

K40b: The Psychopathologies of Climate Denial

Richard Nolthenius, PhD

Psychological studies and their insights
into the political and pseudo-scientific
attacks on climate science and climate
scientists

Format – Real Sentences!

- **Yes!** I have no textbook that covers the many late-breaking new scientific studies in “Astro 7: Planetary Climate Science”.
- My Presentations **are** the textbook
- So, for easier study purposes, I will emphasize sentences over compact bullet words. Sorry if that violates sacred PowerPoint norms.
- You can [download a PDF version](#) of this Presentation at this link

My Goals Here

- Educate those willing to look at the evidence and draw rational conclusions.
- My goals will not focus on changing the minds of Republicans. You'll see why, as we go along.
- One goal is to motivate those who care about the future to identify strategies for routing AROUND the Republicans rather than waste more time trying to go THROUGH them by convincing them of their errors and pathologies.

- ***“...the deeper issues of why people selectively reject evidence that goes against their group ideology go mostly unaddressed”*** – Mar 9, 2017 on [scienceblogs](#)) – Prof. [Gavin Schmidt](#) - IPCC climate scientist and director of NASA/Goddard Institute for Space Studies
- ...but not completely unaddressed. Showing the research in this touchy area is the purpose of this Presentation.
- Please make an extra effort towards objectivity, and avoid political tribalism.

“This world is a strange madhouse. Currently, every coachman and every waiter is debating whether Relativity Theory is correct. Belief in this matter depends on political party affiliation”

– Albert Einstein, circa 1918

- Madhouse indeed. You probably didn't know that our beautifully confirmed theory of gravity - **General Relativity** - is actually a **LIBERAL PLOT!** ... according to this **Conserv-a-pedia** entry, which is full of pseudo-scientific sounding nonsense.



T.S.J.

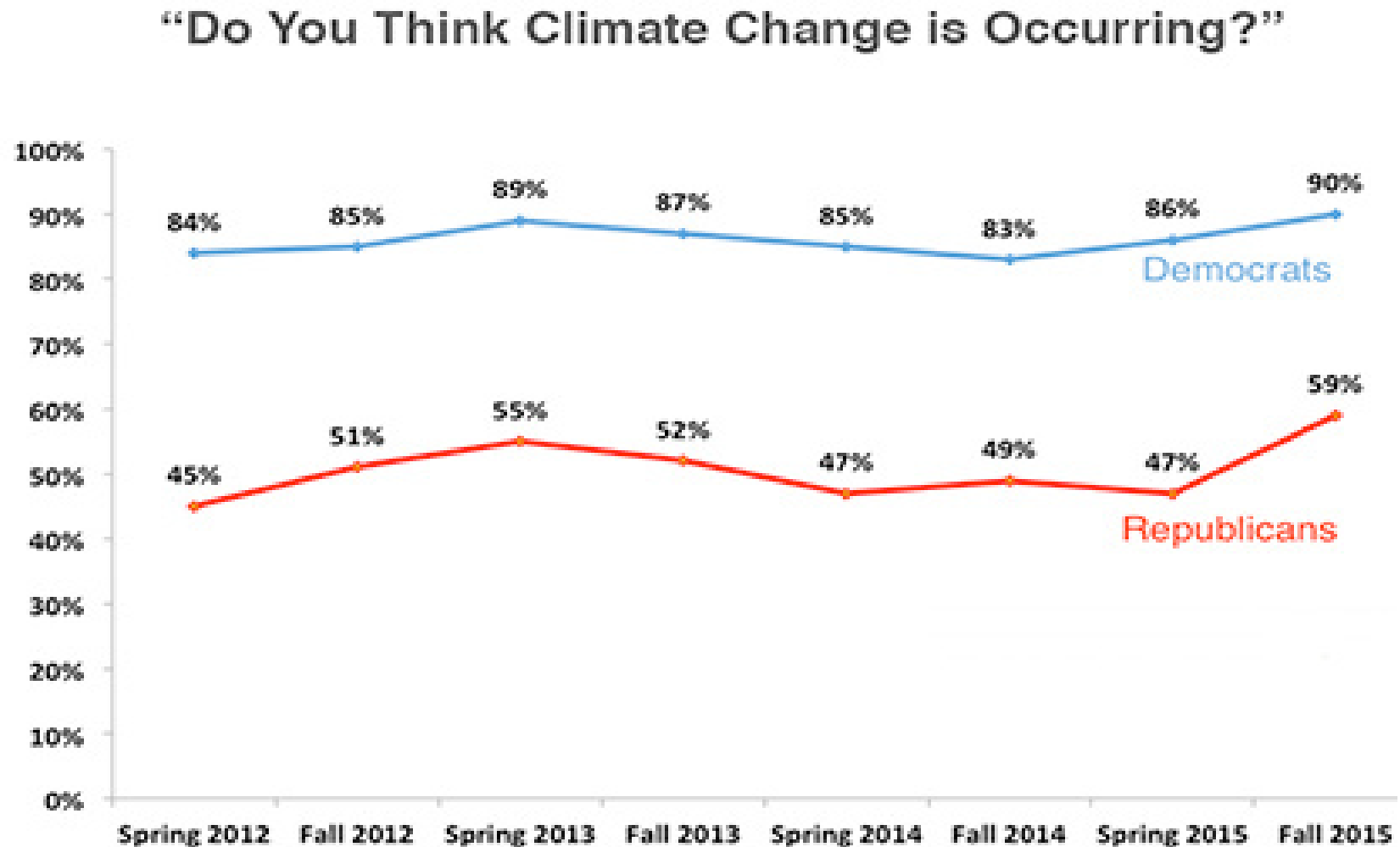
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SORT OF A PERPETUAL
FILIBUSTER NOW. —

“There is a cult of ignorance in the United States, and there always has been. The strain of anti-intellectualism has been a constant thread winding its way through our political and cultural life, nurtured by the false notion that democracy means that ‘My ignorance is just as good as your knowledge.’”

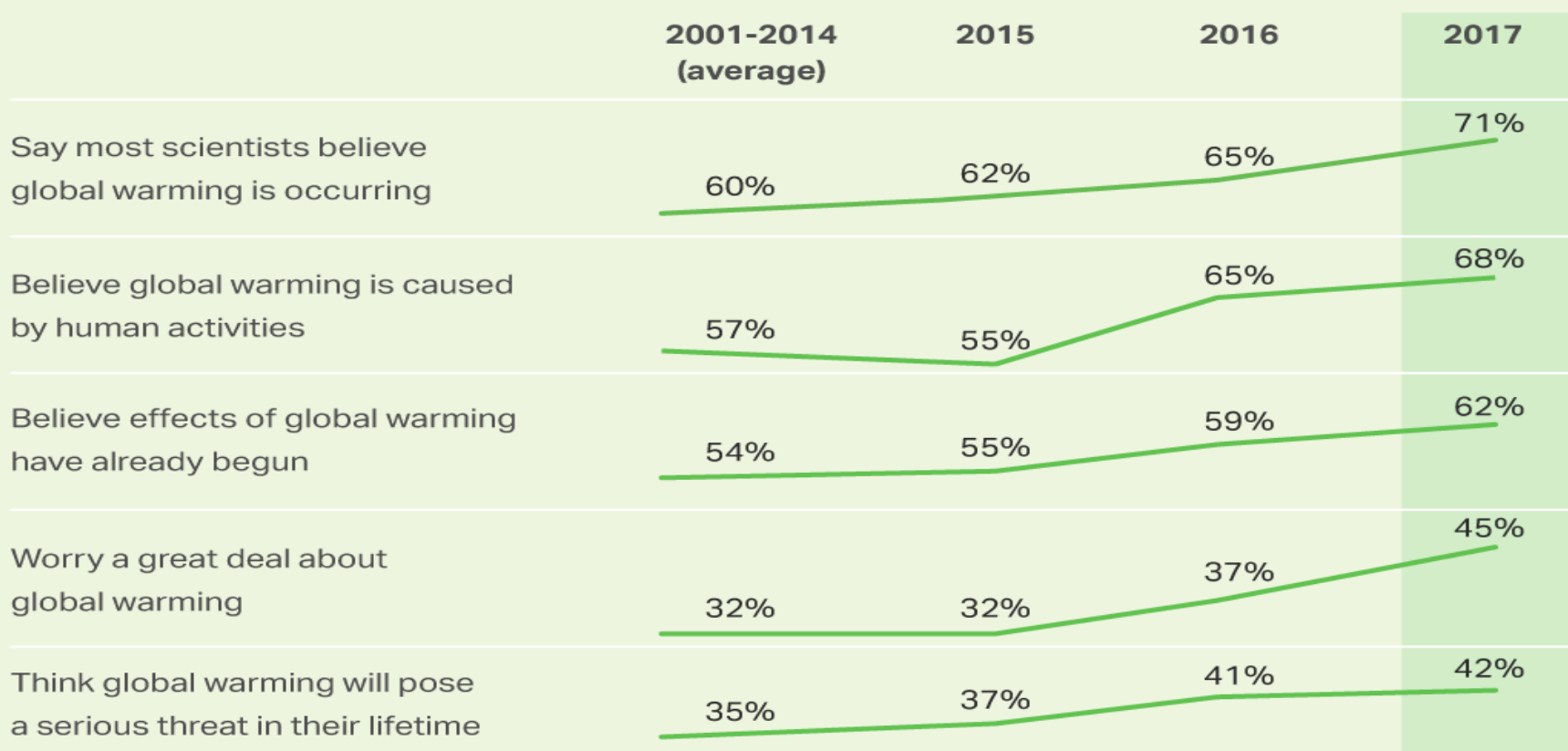
—Isaac Asimov, quoted in “America’s Cult of Ignorance and the Death of Expertise”

Yet, belief in the reality of climate change (not necessarily belief it is human-caused) has turned sharply upwards , even among average on-the-street Republicans, due apparently to direct observation in their own lives rather than scientific studies. As of Fall '15...



**But only a minority (42%) of Americans, in 2017,
think it will pose a serious threat in their lifetime.
(by 2020, that figure has gone up to 70%)**

Summary of Americans' Views on Global Warming



All polls conducted in March

GALLUP

Partisan Divisions in Americans' Views of Global Warming

	2017	2018
	%	%
Think the seriousness of global warming is generally exaggerated		
Republican	66	69
Independent	32	34
Democrat	10	4
Say most scientists believe global warming is occurring		
Republican	53	42
Independent	71	65
Democrat	86	86
Believe effects of global warming have already begun		
Republican	41	34
Independent	67	60
Democrat	73	82
Believe global warming is caused by human activities		
Republican	40	35
Independent	70	62
Democrat	87	89
Worry a great deal/fair amount about global warming		
Republican	36	33
Independent	67	62
Democrat	90	91
Think global warming will pose a serious threat in their lifetime		
Republican	14	18
Independent	45	45
Democrat	58	67

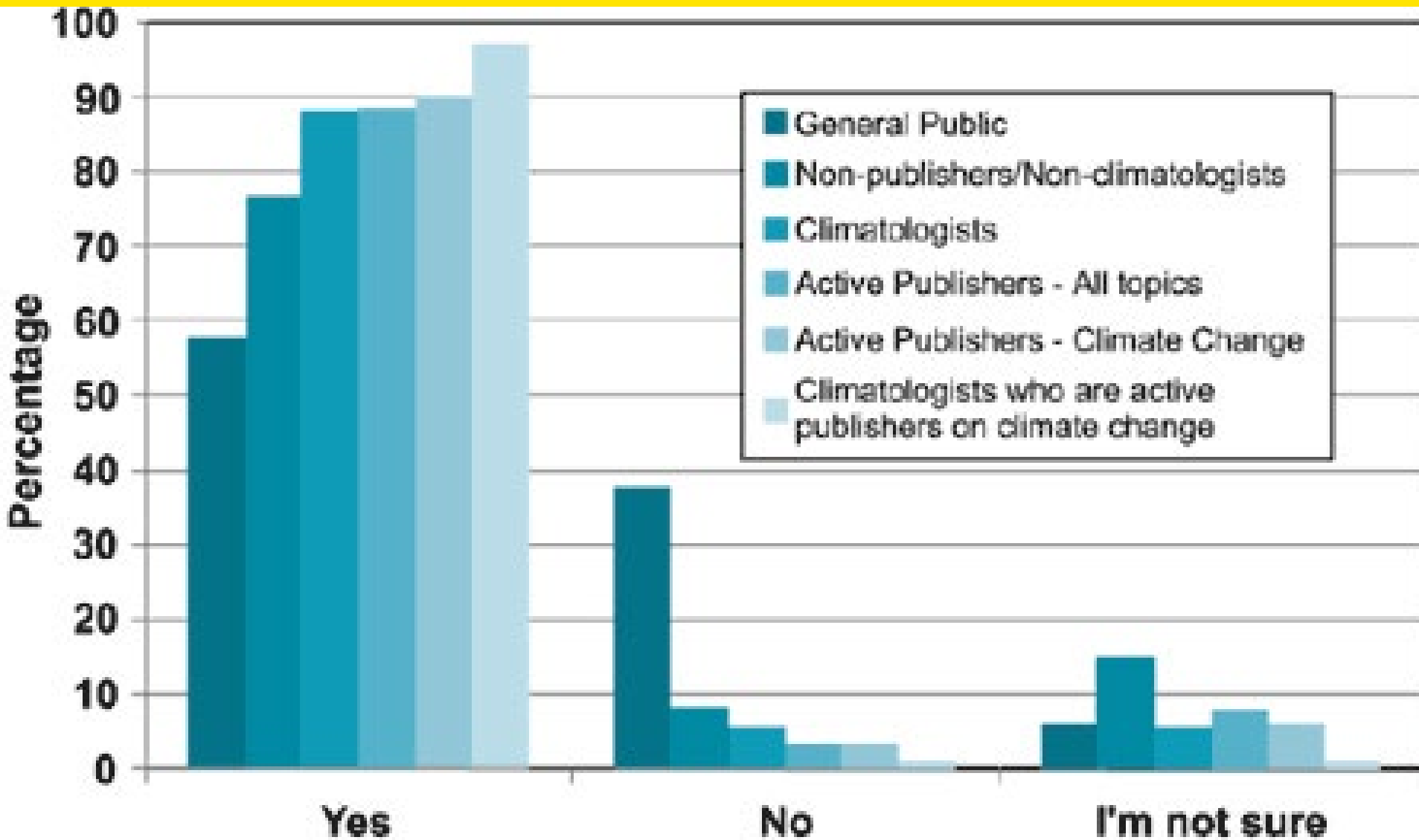
GALLUP

Now in the Trump Era, Republican tribalism apparently is reversing their earlier inching towards Reality. Note that only 42% will even acknowledge that most scientists are convinced global warming is even occurring at all. This shows a strong disconnection from reality

Even these poor numbers are vastly more than is admitted by the Republicans who run our government and create our laws...

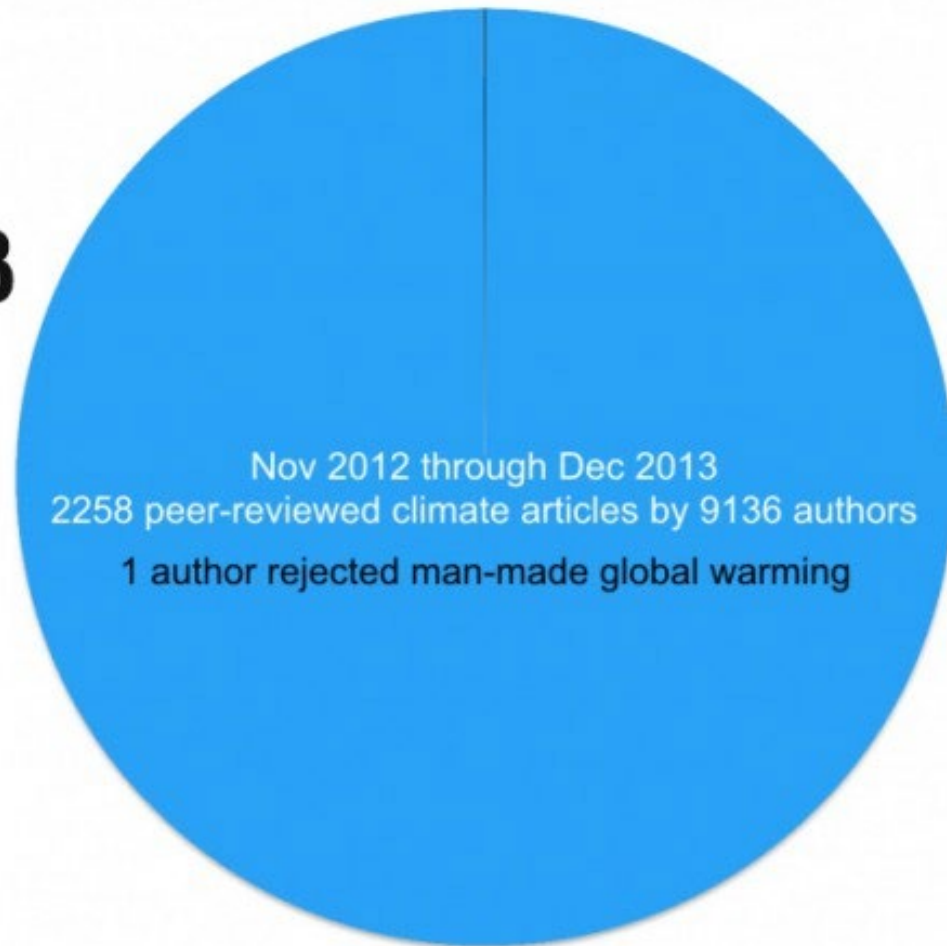
- *[“Last year, PolitiFact](#) could find only 8 Republicans in Congress, out of 278 in the caucus, who had made on-the-record comments accepting the reality of man-made global warming. And as of 2015, most of the contenders for the Republican presidential nomination are [solidly in the anti-science camp](#).”*
- Yet anti-science is anti-evidence. Anti-reason. Anti-reality. It is a psychopathology.
- We will see in this Presentation the relevant brain studies correlated with political orientation ...

Strong Correlation: A Greater Competence in Climate Science goes with Greater Conviction it is Real and Human-Caused ([Anderegg et al. 2010](#))



Three Years Later: The Scientific Conviction Had Grown Even Stronger. (However, care must be used in such studies to see exactly what question was asked and how the paper's contents were judged)

**BETWEEN NOV '12 & DEC '13
ONLY **ONE** AUTHOR OF A
PEER-REVIEWED ARTICLE
REJECTED MAN-MADE
GLOBAL WARMING.**

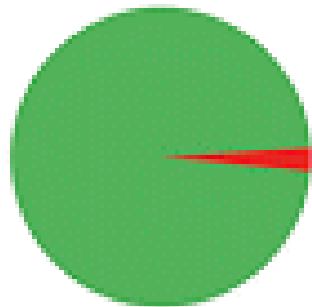


Contrast that with readers of the blogsite of Fox TV Weatherman Anthony Watts - “Watts Up with That?” ([WUWT](http://wattsupthat.com))

- Arguably the most popular and highly visited site in the climate denial blog-o-sphere

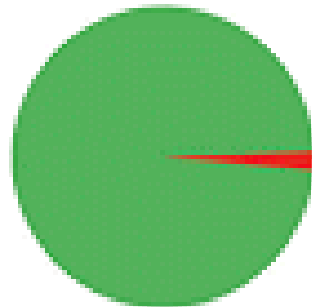
The Scientific Consensus
on Climate Change

The WUWT
Consensus
on Climate Change



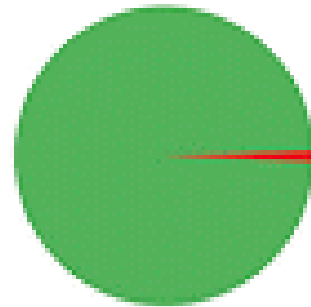
97%

Doran and
Zimmerman 2009
79 scientists



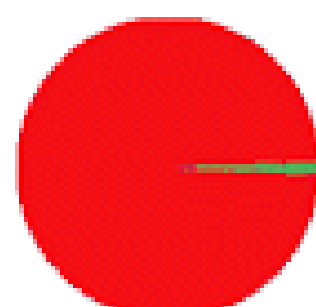
97.5%

Anderegg et al 2010
908 scientists



98.4%

Cook et al 2013
10,306 scientists



1.6%

WUWT et al 2012
1,361 WUWT readers

The Two Primary Groups Behind Climate Denialism

- **1. Right wing political ideologues**
- **2. Fossil Fuel business interests**
- These two groups have a substantial overlap, but the motivations - psychological and otherwise - can be quite different

Group #1. Right Wing Ideologues

- Some personal experience: This puzzled me at first; what does hard science have to do with politics?
- Then I learned the **Cato Institute** (the premier Libertarian think tank) sponsored junk science and lying in front of congress in service of climate denial.
- Confession: While I was a registered Libertarian when I was young, I am currently registered “non-aligned”, and have thought hard about what a healthy political philosophy really might be.

