



Socrates 469-399 BCE

Το μόνο που ξέρω ότι δεν ξέρω τίποτα

"I only know that I know nothing"

The Reign of Ignoramuses

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Socrates was not the only one in his time to utter this thinking. Confucius 孔丘 (551-478 BCE) wrote: *Real knowledge is to know the extent of our ignorance.*

And much later Charles Darwin summed it up: *Ignorance more frequently begets confidence than does knowledge: it is those who know little, not those who know much, who so positively assert that this or that problem will never be solved by science* (The Descent of Man).

These confetti of wisdom come to mind every minute these days; in the US, we have been living for over a year the “*Presidential Campaign Great Farce*”, with Donald J. Trump as the buffoon, insulter, demeanor, but above all Falstaffesque, monstrous in his vanity and ignorance. We have reached the abyss, but we have yet to reach its bottom: we have still (too) many weeks to go.

What is really frightening and depressing is that a very large population of the United States –the ones WHO WILL VOTE! - enthusiastically share his utterings; he is their champion, their spokesperson, their herald. Many (but NOT ALL) are Christian Conservatives who take the Bible literally and consider all our recent social conquests anathema, blaspheme –that should be punished by death. Drs. David Gunn (1993), John Bitten (1994), Barnett Slepian (1998), George Tiller (2009), and many more nurses, law officers, escorts were gunned down by such Christian fanatics because they were saving lives ACCORDING TO THE LAW, and practicing necessary abortions; none of the assassins was blamed by the religious communities to which they belonged, and most received lenient sentences.

According to a 2011 Fox News poll, 45% of Americans believe in Creationism (and ALL of these in age to vote will give their vote to Donald Trump). Worse: 16% of Americans want Creationism to be the *exclusive teaching of science* in schools! Think about it: we are in 2018.

On 17th February 1600, in the Campo de' Fiori (a central Roman market square), with his “*tongue imprisoned because of his wicked words*”, Giordano Bruno was burned at the stake. His ashes were thrown into the Tiber river. All of Bruno's works were placed on the *Index Librorum Prohibitorum* in 1603. Inquisition cardinals who judged Giordano Bruno were: Cardinal Bellarmino (Bellarmine), Cardinal Madruzzo (Madruzzo), Cardinal Camillo Borghese (later Pope Paul V), Domenico Cardinal Pinelli, Pompeo Cardinal Arrigoni, Cardinal Sfondrati, Pedro Cardinal De Deza

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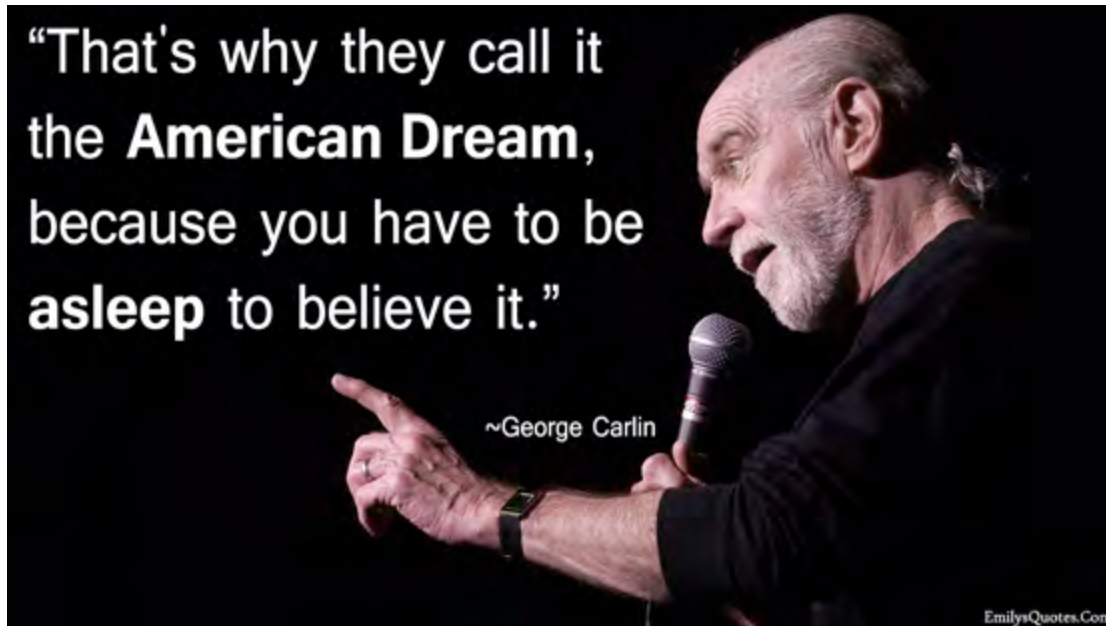
Manuel, Cardinal Santorio (Archbishop of Santa Severina, Cardinal-Bishop of Palestrina). All these cardinals died in old age, in their bed, surrounded by the admiration, the respect, the devotion of the Catholic Church community (N.B. Giordano Bruno was a Dominican friar).

What were Bruno's crimes? Luigi Firpo lists some of these charges made against Bruno by the Roman Inquisition: holding opinions contrary to the Catholic faith and speaking against it and its ministers; holding opinions contrary to the Catholic faith about the Trinity, divinity of Christ, and Incarnation; holding opinions contrary to the Catholic faith pertaining to Jesus as Christ; holding opinions contrary to the Catholic faith regarding the virginity of Mary, mother of Jesus; holding opinions contrary to the Catholic faith about both Transubstantiation and Mass; claiming the existence of a plurality of worlds and their eternity.

In short, **Bruno was against...Creationism!** In 1600.

We were all holding our breath, until the 9th of November 2016. But the forces, the wealthy financiers; the large majority of the military and the police; the still very active gynophobic, xenophobic and racist groups; the poorly educated (frightened by technological inevitable changes); the parochial mentality that thrive in small towns; all these millions of Americans will not change. Ever? One day? Soon? The final results brought the worst nightmares to life. I do not expect the (still) most powerful country in the world to be able to embrace AND LEAD in the 21st century without serious troubles.

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In the 1960s and 1970s, pressure from [advertisers](#) on the [American television industry](#) to create entertaining news material made sound bites central to political coverage. Politicians began to use [PR](#) techniques to craft self-images and slogans that would resonate with the television-viewing audience and ensure their victory in campaigns.

Since the 1980s the Entertainment Industry has grown tremendously –especially in California. Besides its core motion picture and music, it now includes much of the tech companies, advertising, sports, news media, social media (Facebook, Twitter) and *politics*. This behemoth is a magnet for the best and brightest future sociologists and slogan purveyors –a.k.a. spin-doctors; they are the manufacturers of the sound bites, targeting lower than average 7th grade minds.

Historically, in the 1960s and 1970s, pressure from advertisers on the American television industry to create entertaining news material made sound bites central to political coverage. Politicians began to use PR techniques to craft self-images and slogans that would resonate with the television-viewing audience and ensure their victory in campaigns. The term "*sound bite*" was coined in the 1980s, during the presidency of Ronald Reagan, who was famous for short, memorable phrases like, "*Mr. Gorbachev, tear down this wall!*" in reference to the Berlin Wall.

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Most Western politicians depend on “*all of the above*” to (hope to) get elected. They are generally incapable and/or unwilling to dwell into and try to explain critical complex issues –e.g. climate change. Instead of studying in depth the present (and even less our future) they celebrate and refer to the (always!) *glorious* –mythical– past. And then wage, from their offices, mansions or resorts, wars that always kill thousands of (mostly) civilians and young soldiers; they never *win* a war because *in war, there are never victors or losers. Only victims* (Sun Tzu, *The Art of War*). Or, as Margaret Thatcher quipped *when women get bored, they go shopping. When men get bored, they stage a war.*

Life sciences are another large, and growing area of concern. Because it takes time, energy, (lots of) money to get results and then *publish or perish*, young brilliant scientists must enter a funnel and get a Jivaro trophy treatment to reduce their focus to endlessly limited areas of research. While simultaneously the tech wizards create softwares, algorithms, and miniaturized instruments to crush zillions of data and results allowing for exploration of interactions that rule these sciences. We are witnessing schizophrenia in the making!

During the Enlightenment, the French philosopher Voltaire called superstition a “*mad daughter*” and likened it to astrology. The leading thinkers of the time espoused reason and sought to explain the world through the scientific method.

Today, we take a certain pride in approaching the world analytically. When faced with a confusing event, we search for its cause and effect. If we can determine why one action follows another, we can explain why it happened and when it might recur in the future. This makes the outcome reliable. The fact is that any of us can become superstitious given the right circumstances. You included.

In 1948 the Polish born British anthropologist Bronislaw Malinowski published a book on a study he conducted of the fishermen of the Trobriand Islands. Sometimes they fished in an inner lagoon, where fishing was predictable. Every time they fished there, they got pretty much the same kind of catch. But they also fished in the open ocean, where the fish were bigger and harder to catch. Sometimes people would get great catches, and other times, terrible ones. The lure of the very rare great catch proved too tempting for the Trobrianders, so they ventured into the open ocean

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despite the odds -and developed a set of superstitions. These included rituals performed during fishing and the casting of magic spells.

The circumstance dictated the explosion of rituals. We might think this is a completely human adaptation. But it turns out that the tendency to resort to ritual to manage a challenging situation isn't exclusive to humans. In the same year that Malinowski published his experiment, American psychologist B. F. Skinner found that he could generate superstitious behavior in pigeons. He taught pigeons to press down on a bar in exchange for food. All animals can learn to do this, and this learning process is called reinforcement. But an interesting thing happens if the food is given at random intervals -that is, pressing the bar sometimes does, and sometimes does not, produce a treat, with no discernable pattern. Under these conditions, but not under reliable conditions, the pigeon will start repeating arbitrary, idiosyncratic behaviors before pressing the bar. It might bob its head or turn around twice. The pigeon becomes superstitious. It's as though the pigeon believes, at some level, that there is a reliable way to get a food pellet. It is the pigeon's experience that pressing on the bar isn't enough, because that doesn't always work. So, when the food comes, the pigeon looks at what it was doing before and wonders if those arbitrary actions -turning the head, making a noise- had something to do with the food delivery. The pigeon tries those things, and sometimes the food does indeed come. But sometimes the pigeon performs the ritual and the food still doesn't come. One would think that this would convince the pigeon that getting or not getting the treat has nothing to do with behavior. The brave Trobriand fisherman who ventures out into the open sea after practicing a ritual can't rely on the spirits' goodwill. Voltaire and the philosophers from the Age of Reason would want us to apply rational tools and to understand that there is no connection between cause and effect.

