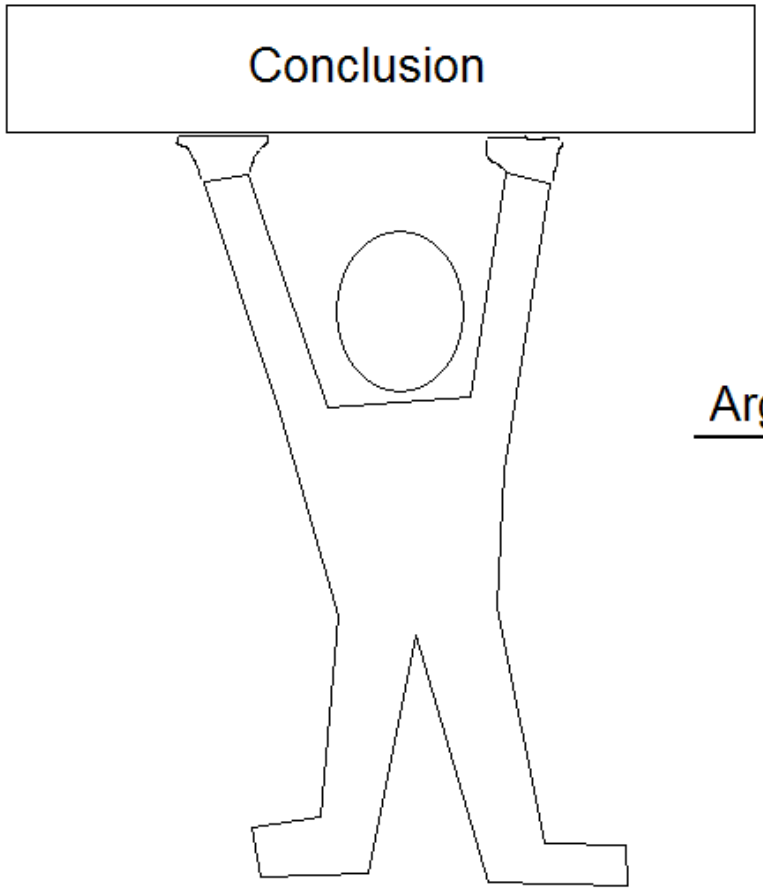
Ad hominem arguments

Ad hominem

- An “ad hominem” argument, one that attacks a person, is usually improper.

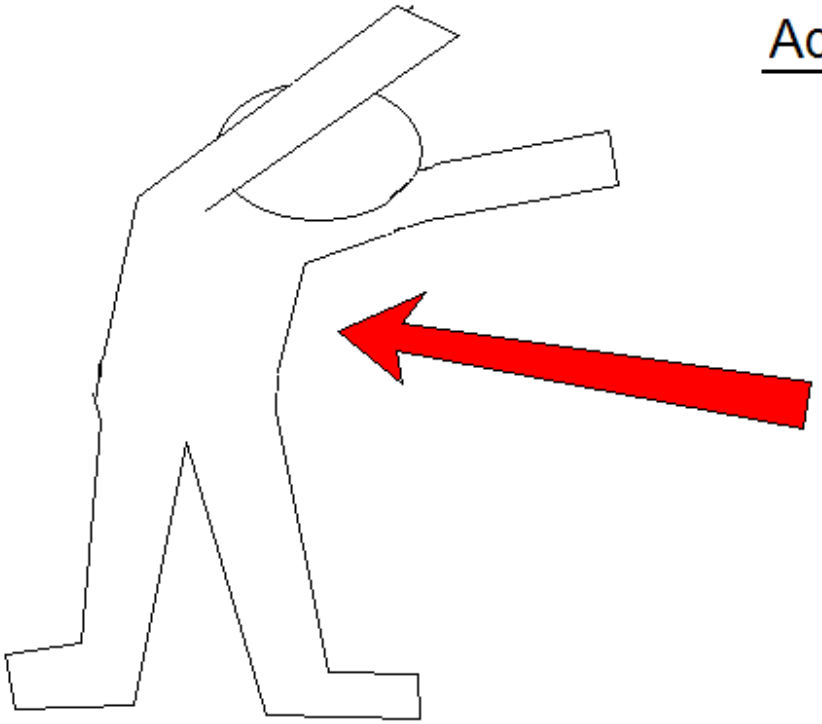
- But it *can* be ok when used against an argument from authority. When is it ok?

- (An ad hominem attack on authority isn’t *always* reasonable, it only sometimes is.)