When confronted with a conflict between the truth as revealed by the evidence...

- ...and my early judgment of the Libertarian Party as a rational humanist-oriented political movement, it was easy to let go of Libertarianism.
- **I don't self-identify with political positions.** If I discover they fail clear tests of supporting rational human well-being, I let go without much trouble. I don't let tribalism define me.
- My are judgments subject to new evidence. They are not dogmatically held definitions of my soul and human worth.
- I think it's good advice for all.

But many choose Dogmatism over Reason. Why?

- --- Brittle self-concept, and the resulting refusal to admit mistakes. Plain stubbornness masquerading as “principled”.
- --- Belief that rolling back carbon emissions requires some sort of socialist/communist one-world government that will squash individualism and God-given rights.
- --- Fear of being an outcast among your political tribe.
- --- Associating the reality of human-caused climate change with those hated liberals (especially Al Gore), stopping all further thought with a violent gag reflex.
- --- Biblical passages that “Man shall have dominion over the Earth”; environmentalism in general is viewed as anti-Christian by many Christians.

The psychopathology here is self-made blindness motivated by chronic fear, thereby amplifying that fear

- **Fear of? Superficially....**

----of change.

----of government stomping on their supposed freedoms.

---- of those hated Liberals getting their way.

---- And too: an unacknowledged fear that climate change is real, and the future is indeed in deep peril.

But deeper...

- ... psychologists identify that it's an attempt to default on the responsibility of **thinking**.
- **Thinking** - which they may justifiably fear they are not good at - and then latching on to external belief systems that promise they are virtuous merely by being believers, without logical thought.
- I'll show the science evidence for this later here
- They are self-identifying in an unhealthy way.

Repressed, unacknowledged and centrally important...

- **...is the fear they are mentally unfit for this challenge** (despite protestations to the contrary).
- As psychologist Dr. Nathaniel Branden observed **“We would rather feel ANYTHING but out of control”**.
- **Feeling in control is central to any biological motivation in coping with the World. The alternative, is depression.**

Fear is our organism's signal that we are in danger – we are out of control

- It's a signal that our contact with reality is inadequate to our challenges. It is not, *per se*, a psychopathology.
- It's a necessary signal that has survival-value to alert us to raise our mental focus in order to regain control
- Of course there are healthy examples of proper fear.
- But **fear can also be a constant pervasive state (now called anxiety)** for those who feel a deep lack of confidence in the primary means by which we achieve control over our lives – our mind's ability to think, to acquire needed knowledge, project the future, and find solutions.

“Until you make the unconscious conscious, it will direct your life, and you will call it ‘fate’” – Carl Jung

- When one has habitually avoided the challenge and effort of thought on issues which bring up feelings that threaten one's ego...
- ...Then this fear of mental inadequacy is to be expected. It can be well earned.

Peer Reviewed Science show political conservatism is linked with low intelligence and low self-confidence in the ability to cope...

- Low IQ in childhood is [predictive of conservative attitudes, and racism](#) later as adults (Hodson and Busseri [2012](#)) and relevant quote “*...for those who lack a [cognitive](#) ability to grasp complexities of our world, strict right wing ideologies may be more appealing.*”
- Republican states have [lower high school graduation rates](#).
- College students are [increasingly liberal](#) but also increasingly despairing of political involvement (alas, a reasonable reaction, given [Gilens and Page 2014](#)).
- Low cognitive ability goes together with acceptance of **Fake News** and the tendency towards rigid dogmatism and the refusal to change conclusions when the facts change ([Hambrick and Marquardt 2020](#)).

These Conservative Psychopathologies Pre-date the Trump Phenomenon

- [Nyhan and Reifler \(2010\)](#) (and discussed [here](#)) show the same disturbing correlations in effect with regard to the Iraq WMD issue... They termed it “**The Backfire Effect**”.
- The **Backfire Effect** is when people double-down on their beliefs even when these beliefs are shown to be factually incorrect.

The Backfire Effect

- *“Nyhan and Reifler devised four studies, with college undergraduates as their subjects, to look precisely at the power of factual corrections. Part of their study used actual quotes on the issue of ‘weapons of mass destruction’ (WMD) in Iraq in the prelude to the 2003 U.S. invasion, and subsequent corrections. (Iraqi WMD were used as the main pretexts for war by the administration of George W. Bush. None existed.) Some of the students were given corrections to statements of American officials—fact checks, as we now know them.”*

“Specifically, for very liberal subjects, “the correction worked as expected, making them more likely to disagree with the statement that Iraq had WMD.” For those who called themselves liberal, somewhat left of center, or centrist, there was no statistically significant effect. For conservatives, the corrections backfired: those given “a correction telling them that Iraq did not have WMD were more likely to believe that Iraq had WMD.”

They found that “direct factual contradictions can actually strengthen ideologically grounded fact beliefs—an empirical finding with important theoretical implications.”

Climate Denialism Links to Paranoid Fear of Imaginary Conspiracies

A new study in the journal *Psychological Science* finds a [strong correlation between denial of human-caused global warming and a wide variety of “paranoid conspiracy theories”, and also with a free-market orientation.](#)

Denialist blog sites responded (unsurprisingly) to this study with – “*It's a conspiracy!*” ([LiveScience](#)).

Is this meant to describe every individual Conservative? No. But in a political system where not voter intelligence, nor integrity, but rather sheer vote count is all that matters, understanding these motives is essential.

An [illiterate, corporate controlled media](#) doesn't help.

Fake News – It goes viral on Conservative blogs, but dies by fact-checkers on Liberal websites

- *“When we were coming up with headlines it's always kind of about the red meat. Trump really got into the red meat. He knew who his base was. He knew how to feed them a constant diet of this red meat. We've tried to do similar things to liberals. It just has never worked, it never takes off. You'll get debunked within the first two comments and then the whole thing just kind of fizzles out.” – Jestin Coler: of “Disinfomedia”*
- This, from [fake-news purveyors](#) tracked down after the 2016 election
- Amazingly, the author’s goals were to seed fake news that was outrageously wrong, see it go viral, and **then wreck the fake news’ credibility by exposing it. But the exposing as fake news by the actual perpetrator... was ignored by those who bought into it. They WANTED to believe it, regardless of truth.**

Another Example: No Amount of Self-Confession that Blair's Right Wing Fake News Site Was, in fact, a Joke Could Stop its Fans from Accepting it as Real

- *“What Blair had first conceived of as an elaborate joke was beginning to reveal something darker. ‘No matter how racist, how bigoted, how offensive, how obviously fake we get, people keep coming back,’ Blair once wrote, on his own personal Facebook page. ‘Where is the edge? Is there ever a point where people realize they’re being fed garbage and decide to return to reality?’” ([source](#)) (Apparently not)*

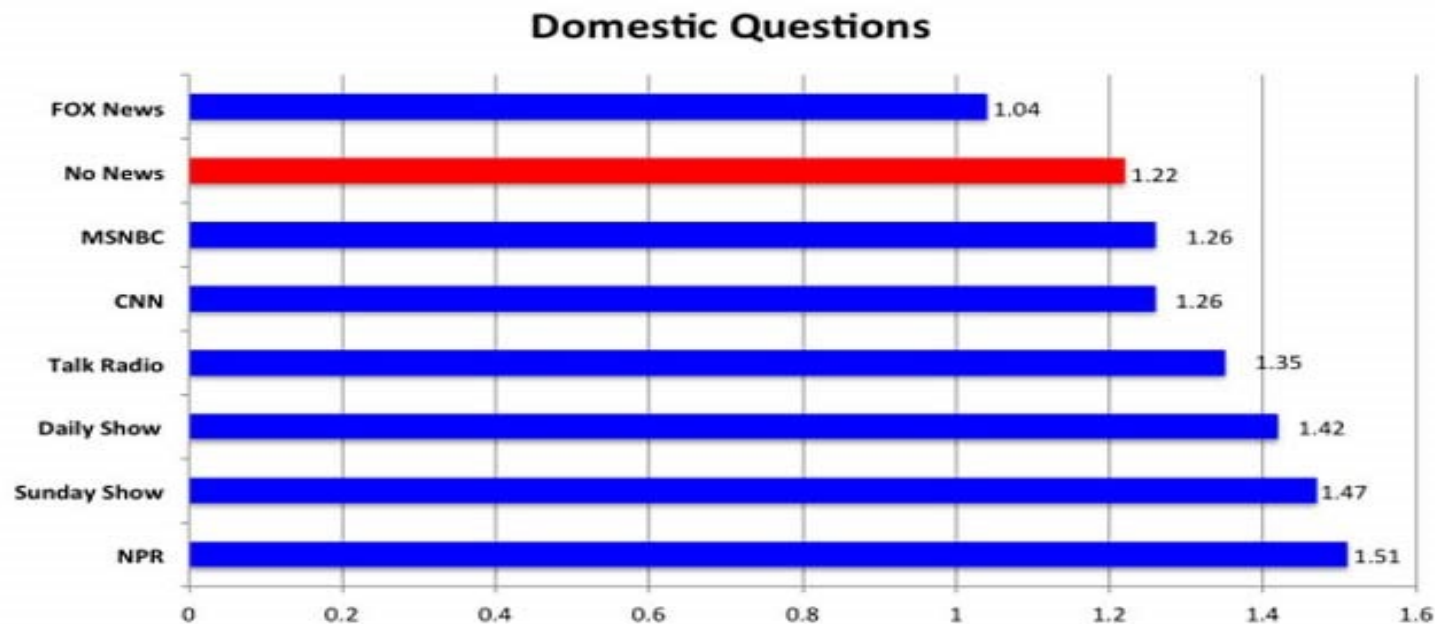
Fake News is Shared 70% more than True News on Twitter ([source](#))

- This strategy, designed to dis-empower our judgment by encouraging us to give up critical evaluation of any and all news, is evidently successful. It is a page right out of George Orwell's dystopian classic "[1984](#)".
- But more to the point here... Fact-checking is a function of the critical mind - the Anterior Cingulate Cortex (ACC) part of the brain - which has withered through apparent disuse in the Conservative brain, but gets more healthy exercise in the non-Conservative brain – according to published science.

A [Study from Dickinson University](#) finds watching arch-conservative Fox News makes one even less informed on the World in general than those who watch no news at all

FOX NEWS MAKES YOU LESS INFORMED

It's not like we really needed a study to tell us this, but the [survey](#) "What You Know Depends on What You Watch," undertaken by Fairleigh Dickinson University, found that watching Fox News results in knowing less about the world. Researchers asked 1,185 respondents which news shows they consumed and then asked general questions about newsworthy events.



Five questions were asked, and those who watch Fox News exclusively got 1.04 correct, on average. Individuals watching MSNBC, on the other hand, got 1.26. NPR listeners? They got an impressive 1.51. The Daily Show? Surely a "fake news" program couldn't make you more informed than "the most watched cable news channel in America."

Alas – Scientists have not been helping. They’ve been slow to speak with the Emotional/Moral self-consistency necessary for effective communication

- This is not controversial – they know it, they admit it, and it’s due not just to the intimidation, threats, and hatred they’ve been subjected to by the right wing climate denial community, and the political meddling in the IPCC process...
- It’s also due to the science culture: the unemotional, “rational” ethos which initially was inviting to young people fleeing the irrationality so common in much of everyday life.
- Climate scientist Dr. Eric Rignot expresses it well ([AGU ‘14 interview \(4:29\)](#)) and even more poignantly [here](#), by JPL Earth Scientist Dr. Peter Kalmus. Key quotes on following slides...

Writes Dr. Kalmus...

- *“I’m afraid to publish this article. Why? Because I’m a climate scientist who speaks out about climate change, and in speaking out I may be risking my career. But I do so anyway, out of love—love for my two young sons, for others’ kids, for wild animals, for this beautiful planet...”*
- *“But many scientists—myself included—worry that standing up for what we know to be true, or advocating for a particular action in response to anthropogenic change that we find deeply disturbing, will make us look biased or unprofessional. We’re afraid that if we speak out, we’ll lose our funding or be labeled as politicized or alarmist.”*

- *“And when we have something scary to say, we employ the dry and precise language of science....”*
- *“However, when climate scientists don’t speak out, we’re inadvertently sending a message that climate change isn’t urgent. If the experts—the scientists on the front lines, the people who know—are so calm, dispassionate, and quiet, how bad can it really be?”*
- *“I experience a surreal tension between the terrifying changes unfolding within the Earth system and the Spock-like calm maintained within the scientific community.”*
- *“Following a formal scientific talk about dying forests or disappearing glaciers, for example, audiences commonly ask a few questions on instrumentation or methodology, and then quietly shuffle out.”...*

- Dr. Peter Kalmus of JPL

It is Orders of Magnitude Worse for Scientists to Underplay the Dangers, Than it is for the Right Wing / Fossil Fuel'd Media to do the Same

- Most of the (sane) public is smart enough to “consider the source” when climate denial comes from the usual sponsored industry and right-wing sources.
- But when scientists buckle to their fear, and retreat into their intellectual fox holes and not show backbone, not stand up against the UN / IPCC process which waters down their science... it is tragically worse for us all – because their pronouncements are taken as the straightest truth there is – after all, it's signed by the scientists.

This is also why I am relentless in calling out the “Hype-sters of Hope” ...

- ...who live on the fringes of science and who seem so transparently to be run by emotionally driven internal compulsions and not fact-driven truth.
- Why dangerous? Because the result is **complacency** that fits right in with the pro-economic growth forces that would have us believe we can have cake/eat too, and that eternally growing economic abundance for all is possible, even that it is our birth right and our **manifest destiny**.

This is vital to repeat - Climate speakers send a message whenever they underplay the dire science

- When they are dispassionate on frightening facts, or when they join into the soothing policy people's agenda of looking good to their paymasters, or their need to cheer themselves up, by promoting "*have cake/eat too: Economic growth/End climate change too!*" belief systems....it encourages what people naturally want to do – which is; be complacent, believe that smart people in a lab somewhere are going to figure it out, how to let us have it all, and thus we kick the can down the road endlessly.
- And yet, if scientists were more passionately persuasive, would they convert more Republicans?

No: Zhou ([2016](#)) finds that there is an opposite correlation between the logical persuasiveness of climate change evidence, and Republican acceptance of the need for personal and government climate action

- *“In fact, treating Republicans with persuasive information made them [more](#) resistant to climate action, regardless of the content or sourcing of that information.”* (Zhou, in discussion of his paper on [Realclimate.org](#))
- **This is bluntly obvious psycho-pathological behavior**



Donald J. Trump ✓

@realDonaldTrump



 Follow

The concept of global warming was created by and for the Chinese in order to make U.S. manufacturing non-competitive.

RETWEETS

25,848

LIKES

15,402



11:15 AM - 6 Nov 2012

This goes beyond self-delusion and into lies, insulting the intelligence of the American People

Vivid Demonstration of this Conservative Psychopathology in 2017

- Some are dumbfounded and incredulous that the clear pathologies of Donald Trump – his delusions of grandeur, his obsessive single-minded preoccupation with his image, his non-stop lying despite wide-spread replay's in media showing his pronouncements are lies; and worse; dumbfounded that he retains [strong support \(85%\) among the Republican Establishment](#).
- But it fits perfectly with psychological studies of Conservatism.
- And the Republicans know they're in denial, lying to the public... yet they still do it. [See this interesting confessional from an insider](#)

From “Unfit for Office”

“One clinical psychologist [told Vanity Fair](#) that he considers Trump such a ‘classic’ pathological narcissist that he is actually ‘archiving video clips of him to use in workshops because there’s no better example’ of the characteristics of the disorder he displays. ‘Otherwise,’ this clinician explained, ‘I would have had to hire actors and write vignettes. He’s like a dream come true.’ Another clinical psychologist said that Trump displays ‘textbook narcissistic personality disorder.’

[-George Conway \(2019\)](#)

I'M GOING OUT,
BUT I GOT YOU
A BABYSITTER...



T.O.B.

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COULD BE
A HOAX.

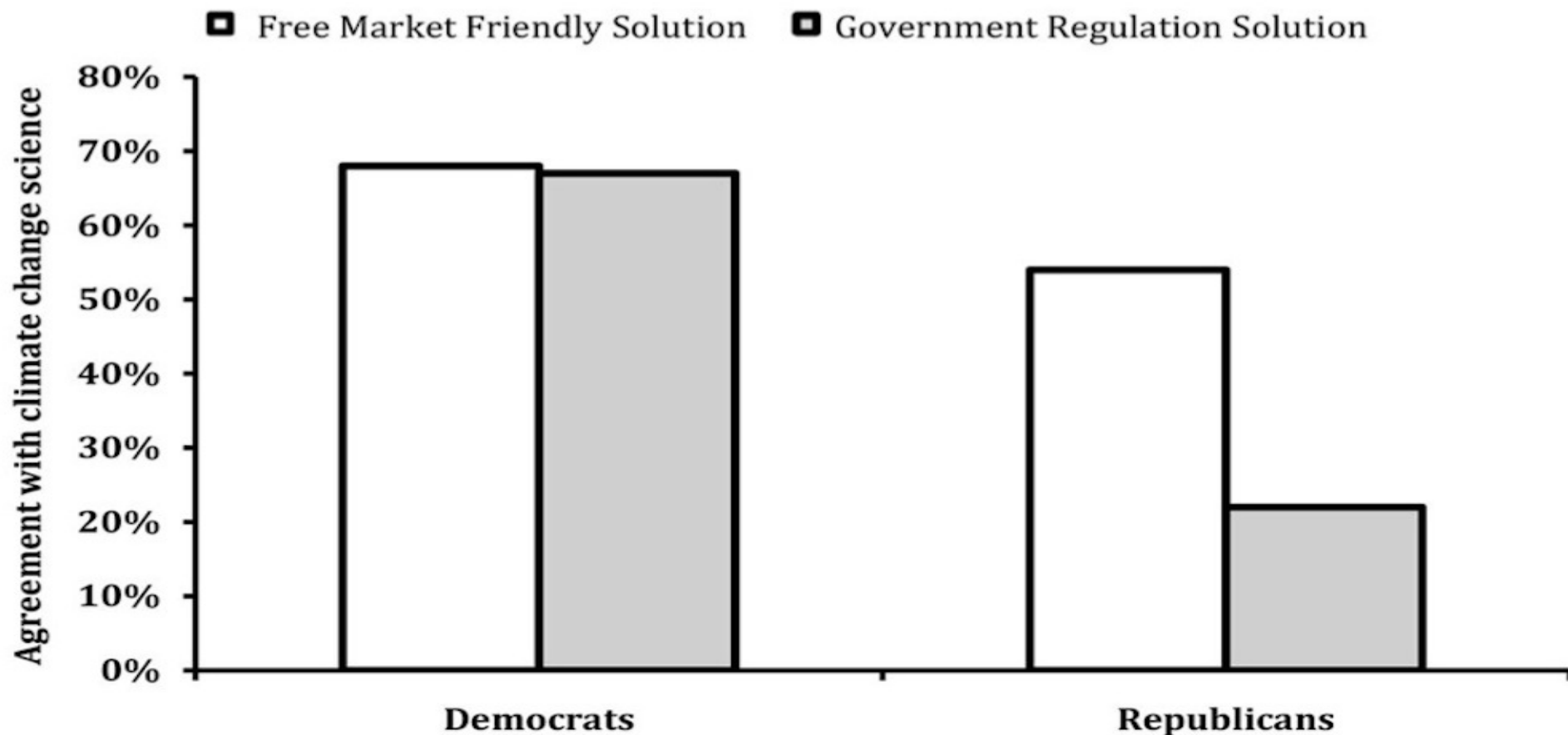
What could drive these pathologies among base Conservatives?

- --**Low self-esteem** arising from failures to exercise willful thoughtful choice when necessary.
- --**Feeling intellectually inferior and intimidated** by those with more grasp of the thought process, and an ego-driven desire to “one –up” them
- -- **Resulting fear of any intellectual inquiry at all**, that they’ll be shown to be wrong, and if they’ve self-identified a brittle ego with never being wrong on any issue, this is a set-up for psychological crisis (review [Chapter 0](#)).
- --Perpetuating the above **by refusal to accept responsibility for one’s actions**, blaming others for what is clearly one’s own choices.