Yet -whether for humans or pigeons- the opposite turns out to be true. There seems to be something in the brain that, when confronted with no easily discernable pattern between one's action and the outcome, seeks to forge a bridge and create a story that unites the two events -one an action that you can take, and therefore a reliable bet, and two, an event with a low probability of occurrence. People, just like pigeons, are desperate to understand how the world works and map out its patterns. We know a bit about the biological process underlying this drive. It appears that a

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neurotransmitter -a chemical that neurons use to communicate with each other - called dopamine is strongly implicated in pattern detection in the brain. Very broadly speaking, the more dopamine you have at work in your brain, the more patterns you see. Dopamine tags perceptions as meaningful. If there is too little dopamine, we don't notice any patterns, and if there is too much, we perceive patterns that are not there. We might jump at every shadow, thinking it's a murderer. Our view of the world would be full of misconceptions -and we would become paranoid. Our dopamine levels must be set correctly.

In fact, we are all born with default dopamine levels: this often determines how we see the world. The Swiss neuroscientist Peter Brugger ran a famous experiment testing the extent to which one's dopamine output determined one's worldview. He showed images of faces to participants, some of whom had admitted to believing in the paranormal and in religion, and others who had said they were skeptics. Some of the images were easily recognizable as faces and some were degraded to the point where it was hard to discern facial features. The skeptics saw few facial patterns while the believers saw many.

Half of the skeptics were then unwittingly given a dose of levodopa, a drug that temporarily increased their dopamine levels. With levodopa, these skeptics behaved more like the believers -they saw more faces in the images. Because it could manipulate a person's pattern sensitivity by changing their dopamine levels, this experiment showed that higher dopamine levels can cause more pattern detection. The process also works in reverse: Mexican neuroscientists Victor de Lafuente and Ranulfo Romo found that when thrust into unpredictable environments, monkeys had an increased amount of dopamine in their brains. It turns out that when we are confronted with a situation that presents no obvious pattern our brains amp up the dopamine levels, making us superstitious. The situation creates cognitive confusion and we respond accordingly. Even Voltaire, the arch rational philosopher, might have responded this way.

In some cultures, superstition has become so entrenched that it has become part of the belief system. Superstition then becomes less a way of dealing with particularly unlikely events and more a way to explain all external, difficult to explain events. In the late 1920s, British anthropologist Edward Evan "E. E." Evans-Pritchard studied

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the Zande people of the Sudan. In his memoirs, he records an anecdote that involved a level of interaction with one's study subjects that would be frowned upon today. A Zande boy stubbed his toe on a tree stump. The cut festered and the boy blamed it on witchcraft. Evans-Pritchard explained that the stump had grown naturally, and that the boy had failed to see it in the grasses, and that dirt can cause infections. To scientifically minded people, this explanation might be enough. However, it turned out that the boy already knew these things but was *not* satisfied that they explained everything.

The Azande (plural for Zande) believed in witchcraft, a belief that extended to every level of their lives -from fishing to family relations. "*There is no niche or corner of Zande culture into which it does not twist itself,*" Evans wrote. To the boy, witchcraft explained why, despite being vigilant, he failed to see the stump *at that time*, and why *this* cut festered when others did not. Evans-Pritchard had no better answer to these questions. Indeed, nearly 100 years later science would still basically attribute these events, vaguely, to chance. To this Zande boy, "*chance*" wasn't much of an explanation at all. The cut felt meaningful. And it happened to him. There is another important lesson from the Zande story: superstition flourishes precisely because we believe that we can influence the outcome of events. We have an outsized sense of control. Recent scientific studies support this claim, showing that when we experience something personally, we exaggerate its significance.

For example, Israel-based psychologist Ruma Falk ran an experiment in which people read stories about coincidences that supposedly happened to them and stories that happened to other people. People rated coincidences that happened to them as more surprising than those that happened to other people. If *someone else's* old friend calls him while he's thinking about her, well, that kind of thing happens all the time. But if *my* old friend calls me while I'm thinking about him, well, that's got to mean something, doesn't it? It is more surprising because coincidences seem more unlikely when they happen to us. The feeling that something is meaningful is stronger when that something happens to us as opposed to someone else.

These are both examples of how we try to create patterns and a narrative around an event when little information is available. Even if success or failure is written in the stars for the pigeon, the batter, and the Trobriander fisherman, their subjective

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experience persuades them that there is some way to sway the odds in their favor. Perhaps through a ritual dance? Together with the need to make sense of the environment, subjectivity may be crucial to understanding why the mind is so affected by low probability events.

Voltaire would protest that even when an explanation of an event is personally meaningful, we still must consider the laws of science when trying to make sense of it. Yet two and a half centuries later, even with tremendous advances in scientific understanding, there are many situations in which we are still prone to become superstitious. In fact, by tracking neurotransmitters in the brain, science has showed us that individuals in professions requiring the construction of narrative connection (like philosophy and novel writing) have high dopamine levels, making them prone to superstition. That would apply equally well to the famous author of the novel "*Candide*", Voltaire.

Now, **today**, think of: Trumpism, creationism, climate change denial, astrology, etc...



Denial*

*Denial: The Unspeakable Truth by Keith Kahn-Harris” was published by Notting Hill Editions on 13 September 2018, and is available to order at guardianbookshop.com

From vaccines to climate change to genocide, a new age of denialism is upon us. Why have we failed to understand it?

We are all in denial, some of the time at least. Part of being human, and living in a society with other humans, is finding clever ways to express – and conceal – our feelings. From the most sophisticated diplomatic language to the baldest lie, humans find ways to deceive. Deceptions are not necessarily malign; at some level, they are vital if humans are to live together with civility. As Richard Sennett has argued: *“In practicing social civility, you keep silent about things you know clearly but which you should not and do not say.”*

Just as we can suppress some aspects of ourselves in our self-presentation to others, so we can do the same to ourselves in acknowledging or not acknowledging what we desire. Most of the time, we spare ourselves from the torture of recognizing our baser yearnings. But when does this necessary private self-deception become harmful? When it becomes public dogma. In other words: when it becomes denialism. Denialism is an expansion, an intensification, of denial. At root, denial and denialism are simply a subset of the many ways humans have developed to use language to deceive others and themselves. Denial can be as simple as refusing to accept that someone else is speaking truthfully. Denial can be as unfathomable as the multiple ways we avoid acknowledging our weaknesses and secret desires. Denialism is more than just another manifestation of the humdrum intricacies of our deceptions and self-deceptions. It represents the transformation of the everyday practice of denial into a whole new way of seeing the world and –most important– a collective accomplishment. Denial is furtive and routine; denialism is combative and extraordinary. Denial hides from the truth; denialism builds a new and better truth.

In recent years, the term has been used to describe many fields of *“scholarship”*, whose scholars engage in audacious projects to hold back, against seemingly insurmountable odds, the findings of an avalanche of research. They argue that the

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Holocaust (and other genocides) never happened, that anthropogenic (human-caused) climate change is a myth, that AIDS either does not exist or is unrelated to HIV, that evolution is a scientific impossibility, and that all manner of other scientific and historical orthodoxies must be rejected. In some ways, denialism is a terrible term. No one calls herself a “*denialist*”, and no one signs up to all forms of denialism. In fact, denialism is founded on the assertion that it is not denialism. In the wake of Freud (or at least the vulgarization of Freud), no one wants to be accused of being “*in denial*”, and labelling people denialists seems to compound the insult by implying that they have taken the private sickness of denial and turned it into public dogma. But denial and denialism are closely linked; what humans do on a large scale is rooted in what we do on a small scale. While everyday denial can be harmful, it is also just a mundane way for humans to respond to the incredibly difficult challenge of living in a social world in which people lie, make mistakes and have desires that cannot be openly acknowledged. Denialism is rooted in human tendencies that are neither freakish nor pathological.

All that said, there is no doubt that denialism is dangerous. In some cases, we can point to concrete examples of denialism causing actual harm. In South Africa, President Thabo Mbeki, in office between 1999 and 2008, was influenced by AIDS denialists such as Peter Duesberg, who deny the link between HIV and AIDS (or even HIV’s existence) and cast doubt on the effectiveness of anti-retroviral drugs. Mbeki’s reluctance to implement national treatment programs using anti-retrovirals has been estimated to have cost the lives of **330,000** people. On a smaller scale, in early 2017, the Somali-American community in Minnesota was struck by a childhood measles outbreak, as a direct result of proponents of the discredited theory that the MMR vaccine causes autism, persuading parents not to vaccinate their children.

More commonly though, denialism’s effects are less direct but more insidious. Climate change denialists have not managed to overturn the general scientific consensus that it is occurring and caused by human activity. What they *have* managed to do is provide subtle and not-so-subtle support for those opposed to taking radical action to address this urgent problem. Achieving a global agreement that could underpin a transition to a post-carbon economy, and that would be capable of slowing the temperature increase, was always going to be an enormous challenge. Climate change denialism has helped to make the challenge even harder.

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Denialism can also create an environment of hate and suspicion. Forms of genocide denialism are not just attempts to overthrow irrefutable historical facts; they are an assault on those who survive genocide, and their descendants. The implacable denialism that has led the Turkish state to refuse to admit that the 1917 Armenian genocide occurred is also an attack on today's Armenians, and on any other minority that would dare to raise troubling questions about the status of minorities in Turkey. Similarly, those who deny the Holocaust are not trying to disinterestedly "*correct*" the historical record; they are, with varying degrees of subtlety, trying to show that Jews are pathological liars and fundamentally dangerous, as well as to rehabilitate the reputation of the Nazis.

The dangers that other forms of denialism pose may be less concrete, but they are no less serious. Denial of evolution, for example, does not have an immediately hateful payoff; rather it works to foster a distrust in science and research that feeds into other denialisms and undermines evidence-based policymaking. Even lunatic-fringe denialisms, such as flat Earth theories, while hard to take seriously, help to create an environment in which real scholarship and political attempts to engage with reality, break down in favor of an all-encompassing suspicion that nothing is what it seems.

Denialism has moved from the fringes to the center of public discourse, helped in part by new technology. As information becomes freer to access online, as "*research*" has been opened to anyone with a web browser, as previously marginal voices climb on to the online soapbox, so the opportunities for countering accepted truths multiply. No one can be entirely ostracized, marginalized and dismissed as a crank anymore. The sheer profusion of voices, the plurality of opinions, the cacophony of the controversy, are enough to make anyone doubt what they should believe.