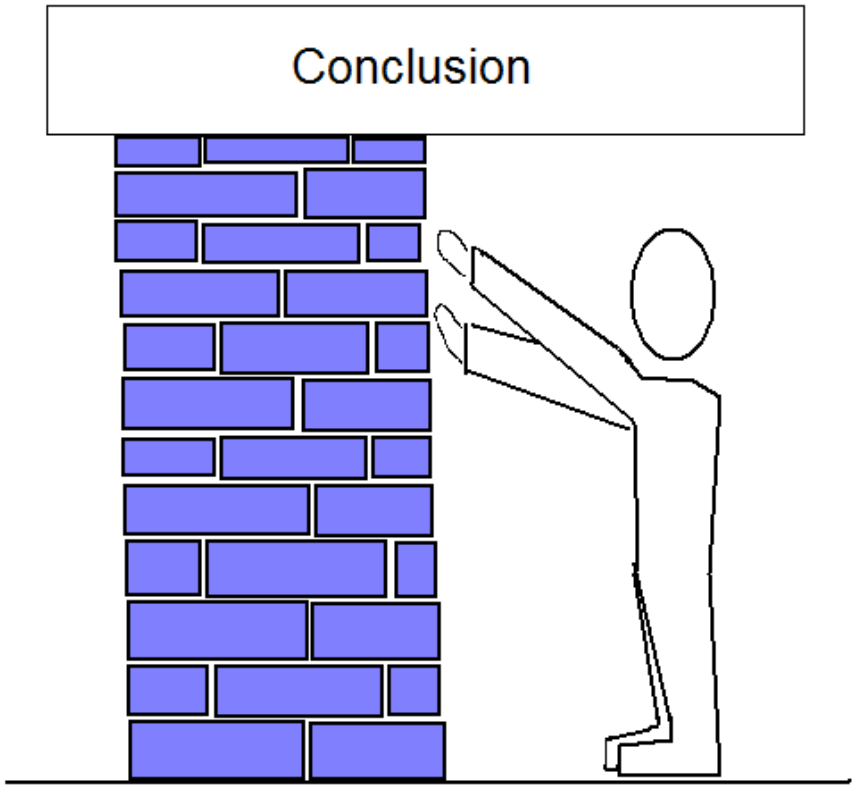


Argument from Authority

Conclusion



Ad Hominem (fair game)