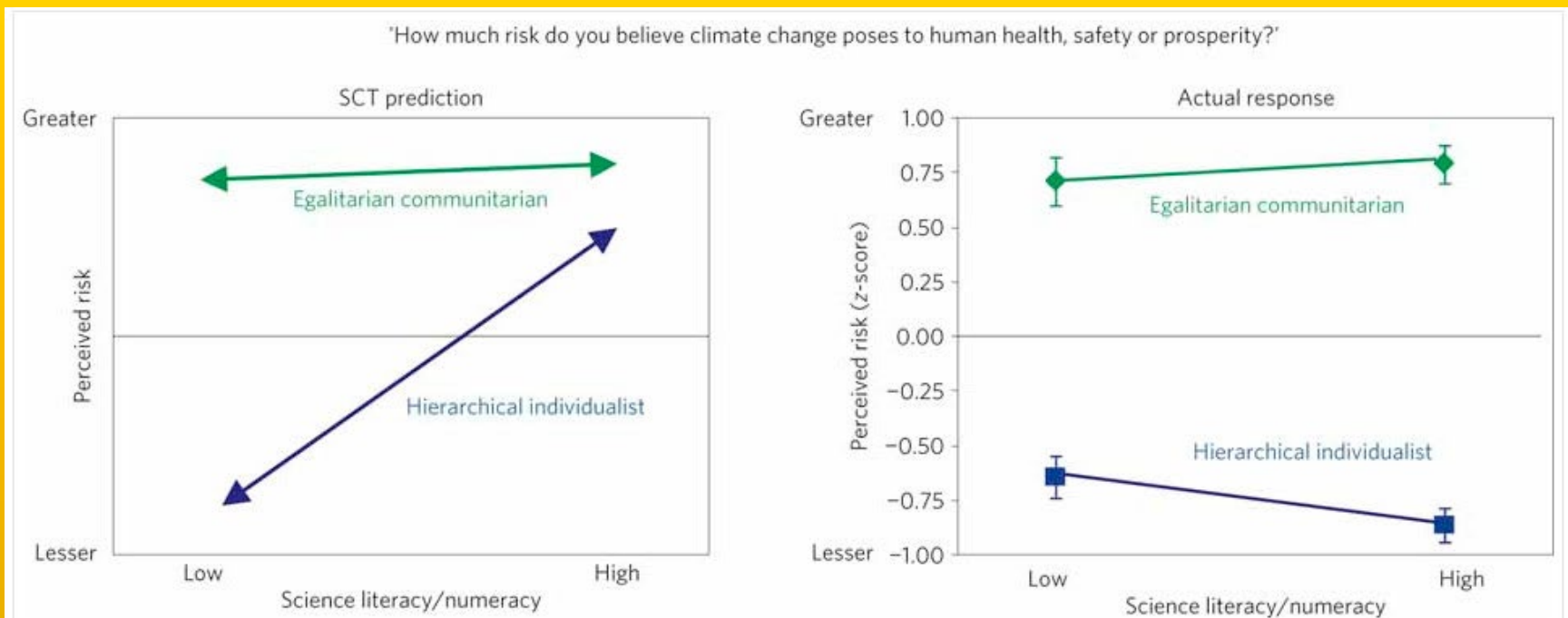
And more...

- --**Fear of change**; it is strong among those who fear that they can't learn and master new knowledge.
- --Fear of confronting ANYthing upsetting a fragile sense of self which may be based on grandiosity and delusions.
- To those who feel fundamentally out of control (even if through self-made blindness), ANY constraint on their "FREEDOM" implies even less control, and evokes a knee-jerk defensive over-reaction, which is consistent in our case with...
- --**Hatred of government *per se***, as an article of rigid faith, and enforced by peer pressure from their tribe.
- Governments-as-they-are have indeed been corrupt, deeply inefficient, and trampled human rights – but so do corporations, [which buy governments](#) (The solution is to **fix** government, not kill it.)

Dogmatic hatred of government influences Republican rejection of climate science ([Campbell and Kay 2014](#), discussed [here](#)): Republicans rejected climate science if told government regulation is required to solve climate change, but much less so if told there were free market solutions. Rejecting reasoned factual evidence because one doesn't like the required solution, exhibits psychopathology.



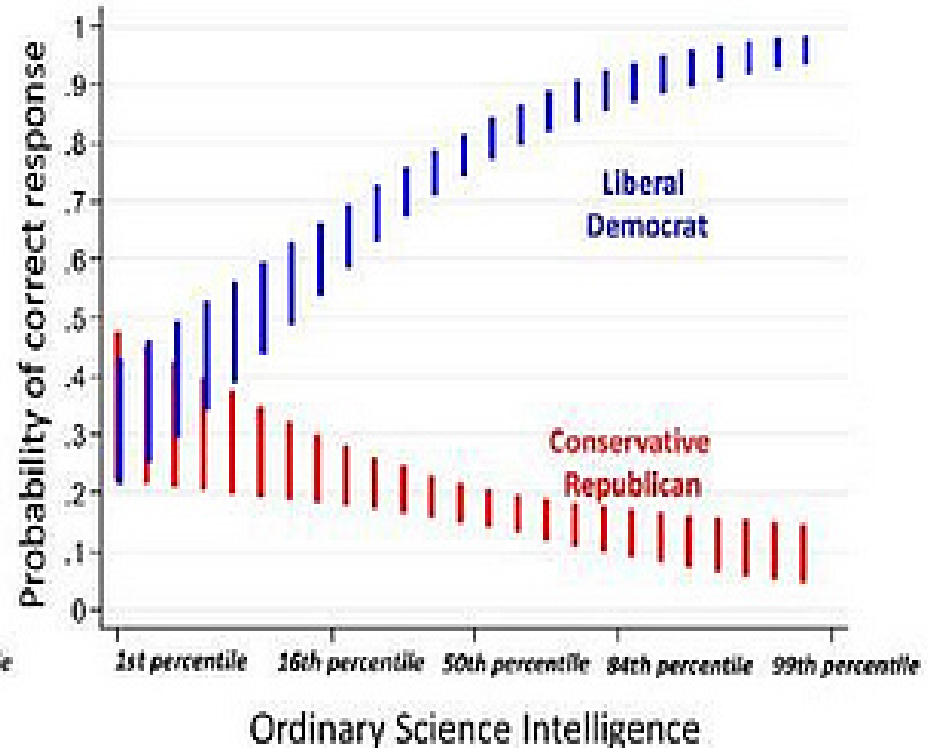
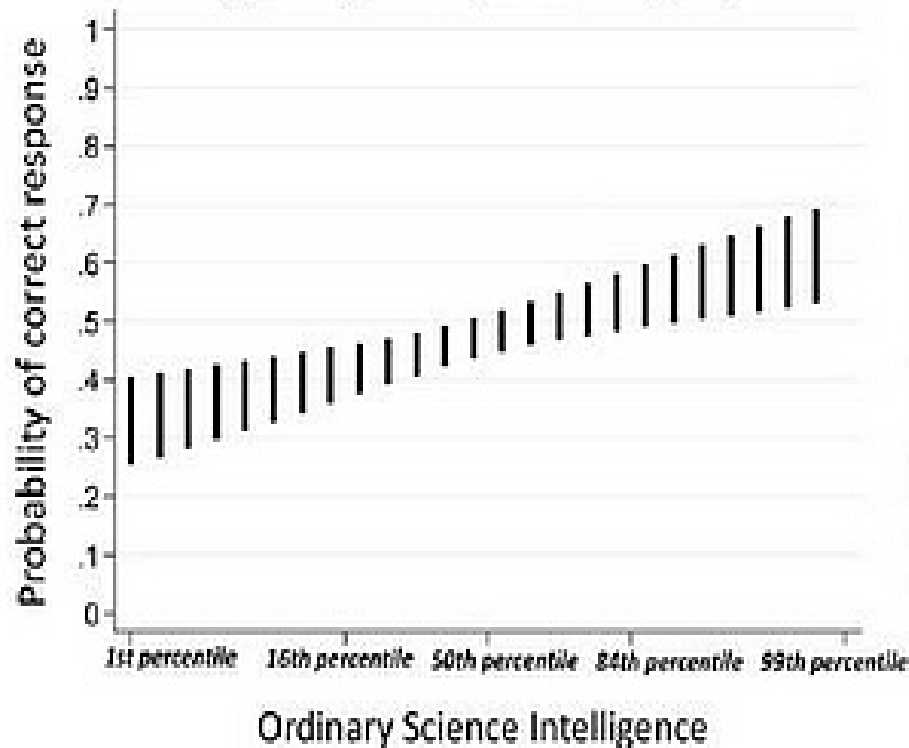
The higher the scientific and mathematical literacy of “egalitarian communitarians” (politically liberal), the higher their acceptance of the dangers revealed by climate science. It was opposite for “hierarchical individualists” (politically Conservative) (source: [Kahan et al. 2011](#)). Studies like these are a stark revelation that attempting to reason with and educate climate denialists just doesn’t work. [Their resistance is tenacious](#). False science is used to re-enforce prejudices.



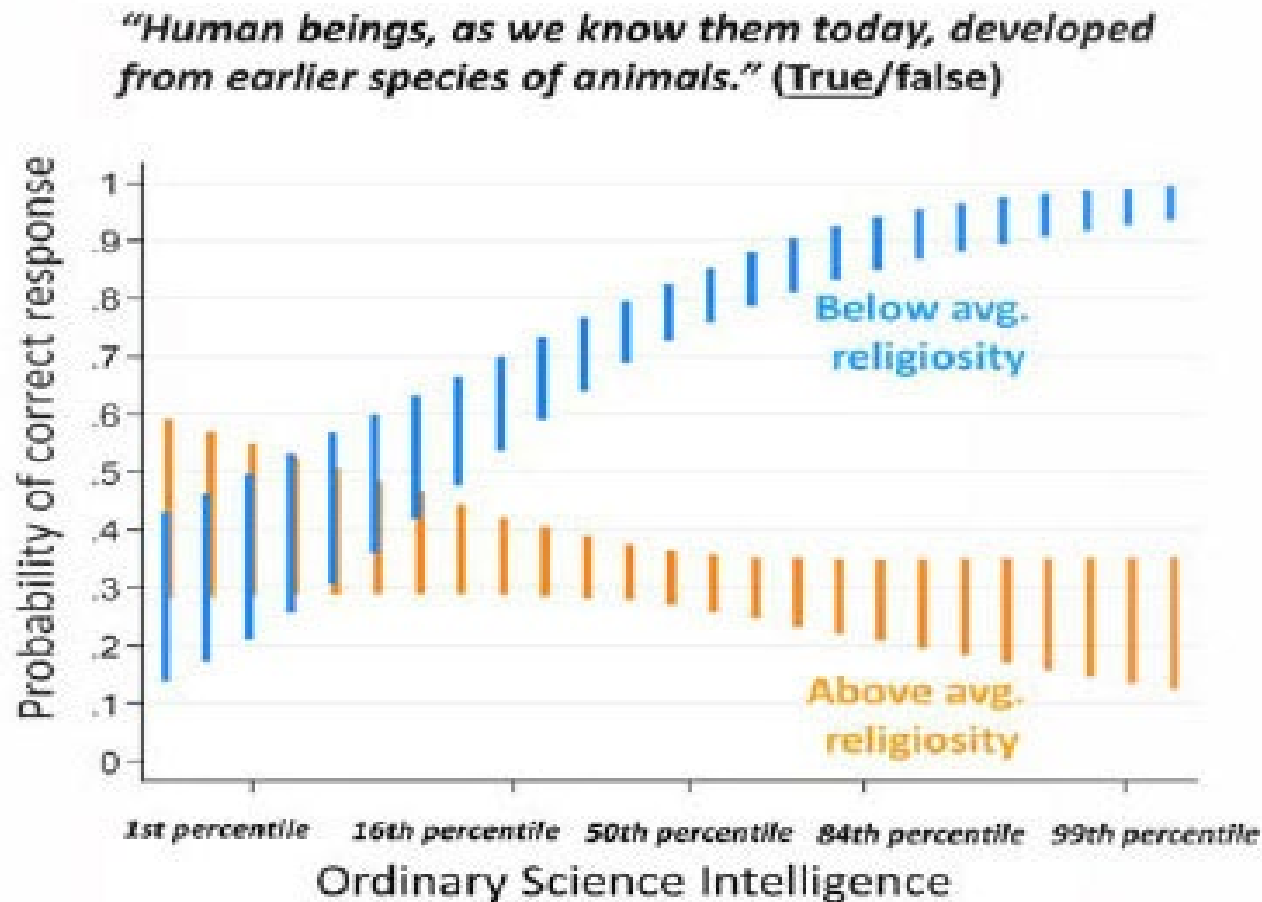
Contrary to SCT's predictions, highly science-literate and numerate hierarchical individualists are more sceptical, not less, of climate change risks. Estimated risk-perception scores derived from [Supplementary Table S4](#), Model 3. Hierarchical individualist and egalitarian communitarian reflect values set, respectively, at +1 s.d. and -1 s.d. on both the Hierarchy and Individualism cultural-world-view scale predictors. Low and high reflect values set at -1 and +1 s.d. on the Science literacy/numeracy scale. Responses on the 0–10 risk scale ($M=5.7$, $s.d.=3.4$) were converted to z-scores to promote ease of interpretation. Confidence intervals reflect the 0.95 level of confidence.

Even more striking, from a newer paper by [Kahan et al. 2015](#). (discussed [here](#)). For Liberals, the more science-intelligent they are, the more convinced they are of human-caused global warming. Yet it's the exact opposite for Conservatives.

There is "solid evidence" of recent global warming due "mostly" to "human activity such as burning fossil fuels." [agree, disagree]

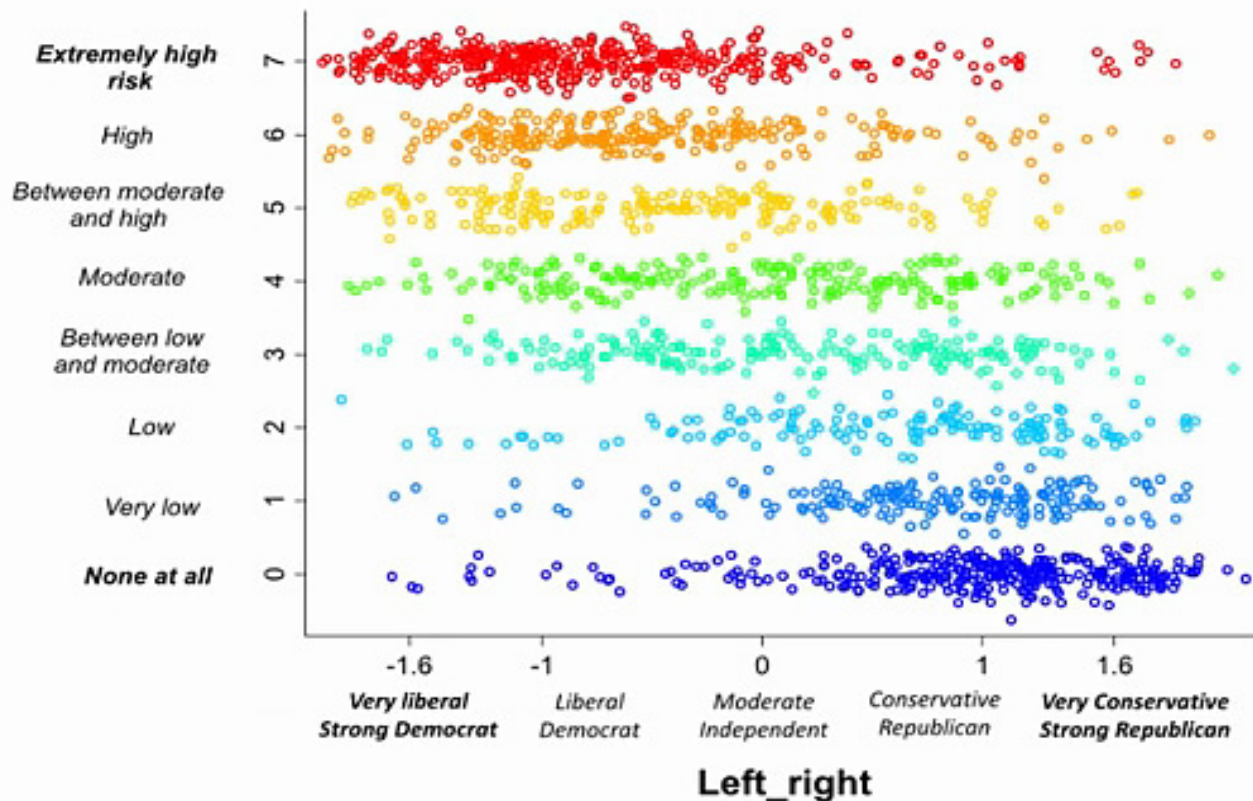


A similar anti-correlation – Among the religious, their science education does not trump their attachment to their tribe. On climate science as well as evolutionary science ([Kahan 2016](#))



[Kahan et al. 2011](#) – Perception of the physics-dependent risks of climate change should, rationally, show no correlation with politics. But Conservatives, on average, exhibit psychopathology

*"How much risk do you believe **global warming** poses to human health, safety, or prosperity?"*



Low-Effort Thought Promotes Political Conservatism ([Eidelman et al. 2014](#))

- Below is the paper's abstract...
- *“The authors test the hypothesis that low-effort thought promotes political Conservatism. In Study 1, alcohol intoxication was measured among bar patrons; as blood alcohol level increased, so did political conservatism (controlling for sex, education, and political identification). In Study 2, participants under cognitive load reported more conservative attitudes than their no-load counterparts. In Study 3, time pressure increased participants' endorsement of Conservative terms. In Study 4, participants considering political terms in a cursory manner endorsed Conservative terms more than those asked to cogitate; an indicator of effortful thought (recognition memory) partially mediated the relationship between processing effort and Conservatism. **Together these data suggest that political Conservatism may be a process consequence of low-effort thought; when effortful, deliberate thought is disengaged, endorsement of Conservative ideology increases”.***

A Stunning Example of All the Foregoing, Would Appear to be Our President

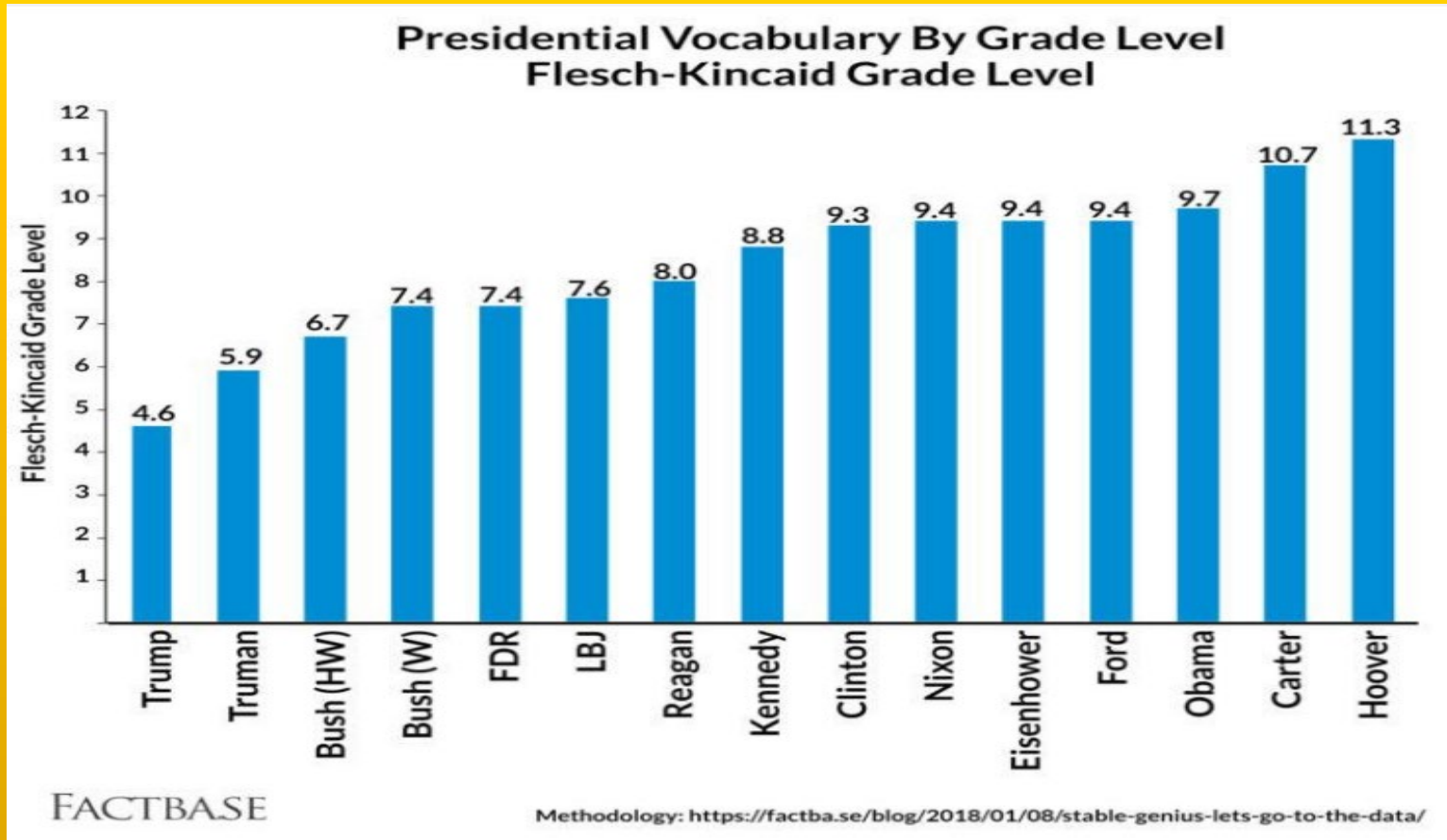
- In the uncanny words of Conservative George F. Will...
- *“...the problem isn’t that he does not know this or that, or that he does not know that he does not know this or that. Rather, the dangerous thing is that he does not know what it is to know something” (Washington Post 5/3/17).*
- A petition written by 800 professional psychologists and psychiatrists, signed by 60,000 as of Sept ‘16, asks that, under the 25th Amendment to the Constitution, President Trump be removed, as mentally unfit to hold office.
- Additional evidence that Donald Trump (self-proclaimed genius) operates at the level of a 4th-grader (apologies if this denigrates 4th-graders). That study may be too optimistic. This linguistics professor interviewed finds the best parallel to Trump is the Neandertals who first struggled to learn words.