So how do you fight denialism? Denialism offers a dystopian vision of a world unmoored, in which nothing can be taken for granted and no one can be trusted. If you believe that you are being constantly lied to, paradoxically you may be in danger of accepting the untruths of others. Denialism is a mix of corrosive doubt and corrosive credulity. It's perfectly understandable that denialism sparks anger and outrage, particularly in those who are directly challenged by it. If you are a Holocaust survivor, a historian, a climate scientist, a resident of a flood-plain, a geologist, an AIDS researcher or someone whose child caught a preventable disease from an unvaccinated child, denialism can feel like an assault on your life's work, your core

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beliefs or even your life itself. Such people do fight back. This can include, in some countries, supporting laws against denialism, as in France's prohibition of Holocaust denial. Attempts to teach "*creation science*" alongside evolution in US schools are fought with tenacity. Denialists are routinely excluded from scholarly journals and academic conferences. The most common response to denialism, though, is debunking. Just as denialists produce a large and ever-growing body of books, articles, websites, lectures and videos, so their detractors respond with a literature of their own. Denialist claims are refuted point by point, in a spiraling contest in which no argument –however ludicrous– is ever left unchallenged. Some debunkings are endlessly patient and civil, treating denialists and their claims seriously and even respectfully; others are angry and contemptuous.



David Irving in Austria after being imprisoned for Holocaust denial in 2006.

Photograph: Herbert Neubauer/Reuters

Yet none of these strategies work, at least not completely. Take the libel case that the Holocaust denier David Irving brought against Deborah Lipstadt in 1996. Irving's claim that accusing him of being a Holocaust denier and a falsifier of history was libelous were forensically demolished by Richard Evans and other eminent historians. The judgment was devastating to Irving's reputation and unambiguous in its rejection of his claim to be a legitimate historian. The judgment bankrupted him;

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he was repudiated by the few remaining mainstream historians who had supported him, and in 2006 he was imprisoned in Austria for Holocaust denial.

But Irving today? He is still writing and lecturing, albeit in a more covert fashion. He still makes similar claims and his defenders see him as a heroic figure who survived the attempts of the Jewish-led establishment to silence him. Nothing changed. Holocaust denial is still around, and its proponents find new followers. In legal and scholarly terms, Lipstadt won an absolute victory, but she didn't beat Holocaust denial or even Irving in the long term. There is a salutary lesson here: in democratic societies, at least, denialism cannot be beaten legally, or through debunking, or through attempts to discredit its proponents. That's because, for denialists, the existence of denialism is itself a triumph. Central to denialism is an argument that "*the truth*" has been suppressed by its enemies. To continue to exist is a heroic act, a victory for the forces of truth.

Of course, denialists might yearn for a more complete victory -when theories of anthropogenic climate change will be marginalized in academia and politics, when the story of how the Jews hoaxed the world will be in every history book -but, for now, every day that denialism persists is a good day. In fact, denialism can achieve more modest triumphs even without total victory. For the denialist, everyday barrels of oil continue to be extracted and burned is a good day, every day a parent doesn't vaccinate their child is a good day, every day a teenager Googling the Holocaust finds out that some people think it never happened is a good day. Conversely, denialism's opponents rarely have time on their side. As climate change rushes towards the point of no return, as Holocaust survivors die and can no longer give testimony, as once-vanquished diseases threaten pandemics, as the notion that there is "*doubt*" on settled scholarship becomes unremarkable, so the task facing the debunkers becomes both more urgent and more difficult. It's understandable that panic can set in and that anger overwhelms some of those who battle against denialism.

A better approach to denialism is one of self-criticism. The starting point is a frank question: why did we fail? Why have those of us who abhor denialism not succeeded in halting its onward march? And why have we as a species managed to turn our everyday capacity to deny into an organized attempt to undermine our collective ability to understand the world and change it for the better? These questions are beginning to be asked in some circles. They are often the result of a kind of despair.

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Campaigners against anthropogenic global warming often lament that, as the task becomes ever more urgent, so denialism continues to run rampant (along with apathy and “softer” forms of denial). It appears that nothing works in the campaign to make humanity aware of the threat it faces. The obstinacy with which people can stick to disproved notions is attested to in the social sciences and in neuroscientific research. Humans are not only reasoning beings who disinterestedly weigh evidence and arguments. But there is a difference between the pre-conscious search for confirmation of existing views –we all engage in that to some extent– and the deliberate attempt to dress this search up as a quest for truth, as denialists do. Denialism adds extra layers of reinforcement and defense around widely shared psychological practices with the (never articulated) aim of preventing their exposure. This certainly makes changing the minds of denialists even more difficult than changing the minds of the rest of stubborn humanity.

There are multiple kinds of denialists: from those who are sceptical of all established knowledge, to those who challenge one type of knowledge; from those who actively contribute to the creation of denialist scholarship, to those who quietly consume it; from those who burn with certainty, to those who are privately sceptical about their skepticism. What they all have in common is a particular type of *desire*. This desire - for something not to be true- is the driver of denialism.

Empathy with denialists is not easy, but it is essential. Denialism is not stupidity, or ignorance, or mendacity, or psychological pathology. Nor is it the same as lying. Of course, denialists can be stupid, ignorant liars, but so can any of us. But denialists are people in a desperate predicament. It is a very modern predicament. Denialism is a post-enlightenment phenomenon, a reaction to the “*inconvenience*” of many of the findings of modern scholarship. The discovery of evolution, for example, is inconvenient to those committed to a literalist biblical account of creation. Denialism is also a reaction to the inconvenience of the moral consensus that emerged in the post-enlightenment world. In the ancient world, you could erect a monument proudly proclaiming the genocide you committed to the world. In the modern world, mass killing, mass starvation, mass environmental catastrophe can no longer be publicly legitimated. Yet many humans still want to do the same things humans always did. We are still desiring beings. We want to murder, to steal, to destroy and to despoil. We want to preserve our ignorance and unquestioned faith. So, when our

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desires are rendered unspeakable in the modern world, we are forced to pretend that we do not yearn for things we desire.

Denial is not enough here. As an attempt to draw awareness and attention away from something unpalatable, it is always vulnerable to challenge. Denial is a kind of high-wire act that can be unbalanced by forceful attempts to draw attention to what is being denied. Denialism is, in part, a response to the vulnerability of denial. To be in denial is to know at some level. To be a denialist is to never have to know at all. Denialism is a systematic attempt to prevent challenge and acknowledgment; to suggest that there is nothing to acknowledge. Whereas denial is at least subject to the possibility of confrontation with reality, denialism can rarely be undermined by appeals to face the truth. The tragedy for denialists is that they concede the argument in advance. Holocaust deniers' attempts to deny that the Holocaust took place imply that it would not have been a good thing if it had. Climate change denialism is predicated on a similarly hidden acknowledgment that, if anthropogenic climate change were occurring, we would have to do something about it. Denialism is therefore not just hard work – finding ways to discredit mountains of evidence is a tremendous labor – but also involves suppressing the expression of one's desires. Denialists are “trapped” into byzantine modes of argument because they have few other options in pursuing their goals.

Denialism, and related phenomena, are often portrayed as a “war on science”. This is an understandable but profound misunderstanding. Certainly, denialism and other forms of pseudo-scholarship do not follow mainstream scientific methodologies. Denialism does indeed represent a perversion of the scholarly method, and the science it produces rests on profoundly erroneous assumptions, but denialism does all this *in the name of* science and scholarship. Denialism aims to replace one kind of science with another – it does not aim to replace science itself. In fact, denialism constitutes a tribute to the prestige of science and scholarship in the modern world. Denialists are desperate for the public validation that science affords. While denialism has sometimes been seen as part of a post-modern assault on truth, the denialist is just as invested in notions of scientific objectivity as the most unreconstructed positivist. Even those who are genuinely committed to alternatives to western rationality and science can wield denialist rhetoric that apes precisely the kind of scientism they despise. Anti-vaxxers, for example, sometimes seem to want

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to have their cake and eat it: to have their critique of western medicine validated by western medicine.

The rhetoric of denialism and its critics can resemble each other in a kind of war to the death over who gets to wear the mantle of science. The term “*junk science*” has been applied to climate change denialism, as well as in defense of it. Mainstream science can also be dogmatic and blind to its own limitations. If the accusation that global warming is an example of politicized ideology masked as science is met with indignant assertions of the absolute objectivity of “*real*” science, there is a risk of blinding oneself to uncomfortable questions regarding the subtle and not-so-subtle ways in which the idea of pure truth, untrammelled by human interests, is elusive. Human interests can rarely if ever be separated from the ways we observe the world. Indeed, sociologists of science have shown how modern ideas of disinterested scientific knowledge have disguised the inextricable links between knowledge and human interests.

“I do not believe that, if only one could find the key to “make them understand”, denialists would think just like me.” A global warming denialist is not an environmentalist who cannot accept that he or she is an environmentalist; a Holocaust denier is not someone who cannot face the inescapable obligation to commemorate the Holocaust; an AIDS denialist is not an AIDS activist who won’t acknowledge the necessity for western medicine in combating the disease; and so on. If denialists were to stop denying, we cannot assume that we would then have a shared moral foundation on which we could make progress as a species. Denialism is not a barrier to acknowledging a common moral foundation; it is a barrier to acknowledging moral differences. An end to denialism is therefore a disturbing prospect, as it would involve these moral differences revealing themselves directly. But we need to start preparing for that eventuality, because denialism is starting to break down – and not in a good way.

On 6 November 2012, when he was already preparing the ground for his presidential run, Donald J. Trump sent a tweet about climate change. It said: *“The concept of global warming was created by and for the Chinese in order to make U.S. manufacturing non-competitive.”* At the time, this seemed to be just another example of the mainstreaming of climate change denialism on the American right. After all, the second Bush administration had done as little as possible to combat climate change,

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and many leading Republicans are prominent crusaders against mainstream climate science. Yet something else was happening here, too; the tweet was a harbinger of a new kind of post-denialist discourse. Trump's claim is not one that is regularly made by "*mainstream*" global warming denialists. It may have been a garbled version of the common argument on the US right that global climate treaties will unfairly weaken the US economy to the benefit of China. Like much of Trump's discourse, the tweet was simply thrown into the world without much thought. This is not how denialism usually works. Denialists usually labour for decades to produce, often against overwhelming odds, carefully crafted simulacra of scholarship that, to non-experts at least, are indistinguishable from the real thing. They have refined alternative scholarly techniques that can cast doubt on even the most solid of truths.



Donald Trump announcing his decision to withdraw the US from the Paris climate agreement.

Photograph: Kevin Lamarque/Reuters

Trump and the post-truthers' "*lazy*" denialism rest on the security that comes from knowing that generations of denialists have created enough doubt already; all people like Trump need to do is to signal vaguely in a denialist direction. Whereas denialism explains – at great length – post-denialism asserts. Whereas denialism is painstakingly thought-through, post-denialism is instinctive. Whereas denialism is disciplined, post-denialism is anarchic.