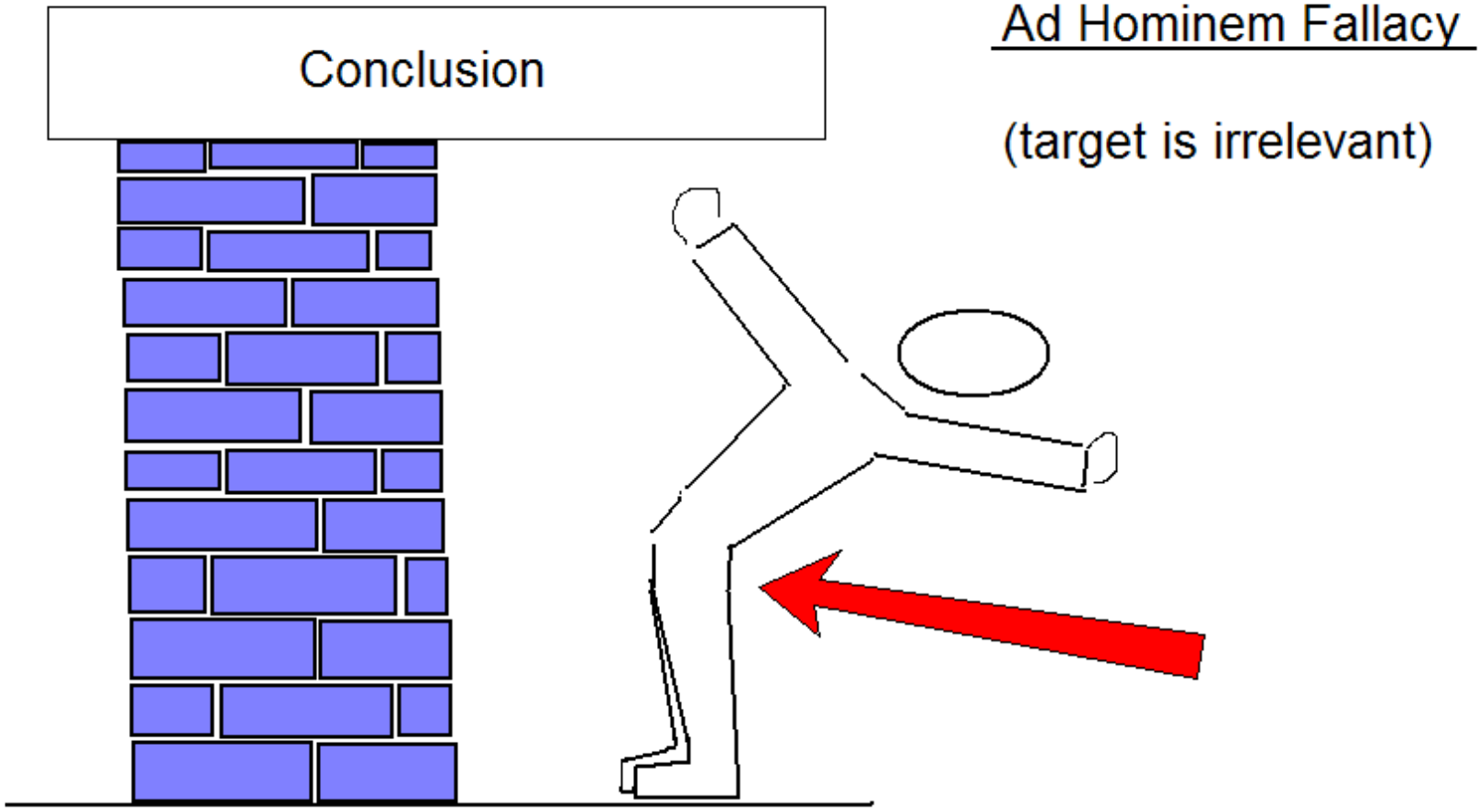


Normal argument

(based on evidence, not authority)

Ad Hominem Fallacy

(target is irrelevant)



Inferior Design
By RICHARD DAWKINS

- I had expected to be as irritated by Michael Behe's second book as by his first. I had not expected to feel sorry for him. The first — "Darwin's Black Box" (1996), which purported to make the scientific case for "intelligent design" — was enlivened by a spark of conviction, however misguided. The second is the book of a man who has given up. Trapped along a false path of his own rather unintelligent design, Behe has left himself no escape. Poster boy of creationists everywhere, he has cut himself adrift from the world of real science. And real science, in the shape of his own department of biological sciences at Lehigh University, has publicly disowned him, via a remarkable disclaimer on its Web site: "While we respect Prof. Behe's right to express his views, they are his alone and are in no way endorsed by the department. It is our collective position that intelligent design has no basis in science, has not been tested experimentally and should not be regarded as scientific." As the Chicago geneticist Jerry Coyne wrote recently, in a devastating review of Behe's work in *The New Republic*, it would be hard to find a precedent.

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- For a while, Behe built a nice little career on being a maverick. His colleagues might have disowned him, but they didn't receive flattering invitations to speak all over the country and to write for *The New York Times*. Behe's name, and not theirs, crackled triumphantly around the memosphere. But things went wrong, especially at the famous 2005 trial where Judge John E. Jones III immortally summed up as "breathtaking inanity" the effort to introduce intelligent design into the school curriculum in Dover, Pa. After his humiliation in court, Behe — the star witness for the creationist side — might have wished to re-establish his scientific credentials and start over. Unfortunately, he had dug himself in too deep. He had to soldier on. "The Edge of Evolution" is the messy result, and it doesn't make for attractive reading.

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- If correct, Behe's calculations would at a stroke confound generations of mathematical geneticists, who have repeatedly shown that evolutionary rates are not limited by mutation. Single-handedly, Behe is taking on Ronald Fisher, Sewall Wright, J. B. S. Haldane, Theodosius Dobzhansky, Richard Lewontin, John Maynard Smith and hundreds of their talented co-workers and intellectual descendants. Notwithstanding the inconvenient existence of dogs, cabbages and pouter pigeons, the entire corpus of mathematical genetics, from 1930 to today, is flat wrong. Michael Behe, the disowned biochemist of Lehigh University, is the only one who has done his sums right. You think?

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N.B.

- Evolutionary biologist Arlin Stolzfus, referring to this review of Behe's book, thinks that Dawkins is:

"stuck in a time warp defending the original Modern Synthesis" (a theory of evolution developed in the 1940s)

"In making this claim, Dawkins is correctly representing the Modern Synthesis view that (due to the buffering effect of the "gene pool") evolution does not depend on the rate of new mutations, a principle that he believes to be an infallible theoretical result."