The Slippery Slope... The Dunning/Kruger Effect

- The [Dunning – Kruger Effect](#) is the observation that low-intelligence people not only do badly at intellectual tasks, but that their low mental abilities and damaged psychology makes them unable and/or unwilling to *recognize that they're doing badly at intellectual tasks.*
- They constantly over-estimate and over-inflate their own “greatness”, competence, and intellectual abilities.
- Rather than the caution and careful fact-checking seen in the more reality-oriented, such as scientists, one instead hears smug assurances of facts which are just plain false;
- *“Often wrong but never in doubt”, we say in common language*

Trump reminded people that he was elected to the presidency “*on my first try. I think that would qualify as not smart, but genius....and a very stable genius at that!*” He also tweeted that “*throughout my life, my two greatest assets have been mental stability and being, like, really smart.*” ([source](#))

It's clear the [Dunning-Kruger Effect](#) may be in play here



Recall, in Chapter 0 we examined what it means to know something; what the inner experience of gaining knowledge actually feels like, and why

- The very experience of attaining knowledge – the “light bulb experience” – that goes with non-contradictory integration of new knowledge into a carefully assembled base of internally non-contradictory prior knowledge – appears to be totally foreign to our President.
- ...and from the 2016 election voting, clearly elected by too many of those who are similarly at sea when it comes to proper mental activity to gain knowledge.

This connection between chronic fear and political Conservatism is backed up by brain studies

- [Kanai et al. 2011](#), in their paper *“Political Orientations are Correlated with Brain Structure in Young Adults”*, find that conservatives show larger brain mass in the **right amygdala** - which is primarily involved in the experience and emotion of **fear**.
- Conversely, the **anterior cingulate cortex (ACC)** of liberal students had more gray matter than their conservative counterparts. The anterior cingulate cortex is most active in coping with **complexity**, and especially in [error-detection](#)
- For follow-up, readers here should note in the Abstract (next slide) the links to other studies showing the differences psychologically between liberals and conservatives

The Abstract from Kanai et al. 2011...

- “Substantial differences exist in the cognitive styles of liberals and conservatives on psychological measures [1]. Variability in political attitudes reflects genetic influences and their interaction with environmental factors [2, 3]. Recent work has shown a correlation between liberalism and conflict-related activity measured by event-related potentials originating in the **anterior cingulate cortex** [4]. Here we show that this functional correlate of political attitudes has a counterpart in brain structure. In a large sample of young adults, we related self-reported political attitudes to gray matter volume using structural MRI. We found that greater liberalism was associated with increased gray matter volume in the anterior cingulate cortex, whereas greater Conservatism was associated with increased volume of the right amygdala. (continued on next slide)

- *“These results were replicated in an independent sample of additional participants. Our findings extend previous observations that political attitudes reflect differences in self-regulatory conflict monitoring [4] and recognition of emotional faces [5] by showing that such attitudes are reflected in human brain structure. Although our data do not determine whether these regions play a causal role in the formation of political attitudes, **they converge with previous work [4,6] to suggest a possible link between brain structure and psychological mechanisms that mediate political attitudes.**”*
- Psychiatrist Dr. Gail Salz discusses these issues on this [14 minute YouTube video](#)

New Work at Stanford University by Kosinski (2021) Similarly Finds...

- ...facial recognition AI software, trained on hundreds of thousands of Facebook profiles and answers to questions, has a 73% rate of success in predicting a person's politics (liberal, conservative) based solely on their face.
- *“The highest predictive power was afforded by head orientation (58%), followed by emotional expression (57%). Liberals tended to face the camera more directly, were more likely to express surprise (curiosity), and less likely to express disgust.”*

The Refusal to Face Reality and the Resulting Existential Chronic Fear...

- ...does more than just wither through dis-use the critical thinking **anterior cingulate cortex** and inflate the fear-experiencing **amygdala**...
- ...It affects not only psychological health, it cripples physical health as well.
- [Studies](#) show a strong correlation with these same brain structure patterns and risk of chronic high blood pressure, stroke, and heart attacks ([2016 study and more links](#))

That there is a correlation between brain structure and political attitudes...

- ...is not that surprising. **What is more interesting is the question** – which is cause and which is effect?
- The unfortunate temptation in psychology and in the wider populace, is to take such correlations as an excuse for non-responsibility – that the brain structures and chemistry DETERMINE the attitudes, such that *“I couldn’t help it, my brain chemistry and structure is defective”*, in effect.

Yet this is an unwarranted assumption

- The new science of neuro-plasticity has shown that practicing new behaviors and new thinking brings **physical** and **functional** change.
- Our brain re-wires, responding to our intentional activities, focus, and new conclusions in physical structural ways.
- It is more consistent with the evidence that these brain structure differences between Conservatives and Liberals are a result of thinking pathologies and re-inforce them mutually, much as intentional work in the gym will cause improved specific muscle development.

A Failure of the Normal Maturity Path

- **As an infant**, we see Mother as the source of all satisfactions. If we are unhappy, we cry and she'll make it better somehow
- **As a child**, we begin learning our own capabilities and that there's a larger world
- **As a teenager**, we begin to think conceptually, engage the neocortex, project a future, discover principled thought, and understand the power of ideas. We begin to learn that the world does not owe us a living, that Nature has laws which are unchanging across all space and all time, regardless of temper tantrums.
- **As an adult**, we learn that our task as humans is to master the understanding of those laws and the laws of human psychology and biology, as part of the fundamental requirements for finding a path to a happy life.
- Alas, some of us fail – some, by default, and some even by choice - somewhere along this multi-stage enterprise.

Some people simply refuse to grow up

They refuse to accept that their wishes are not all-powerful, that life requires effortful thought, and that success is not guaranteed simply by wishing it so.

Perhaps over-indulgent parents disincentivize the normal maturity path, or perhaps it is simply their choice.

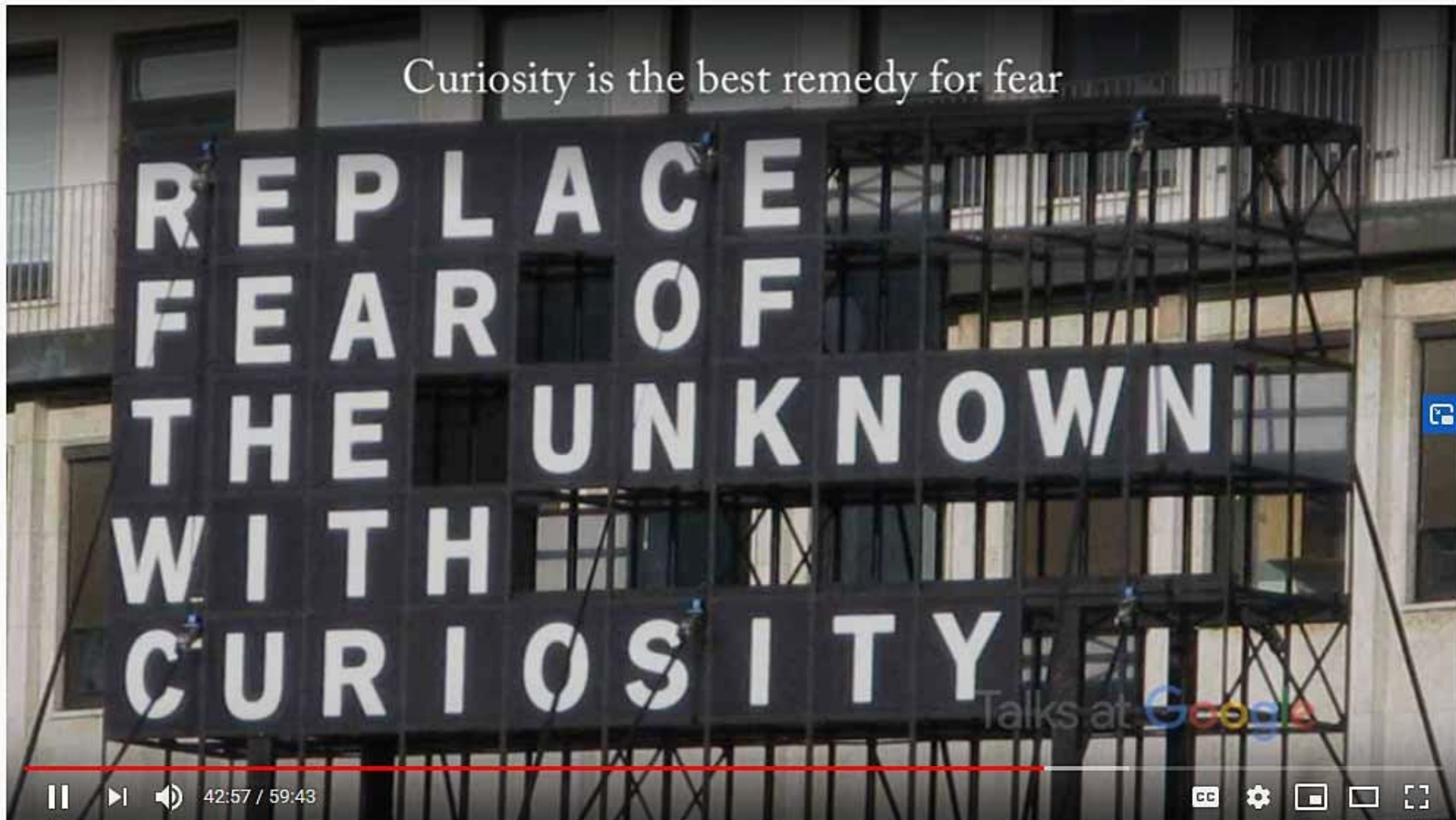
Personal growth is stunted until this failure is corrected.

- The **Campbell and Kay study** we saw is a dramatic example of this failure by rank-and-file Republicans.
- Refusal to accept reason and evidence simply because one does not like the consequences, is a major dysfunction, and the subconscious mind registers this fact and the damaging self-evaluation it entails on one's own mental fitness, even if it is denied consciously.

Astrophysicist Mario Livio, retired head of the Space Telescope Science Institute – [gave a talk on Curiosity](#) at Google in 2017

- I was struck, midway through, when he contrasted our differing attitudes towards the unknown, and how profoundly they affect our lives, with this plea from his new book... (next slide)
- ...and on this next slide, over a photo with the same sentiment, from an art exhibit many years earlier.

Livio: "Curiosity is the Best Remedy for Fear"

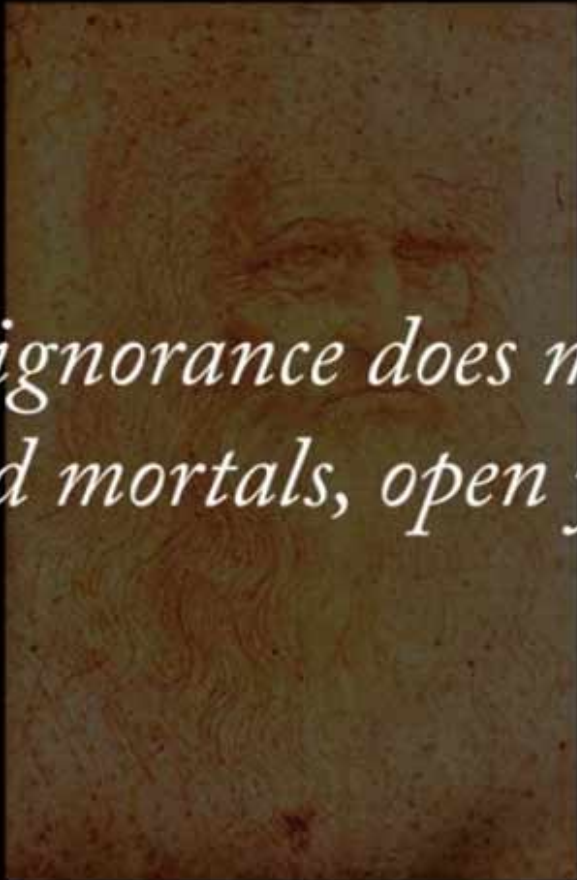


Mario Livio: "Why? What Makes us Curious" | Talks at Google

9,239 views • Aug 29, 2017

178 7 SHARE SAVE ...

And Even Earlier, from Leonardo da Vinci



*“Blinding ignorance does mislead us.
O! wretched mortals, open your eyes!”*

It's Not a New Discovery

- No, what struck me was how neatly and cleanly it divides the politically Conservative from the politically liberal.
- Do we let **Fear and Hatred** dominate you?
- Or instead do we embrace **Curiosity** as our response to what is not yet understood and might even change our conclusions about the World?

The Relationship of Curiosity to Exercise of the Anterior Cingulate Cortex is Extremely Strong. It lights up on fMRI when Curiosity Happens. (But has the U.S. preserved its curiosity? This presentation is now 8 years old, from one of the great Astrophysicists. Check below how many “Likes” How many “Views”)



The Case for Curiosity: Mario Livio at TEDxMidAtlantic 2012

23,799 views • Dec 17, 2012

👍 252 💬 3 ➦ SHARE 📌 SAVE ⋮

There's a reason for the informal term **“Shrink”** to describe a psychotherapist

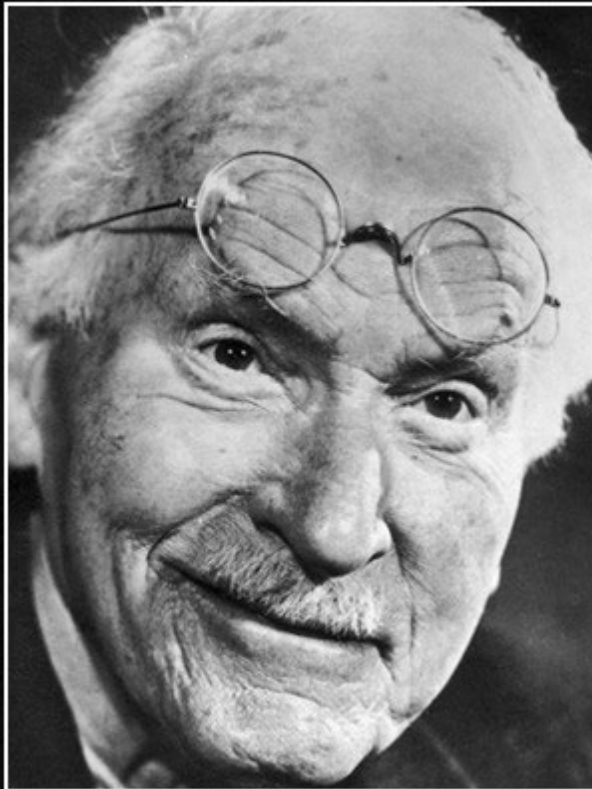
- Refusal to listen, to accept reason and evidence, silently cripples self-confidence in mental capacity, and drives a compensation with over-inflated delusions of intellectual grandeur.
- And yet the **compensatory bravado to prove grandiose delusions to self and others (the “swollen head” syndrome), fails to sell to on-lookers.**

The Slippery Slope of Psychopathology

- Denial of evidence and refusal to engage reason inflicts a high cost to **actual** self-respect.
- But since positive self-respect is so key to motivation, lowered **real** self-respect motivates further restriction of awareness and flights to inflated and delusional ego to prevent ever more painful confrontation of one's continually lowering **actual** self-respect.
- This creates a self-reinforcing cycle unless, early on, self-discipline is brought in, before it is too psychologically painful to break the cycle.

“IN SCIENCE IT OFTEN HAPPENS THAT SCIENTISTS SAY, 'YOU KNOW THAT'S A REALLY GOOD ARGUMENT; MY POSITION IS MISTAKEN,' AND THEN THEY WOULD ACTUALLY CHANGE THEIR MINDS AND YOU NEVER HEAR THAT OLD VIEW FROM THEM AGAIN. THEY REALLY DO IT. IT DOESN'T HAPPEN AS OFTEN AS IT SHOULD, BECAUSE SCIENTISTS ARE HUMAN AND CHANGE IS SOMETIMES PAINFUL. BUT IT HAPPENS EVERY DAY. I CANNOT RECALL THE LAST TIME SOMETHING LIKE THAT HAPPENED IN POLITICS OR RELIGION.” — CARL SAGAN

Tipping Points: Not Just in Climate, but in Personal Psychological Dysfunction



The psychopathology of the masses
is rooted in the psychology of the
individual

— *Carl Jung* —

Failure to bring in this discipline and confront what is uncomfortable must happen before our betrayals become too serious

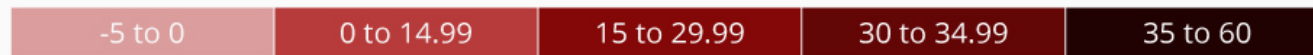
- Otherwise, the courage to confront the psychic pain entailed in facing our betrayals, is beyond what we feel we can endure.
- And so we unconsciously tighten our hold on psychological repression and rigid dogmatism... to the bitter end.
- An amplifying feedback – leading to a “tipping point” being crossed.

Denial of inner Reality, when pressed to the end as painful awarenenses become both impossible to deny and impossible to endure, can lead to suicide

I can't help noticing, that the disturbing [rise in rates of suicide](#) is dominated (black) by the Conservative states of the Midwest

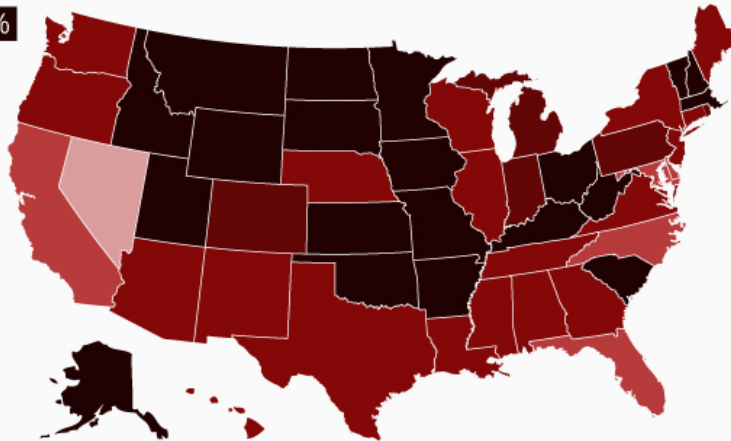
Suicide Rates Have Risen Sharply Across The U.S.