The internet has been an important factor in this weakening of denialist self-discipline. The intemperance of the online world is pushing denialism so far that it is

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beginning to fall apart. The new generation of denialists aren't creating new, alternative orthodoxies so much as obliterating the very idea of orthodoxy itself. The collective, institutional work of building a substantial bulwark against scholarly consensus gives way to a kind of free-for-all. One example of this is the 9/11 truth movement. Because the attacks occurred in an already wired world, the denialism it spawned has never managed to institutionalize and develop an orthodoxy in the way that pre-internet denialisms did. Those who believe that the "official story" of the September 11 attacks was a lie can believe that elements in the US government had foreknowledge of the attacks but let them happen, or that the attacks were deliberately planned and carried out by the government, or that Jews/Israel/Mossad were behind it, or that shadowy forces in the "New World Order" were behind it -or some cocktail of all-of-these. They can believe that the towers were brought down by controlled demolition, or that no planes hit the towers, or that there were no floors in the towers, or that there were no passengers in the planes.

Post-denialism represents a freeing of the repressed desires that drive denialism. While it still based on the denial of an established truth, its methods liberate a deeper kind of desire: to remake truth itself, to remake the world, to unleash the power to reorder reality itself and stamp one's mark on the planet. What matters in post-denialism is not the establishment of an alternative scholarly credibility, so much as giving yourself blanket permission to see the world however you like. While post-denialism has not yet supplanted its predecessor, old-style denialism is beginning to be questioned by some of its practitioners as they take tentative steps towards a new age. This is particularly evident on the racist far right, where the dominance of Holocaust denial is beginning to erode.

Mark Weber, director of the (denialist) Institute for Historical Review, glumly concluded in an article in 2009 that Holocaust denial had become irrelevant in a world that continues to memorialize the genocide. Some Holocaust deniers have even recanted, expressing their frustration with the movement and acknowledging that many of its claims are simply untenable, as Eric Hunt, previously a producer of widely circulated online videos denying the Holocaust, did in 2016. Yet such admissions of defeat are certainly not accompanied by a retreat from antisemitism. Weber treats the failures of Holocaust denial because of the nefarious power of the Jews: "*Suppose The New York Times were to report tomorrow that Israel's Yad Vashem*

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Holocaust center and the US Holocaust Memorial Museum had announced that no more than 1 million Jews died during the second world war, and that no Jews were killed in gas chambers at Auschwitz. The impact on Jewish-Zionist power would surely be minimal.” Those who were previously “forced” into Holocaust denial are starting to sense that it may be possible to publicly celebrate genocide once again, to revel in antisemitism’s finest hour. The heightened scrutiny of far-right movements in the last couple of years has unearthed statements that might once have remained unspoken, or only spoken behind closed doors. In August 2017, for example, one KKK leader told a journalist: “We killed 6 million Jews the last time. Eleven million [immigrants] is nothing.” A piece published by the Daily Stormer in advance of the white nationalist rally in Charlottesville that same month ended: “Next stop: Charlottesville, VA. Final stop: Auschwitz.” Indeed, the Daily Stormer, one of the most prominent online publications of the resurgent far-right, demonstrates an exuberant agility in balancing denialism, post-denialism and open hatred simultaneously, using humor as a method of floating between them all. But there is no doubt what the ultimate destination is. As Andrew Anglin, who runs the site, put it in a style guide for contributors that was later leaked to the press: “The unindoctrinated should not be able to tell if we are joking or not. There should also be a conscious awareness of mocking stereotypes of hateful racists. I usually think of this as self-deprecating humor – I am a racist making fun of stereotypes of racists, because I don’t take myself super-seriously. This is obviously a ploy and I do want to gas kikes. But that’s neither here nor there.”

Not all denialists are taking these steps towards open acknowledgment of their desires. In some fields, the commitment to repressing desire remains strong. We are not yet at a stage when a climate change denier can come out and say, proudly, “Bangladesh will be submerged, millions will suffer because of anthropogenic climate change, but we must still preserve our carbon-based way of life, no matter what the cost.” Nor are anti-vaxxers ready to argue that, even though vaccines do not cause autism, the death of children from preventable diseases is a regrettable necessity if we are to be released from the clutches of Big Pharma. Still, over time it is likely that traditional denialists will be increasingly influenced by the emerging post-denialist milieu. After all, what oil industry-funded wonk laboring to put together a policy paper suggesting that polar bear populations aren’t declining hasn’t fantasized of resorting to gleeful, Trumpian assertions?

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The possibility of an epochal shift away from denialism means that there is now no avoiding a reckoning with some discomfiting issues: how do we respond to people who have radically different desires and morals from our own? How do we respond to people who delight in or are indifferent to genocide, to the suffering of millions, to venality and greed? Denialism, and the multitude of other ways that modern humans have obfuscated their desires, prevent a true reckoning with the unsettling fact that some of us might desire things that most of us regard as morally reprehensible. *"Might"* because while denialism is an attempt to covertly legitimize an unspeakable desire, the nature of the denialist's understanding of the consequences of enacting that desire is usually unknowable. It is hard to tell whether global warming denialists are secretly longing for the chaos and pain that global warming will bring, are simply indifferent to it, or would desperately like it not to be the case but are overwhelmed with the desire to keep things as they are. It is hard to tell whether Holocaust deniers are preparing the ground for another genocide or want to keep a pristine image of the goodness of the Nazis and the evil of the Jews. It is hard to tell whether an AIDS denialist who works to prevent Africans from having access to anti-retrovirals is getting a kick out of their power over life and death or is on a mission to save them from the evils of the West.

If the new realm of unrestrained online discourse, and the example set by Trump, tempts more and more denialists to transition towards post-denialism and beyond, we will finally know where we stand. Instead of chasing shadows, we will be able to contemplate the stark moral choices we humans face. Maybe we have been putting this test off for too long. The liberation of desire we are beginning to witness is forcing us all to confront some very difficult questions: who are we as a species? Do we all (the odd sociopath aside) share a common moral foundation? How do we relate to people whose desires are starkly different from our own? Perhaps, if we can face up to the challenge presented by these new revelations, it might pave the way for a politics shorn of illusion and moral masquerade, where different visions of what it is to be human can openly contend. This might be a firmer foundation on which to rekindle some hope for human progress –based not on illusions of what we would like to be, but on an accounting of what we are.



Believing without evidence is always morally wrong



If I believe it is raining outside... *The Umbrella* (1883) by Marie Bashkirtseff.
Courtesy the State Russian Museum/Wikipedia

You have probably never heard of William Kingdon Clifford. He is not in the pantheon of great philosophers –perhaps because his life was cut short at the age of 33– but Francisco M. Uribe cannot think of anyone whose ideas are more relevant for our interconnected, AI-driven, digital age. This might seem strange given that he is talking about a Victorian Briton whose most famous philosophical work is an essay nearly 150 years ago. However, reality has caught up with Clifford. His once seemingly exaggerated claim that *‘it is wrong always, everywhere, and for anyone, to believe anything upon insufficient evidence’* is no longer hyperbole but a technical reality. In *The Ethics of Belief* (1877), Clifford gives three arguments as to why we have a moral obligation to believe *responsibly*, that is, to believe only what we have sufficient evidence for, and what we have diligently investigated. His **first argument** starts with the simple observation that our beliefs influence our actions. Everyone

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would agree that our behavior is shaped by what we take to be true about the world –which is to say, by what we believe. If I believe that it is raining outside, I’ll bring an umbrella. If I believe taxis don’t take credit cards, I make sure I have some cash before jumping into one. And if I believe that stealing is wrong, then I will pay for my goods before leaving the store. What we believe is then of tremendous practical importance. False beliefs about physical or social facts lead us into poor habits of action that in the most extreme cases could threaten our survival. If the singer R Kelly genuinely believed the words of his song *‘I Believe I Can Fly’* (1996), we can guarantee you he would not be around by now. But it is not only our own self-preservation that is at stake here. As social animals, our agency impacts on those around us, and improper believing puts our fellow humans at risk. As Clifford warns: *‘We all suffer severely enough from the maintenance and support of false beliefs and the fatally wrong actions which they lead to ...’* In short, sloppy practices of belief-formation are ethically wrong because –as social beings– when we believe something, the stakes are very high.

The most natural objection to this first argument is that while it might be true that some of our beliefs do lead to actions that can be devastating for others, in reality most of what we believe is probably inconsequential for our fellow humans. As such, claiming as Clifford did that it is wrong *in all cases* to believe on insufficient evidence seems like a stretch. I think critics had a point – *had* – but that is no longer so. In a world in which just about everyone’s beliefs are instantly shareable, at minimal cost, to a global audience, every single belief has the capacity to be truly consequential in the way Clifford imagined. If you still believe this is an exaggeration, think about how beliefs fashioned in a cave in Afghanistan lead to acts that ended lives in New York, Paris and London. Or consider how influential the ramblings pouring through your social media feeds have become in your very own daily behaviour. In the digital global village that we now inhabit, false beliefs cast a wider social net, hence Clifford’s argument might have been hyperbole when the **second argument** Clifford provides to back his claim that it is always wrong to believe on insufficient evidence is that poor practices of belief-formation turn us into careless, credulous believers. Clifford puts it nicely: *‘No real belief, however trifling and fragmentary it may seem, is ever truly insignificant; it prepares us to receive more of its like, confirms those which resembled it before, and weakens others; and so gradually it lays a stealthy train in our inmost thoughts, which may someday explode into overt action, and leave its stamp*

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upon our character. Translating Clifford's warning to our interconnected times, what he tells us is that careless believing turns us into easy prey for fake-news peddlers, conspiracy theorists and charlatans. And letting ourselves become hosts to these false beliefs is morally wrong because, as we have seen, the error cost for society can be devastating. Epistemic alertness is a much more precious virtue today than it ever was, since the need to sift through conflicting information has exponentially increased, and the risk of becoming a vessel of credulity is just a few taps of a smartphone away.

Clifford's **third and final argument** as to why believing without evidence is morally wrong is that, in our capacity as communicators of belief, we have the moral responsibility not to pollute the well of collective knowledge. In Clifford's time, the way in which our beliefs were woven into the '*precious deposit*' of common knowledge was primarily through speech and writing. Because of this capacity to communicate, '*our words, our phrases, our forms and processes and modes of thought*' become '*common property*'. Subverting this '*heirloom*', as he called it, by adding false beliefs is immoral because everyone's lives ultimately rely on this vital, shared resource.

