

Science: Whose Facts? Whose Truth?

An essay in three parts

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Part 1: Science.

“And analysing as you scientists do, every year you understand more and more about less and less until someday you will know everything about nothing.”

Is science failing? For a discipline devoted to truth, knowledge, and understanding, and in an age where science and technology have become more prominent than ever, we have also entered a time where even the most fundamental of scientific truths are under siege. Evolution is doubted, climate change a hoax. How is it that in this time of unbelievable scientific achievements, blatant scientific illiteracy can also be so rampant? Perhaps through its blind pursuit of knowledge, the discipline has forgotten **“the quintessential act of science, which is to question with an open mind all things.”**

The pursuit of truth is an ancient one. This quest has led to some of the most important discoveries of humankind. Driven by science, and the institutions devoted to it, it has revolutionized the way of life for our species. One of the foremost tenets of the discipline all scientists learn early on is a reverence for the scientific process: a way to measure and understand the world around us through a disciplined formula. Asking questions, carefully measuring, collecting information, analysing data, reporting findings. This process allows for the methodical answering of questions, however **“[these] questions are nearly always asked through the voices of materialism, mechanism, and reduction [and] the only aspects of the universe that such an approach will reveal are those that are materialistic, mechanistic, and reductionist.”**

This approach has led to discoveries, but also destruction: by viewing our world as disparate parts that can be explained only in isolation or in a sanitised laboratory environment, science has disregarded the chaotic, undisciplined, true nature of the planet. In trying to compartmentalize, separate, and collect nature, its wildness and randomness has been lost and transformed into processes and phenomena that fit into narrow human boxes. Ancient truths, human truths, borne from thousands of years of our species’ interactions with and reliance on ecosystems and the natural world, are set aside in favour of cold, mechanistic facts that are derived, synthesized, and industrialized. There is no longer any room for mystery, or beauty.

“Science, as practiced on the earthy parts of our world, divorce[s] fact from value, and so devalue[s] the earth and facilitate[s] its destruction.” Maybe it is this division of fact from value that has led science to fail in its most fundamental act of questioning all things with an open mind. By divorcing fact from value, science has allowed itself to become beholden to the whims of political will, funding, publications, and number of citations: a contest for the most charismatic ideas and results. At the same time, a dichotomy exists between the idolization of science as a panacea for all the world’s ills, and the deliberate attack on truths that are widely acknowledged within the scientific community. But some of these ills that science is expected to solve are also the product of unrestrained, unchecked science, used to facilitate destruction in the name of progress. And the scientific issues that are most hotly debated are also the ones that most urgently need more science and research in order to develop long term solutions.

The old tenets of science, based on deconstructing, simplifying, and breaking up nature into carefully delineated boxes, simply cannot fit into the model of the world we need to create if we as a species, and the rest of the species we share this planet with, are to survive. What is needed now is an embrace of complexity, interconnections; the knowledge that humans are not the epitome of evolution, but merely another piece in the complex web of interactions that perpetuate life on this planet. Maybe science is everything that is beautiful and terrible about humanity: our willingness to trust in lines of code and convoluted statistical analyses over our own intuition, but also, through that process, to seek a truth greater than ourselves.

Part 2: Whose Facts?

Reasonable doubt. Degree of certainty. Alternative facts. What is true in a post-truth world? What facts can we hold to, in a world that does not hold well with certainty?

In a time where the truth is bought and sold, covered up, and twisted, facts no longer hold much meaning. They belong to the highest bidder, the person or corporation with the most to gain. In our world, information is power. In controlling information, you can control almost every aspect of human society, including science. In this game of power, facts are used like poker chips: stockpiled, released systematically, gambled away. The prize being played for? Our future.

The future this game allows for is one of mistrust, uncertainty, doubt. It demands a manipulation of the truth, to one that suits those with the most power. The greater good forgotten, reason set aside, all for the promise of short-term economic gains. And science is often caught up in this game: as corporations fund research that benefits their bottom line.

Despite this game, there remains facts that cannot be ignored or disputed: the last male northern white rhino is dead, with only two females left to save the species. Countless other species are on the brink of disappearing forever. We can use science to project numbers and model changes to try and define tipping points, or points of no return. But the fact is, in the pursuit of our human truth, and its subsequent manipulation, the truth of so many other species has been extinguished forever.

Part 3: Whose Truth?

“Instead of seeing the truth of all things as a single, superluminal substance that everywhere flows like water, [humans] conceive of it as a collection of things.”

Orcas communicate with one another using a complex system of vocalisations, with distinct dialects among matriarchal pods. What is it they sing about? Do they tell one another of the vast areas of coral reefs fluorescing, a dazzling show of death as rising ocean temperatures and increasing acidity of sea water prove too much for these fragile organisms and the diverse ecosystems they support? Do they speak of the overwhelming amount of plastic, from microplastics, invisible to the naked eye, to giant fishing nets, that now pollute every inch of the world’s oceans? What do they make of the fossil fuel soup they are now forced to navigate? What truths must they reevaluate as they try to survive in a world so changed?

The trees within a forest can communicate with one another. Messages travel through vast webs of mycorrhizal fungi, like synapses in a brain, sharing nutrients and passing along vital information. Nature’s ancient version of telephone lines and instant messaging. What truths do these trees speak? What facts do they know? They certainly don’t argue about the reality of global environmental change. There is nothing to argue about: the soil is too warm; the birds are leaving too early; spring is coming too soon for the system to function within its normal range. It is felt by everything in the system. It is known.

And us humans – do we have this same, deep primordial knowledge of the changes we have wrought, are causing now as machines burn fossil fuels, plastics are dumped into the ocean, and forests are cut down in every corner of the earth? New generations will have no memory of abundant seas, fertile soil, clean water. Their truth will be one of acidified oceans, polluted groundwater, an ice-free Arctic, soil loss, and general uncertainty about their future, and the future of the planet.

Humanity likes to think that we hold a monopoly on truth. That to speak and to know and to understand can only be true when filtered through the lens of our human minds. What arrogance to think that the only truth worth knowing is a human one. This arrogance has led us down the path of destruction. Which

begs the question: what truths will we lose as we stumble along this path, moving relentlessly and determinedly towards the point of no return? What will be left, when so many truths of our world have disappeared?

As the truth now lies in the hands of the few and the powerful, and facts have been abused to the point that they no longer hold any meaning: how will this time be remembered? As a time when humanity continued, willingly and knowingly, its path of destruction, or one where consciousness was shifted, eyes opened, and a new path formed. Humans speak of truth as if it only belongs to us, but this mess we've made is changing reality for everything on the planet. There is a danger in twisting the truth, but also in believing that there is only one truth to twist. The path to redemption for our species lies in recognizing the truth of all things, instead of focusing solely on our own. And science has a part to play in this redemption: as our tool for understanding reality and uncovering truths, it must return to its roots of open-minded questioning, of recognizing the interconnections between all things. Down that path, there lies a future. One that belongs to all of us.

Quotations From:

Zindell, D., 2017. *The Idiot Gods*. London: HarperVoyager.