Percentage change in suicide rate in U.S. states from 1999 to 2016



Highest percentage increase
(1999 to 2016)

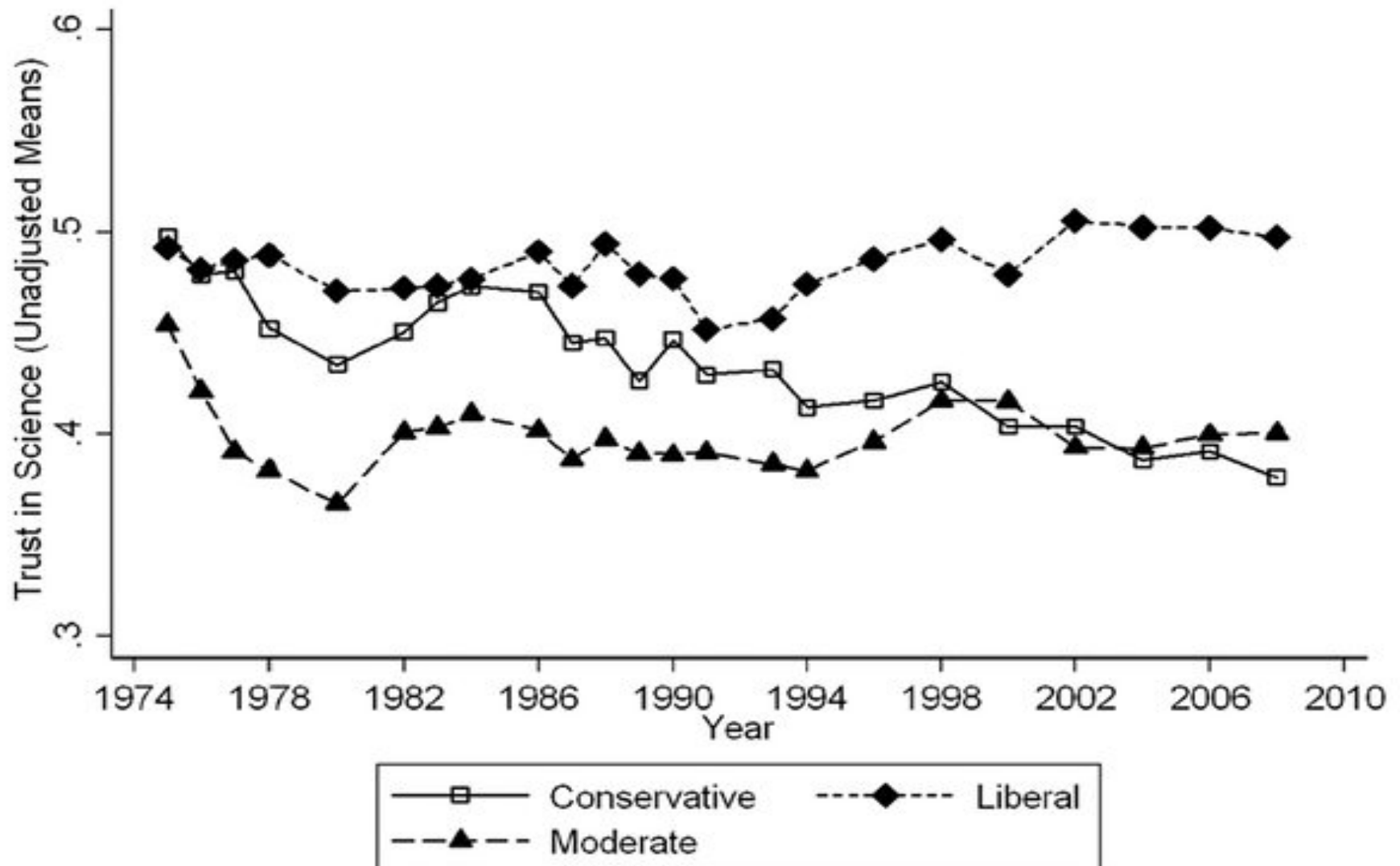
North Dakota	57.6%
Vermont	48.6%
New Hampshire	48.3%
Utah	46.5%
Kansas	45.0%
South Dakota	44.5%
Idaho	43.2%
Minnesota	40.6%
Wyoming	39.0%
South Carolina	38.3%



Conservative's Attitude Towards Science

- **Science**, which is the essence of evidence-based appreciation of reality, can feel increasingly threatening to those who are self-made blind.
- **Trust in science** can be expected to decline in this personality, and studies back this up...

Unlike Liberals or Moderates, Conservatives' trust in science (open squares) shows a downward trend for the past 35 years ([Gauchat 2012](#)), discussed [here](#)



From the Abstract of Gauschat *et al.* 2012...

- *“This study explores time trends in public trust in science in the United States from 1974 to 2010. More precisely, I test Mooney’s (2005) claim that conservatives in the United States have become increasingly distrustful of science. Using data from the 1974 to 2010 General Social Survey, I examine group differences in trust in science and group-specific change in these attitudes over time. Results show that group differences in trust in science are largely stable over the period, except for respondents identifying as conservative. Conservatives began the period with the highest trust in science, relative to liberals and moderates, and ended the period with the lowest.”*

Not Surprising then...

- ...that as of 2019, that **only 33% of Republicans** feel that colleges and universities are a positive good for society ([Pinsker 2019](#) source for quote below...)
- *“It would be hard to imagine an administration [Federal govt] that has been more dismissive of credentialed knowledge than this one ... It makes total sense, given that context, that you would see an uptick in the number of Republican voters that also express disdain for the university,’ he (Zimmerman) said, though he acknowledged that it’s hard to identify any one cause at this point in time.”*

A Question to Legendary Journalist Dave Perlman, on his Retirement in 2017

- ***Interviewer: “A lot of newspapers in recent years have cut their science desks in order to save money. What do you think about that, and how do you think science coverage has changed as a result?”***
- ***Perlman: “I think it's absolutely obscene. Newspapers, whether online or in print, are a major factor in the ongoing education and awareness of the public, and specifically of a younger generation. And whether it's online or in print, the idea of failing to cover advances in science ... it creates a generation with a major disability in what they can think about and understand.”***

- *“So I think newspapers have abdicated their responsibility by diminishing the amount of science coverage. There were once, I don't know, 50 or 75 science pages, science sections in newspapers across the country. Now, there's The New York Times on Tuesday. Very, very few other newspapers have anything approaching that.”*
- **Bottom line: Students today may not realize that the role of scientific understanding has not always been so disrespected, and has not always been so alien to so many people young and old.**

Projecting the Future: Relation to Intelligence and Success – The Stanford Study of W. Mischel

- A classic series of psychological experiments done in the late 1960's at Stanford University by Walter Mischel and colleagues tested 4-5 yr old children's ability to make the future real enough in their minds to exert will power to resist immediate gratification in favor of larger rewards in the future: *"one candy now, or two if you wait 15 minutes ...Your choice, kids!"* ([summary here](#), and further links)
- ~ 70% of children failed to wait, but the 30% who did wait showed later SAT Test results which outscored the impulsive kids by **over 200 points**.
- **Those who failed self-discipline also showed, in later life, lower intelligence, fewer friends, lower incomes, lower educational attainments, couldn't handle stress of any kind well, and lower scores in a wide variety of other life success measures.**

Positive Correlation: Intelligence vs. the Willingness to Tolerate Short-term Discomfort for Long-term Reward

- I'm haunted by the results of these classic Stanford ["delayed gratification" studies of children](#) (and [here](#)).
- We as a Global Civilization, behave like the immediate gratification 4 year olds in these studies - preferring to eat through our seed corn now, rather than clearly acknowledge what that means for our future.
- And we refuse to empower a government which will enforce policy to exert the required discipline.

In Economics Terms...

- ...we (most especially corporate conservatives) **“apply a high discount rate”** to the future (*i.e.* the future matters little to us)
- Note that in these studies that the choice is so easily grasped by all (1 candy now, or 2 candies if you wait a bit), that it is not a test of the ability to understand what is being asked...
- **It is a test of the willingness to pause and make real in one's mind what the future will hold, vs. simply avoiding that awareness in order to indulge short-term wishes.**

Isn't there a point where the compulsion to deny human responsibility for climate change is overwhelmed by another very human desire – to not look like a complete fool, and completely corrupt?

- If betrayal of integrity has left one with little genuine self-respect left, then the compulsion will be to dig the hole ever deeper, to avoid confronting the truth of one's own betrayals - better an illusion of (albeit fragile) self-regard than a reality of no genuine self-regard. This is the descent into psychosis.
- NY Times' Chris Mooney : "The Republican Brain: The Science Behind Why They Deny Science and Reality" includes the interesting finding that...
High education levels correlate with higher conviction on the reality of human-caused global warming among Democrats, but not Republicans.
In a 2012 poll, Republicans were found to be far more likely to believe in Demonic possession (68%) than in climate change (42%).

NO immediate gratifications, certainly not next quarter's profit margins, are worth such high costs to self respect - UNLESS one's self respect has already been sold off

- Humans make their decisions “**on the margin**”, and if there's no remaining genuine self respect left to damage, the “marginal cost” of these betrayals can feel minimal.
- I don't know whether the Stanford Mischel studies asked the adult versions of their study children what their political preferences were.
- I would expect that if he did ask, it would be well-reported and common knowledge. It would be very interesting to know if there were political differences today between the immediate gratifiers vs. the delayed gratifiers.

Reason and Self Esteem

- The evidence is strong and widely accepted in psychological studies that **humans have a strong need to experience self-respect (and will feel driven to delusional pseudo self-respect if the genuine article is missing).**
- If self-respect early on is earned genuinely by cultivating and exercising the desire for mental clarity and a commitment to honoring evidence and reason (see [Chapter 0](#)), fear tends to play a minor and appropriate role in life, warning us of genuine dangers, and the psychic rewards of thinking clearly tend to send one into a positive reinforcing cycle of clarity.

But Caving in to Fear...

- ...and giving up on **thinking** when it's not always immediately successful, can set up a vicious cycle:
- One constricts awareness and cognition yet further, in order to avoid painful confrontation with one's real experience of inadequacy.
- **Fear - unconscious, and conscious - becomes the ruling emotion.**

When genuine self esteem is missing, one can feel compelled to attach to a tribe or ideology which promises “rightness” with only minimal effort...

- Minimal effort... often nothing more than **blind faith and allegiance to an Authoritarian figure.**
- But this choice amplifies the negative spiral, as reasoned thought further retreats, and fear becomes even more pervasive as one thereby develops a now well-earned self judgment of intellectual inadequacy, and hence even more desperate clinging to the authority figure promising salvation and reward.

All these findings bring up disturbing questions

- Certainly people, myself included, can attest to the frustration of trying to reason with Conservatives on climate.
- Are Conservatives **born** with brain abnormalities and/or mental handicaps and cannot be expected to ever change?
- Or instead...

Does their continual awareness-avoidance promote fear and low self-esteem, beefing up their amygdala and atrophy'ing their error-detecting anterior cingulate cortex?

- ...and they find similar political conservatives safe company and perhaps a source of positive regard, substituting for their low self-esteem? Or is it a mixture of both?
- **What do the answers to these questions imply about how willing we will be, globally, to make the wrenching changes necessary to bring global climate back to a stable and livable range by halting tipping point cascades?**
- Or, as increasing evidence points towards - how do the answers to these questions explain why we **failed to act** back when there was still time to halt climate change at all?

The discoveries of neuroplasticity...

- ...show that one's mental choices and habit-formations will change one's brain structures in order to re-inforce them.
- In other words – this is an **amplifying feedback of self-debilitation, or conversely, healthy mental growth.**
- This strongly suggests that it is a downward spiral of choices that explains the larger amygdala (fear) and smaller **anterior cingulate cortex** (critical thinking) areas in the brains of Conservatives.

But More Disturbing...

- ... as climate change continues to accelerate in a worsening direction, there is the very real possibility of societal breakdown
- We're already seeing the worst [refugee crises](#) in Europe and the Middle East since World War II, even at this very early stage of climate damage.



We're showing the climate consequences to come, in these Presentations...

- All of these are likely to promote more fear, and more clinging attachment to dysfunctional politics, and further fleeing from Reality for two important reasons:
- **1.** It requires tough-minded solutions which are a new source of psychological distress in the present.
- **2.** It requires facing up to continuing new and deeper betrayals to one's own integrity, and to acknowledge being complicit in taking the World to this dire place for all future generations.

The temptation is to retreat into a fear/hate based bunker-mentality.

- How to deal with the amazing level of dogmatic refusal to confront reason and evidence...?
- It's a tough problem. Looking tougher every time I look deeper. In personal psychological growth, a person has to **WANT** to grow and **WANT** to change before it can happen.
- That key element, so far, seems utterly lacking. And yet it must be experienced by the majority of people **GLOBALLY**, not just by a few, before hope of change can be realistic.
- As I write this in late 2017, the U.S. is losing its grip on a sane, reasoned approach to reality – climate and otherwise. Very frightening. A Scientific American article on the rise of sexist attacks on climate scientists ([2018](#))

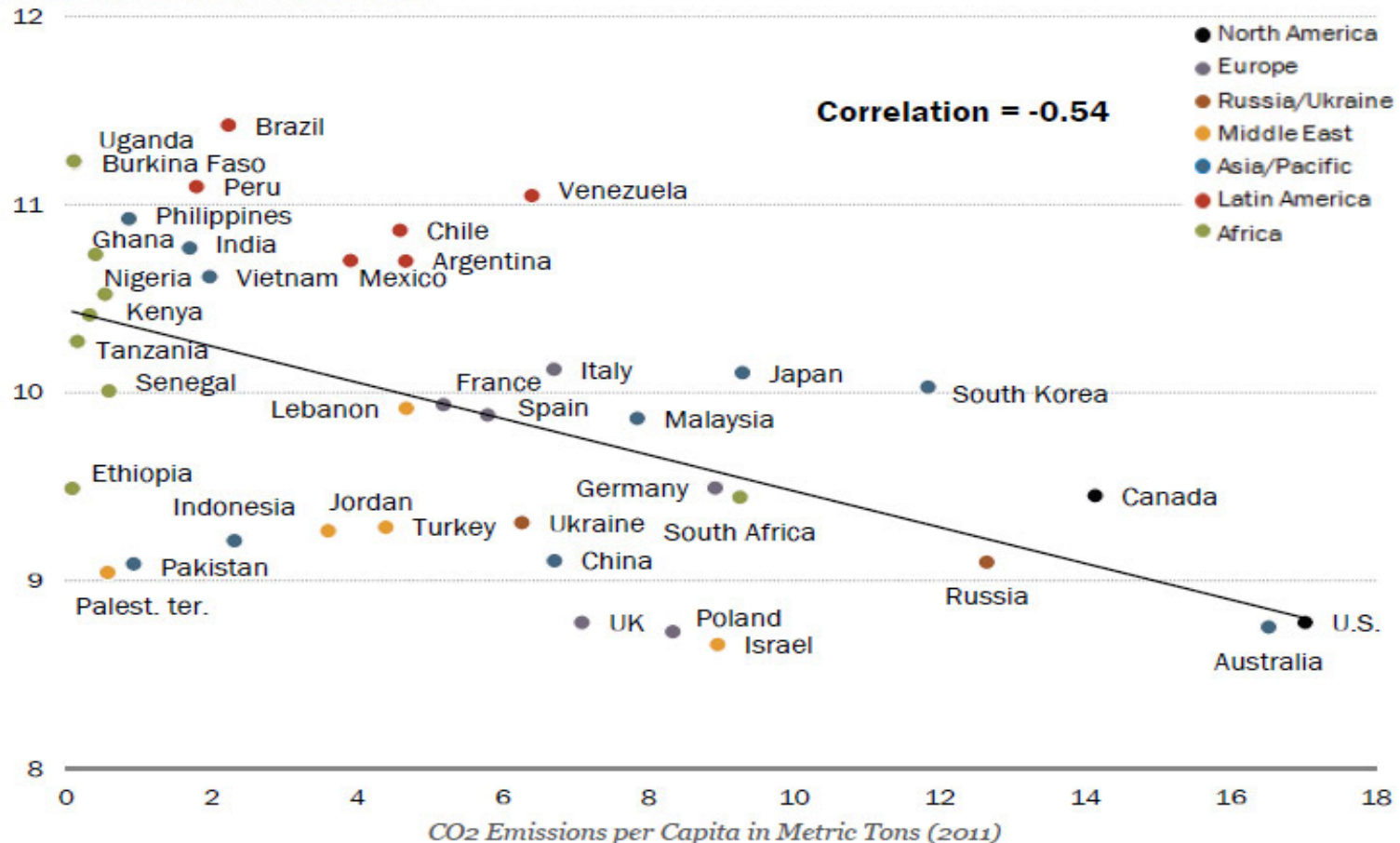
From a 2017 Article in Newsweek

- *“The traits of malignant narcissism were described by a German psychotherapist, Erich Fromm, who escaped Nazi Germany and developed the diagnosis to explain leaders who rose to power in World War II.*
- *‘It was his attempt to explain Hitler, to explain Stalin and sadistic megalomaniacal dictators like them,’ Gartner told Newsweek. **‘When malignant narcissists gain power they become flagrantly worse.’***
- *The key patterns of behavior in that diagnosis: **bragging, paranoia, conspiracy theories, demonization of those who oppose him, incessant lying, exploitation and bullying.** Gartner rejects the theory that President Donald Trump presents a public persona or uses the tactics for calculated political strategy.”*
- *In other words, he’s not just pretending to be a psychopath*

The Highest Per Capita Carbon Emitting Countries are the Most in Denial ([Stokes et al. 2015](#))

High CO₂ Emitters Are Less Intensely Concerned about Climate Change

Global climate change concern scale*



* Concern about global climate change is measured using a three-item index ranging from 3-12, with 12 representing the most concerned about climate change. Respondents were coded as 4 if they believe climate change is a very serious problem; if they think climate change is harming people now; and if they say they are very concerned that climate change will harm them personally at some point in their lifetime. The mean score for each country is used in this analysis. (See [Appendix](#) for more details.)

Source: Spring 2015 Global Attitudes survey. Q32, Q41 & Q42. Data for CO₂ emissions per capita from World Bank Data Bank, accessed August 5, 2015.

From the 2015 Pew Study...

- *“With a median of 26%, (Oil-Rich) Middle Easterners are the least likely to believe that climate change is currently harming people”.*
- ***“Americans are among the most likely to believe that the effects of climate change are a long way off. While 41% report that climate change is already harming people around the world, 29% believe that it will not harm people for many years or may never harm people, the greatest sentiment of this kind in any nation polled.”***

“It is difficult to get a man to understand something, when his salary depends upon his not understanding it.”

—Upton Sinclair



In 2017, Miami Realtors are Reporting a Stunning Level of Denial about Sea Level Rise

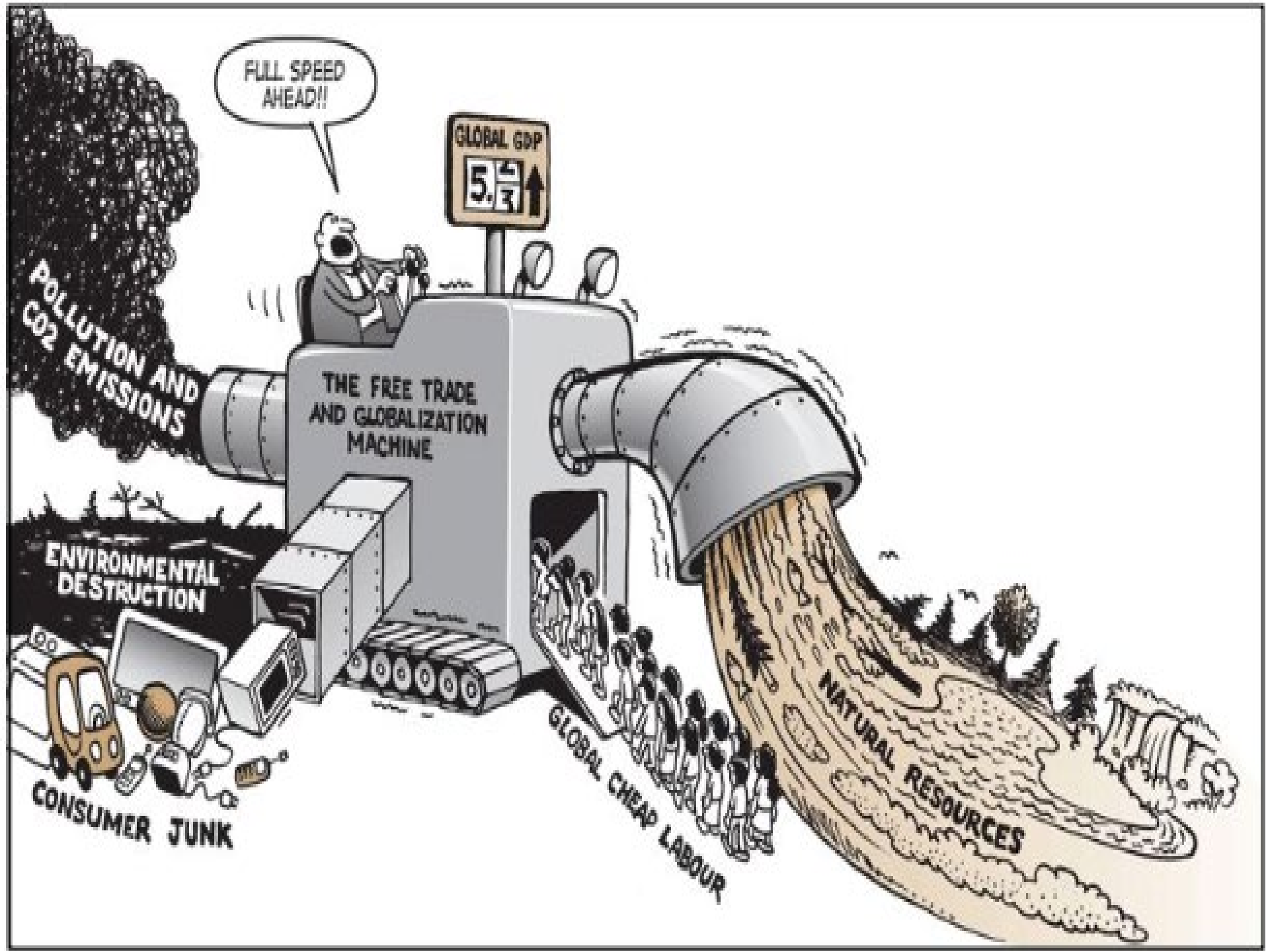
- Fully 64% of realtor agents report that NONE of their clients seeking to buy property are asking a single question about sea level rise and climate change affecting their property ([ThinkProgress; July '17](#))
- That suggests that the fraction of real estate buyers who ask no questions on sea level rise is far higher than this 64%.
- Remember the book and film ["The Big Short"?](#) A decade after the first real estate-triggered financial meltdown, we may have another soon - Short coastal Florida real estate and make your millions!