While Clifford's final argument rings true, it again seems exaggerated to claim that every little false belief we harbor is a moral affront to common knowledge. Yet reality, once more, is aligning with Clifford, and his words seem prophetic. Today, we truly have a global reservoir of belief into which all of our commitments are being painstakingly added: it's called Big Data. You don't even need to be an active netizen posting on Twitter or ranting on Facebook: more and more of what we *do* in the real world is being recorded and digitized, and from there algorithms can easily infer what we *believe* before we even express a view. In turn, this enormous pool of stored belief is used by algorithms to make decisions for and about us. And it's the same reservoir that search engines tap into when we seek answers to our questions and acquire new beliefs. Add the wrong ingredients into the Big Data recipe, and what you'll get is a potentially toxic output. If there was ever a time when critical thinking was a moral imperative, and credulity a calamitous sin, it is now.

“Science is the Ignorance of the Expert”

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Richard Feynman 1918-1988

Richard Feynman and Carl Sagan were the two scientists who revolutionized my life and many others'. Both knew a myriad of *facts*, but both were geniuses who also envisioned (and perceived) the multiple complex interactions that rule our ever-changing world, body and mind. They knew that *reductio ad nihilo* (or almost) leads to *reductio ad absurdum*.

Complexity is generally used to characterize something with many parts where those parts interact with each other in multiple ways, culminating in a higher order of emergence greater than the sum of its parts. There is no absolute definition of what complexity means; the only consensus among researchers is that there is no agreement about the specific definition of complexity. However, a characterization of what is complex is possible. The study of these complex linkages at various scales is the main goal of complex systems theory.

Definitions of complexity often depend on the concept of a confidential "*system*" – a set of parts or elements that have relationships among them differentiated from relationships with other elements outside the relational regime. Many definitions tend to postulate or assume that complexity expresses a condition of numerous elements in a system and numerous forms of relationships among the elements.

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However, what one sees as complex and what one sees as simple is relative and changes with time.

A complex adaptive system has some or all the following attributes:

- The number of parts (and types of parts) in the system and the number of relations between the parts is non-trivial – however, there is no general rule to separate "*trivial*" from "*non-trivial*";
- The system has memory or includes feedback;
- The system can adapt itself according to its history or feedback;
- The relations between the system and its environment are non-trivial or non-linear;
- The system can be influenced by, or can adapt itself to, its environment;
- The system is highly sensitive to initial conditions.

Complexity has always been a part of our environment, and therefore many scientific fields have dealt with complex systems and phenomena.

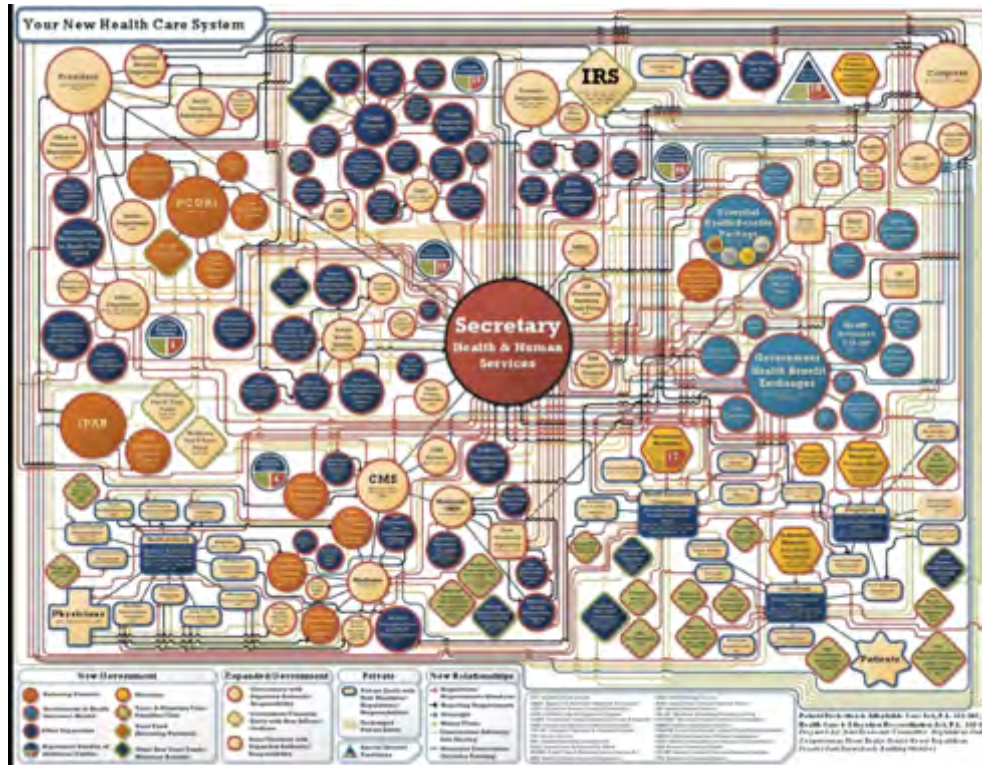
The use of the term complex is often confused with the term complicated. In today's systems, this is the difference between myriad connecting "*stovepipes*" and effective "*integrated*" solutions. This means that **complex is the opposite of independent**, while **complicated is the opposite of simple**.

While this has led some fields to come up with specific definitions of complexity, there is a more recent movement to regroup observations from different fields to study complexity in itself, whether it appears in anthills, human brains, or the immune system and reactions.

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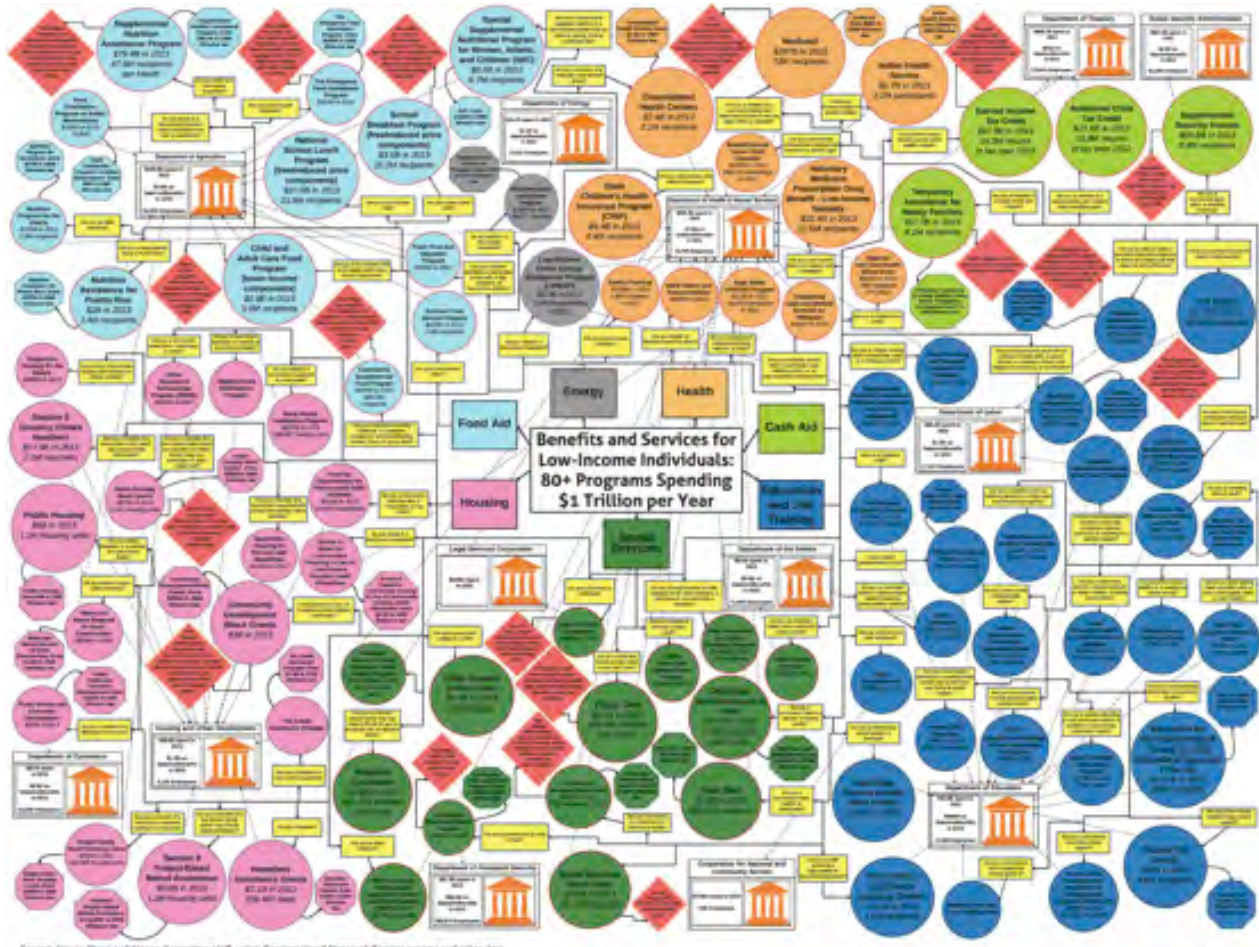
To illustrate the necessary complex mastering of issues, this map is addressing an omnipresent concern of residents in most countries: Health. It illustrates the system in the United States. Both major candidates, Hillary R. Clinton and Donald Trump talked about healthcare and offered –in a few *seconds* (even shorter for Trump)- their *solutions*. And BOTH claimed to KNOW!



The above chart dates from March 28, 2012.

The one below addresses a more specific issue and is current; it does demonstrate that everything (including now the multiplicity of universes) is getting more complex. The time when Desiderius Erasmus (1466-1536) was said to have known **everything** are long gone, and any *generalist* is and *will* be condemned to scratch a thin (and *thinner*) superficial layer of ever and faster expanding knowledge.

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Source: House Ways and Means Committee staff, using Congressional Research Service reports and other data.



A Cool Way to Look at Complexity

At the Hong Kong Polytechnic University, and the City University of Hong, I always started the first lecture of a course with a *cool* image:



Then I explained that this (beautiful) image of a whole iceberg could illustrate *knowledge*. Since only the emerging tip is accessible, we ignore that we don't know that 90% exist under the surface; this remains true whether the global volume increases or shrinks.

But what we *see* and usually *study* is the **surface** of the emerging tip, i.e. 1mm deep, or 0.001% of the emerging tip...

Silence. One could hear the brains buzzing, oscillating between doubt, awe and despair.

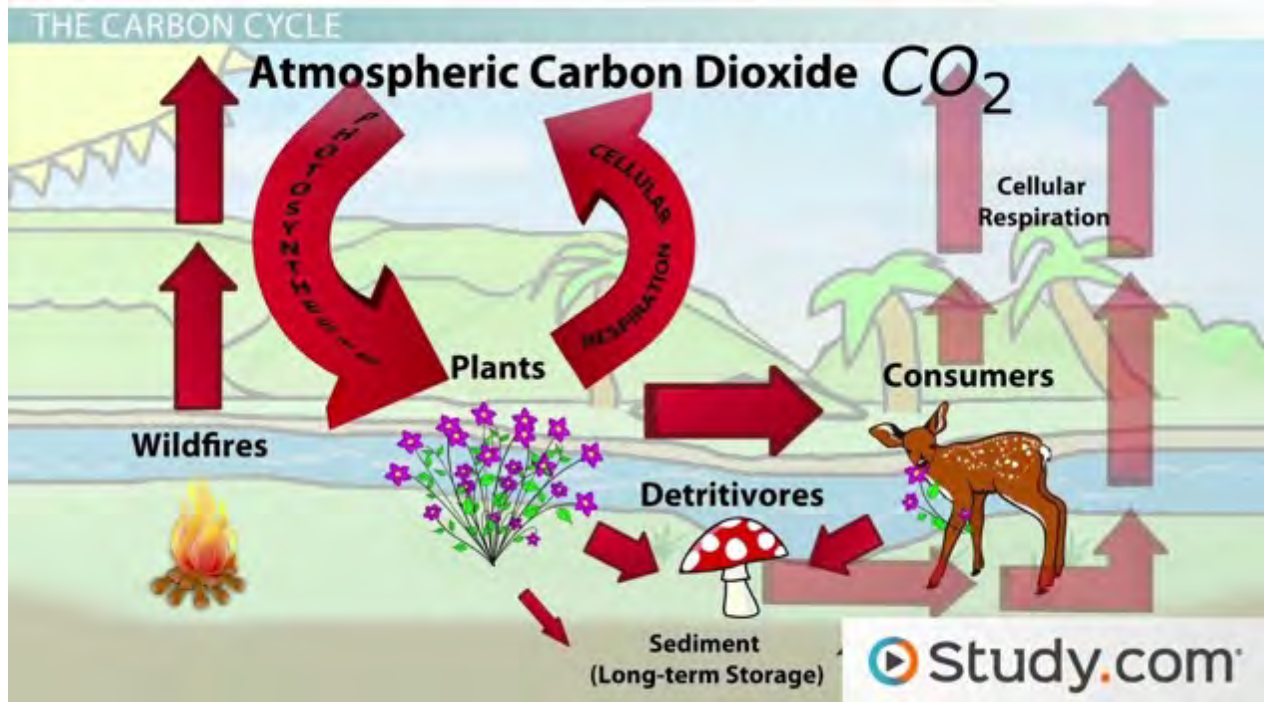
At least I did *show* that the proclamation: *Trust me: I know everything* (Donald J. Trump) is male bovine dung.

A good, unfortunate example of this superficial knowledge is Climate Change (that the Trump's herd calls a *Hoax!*). This chart is addressing **one** element of climate

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change and global warming:

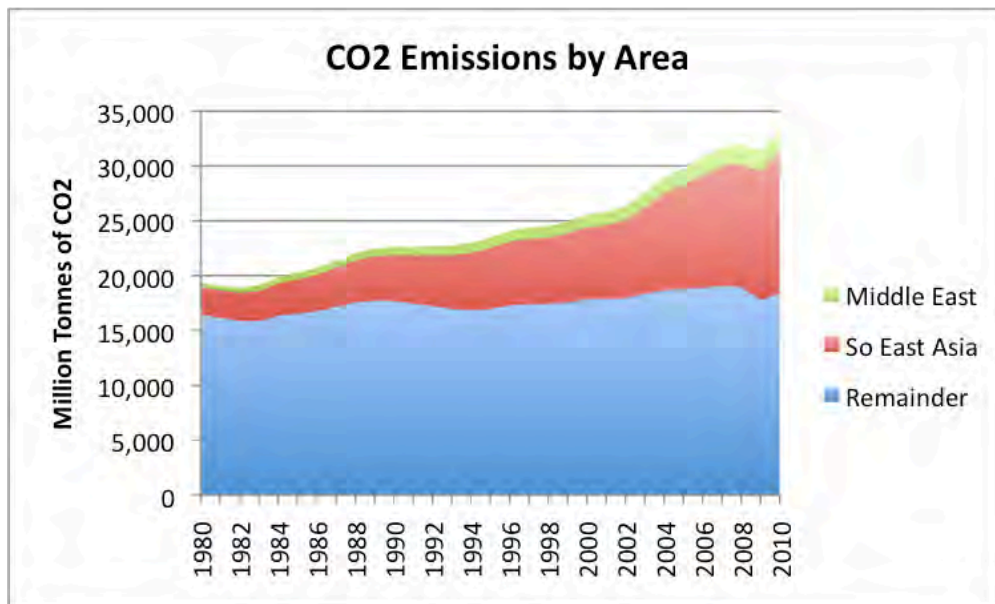
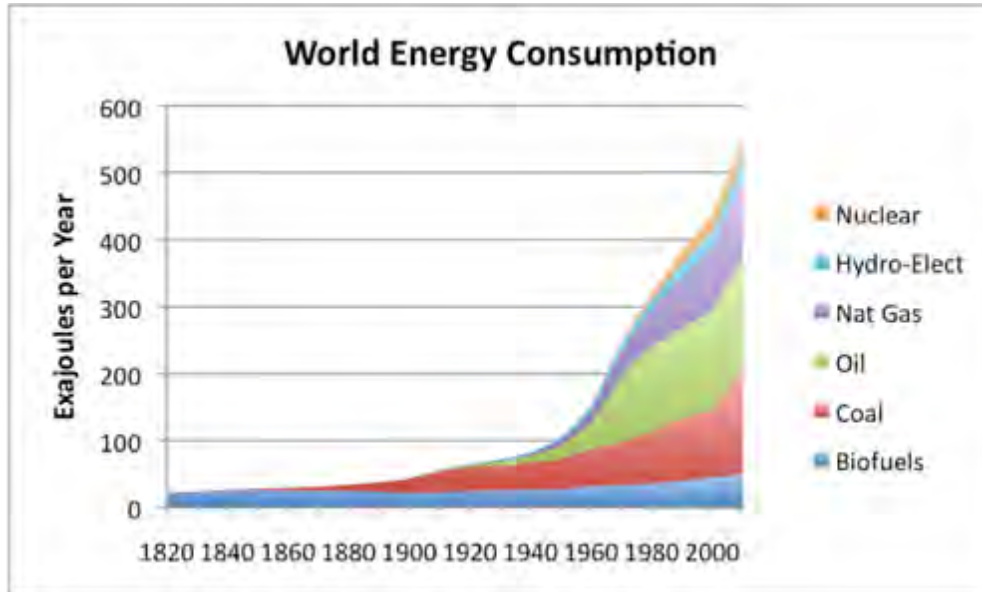


We ignore many (important) factors that influence the global climate, and their multiple, complex interactions. What we **DO** know is that exponential growth of human consumption of fossil fuel does play an important (major?) role.

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The charts below are illustrating this better than a long dissertation:



Besides the largest contributors to emissions of CO2 (USA, China, India, Western Europe), every region is contributing to this disaster-in-the-making, and –again! - Donald Trump wants an **increase** in mining and drilling for oil/petroleum and denies these numbers. This is pathological delusion.

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Obviously, as mentioned earlier, greenhouse gases (CO₂ is just **one** of these) are just **one** factor in global warming as part of climate change.

Climate change is the variation in global or regional climates over time. It reflects changes in the variability or average state of the atmosphere over time scales ranging from decades to millions of years. These changes can be caused by processes internal to the Earth, external forces (e.g. variations in sunlight intensity) or, more recently as shown above, **human activities**. But as Andrew Cuomo said: *anyone who says there is not a change in weather patterns is denying reality*. Human-generated factors are the only ones we can act upon. The final recommendations from the 2015 Paris World Conference on Climate Change have been approved by many countries, including China, the European Union and India, but not (yet?) by the USA; and Trump –again! - had already announced that, when elected, he will repeal this engagement within one year.

For many other countries, a signature is **not** implementation of significant measures and action (yet?). In the meantime, irreparable huge damages are being created; for which the planet may never fully recover.

Anti-elitism is in fashion. Now that politicians acclaim to be professionals in peddling, many (most?) feel that no-one in government stands for anything –other than getting elected. Yet the founding fathers of Western philosophy were both unashamed elitists, and highly critical of ‘*democracy*’. Plato thought that society should be run by a caste of philosopher kings, educated from childhood to fulfill their role [cf. the current meritocratic system of China]. Aristotle favored aristocratic rule i.e. by the best; not necessarily those born into high families or *princelings*.

Conversely, after a long period of absolute ruling by the conservative, reactionary Catholic Church, egalitarian individualism flowered in the 18th century Enlightenment. It promoted individual autonomy and self-government, and that everyone think for themselves. Immanuel Kant summed it up in the slogan *sapere aude* (‘dare to know’): have the courage to use your own understanding. He also argued that ‘*ought*’ implies ‘*can*’, meaning that you can only be obliged to do something if you are capable of doing it.

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Hence the belief that we ought to think for ourselves implies that we are all *able* to think for ourselves.

But:

- we cannot know everything, and need to rely on the (expert) knowledge of others;
- we don't have time to think about everything, and often have to defer to those who can devote more thinking to specific issues;
- thinking for ourselves requires effort, and it's not enough to have an opinion: we need to earn the right to assert it.

This '*democratization*' of knowledge provides the fertilizer that helps anti-elitism to grow. But for elites to be respected and trusted they need to show that their position depends on superior knowledge and capacities –not on unearned accidents of birth. Academic elites and policymakers are often regarded as deliberately obtuse. These experts talk the talk, but never walk the walk.

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Anti-intellectualism rests on a paradox: why do intellectuals, with all their advanced knowledge, fail to read the world around them? Is it the case that the more you learn, the less you know? If you believe this, then there is no need for higher education –let alone post-graduate institutes. Anti-intellectualists retort that they are not opposed to *all* knowledge –just the conceptualized and arcane one that divorces us from reality.

Theorizing is part of higher education, but this doesn't mean it is separated from real life –or that my university students (or colleague lecturers) have lost touch with ordinary life.



Traditional Chinese education is essentially Confucian, and yes, it has a definite elitist strain. In Mencius' Gaoxi: Part II the sage says: *"When Heaven is about to confer a great office on any man, it first exercises his mind with suffering"*. The man the sage referred to is most definitely part of an elite. Witness this remark in Confucius' Analects: *"The people may be made to follow a path of action, but they may not be made to understand it."*

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Confucian scholars are ambitious. According to Song dynasty philosopher Zhang Zai their role is to make us understand our place between *Heaven and Earth*; to secure *life and fortune for the people*; to *continue lost teachings of past sages*; and to *establish peace for all future generations*. That's quite a calling!