Chronic Fear, And the Rise of Demagogues who Prey on Ignorance and Hatred

- Chronic fear leads to hatred, leads to the installment of demagogues. It's happened many times before in human history, most glaringly in 1930's Germany.
- It has happened now in the U.S., and as I write this, [now in Brazil](#) with the election of Bolsonaro - the "Trump of the Tropics", with identical attitudes towards climate change and the environment.
- **Fascism** – a political system combining repressive authoritarians with the mutual support of corporations, is on the rise globally – a predictable outcome when rising fear and psychological repression find outlet in hatred and scape-goating.
- **This brings us to the installment of demagogues and the 2nd category of psychopathologies...**

Group #2. Fossil Fuel Corporate Interests, their Lobbyists, and the Politicians They Install

- This is the second major group involved in attacking climate science and climate scientists – What are their psychopathologies?
- Members of this group, at least the members who are distinct from the Right wing political faction described earlier, are not so much in outright delusional denial, compared to the average Conservative on the street.
- Nor as ignorant of the facts...



Look Familiar?

- Big Oil management KNEW they were wrong denying the dire reality of human-caused climate change – the Oil Companies' own scientists knew and advised their CEO's of this as early as the late 1970's, as was uncovered in 2015 by these Pulitzer Prize winning investigative journalists.
- In fact, Nobel physicist Edward Teller gave a lecture to the American Petroleum Institute at their 100th birthday, warning that CO2 from fossil fuels would melt the ice caps and drown our coastlines. This was in 1959.
- Note the damning evidence against Exxon management by the investigative journalists at the L.A. Times.

Exxon-Mobil's own scientists were doing good climate science and advising corporate headquarters of the "catastrophic" (their words) consequences of their business as early as the 1970's

- Corporate headquarters' reaction? They dismantled their own climate science funding effort and instead created and/or funded goon-squads attacking climate scientists and climate science. Examples; fund "Doubt is our Product" purveyors, the "climategate" fabrications, and vastly more than I can link here.
- While Exxon-Mobil's PR person claims they don't fund climate denial groups now, observe the evasive and manipulative wording in the interview linked above...

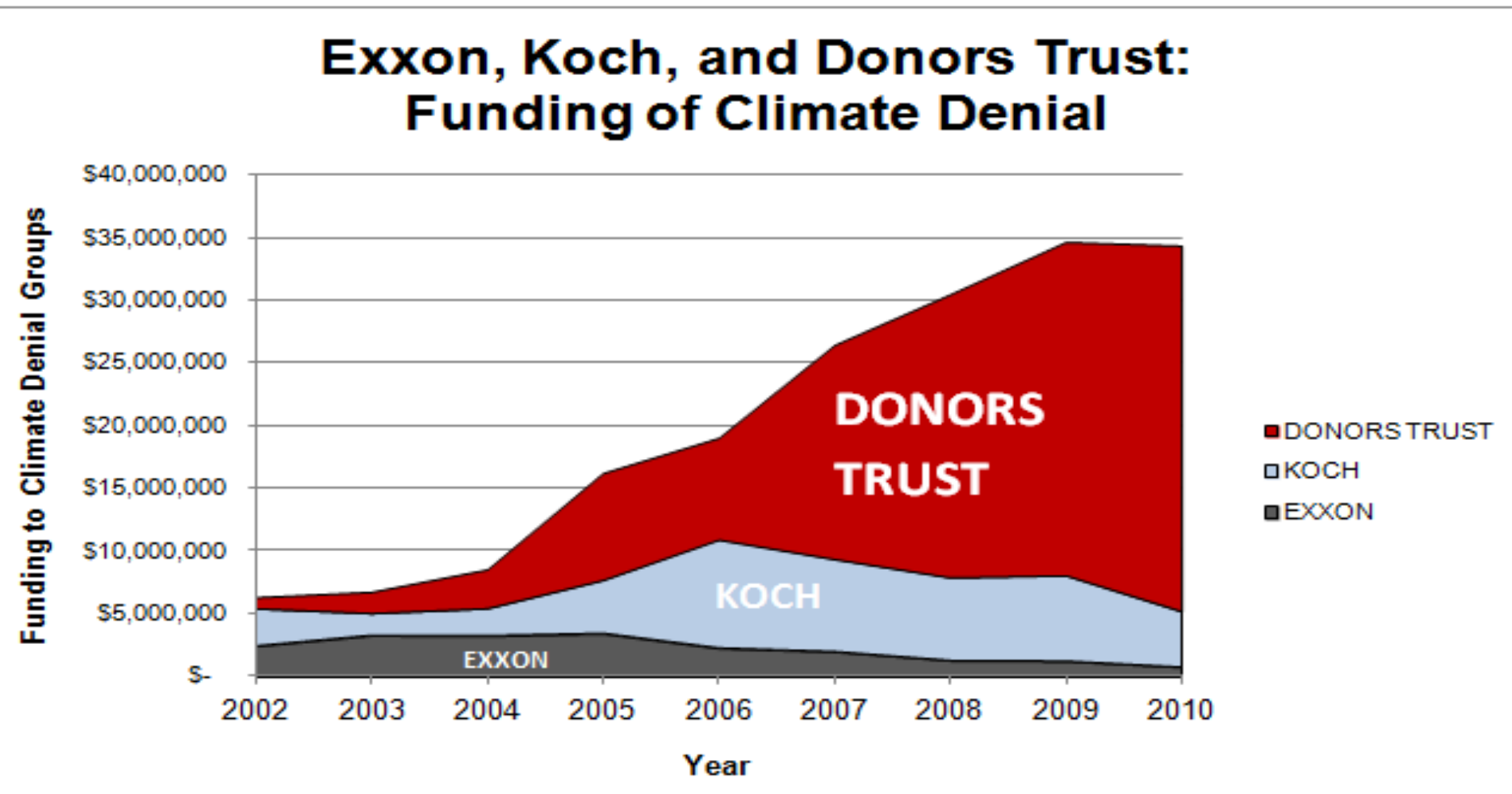
Exxon CEO Rex Tillerson did not go to jail, but instead was installed the highest-ranking member of the Trump Cabinet – Secretary of State

- ...reportedly due to his deal-making with the Russians. Witness oil CEO's stubborn refusal to project the kind of lives everyone's grandchildren, including their own, will face because of their refusal to deal with reality, and their cover-ups of the truth by slander, intimidation, and paid-for silencing of media.
- Even more immediately, stubborn refusal to consider their **personal legacy, reputation, and increasing public disgrace**.
- The temptation to institute ever more pervasive self-made blindness becomes stronger with each betrayal.

From the Sept 2015 [Interview](#) of Exxon-Mobile PR Spokesman by Bob Garfield of NPR's "On the Media"

- *"BOB GARFIELD: [Y]ou're kind of changing the subject. This reporting by Inside Climate News doesn't really concern itself with what ExxonMobil has done lately (RN- but see next slide), it's concerning itself with the very sharp change in corporate behavior and apparently strategy 25 years ago. Namely, that you dismantled some significant percentage of this [climate change] research program, and, beginning in about 1989, started pouring millions and millions of dollars in the funding of three dozen organizations, some of which were transparently industry front groups, and some which were right-wing economics advocacy groups, that themselves spent decades in various degrees of climate denial."*
- How? See the next slide...

Since 2000, money to fund climate denial groups is being increasingly laundered through the anonymity of Donor's Trust. See links to understand why the red curve rose, while taking direct, named responsibility for their donations declined in the past decade



Exxon Knew

- It is difficult to get a high-level decision-making job in a tough competitive business in America unless you have above average intelligence, and can think clearly in areas which need clear thinking in order to make profits.
- So the earlier discussion about the intellectual deficiencies of Conservatives may not be as relevant here.
- **Instead, the psychopathology for Group #2 seems to be the vacancy of, or repression of, a moral compass.**

In fact, all of the major oil companies knew

- [Shell Oil](#) knew. More on [Shell's internal scientists reporting](#), and suppression by management, of dire implications of their business.
- Their [own climate scientists](#) did high quality work in the 1960's and '70's demonstrating this, just as scientists in academia have been warning about for many decades. And now the Pulitzer Prize winning organization **Inside Climate News** has [uncovered the documents showing that not just Exxon, but all of the major oil companies knew explicitly how "catastrophic" \(their own words\) their business model would be to future generations.](#)

They knew, and yet they chose to react by de-funding their climate scientists

- ...and instead spending hundreds of millions of dollars funding climate denialist dis-information campaigns as a strategy to manufacture a false "debate" and paralyze policy action until it was too late ([**Brulle, 2013**](#))
- This continues right up to the present. A recording shows that oil company executives continue to [**deliberately lie to the public \(Tabushi in NYT 2020\)**](#) and the media about the methane emissions they are responsible for.

President Donald Trump Also Knows Climate Change is Real ...

- Observe while proclaiming “*climate change is a Chinese hoax*”, he’s at the same time building a wall around his Ireland coastal golf course against rising seas.
- Will his followers wake up some day and realize they’ve been manipulated? So far, it appears not – his popularity with Republicans is rising despite behavior which becomes more and more dangerous and psychologically disturbed. Or perhaps they don’t care about his morality, only that he forward their political/econ goals.

Psychopaths in Corporate CEO Boardrooms

- Indeed, [this study](#) (Brooks *et al.* 2016, finds 21% of Corporate CEO's fit the diagnostic criteria as psychopaths.
- **This is the same fraction as found in prisons.**
- **By the same criteria, in the general population, the rate is only 1% (one wonders, is that 1% the CEO's among us?)**
- Lead author and forensic psychologist Nathan Brooks notes:
"For psychopaths, it [corporate success] [is a game](#) (6 min Vox on CNN's political journalism as sport), and they don't mind if they violate morals. It is about getting where they want in the company and having dominance over others."
- and *"One study (Brooks') of 261 corporate professionals in the supply chain management industry showed extremely high prevalence rates of psychopathy, with 21% of participants found to have clinically significant levels of psychopathic traits - a figure comparable to prison populations."* ([APS 2016](#))
- (quotation is from Brooks, but link to CNN story is mine, not Brooks')

Psychopathic Traits are Re-Framed as Virtues in Manipulative Business Language

Via [The Wisdom of Psychopaths: What Saints, Spies, and Serial Killers Can Teach Us About Success :](#)

The psychopath seeks reward at any cost, flouting consequence and elbowing risk aside. Which, of course, might go some way toward explaining why Belinda Board and Katarina Fritzson found a greater preponderance of psychopathic traits among a sample of CEOs than they did among the inmates of a secure forensic unit. Money, power, status, and control— each the preserve of the typical company director, and each a sought-after commodity in and of itself— together constitute an irresistible draw for the business-oriented psychopath as he or she ventures ever further up the rungs of the corporate ladder.

Wouldn't people notice these awful traits?

No. Because when business leaders have them, we give them different names:

LEADERSHIP TRAIT	PSYCHOPATHIC TRAIT
Charismatic	Superficial charm
Self-confidence	Grandiosity
Ability to influence	Manipulation
Persuasive	Con artistry
Visionary thinking	Fabrication of intricate stories
Ability to take risks	Impulsivity
Action oriented	Thrill seeking
Ability to make hard decisions	Emotional poverty

There is this Key Difference between Political and Corporate CEO Psychopaths vs. Prison Psychopaths

- Prison psychopaths generally don't proclaim their moral high ground by upholding "freedom" - their freedom to do whatever they want to all generations to come, to this Earth that gave them life, and to other species.

More Examples...

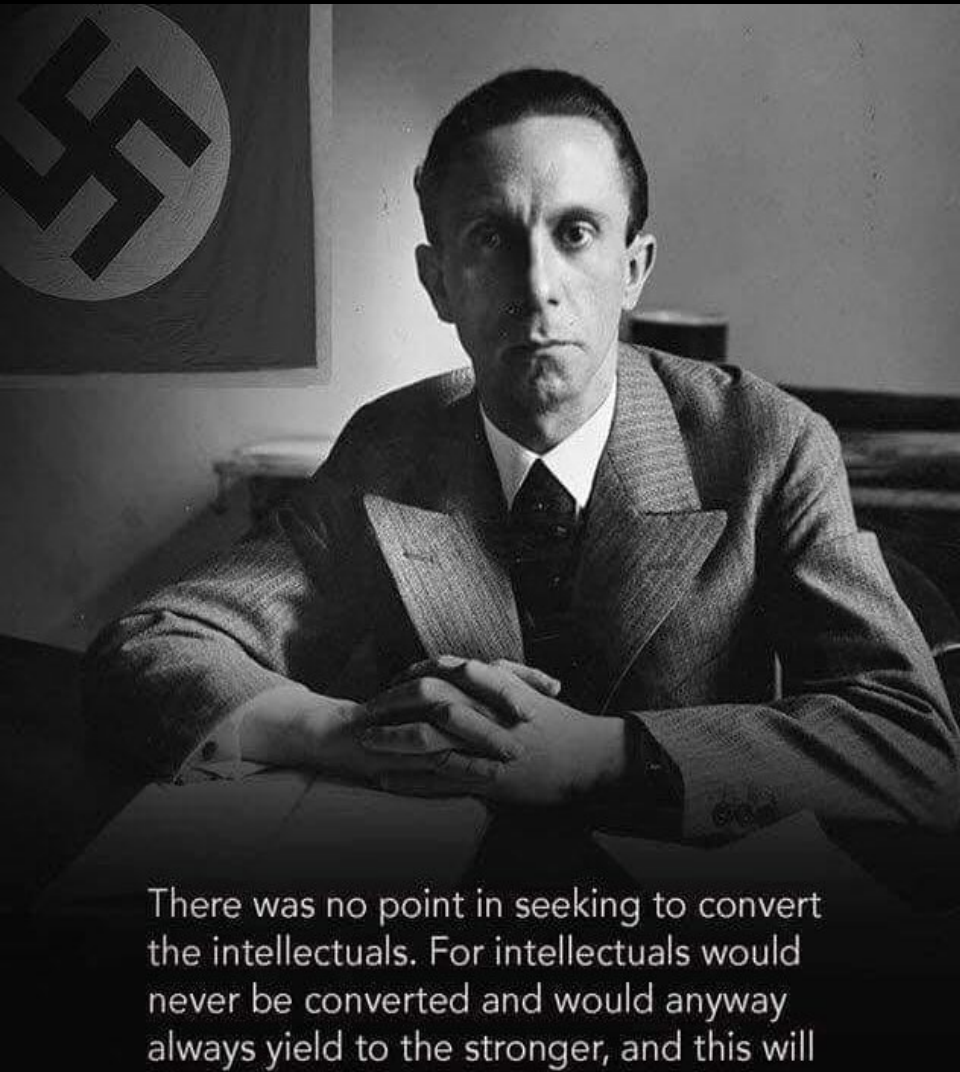
- British Petroleum, Inc. is relishing the thought of oil spills off Australia's coast, as a [“welcome boost” to profits.](#)
- One then wonders how hard they'll try to avoid causing these devastating oil spills.
- [Alberta Energy Minister Says the global virus Pandemic Is a 'Great Time' to Build Tar Sands Pipeline, since it will limit the mass protests](#)
- These are consistent with an utter contempt for morality.

Conservative Politicians Lying to Voters about Climate Change

- Climatologist James Hansen relays (1:00:42 into [this talk](#)) that behind closed doors, **conservative politicians admit climate change is real but complain that if they admit it publicly they'll lose the right-wing base of their voters.**
- **Realize the meaning of this confession...** They're admitting that their personal aggrandizement, their personal wallets filled by corporate sponsors money, their personal posturings of power... are more important to them than the future of this planet – the future that their own children must endure, and all children's children everywhere.

This is not just irresponsible talk from marginal players or your average man in the street.

- It's from the select chosen ~550 people in the U.S. who are vested with the power to make the laws that control us all 380 million of us.
- **This is deeply sociopathic and psychologically damaged**



There was no point in seeking to convert the intellectuals. For intellectuals would never be converted and would anyway always yield to the stronger, and this will

“There was no point in seeking to convert the intellectuals. For intellectuals would never be converted and would anyway always yield to the stronger, and this will always be ‘the man in the street’. Arguments must therefore be crude, clear, and forcible, and appeal to the emotions and the instincts, not the intellect. Truth was unimportant and entirely subordinate to the tactics and psychology”

- Joseph Goebbels, Nazi head of Propaganda

Political Amorality Deepens

- The Trump administration in 2018 is announcing their strategy: Deny, delay, scapegoat, until the Earth is finally pushed over the “final solution” line, and then they can change their narrative one last time –
- ...that climate ruin is “inevitable”, so why bother trying to lower CO2 emissions? Let’s stick with *Business as Usual* as long as we can

New York State's and other states' Attorneys General are Suing Big Oil...

- ...under the RICO anti-racketeering laws, as corporate charters in the U.S. require corporations to be public with information which endangers their shareholders (like lying).
- To make such illegal choices, in the face of retribution from one's own shareholders, from the legal authorities, not to mention the future well-being of all life on Earth – **exhibits deep psychopathology, and to outright sociopathic behavior.**

The Koch Brothers – An Extreme Example?

- Charles and David Koch inherited Koch Industries from their father (Fred Koch), and turned it into a large fossil fuel conglomerate.
- Their funding of climate denial groups has been heavy and ongoing.
- Jean Mayer's investigative reporting book "Dark Money" includes their activities today, but also an account of the Koch Brothers' horrific, Fascist-tinted childhood which may bear on their later mental state....

In the first eight years of their marriage, the couple had four sons: Frederick, known by the family as Freddie, was born in 1933, Charles was born in 1935, and twins, David and William, were born in 1940. With their father frequently traveling and their mother preoccupied with social and cultural pursuits, the boys were largely entrusted to a series of nannies and housekeepers.

It is unclear what Fred Koch's views of Hitler were during the 1930s, beyond his preference for the country's work ethic in comparison with the nascent welfare state in America. But he was enamored enough of the German way of life and thinking that he employed a German governess for his first two sons, Freddie and Charles. At the time, Freddie was a small boy, and Charles still in diapers. The nanny's iron rule terrified the little boys, according to a family acquaintance. In addition to being overbearing, she was a fervent Nazi sympathizer, who frequently touted Hitler's virtues. Dressed in a starched white uniform and pointed nurse's hat, she arrived with a stash of gruesome German children's books, including the Victorian classic *Der Struwwelpeter*, that featured sadistic consequences for misbehavior ranging from cutting off one child's thumbs to burning another to death. The acquaintance recalled that the nurse had a commensurately harsh and dictatorial approach to child rearing. She enforced a rigid toilet-training regimen requiring the boys to produce morning bowel movements precisely on schedule or be force-fed castor oil and subjected to enemas.

The despised governess ruled the nursery largely unchallenged for

**A
relevant
page
from
“Dark
Money”**

Corporate Enforcement of Media Silence on Climate Change

- *“Washington Post weather editor Jason Samenow wrote a [column](#) lamenting that only a minority of television meteorologists ‘feel very comfortable’ presenting climate change information on air.”*
- *‘Most say discussing climate change won’t help their careers. Some fear discussing the role of climate change on weather will upset their viewers — or even newsroom management,’ Samenow said.” ([source](#))*

Fossil Carbon corporations fund attacks on climate scientists because it is in their financial interest to do so...

- ...not because they think it's morally correct to do so. Here's a link to the [many studies on the psychopathic nature of the people who run our government, our large companies and our financial institutions.](#)
- [Columbia Law School's "Silencing Science Tracker",](#) with now well over 100 cases of Orwellian government censorship and removal of mention of climate change and human responsibility from official documents in the new Trump regime. More investigative journalism on this is [here](#)

So the question is – why do amoral people capable of this level of sociopathic betrayal get chosen for such high positions?