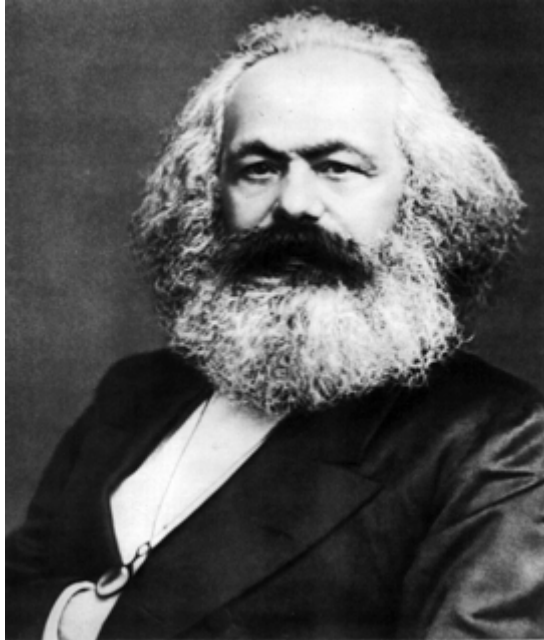
Traditional Chinese scholars learn in the hope of *contributing to society* –which is an essentially down-to-earth mission. It means that the influence of Confucianism extends beyond education; rather it is an integral part of society, as is the respect people pay to Confucian scholars. Unlike in Western culture, there is no place for anti-elitism or anti-intellectualism in a traditional Confucian society.

Although Confucianism, at different degrees depending on the given period of the 2,700 years of its existence, has *always* be an integral part of Chinese education, society and daily life; its recent front place revival by President Xi Jin-ping signals a choice of path that increases the gap between the arrogance, ignorance and idiotic nostalgia of the Donald Trump, Theresa May or Matteo Salvini, of the West.



He is Back!

(or did he ever leave?)



In its October 10th, 2016, *The New Yorker* published a long essay by Louis Menand, “**Karl Marx, Yesterday and Today.**” Hereunder are some excerpts, slightly edited:

“On or about February 24, 1848, a twenty-three-page pamphlet was published in London. Modern industry, it proclaimed, had revolutionized the world. It surpassed, in its accomplishments, all the great civilizations of the past—the Egyptian pyramids, the Roman aqueducts, the Gothic cathedrals. Its innovations—the railroad, the steamship, the telegraph -had unleashed fantastic productive forces. In the name of free trade, it had knocked down national boundaries, lowered prices, made the planet interdependent and cosmopolitan. Goods and ideas now circulated everywhere.

Just as important, it swept away all the old hierarchies and mystifications. People no longer believed that ancestry or religion determined their status in life. Everyone

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was the same as everyone else. For the first time in history, men and women could see, without illusions, where they stood in their relations with others.

The new modes of production, communication, and distribution had also created enormous wealth. But there was a problem. The wealth was not equally distributed. Ten per cent of the population possessed virtually all of the property; the other ninety per cent owned nothing. As cities and towns industrialized, as wealth became more concentrated, and as the rich got richer, the middle class began sinking to the level of the working class.

*Soon, in fact, there would be just two types of people in the world: the people who owned property and the people who sold their labor to them. As ideologies disappeared which had once made inequality appear natural and ordained, it was inevitable that workers everywhere would see the system for what it was and would rise up and overthrow it. The writer who made this prediction was, of course, Karl Marx, and the pamphlet was "**The Communist Manifesto.**" He is not wrong yet."*

Marx was one of the great infighters of all time, and a lot of his writing was topical and *ad hominem* -no-holds-barred disputes with thinkers now obscure and intricate interpretations of events largely forgotten.

Marx was also what Michel Foucault called the founder of a discourse. An enormous body of thought is named after him. "*I am not a Marxist,*" Marx is said to have said, and it's appropriate to distinguish what he intended from the uses other people made of his writings. But a lot of the significance of the work lies in its downstream effects.

Marx produced works that retained their intellectual firepower over time. Even today, "*The Communist Manifesto*" is like a bomb about to go off in your hands. And, unlike many nineteenth-century critics of industrial capitalism -and there were a lot of them- Marx was a true revolutionary. All his work was written in the service of the revolution that he predicted in "*The Communist Manifesto*" and that he was certain would come to pass. After his death, communist revolutions did come to pass -not exactly where or how he imagined they would but, nevertheless, in his name. By the middle of the twentieth century, more than a third of the people in the world were living under regimes that called themselves, and genuinely believed themselves to be, Marxist.

One reason for Marx's relative obscurity is that only toward the end of his life did

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movements to improve conditions for workers begin making gains in Europe and the United States. To the extent that those movements were reformist rather than revolutionary, they were not Marxist (although Marx did, in later years, speculate about the possibility of a peaceful transition to communism). With the growth of the labor movement came excitement about socialist thought and, with that, an interest in Marx. Marx was an Enlightenment thinker: he wanted a world that is rational and transparent, and in which human beings have been liberated from the control of external forces.

This was the essence of Marx's Hegelianism. Hegel argued that history was the progress of humanity toward true freedom, by which he meant self-mastery and self-understanding, seeing the world without illusions -illusions that we ourselves have created. The Young Hegelians' controversial example of this was the Christian God. (This is what Feuerbach wrote about.) We created God, and then pretended that God created us. We hypostatized our own concept and turned it into something "out there" whose commandments (which we made up) we struggle to understand and obey. We are supplicants to our own fiction. Concepts like God are not errors. History is rational: we make the world the way we do for a reason. We invented God because God solved certain problems for us. But, once a concept begins impeding our progress toward self-mastery, it must be criticized and transcended, left behind. Otherwise, like the members of the Islamic State today, we become the tools of our Tool.

The reason that "*Capital*" looks more like a work of economics than like a work of philosophy -the reason that it is filled with tables and charts rather than with syllogisms- is the reason given in the eleventh thesis on Feuerbach: the purpose of philosophy is to understand conditions to change them. Marx liked to say that when he read Hegel, he found philosophy standing on its head, so he turned it over and placed it on its feet. Life is doing, not thinking. It is not enough to be the masters of our armchairs.

Marx thought that industrial capitalism, too, was created for a good reason: to increase economic output -something that "*The Communist Manifesto*" celebrates. The cost, however, is a system in which one class of human beings, the property owners (in Marxian terms, the bourgeoisie), exploits another class, the workers (the proletariat). Capitalists don't do this because they are greedy or cruel (though one

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could describe their behavior that way, as Marx almost invariably did). They do it because competition demands it. That's how the system operates. Industrial capitalism is a Frankenstein's monster that threatens its own creators, a system that we constructed for our own purposes and is now controlling us.

Marx was a humanist. He believed that we are beings who transform the world around us to produce objects for the benefit of all. That is our essence as a species. A system that transforms this activity into "*labor*" that is bought and used to aggrandize others is an obstacle to the full realization of our humanity. Capitalism is fated to self-destruct, just as all previous economic systems have self-destructed. The working-class revolution will lead to the final stage of history: communism, which, Marx wrote, "*is the solution to the riddle of history and knows itself as this solution.*"

Marx was fanatically committed to finding empirical corroboration for his theory.

That's what it meant to put philosophy on its feet. And that's why he spent all those hours alone in the British Museum, studying reports on factory conditions, data on industrial production, statistics about international trade. It was a heroic attempt to show that reality aligned with theory. No wonder he couldn't finish his book.

Marx had very little to say about how the business of life would be conducted in a communist society, and this turned out to be a serious problem for regimes trying to put communism into practice. He had reasons for being vague. He thought that our concepts, values, and beliefs all arise out of the conditions of our own time, which means that it's hard to know what lies on the other side of historical change. In theory, after the revolution, everything will be "*up for grabs*" -which has been the great dream of leftist radicalism ever since. Marx was clearer about what a communist society would **not** have. There would be no class system, no private property, no individual rights (which Marx thought boil down to protecting the right of the owners of property to hang on to it), and no state (which he called "*a committee for managing the common affairs of the whole bourgeoisie*").

The state, in the form of the Party, proved to be one bourgeois concept that twentieth century Communist regimes found impossible to transcend. Communism is not a religion; it truly is, as anti-communists used say about it, godless. But the Party functions in the way that Feuerbach said God functions in Christianity, as a mysterious and implacable external power. Marx did not, however, provide much

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guidance for how a society would operate without property or classes or a state. A good example of the problem is his criticism of the division of labor.

In the first chapter of *“The Wealth of Nations,”* in 1776, Adam Smith identified the division of labor -that is, specialization- as the key to economic growth. Smith’s case study was the manufacture of pins. Rather than have a single worker make one pin at a time, Smith argued, a pin factory can split the job into eighteen separate operations, starting with drawing out the wire and ending with the packaging, and increase production by a factor of thousands. To us, this seems an obviously efficient way to organize work, from automobile assembly lines to *“knowledge production”* in universities. But Marx considered the division of labor one of the evils of modern life. (So did Hegel.) It makes workers cogs in a machine and deprives them of any connection with the product of their labor. *“Man’s own deed becomes an alien power opposed to him, which enslaves him instead of being controlled by him,”* as Marx put it. In a communist society, he wrote, *“nobody has one exclusive sphere of activity, but each can become accomplished in any branch he wishes.”* It will be possible *“to hunt in the morning, fish in the afternoon, rear cattle in the evening, criticize after dinner . . . without ever becoming hunter, fisherman, herdsman, or critic.”* This often-quoted passage sounds fanciful, but it is at the heart of Marx’s thought.

Human beings are naturally creative and sociable. A system that treats them as mechanical monads is inhumane. But the question is, how would a society without a division of labor produce sufficient goods to survive? Nobody will want to rear the cattle (or clean the barn); everyone will want to be the critic. (Believe me.) As Marx conceded, capitalism, for all its evils, had created abundance. He seems to have imagined that, somehow, all the features of the capitalist mode of production could be thrown aside and abundance would magically persist.

“Economists today would do well to take inspiration from his example,” Thomas Piketty writes about Marx, in the best-seller he published in 2013, *“Capital in the Twenty-first Century.”* The book did for many twenty-first-century readers what Marx hoped *“Capital”* might do for nineteenth-century ones. It uses data to show us the real nature of social relations and, by doing that, forces us to rethink concepts that have come to seem natural and inevitable. One of these is the concept of the market, which is often imagined as a self-optimizing mechanism it is a mistake to interfere with, but which in fact, left to itself, continually increases inequality.