- “Natural selection”... it seems.
- It appears to be more profitable for Boards of Directors to choose CEO's who will not let morality interfere unduly with the single-minded goal of modern capitalism – **accruing money to the corporation and its stockholders**

'GREENWASHING' ALL TOO COMMON

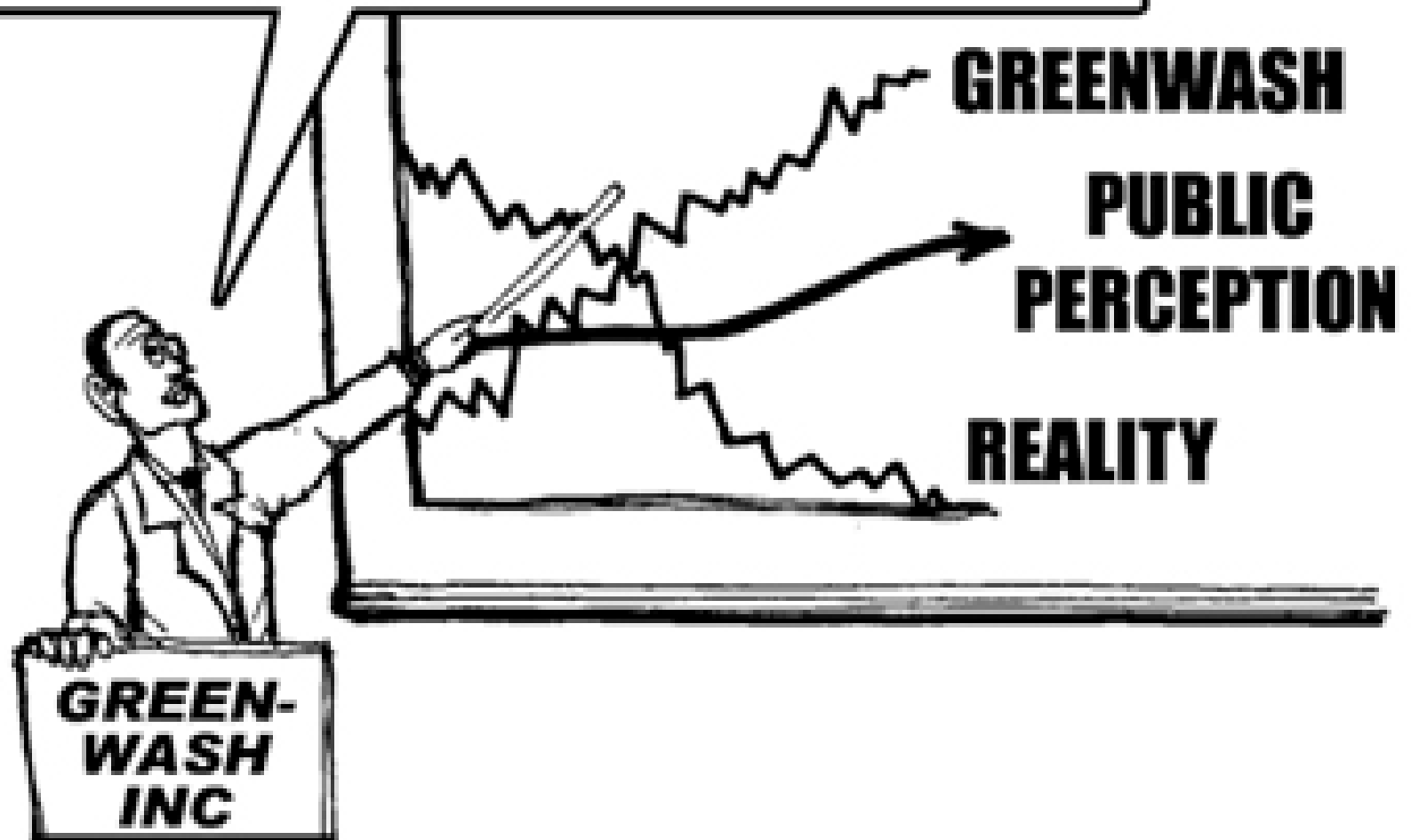
A new study has found that nearly all "green" consumer products make a false, misleading or unproven environmental claim to attract eco-conscious shoppers...



Greenwashing study: The **Prime Directive** of *laissez faire* capitalism is to accrue money to the corporation and its major shareholders. Greenwashing is one way to accomplish this today.

**It doesn't
stop at
Big Oil**

*YOU CAN IMPROVE PUBLIC PERCEPTION BY
OFFSETTING THE REALITY OF YOUR PROJECT
WITH MORE INVESTMENT IN GREENWASH INC*





**Greenwashing
lulls the
consumer into
thinking that the
planet is now on
a good course,
and so defuses
the sense of
urgency and
emergency
which the facts
show is entirely
appropriate**

It's a slippery slope; from white lies to oneself, to gray lies of convenience....

- ...to black lies dooming the planet to a grim future - as the motivation to preserve dwindling genuine self esteem wanes, much like the urge to keep a new car shiny and spotless wanes after 10 years of dings, stains, road insults, and failures of maintenance.
- In the same way that it would have been pointless to try to get **Josef Stalin** to acknowledge his atrocities as a step in his psychotherapy, it may well be futile in our Corporate CEO's case as well. [The parallels are alarming](#).
- Again - beyond a certain point, one simply cannot face the magnitude of what one has done and still preserve a sense of the value of one's own life. Shrill resistance to awareness becomes all-consuming; and futile for an outsider to challenge. "Come let us reason together in a spirit of Brotherhood", fails utterly.

Psychological Repression

- When our attention encounters a fact which, if fully let into awareness, will cause a painful realization of our behavior which damages our sense of worth, we can feel the urge to quickly shift our attention elsewhere.
- If we give in to this urge, and if we do this repeatedly and consistently over time...
- ...with repetition it becomes automated, and sinks beneath conscious awareness. It becomes a mental habit, and no longer requires constant biological energy from the conscious mind.
- Habits are an evolutionary adaptation - our brain saves biological energy by forming habits, but in this case, it's cementing a pathological response that will now require real desire, even desperation and hard work to undo.

Sharp, Motivated, Sociopathic CEO's?

- If we show high competence in areas not touching on this repressed area, we can try to convince ourselves that our self-value is ALL about that narrow competence. This can make the repression all the harder to unlearn.
- The pseudo reward is pseudo self-esteem, blunting the pain mechanism which would normally alert us to our psychopathology and motivate us to heal ourselves.

“I’m a fantastically wealthy high-powered player in the Corporate and Political world – I’m SOMEBODY!”

- ...and unconsciously we’re saying ***“so I needn’t let my betrayals to humanity enter the equation. I’m above morality”.***
- Observe the consequences when Reality is no longer deniable - the apparent [suicide in 2016 of fracking legend and Chesapeake Energy, Inc. founder Aubrey McClendon](#) right after his indictment on criminal charges (He drove his roadster on a late night deserted road, veered it into a concrete freeway abutment right after accelerating to over 90 mph.)

Pseudo-Self Esteem Based on Competitive Success is Costly

- Surrounding ourselves with “yes men”, or sycophants in general, will make it all the easier to avoid awareness of our betrayals.
- But there’s a cost... it becomes impossible to emotionally connect with innocence, with perhaps one’s own grandchildren, or mate.
- To repress the pain of these betrayals also cuts one off from the full experience of pleasures that can only come from emotional open-ness.

It's difficult to imagine...

- ...that Exxon chairmen Lee Raymond, Rex Tillerson, or the Koch brothers, could possibly enjoy talking about the future in an emotionally connected way with young children who love playing in the fields and bonding with the wild things there.
- Is there a betrayed child inside them somewhere, struggling to find expression in such moments? I imagine this would provide powerful psychic motivation to avoid such encounters.
- Emotional remoteness is a good sign of emotional repression, a repeated and now ingrained automated diversion of awareness of how one feels about something that is too painful to let into full awareness

Political Progressives Have Their Own Repressions

- I've met many who have convinced themselves that anger is a sign of personal emotional failure. They've never made friends with this emotion.
- **In fact, Nature gave us anger to provide biological energy to raise our ability to defend our values if it becomes necessary.**
- I'm comfortable with this emotion – and, by the way, so is [Greta Thunberg](#) at the tender age of 16 – (bless her!), and it allows me to be both fun-loving, Nature loving, and also angry as the changing situations in front of me may demand.

Healthy Anger is Another of Evolutionary Biology's Gifts to us – Energizing Us to Protect Important Values

- Invariably, when I ponder those who have scolded me for openly showing a level of healthy outrage or anger in my public talks or Presentations on Climate, I see from my past experience with them, that they have not made friends with this emotion.
- The capacity for anger is not a flaw in our personal growth. What **is** a flaw, is continual repression, which only magnifies its power over you. The natural flow of emotion is to experience it fully. *"The way out, is through"*.
- Seeing an emotion in others that you yourself have repressed, can bring up strong anxiety as the repressed emotion struggles to rise to the surface. Unfortunately, what typically happens is that the trigger gets the blame, not the long enforced pattern of repression.

This is a Vitally Climate-Important Point

- Important humanist values have been threatened so deeply in part because of this psychopathology from Progressives.
- Film maker Michael Moore relates in a [Democracy Now](#) interview, from Trump strategist Steve Bannon: *"We (the conservatives) are at war. While you (the Democrats) like to have pillow fights."*
- My belief is that too many Democrats have repressed the natural, healthy experience of anger as a spiritual character flaw to be overcome, and thereby disempower themselves from the level of response necessary to win the Climate fight. [I've discussed this on radio here](#)

Money and Status as Substitutes for Self-Value

- American culture makes it easy to attempt to substitute financial wealth and envy-inducing status for genuine self respect.
- If one doesn't have genuine self-respect all the way through, as Oil execs who fund climate denialism cannot, then one can feel driven to pursue substitutes – like, **envy from others**
- Earning lots of money honestly by creating genuine value for the World is, of course, nothing to be ashamed of. But money as substitute for a self-esteem one does not have, becomes a compulsive, never-satisfied obsession to fill a hole in one's soul that can never be filled with money
- When one doesn't truly believe one's own moral worth, one can feel an almost irresistible compulsion for status and accolades from others, however such can be commandeered, be it through bluster, lies, delusional self-promotion, or worse. The never-ending and futile quest to convince oneself... ***“See? I MUST be a good person after all! Look at how many people envy me!”***

Charity as Compensation

- Amassing vast money as an Oil exec, and then dealing with one's nagging conscience by giving much to charities, even to a [PBS Science Program](#) (which then does not create nor broadcast programs on human-caused climate change – by far the most consequential science happening today), will not fill that hole either.
- (quote from above link: “(PBS) **Nova** also knows that downplaying the dangers of climate change would make its major donors happy—and it aired a program that presented climate change as a positive force for good. If you want to believe that that's a coincidence—well, all you have to do is trust **Nova**.”

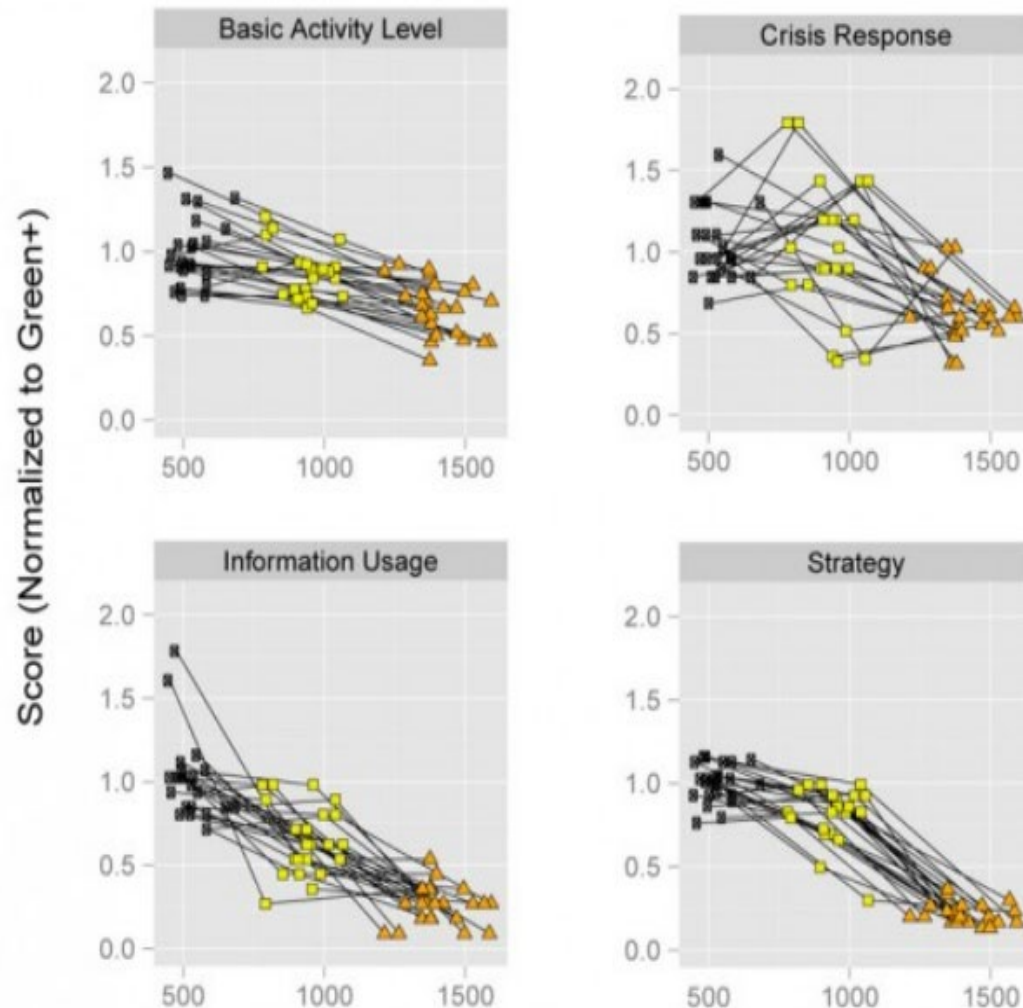
I used to love watching PBS Nova in my younger years

- But the magic is gone. I instead find good science elsewhere to watch online.
- This problem of conscience – it's not in being rich – there's nothing inherently wrong with being rich...
- The problem is the self-delusions involved in lying to yourself, and then others, about the motives you have in attacking science and scientists, and in avoiding awareness of what your business is doing to everyone's future.

Facing and overcoming these mental handicaps will already be tough. Clearly for our Republican Politicians, the first step is still in the future ...

- But it will get even tougher for a very cruel reason...
- **Recent studies (Allen et al. 2015)** are showing that our decision-making ability drops by a strikingly large 21% when CO2 levels double. Well before the end of this century, on-trend CO2 levels will be double the pre-industrial levels, and rising further

CO₂ Concentration (ppm)



Normalized cognitive function scores by participant and corresponding CO₂ levels in their cubicle. The Green+ case had CO₂ in the 500 ppm range due to high levels of outside air. It was compared to office settings in the 930 ppm range (yellow squares) and in the 1400 ppm range (orange triangles).

■ Green+ ■ Medium CO₂ ▲ High CO₂

**This mental
handicap will
affect all of us
- not just
Conservatives,
although their
existing
mental
shortcomings
make this
added burden
worse**

Beyond the Thermodynamics of Civilization - Reasons Why Global Warming is so Dangerously Unlikely to be Controlled

- 1. The human mind can make 'light bulb' connections in a very short time – given the Will to Clarity (see [Chapter 0](#)); the DESIRE for genuine, honest understanding. But society does not have the close and rapid neuron/dendrite connections of the cells of the brain. Communication (and understanding) is vastly slower.
- Also, teaching against psychological resistance is just plain slow.

Other Psychological Pathologies Contributing to our Failure to Deal with Climate Change...

1. Libertarian Nationalism and Global Dominance Competition

- CO2 is a well-mixed GHG. It is, must, and will forever remain a GLOBAL issue to address. We either realize the world will pull together across national boundaries, or else sink together individually.
- We need to re-think as a value to pursue, the Libertarian/Objectivist mindset of Man's Manifest Destiny to completely dominate other species on this planet, and then the Galaxy. It's delusional grandiosity, a psychopathology.
- (What to **do** about climate change is a separate set of Powerpoints; [K44](#) , [K45](#), and [K46](#)

2. Your Carbon Footprint: Utility=High, for You and Family to Burn Carbon; while Climate Impact=Zero

- Our **individual** carbon footprints are so microscopic as to be negligible for climate
- Yet our felt utility in engaging in carbon-emitting activities is very high. Drive to the grocery store for weekly shopping, buy 'fridge and washing machine/dryer to increase time to spend loving your children, etc.
- **Said another way: Lowering your carbon footprint - the personal cost to family is high, while the payoff in helping climate is zero**

It's clearly well-motivated: burn that carbon for the energy benefit of you and your family

- That's the energy infrastructure we inherited. And your personal voluntary efforts will not change climate (see [K44](#) for the numbers). It's the blunt truth.
- This is entirely rational, and it would be pointless and counterproductive for me or anyone to endlessly guilt-trip you about your personal carbon choices.
- Who wants to be finger-wagged by the uber-pius? For far too many of us, all that would do is motivate further head-in-sand avoidance of critically needed conscious awareness of tough climate truths and required actions.

Yes, there are psychological rewards to personally living a lower carbon lifestyle and of course I'd never argue against it

- But the point is this...
- If that's your STRATEGY; if your chosen #1 STRATEGY for investing your limited energies to *solve climate change*, revolves around trying to get others to voluntarily engage in sacrifices, the numbers show it is hopelessly inadequate to make any real difference. On the contrary...
- ...Avoiding personal voluntary carbon sacrifices if they are major and significant sacrifices - it is the “rationally irrational” thing to do. A psychopathology that is not a psychopathology at all, but instead a failure of the “group selection” genetic programming (see E. O. Wilson) which we have inherited.
- More here: [UCLA Studies](#) “Why Humans are so Bad at Thinking About Climate Change”

The Forgoing Applies Only to the 99.9999%.

But for the Top 500 Wealthiest, Merely Spending 25% of their 2019 Gain in Net Worth Would Make a Difference



Bloomberg 
@business

\$300 billion. That's the amount of money needed to stop the rise in greenhouse gases and buy up to 20 years of time to fix global warming, according to UN climate scientists



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The world's 500 wealthiest people gained \$1.2 trillion this year, boosting their collective net worth 25% to \$5.9 trillion



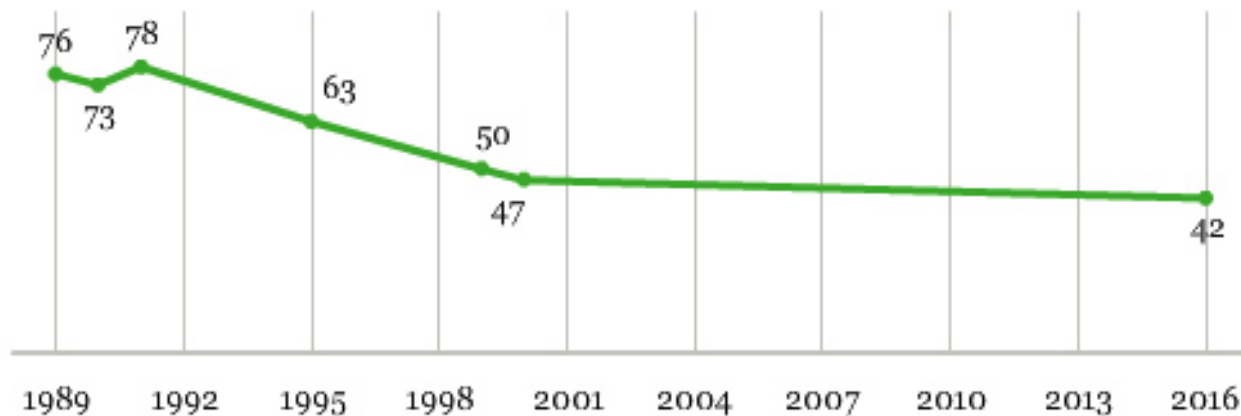
The environmentalists whom you imagine you'll encourage towards major sacrifices of their Carbon Footprint, yet while others are under no requirement to follow? Note that instead they're fleeing Environmentalism...

PRINCETON, N.J. -- As Americans observe Earth Day, Gallup finds 42% of Americans identifying themselves as environmentalists, down from an average of 76% in the late 1980s and early 1990s.

Americans' Self-Identification as "an Environmentalist"

Do you consider yourself an environmentalist or not?

■ % Yes



3. Physics Time Scales vs. Human Short Term'ism...

Physics time scales for **big** things are **long**. (see [K37](#) **Climate Forcings**) This allows the non-scientist to indulge the false belief that since things haven't changed much yet, they never will, and *things won't be so bad, or else they'd be bad already...* (false, but seductive). Useful in avoiding saber-toothed tigers, not for saving ourselves from climate chaos.

- This is a tough one. The logic is just not compelling enough for average people to appreciate. It's hard to gut-level convince them about physics time scales. At best they take it on science faith (except if you're Conservative), until they see the "bill", that is.
- We tend to respond with emergency action only to situations which evolve in front of us very rapidly. We're the "**frog in the pot**". We can't seem to motivate the level of dramatic, emergency action actually required. Major societal trauma in fact is already locked in, regardless of what we do. But immediate action can always make it less traumatic than if we delay further.



This is the life,
I love a good soak.

Ban Warned Dec 05

HIGH

**Thelma and Louise weren't
doomed when they sailed
over the cliff**



They were doomed 300 feet before the cliff, when they FAILED to slam on the brakes and yank the wheel hard, messy as that may have been.

They.... are us.



4. Recency Bias

- We tend to accommodate to what we've experienced recently
- You - my students - may not miss the frogs which I loved to hear in my younger days, and the pollywogs I loved to watch in the urban creeks of my youth. Many of you have perhaps not experienced them, and so won't miss them as much
- You may not miss all of the many songbirds, which now are rare. I used to hear them all the time, almost every day as a youngster. I do miss them.

Following generations will adjust expectations to the world of that time

- ...because, except through pictures from the past, they won't remember the wonders of Venice before it went underwater, or the beauty of coral reefs before they disintegrated, or the beauty of icy mountains and quiet back-country skiing, when mountains had solitude and more snow, and growing legions of hard-drinking snowmobilers hadn't ruined what little is left...
- And if they don't miss them, we will continue sliding into quiet negligence, doing nothing about their loss
- And the children of these children will unconsciously slip into lower and even lower expectations....

**They'll have a much different world... and not complain too much, all because of Recency Bias.
(Hopefully not THIS grim...)**

The Terminator (1984) Future war Mono SDTK



5. Locality Bias

- This is the tendency to take your nearby environment and make the unwarranted assumption that it applies similarly across the Earth.
- This is a big danger for those of us working on climate change education here in wealthy, eco-conscious (still, to some extent) Santa Cruz.
- It's a big danger if you grew up in the '70's and the **Environmental** and **New Age** movements and assume most average folks worldwide have any true appreciation of your mindset and your values.
- The world is not like Santa Cruz, and not very eco-friendly if it means questioning Economic Growth.

6. Game Theory Says – Climate Negotiations will Continue to Fail

- A study applying Game Theory and Nash equilibria (remember, “A Beautiful Mind”?) predicts that climate negotiations will fail. Experiments with real individuals (above link) verified this, as does everyday real-world headlines.
- When given climate negotiations-mimic’ing realistic rules and choices, including a realistic amount of uncertainty as to when we hit the tipping points and then climate catastrophe is inevitable, competitive **negotiators** will not do the right thing.
- Why? Selfish interests, trying to get the other guy to make the carbon sacrifice instead of you, so you are the relative winner in this competitive world.
- In a system of competitive players within a global competitive atmosphere, this is **MAD**. Mutual Assured Destruction is the result.
- Read the details [here](#)



Lots of bloviating at the UN, but no one wants to commit to enforceable, immediate, and meaningful climate action. This is consistent with Game Theory and real-world experiments. Post-Paris, we congratulate ourselves for promising that someone else, long after we've enjoyed the benefits, will clean up the mess by 2050.

7. Stockholm Syndrome

- “**But I LIKE my Congressman.** It’s all those OTHER congressmen who are the problem!”
- Perhaps you have heard this or said this yourself.
- Consider that at least half the voters in every congressional district said something similar, or at least “my guy is not as bad as the other guy”. Yet the favorability rating of Congress hit 11% last Fall 2015, and I’ve even heard a 7% reading. So there’s clearly a “*cognitive dissonance*” (to use the “politically correct” term for self-delusion) going on here.
- I can’t help but suspect this stubborn refusal to confront the findings of **Gilens and Page (2014)** as evidence for **Stockholm Syndrome**

Stockholm Syndrome:

When a person feels helplessly at the mercy of thugs, there can be a strong psychological temptation towards adopting a delusional belief that your rulers are good, and not evil, because the fact that you are helplessly at the mercy of evil characters brings up powerful fear at levels that can be hard to confront and endure.

- An alert person should make a conscious attempt to step back and look at the evidence, and confront the frightening prospect that you are ruled by people who do NOT have your best interests in mind. Otherwise, you will remain helpless and victimized.

FOR DECADES, THE RIGHT HAS TRIED TO BRAND ENVIRONMENTALISM AS "EFFEMINATE" AND WEAK.

♂ "MANLY"	♀ "Feminine"
• FOSSIL FUELS	• RENEWABLE ENERGY
• DIESEL PICKUP	• PRIUS
• TRASHING	• RECYCLING
• "AMERICA FIRST"	• PARIS ACCORD

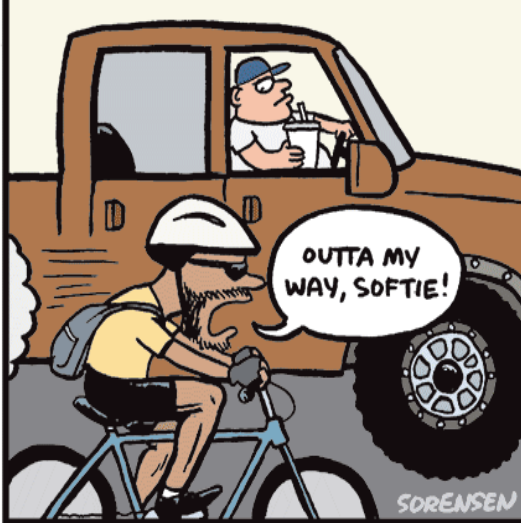
WHAT IF WE BRANDED ENVIRONMENTAL AWARENESS AS *MASCULINE*?

IT'S HARD TO BE A TOUGH GUY...
when you can't breathe



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TRUCKS ARE FOR WIMPS.
Real men use real muscles.



DON'T BE A "CLIMATE CUCK"!

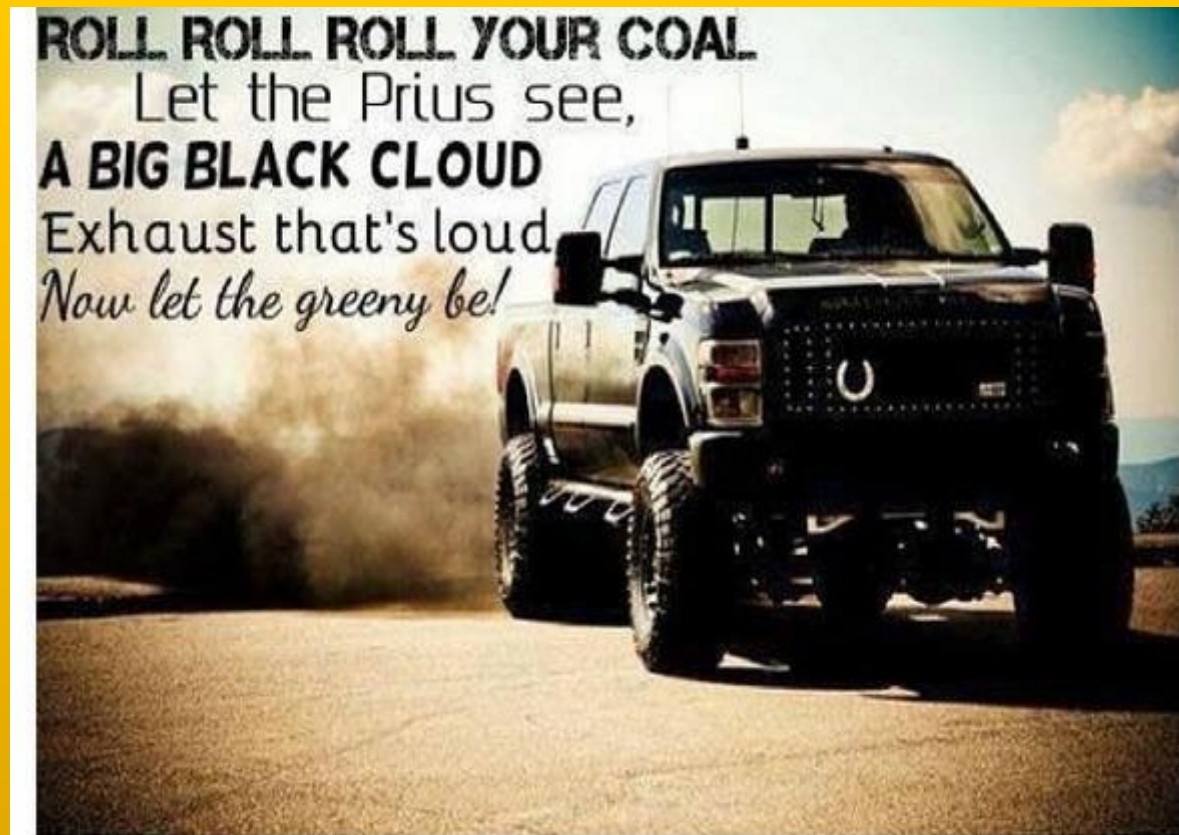


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8. Self-identifying with sexist notions of Environmentalism.
Today, we have this made obvious by manipulations of the lowest parts of the Conservative brain. The cartoon at left ponders the laughable results if friends of evidence-oriented science were to sink to the same level of manipulation.

Mindless identification of Feminine with Wimp-iness only alienates half of our species

- Male fragile ego syndrome!
- Guys, grow up!
“Rolling coal”
isn't manly, it's stupid.



9. Smoking “Hopium”

- *“As a climate scientist, I am often asked to talk about hope. Particularly in the current political climate, audiences want to be told that everything will be all right in the end,” she said. “I have no hope that these changes can be reversed. We are inevitably sending our children to live on an unfamiliar planet.” In the face of climate change, she said, **“We need courage, not hope.** Grief, after all, is the cost of being alive. We are all fated to live lives shot through with sadness, and are not worth less for it. Courage is the resolve to do well without the assurance of a happy ending.”*
- Climatologist Dr. Kate Marvel ([source](#))

10. Truly Deranged: “Winning by Losing”

- In George Orwell’s classic **1984**, *“It is necessary that the war should continue everlastingly and without victory.”*
- To the personality type who feels deeply inadequate and deeply incapable of winning by actually winning, then simply getting attention can feel like the best attainable reward left to them.
- Creating spectacle by obvious lies, by outrageous posturing, by unpredictable irrationality and by picking enemies to antagonize and “friends” to lavishly flatter... can divert the focus from doing genuine value to instead being absorbed and / or paralyzed by the spectacle of the blizzard of post-factual deranged “thinking”, and winning imagined self-importance through spectacle.

- Friends of the Earth and scientists who don't understand what is happening, can be naïve enough to take them at their word and feel compelled to continually use rational counter-argument to convince the psychopathic of the error of their claims... but it continues everlastingly to go nowhere.
- Because, the goal never aspired to be “winning” in any real sense, it was to create spectacle to gain and divert attention – both for themselves and for others. Perhaps coldly calculated, or perhaps unconsciously.
- [We see this in Donald Trump, President](#) , and I can think of others as well.

Along the Same Lines...

- [A History of Climate Change Negotiations in 83 seconds](#)... (you'll laugh, you'll cry)
- In 2016, we're seeing the first "hype-detector" software to streamline climate scientists' ability to [rate the truth-content of media stories](#) on climate change. Perhaps if media knew their readers had an easy-to-see rating of their reliability, they'd behave better?
- Anyway, we can hope. (but now in the Trump Era, in a post-factual world, I'm not so sure)

What Are Today's Climate Activists Doing?

- Mostly, we're in the back seat with Thelma and Louise, politely clearing our throats, hoping they'll notice and give us permission to speak...
- We're asking, respectfully, for them to consider easing their foot just a skosh off the gas pedal, in preparation to begin to consider thinking about the possibility of easing off further, in the future...
- ...In preparation for pondering the possibility of actually putting their foot on the brakes.

Are our young people inspired by this tentative display of action?

- No.
- Many of my students have commented to me how relieved they are that my course “**Astro 7 – Planetary Climate Science**” turned out to be not just another restatement of the climate-obvious, which they tell me they’ve gotten in some other classes, classes with simple material they’d already known for years.
- They’re looking for deeper insights, discoveries, and opportunities for more effective and forceful action, and I applaud them for that.

A Tragically Rare Human Characteristic

- ... is the sincere and unrelenting **DESIRE FOR CLARITY. CLARITY of UNDERSTANDING**, and with it, the intention to formulate solution strategies for actually solving this Herculean problem; strategies built from evidence and straight-up Reality.
- Instead, I find people of all political stripes who want to indulge exclusively and narrow-mindedly in just exactly what they want, what fits their pre-existing desires, their “Tribe”, their existing paradigm, without much open-minded inquiry.
- Too often true among Progressives just as with the Conservatives we’ve mostly focused on so far.

Conservatives refuse to acknowledge...

- ...the reality of dire human-caused climate change because the solutions require strong restrictions of their “freedom”, steep costs to the present and future, the necessity of strong government policy for any hope of a decent future, and an acknowledgment of the pathologies of *laissez faire* capitalism

Too many Progressives refuse to acknowledge...

- ...that there is a distribution in ~all human characteristics, and that expecting humanity to soon behave as if they are ~all eco-friendly's is highly unrealistic.
- Efforts to cheerlead people to personally sacrifice their economic advance with no rational reason to believe everyone else will follow them and do the same (thereby making their personal sacrifice meaningless to climate), is doomed to continued climate failure.

Elon Musk Has Commented

- **...that most highly optimistic people, fail.**
- We hear about the very few who succeed, of course, and rarely about the orders of magnitude more who do not.
- He argues that it is those few who are unrealistically optimistic, yet the forces of energy and chance align and they actually succeed, who Civilization owes a debt of gratitude to, for advancing Civilization.
- **In my judgement after 67 years of experience in the World, he's correct.**
- But that means if we hope to succeed in addressing climate, we need **more realism**, not less. Posturing as a hero with an unrealistic strategy of “hope”, instead of a difficult but do-able strategy beginning in realism, is a strategy almost certainly doomed to fail.

Buying Empty “New Age” Promises

- There have been far too many New Age books promising you can have anything you want, ANYthing, if only you dream it and wish it hard enough.
- I deal with people every week who’ve hard-bought into this and are just as stubborn about it as are the Conservatives in their own anti-climate ideology.
- This kind of hype may be an effective hook to sell those books, but alas – the laws of physics don’t care about dreams.
- **A realistic strategy starts with realism.**

And Too many Progressives refuse to acknowledge that simply because government is essential for a civilized society...

- ...does not mean that governments as they are, are not **corrupt** and flawed at the most basic level, and need complete re-thinking.
- ...that government as it *is*, must be subjected to more direct confrontation, because staying within the bounds politicians define, guarantees that THEIR self-serving script is followed, crippling the future for all generations to come (see **K44-** **"Strategies: Policy"** for more on this subject).

Scientist/Engineers at their Best

- An honorable member of the scientist/engineer tribe, however, will strive to DIGEST the facts, regardless of his feelings or current opinions, will strive to DESIGN strategies which include these unfortunate facts, and strive to IMPLEMENT these strategies even if that involves actions she/he'd hoped to avoid.
- **Such people are very rare, in my experience.**

Another Psychopathology – Attention vs. Threat

- Climatologist Joachim Schellenhuber, [in this 2018 talk](#), makes the observation that as long as climate change was a far off danger, both Republicans and Democrats found it possible to acknowledge it and at least take a few steps hopefully leading in the right direction.
- But now that it's arrived, and much worse than we thought – we prefer to shift our attention to almost anything else. He expresses it informally as a physics conservation law...
- **Threat + Attention = Constant**
- Meaning, as the threat has grown, we dampen our attention commensurately. I suggest it probably works better this way...
- **(Threat) x (Attention) = Constant**
- **It's easier to “pay attention” when unconsciously you just plan to then kick the can down the road to your kids. It's what we do.**

THEATER
AN INCONVENIENT TRUTH

THEATER
A REASSURING LIE



Alas, unless scientists provide happy solutions giving the Conservatives and the Progressives what they want to hear...

- ...then the scientists/engineers are far too often ignored, name-called, persecuted, or otherwise marginalized. They are typically not given logical counter-arguments, nor evidence, nor engaged in any meaningful way. I experience this personally myself, in my 10 years in the climate field.
- These observations make me pessimistic for our future. Renewables will spread, but not at a speed that requires real sacrifice – **yet real sacrifice is what is needed.**
- ...until we reach “desperation”, in the words of Dr. Joe Romm. Which, of course, is far too late to avoid disaster. Remember our chapter [K37: Climate forcings and climate time scales](#). We’re pandering to “hope” instead, and thereby avoiding confronting the blunt physics.

On the Far End of the Spectrum: Guy McPherson – Human Extinction in 2026 (?!)

- Short answer: No.
- He's a retired professor of Ecology at U. of Arizona and decided to devote his time to convincing the rest of the world we are all going to be dead within a decade. Yes, you read that correctly. The whole human race. Due to climate change.
- This is grossly irresponsible (and cruel) to inflict on those who don't understand science and take his prior professor status (in ecology, not climate) as evidence of his objectivity and expertise.

But to be most charitable, he's out of his depth when it comes to climate science

- He misrepresents, and misunderstands observational and theoretical climate science, and does it with startling single-mindedness ...to what motivation we can only speculate. He's been described as the “photo-negative” of the climate denialists in his approach.
- Those with better understanding of climate science have shown his claims of **Near Term Human Extinction** quite wrong. Yet he has a following of other “Doomists”.
- We have real work to do, which doesn't include giving each other grief-counselling as we wait for a horrific, apocalyptic death

Unfortunately, he continues to get invited to give his Apocalypse talks – you'll find them on YouTube

- What psychopathological motivations from listeners and inviters can there be for this?
- I can think of an obvious one – relief from the responsibility for action. If you believe “*We’re Doomed!*”, you let yourself off the hook for not acting to force painful climate policy action today.
- I can think of another – a rage-based desire to inflict suffering and anguish on a larger Civilization which has set in motion these devastating consequences for Earth’s ecosystems.
- Whether either of these apply to McPherson, I can’t say. If so, I understand the emotions, but they don’t justify his actions.

A few Links on McPherson if you want to follow up...

- [Science writer Scott Johnson has a good blog site debunking McPherson's claims](#)
- Atmospheric Sciences PhD [Michael Tobis's site](#) is also excellent
- My (now getting a bit dated) PowerPoint on the many flaws of Guy McPherson's claims is [here](#).
- So far as I'm able to tell, he's made no serious attempt to answer the detailed criticisms of his claims, preferring to merely wave them off dismissively.
- Serious climate scientists do not give him any credibility,
- And that includes some of the central figures he uses in his **Near Term Human Extinction** claims. I know, because I've asked.

Coming from the field of Astronomy into Climate, I'm still **AMAZED** at what I see...

- ...denialists who tell you it's all a hoax perpetrated by those intent on installing global communism
- Rapacious CEO's bent on squeezing every last dollar out of Nature before they exit.
- Apocalyptos who tell you you're "*dead men walking*"
- New Ager's who believe that a magical transformation will somehow overtake us all, making us beautiful stewards of a beautiful planet, with wealth and justice and growth everlasting for all 8 billion, rising to 10 billion, of us.
- More ordinary folk who don't know what to think and don't want to think about any of it, redoubling their focus on their day-to-day lives.
- **And a very few scientists, engineers, and thinkers who realize, and educate, that what is required is far tougher than any of these convenient escapes.**

The Expected Reaction From Those Who are Paying Attention...

- ... a certain amount of depression and anxiety ([Reuters survey 2018](#)).
- From the article... *“Signs of depression do not appear in people concerned about climate change’s risks to humanity but do appear in people worried about its impact on other species, plants and nature overall, the research said”.*
- This makes sense to me. My reactions are similar. For humanity, we brought it on ourselves, so there is some cosmic justice that we will suffer. But for the rest of Earth’s species, and for Nature and the future – they do not deserve what we have done to them. Human beings have an in-built sense of fairness, visible most clearly in children and even primates. It re-engages here.
- What’s tragic is our response to our emotional reaction – to bury our awareness elsewhere, or pretend we can still “have it all” if we just make a few changes, rather than the wrenching and painful changes necessary.

Nobel Laureate Psychologist Daniel Kahneman, on People and Climate Change

“No amount of psychological awareness will overcome people’s reluctance to lower their standard of living. So that’s my bottom line. There’s not much hope. I’m thoroughly pessimistic. I’m sorry.” ([source](#))

- From me - if that reluctance continues to propagate to their decisions in installing political leadership too, as I believe it will (but I pray will not), then I agree with his pessimism.

Even if Kahneman is wrong – What's needed is personal growth on a global scale. The source of happiness and genuine well-being must be re-thought by all voters

- See “[The Conundrum](#)” by David Owen. It is a quick 4 minute introduction to “Jevons’ Paradox” and is a simple but attention-getting lead-in to the work of Tim Garrett and I, in [K43: The Thermodynamics of Civilization](#).

Key Points – K40b: Psychopathologies of Climate Denialism

- Low IQ when young is correlated with political Conservatism as one grows up
- Conservatives deny the reality of climate science generally because they abhor government involvement in solutions to global commons problems like climate
- Amplifying feedback loop: low self-respect raises temptation to lower awareness, thus lowering self-esteem further, then even poorer decision-making, lowering self esteem further, leading to delusional clinging to imagined superiority, further loss of contact with reality, ...
- Fundamental Conservative motivation for attacking climate scientists is fear, growing out of (evidence says well-founded) fear of their own mental inadequacy
- For polluting corporate CEO's, the psychopathology is the lack of a moral compass and repression of awareness of the suffering they cause.
- Doubling CO2 levels reduces decision-making abilities by 21% for all humans (we think poorly in a stuffy place)
- Studies show - Republicans, but not Democrats, reject the science of climate if dealing with the problem requires government solutions.
- Guy McPherson uses bad, obsolete science and misrepresentations in promoting his claim that humans will be extinct in a decade. Don't believe it