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Another concept, closely related, is meritocracy, which is often imagined as a guarantor of social mobility but which, Piketty argues, serves mainly to make economic winners feel virtuous. Piketty says that for thirty years after 1945 a high rate of growth in the advanced economies was accompanied by a rise in incomes that benefitted all classes. Severe wealth inequality came to seem a thing of the past (which is why, in 1980, people could quite reasonably call Marx's predictions mistaken). It now appears that those thirty years were an anomaly. The Depression and the two world wars had effectively wiped out the owners of wealth, but the thirty years after 1945 rebooted the economic order. *"The very high level of private wealth that has been attained since the nineteen-eighties and nineteen-nineties in the wealthy countries of Europe and in Japan,"* Piketty says, *"directly reflects the Marxian logic."* Marx was correct that there is nothing naturally egalitarian about modern economies left to themselves. As Piketty puts it, *"There is no natural, spontaneous process to prevent destabilizing, inegalitarian forces from prevailing permanently."*

The tendency of the system to increase inequality was certainly true in Marx's own century. By 1900, the richest one per cent of the population in Britain and France owned more than fifty per cent of those nations' wealth; the top ten per cent owned ninety per cent. We are approaching those levels again today. In the United States, according to the Federal Reserve, the top ten per cent of the population owns seventy-two per cent of the wealth, and the bottom fifty per cent has two per cent. About ten percent of the national income goes to the top two hundred and forty-seven thousand adults (one-thousandth of the adult population). This is not a problem restricted to the rich nations. Global wealth is also unequally distributed, and by the same ratios or worse. Piketty does not predict a worldwide working-class revolution; he does remark that this level of inequality is *"unsustainable."* He can foresee a time when billionaires own most of the planet.

Marx was also not wrong about the tendency of workers' wages to stagnate as income or the owners of capital rises. For the first sixty years of the nineteenth century -the period during which he began writing *"Capital"*- workers' wages in Britain and France were stuck at close to subsistence levels. It can be difficult now to appreciate the degree of immiseration in the nineteenth-century industrial economy. In one period in 1862, the average workweek in a Manchester factory was eighty-four hours. It appears that wage stagnation is back. After 1945, wages rose as

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national incomes rose, but the income of the lowest earners peaked in 1969, when the minimum hourly wage in the United States was \$1.60. That is the equivalent of \$10.49 today, when the national minimum wage is \$7.25. And, as wages for service-sector jobs decline in earning power, the hours in the workweek increase, because people are forced to take more than one job.

How useful is Marx for understanding this bubble of ferment in the advanced economies? I think we don't yet know very well the precise demographic profile of Brexit voters and Trump and former Sanders supporters -whether they are people who have been materially damaged by free trade and immigration or people who are hostile to the status quo for other reasons. That they are basically all the former may turn out to be a consoling belief of the better-off, who can more easily understand why people who have suffered economic damage would be angry than why people who have nothing to complain about financially might simply want to blow the whole thing up. Still, in the political confusion, we may feel that we are seeing something that has not been seen in countries like Britain and the United States since before 1945: people debating what Marx would call the real nature of social relations. The political earth is being somewhat scorched. And, as politics continues to shed its traditional restraints, ugly as it is to watch, we may get a clearer understanding of what those relations are.

Voting is no longer the test of inclusion. What is happening in the rich democracies may be not so much a war between the haves and the have-nots as a war between the socially advantaged and the left-out. No one who lives in poverty would not trade that life for a better one, but what most people probably want is the life they have. They fear losing that more than they wish for a different life, although they probably also want their children to be able to lead a different life if they choose. Of the features of modern society that exacerbate that fear and threaten that hope, the distribution of wealth may not be the most important. Money matters to people, but status matters more, and precisely because status is something you cannot buy. Status is related to identity as much as it is to income. It is also, unfortunately, a zero-sum game. The struggles over status are socially divisive, and they can resemble class warfare. The unequal distribution of social resources is not new. One of the most striking points Piketty makes is that, as he puts it, "*in all known societies in all times, the least wealthy half of the population has owned virtually nothing,*" and the top ten

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per cent has owned “*most of what there is to own.*”

This is probably not true of tribal societies, and it does not seem to have been true of the earliest known democratic state, Periclean Athens (at least, for the citizens). But inequality has been with us for a long time. Industrial capitalism didn't reverse it in the nineteenth century, and finance capitalism is not reversing it in the twenty-first. The only thing that can reverse it is political action aimed at changing systems that seem to many people to be simply the way things should be. We invented our social arrangements; we can alter them when they are working against us. There are no gods out there to strike us dead if we do.

As I wrote in my essay *The Wandering Explorer*, René Maublanc was my professor of philosophy at the Lycée Henri IV in Paris in 1953-54. He was one of the great Marxist thinkers of the time, and spent much of our academic year comparing other philosophers to this game-changing exile. Unfortunately for Maublanc –and us– Joseph V. Stalin died on 16 October 1953, and the defector Victor Kravchenko had published *I Chose Justice*, that mainly covered his “*trial of the century*” earlier in Paris. An attack on Kravchenko's character by the French Communist weekly *Les Lettres Françaises* resulted in him suing them for libel in a French court. The extended 1949 trial featuring hundreds of witnesses was dubbed “*The Trial of the Century*”. The Soviet Union flew in Kravchenko's former colleagues to denounce him, accusing him of being a traitor, a draft dodger, and an embezzler. His ex-wife appeared as well, accusing him of being physically abusive and sexually impotent. When a KGB officer alleged that he had been found mentally deficient, Kravchenko jumped to his feet and screamed, “*We are not in Moscow! If you were not a witness, I'd tear your head off!*”. In a convincing case, Kravchenko's lawyers presented witnesses who had survived the Soviet prison camp system, including Margarete Buber-Neumann, the widow of German Communist Heinz Neumann, who had been shot during the Great Purge. As a survivor of both Soviet and Nazi concentration camps, her testimony corroborated Kravchenko's allegations concerning the essential similarities between the two dictatorships. The court ultimately ruled that Kravchenko had been unfairly libeled and was awarded only symbolic damages. In the view of one close observer, Alexander Werth, technically, Kravchenko won his case.... which brought worldwide attention to the cause and damaged the Communist Party in France –although he did not receive the cost he had asked for he did cover his trial expenses and beyond. *Les*

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Lettres Françaises appealed the verdict. A higher French court upheld the verdict but reduced the fine from 50,000 francs to 3 francs -less than US\$1,00- because that trial publicity had helped Kravchenko sell books (*sic*).

Like most students of our prestigious high school, we were sentimental communists. We knew that Stalin's Soviet Union had won the war at the cost of 26.6 million deaths (civilian and soldiers). If our families and we were alive, we owed it to the Soviets – and *Uncle Joe*, a.k.a. Stalin. But the news of the *gulag* changed our minds, and our mentor Maublanc had to suffer anti-communist posters, deriding stupid comments, and worse. I had joined the pack, red hair flaming and sounding deafening.

Dear Mr. Maublanc, I apologize: I missed acquiring first-hand, unique knowledge that I would have put to use. Please forgive me; I am now more mature...

The political paranoia is omnipresent. Every idiotic or imbecile slogan resonates *ad infinitum* in atrophied minds and are parroted to docile crowds, incessantly streamed on airwaves and social media, expecting the shortest, loudest, most senseless to win. It does.



"Out, out, brief candle! Life's but a walking shadow, a poor player that struts and frets his hour upon the stage and then is heard no more: it is a tale told by an idiot, full of sound and fury, signifying nothing."

Macbeth Act II, Scene 2

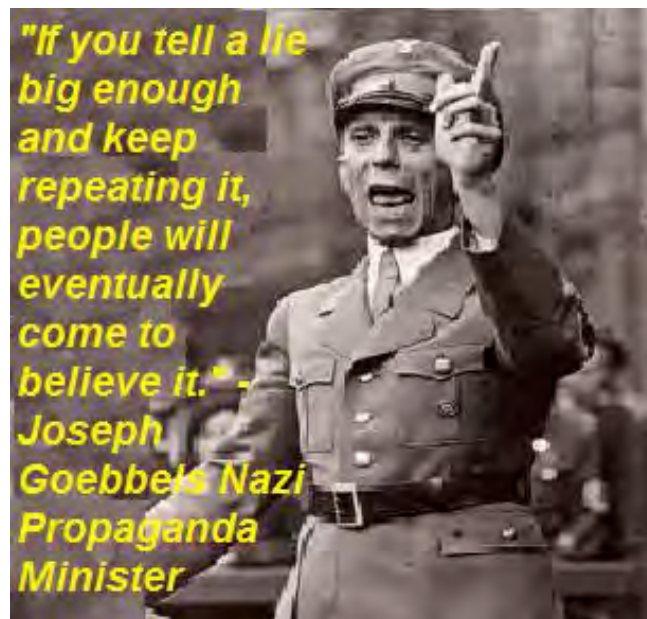
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Indeed, the Bard knew it: *signifying nothing*. More recently (14 April 1920) the following was written in a letter:

"It is rotten and dismal that a world of so many hundred million people should be ruled by a single caste that has the power to lead millions to life or to death, indeed on a whim...This caste has spun its web over the entire earth; capitalism recognizes no national boundaries...Capitalism has learned nothing from recent events and wants to learn nothing, because it places its own interests ahead of those of the other millions. Can one blame those millions for standing up for their own interests, and only for those interests? Can one blame them for striving to forge an international community whose purpose is the struggle against corrupt capitalism? Can one condemn a large segment of the educated Stürmer youth for protesting against the greatest ability? Is it not an abomination that people with the most brilliant intellectual gifts should sink into poverty and disintegrate, while others dissipate, squander, and waste the money that could help them? ... You say the old propertied class also worked hard for what it has. Granted, that may be true in many cases. But do you also know about the conditions under which workers were living during the period when capitalism "earned" its fortune?"

Did you guess who wrote these lines? A great modern thinker? German for sure... Did you identify him?





But politicians know that *the public wants work which flatters its illusions* (Gustave Flaubert), and if political pandering comes in all shapes and sizes, every four years the presidential primary bring us in contact with its purest form -praising ethanol subsidies amid the corn fields of Iowa.

Skeptics and scientists are having a hard time in these days of omnipresent cacophony, the hatred of facts that do not fit in preconception, and blind faith. It takes much more effort to admit that what distinguishes knowledge is *not certainty* but *evidence*.

Have a great day!

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Wikipedia provided the core and the bulk of information. Google let me access quotes and I pilfered Goggle Images. The other major sources are mentioned in the References section.

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