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A Level Playing Field, or the Hope for Science as a Common Ground

In spite of more than half a century of comprehensive research, and more than two decades of overwhelming scientific consensus, anthropogenic climate change as a scientific fact—as well as the corresponding policy prescriptions—is still cause for heated debate. Despite the fact that tremendous damage to ecosystems and the destruction of many millions, even billions, of lives is projected if no comprehensive effort is made to mitigate our carbon emissions, large parts of most societies still hesitate to accept anthropogenic climate change as "truth." Mitigation—and to what extent—is even more controversial. Evidently, there is a plethora of different reasons for this disagreement. Climate change fundamentally challenges our preferred lifestyles; its long-term effects and its delayed urgency challenge our psychosocial capacity to perceive the urgency accurately, and there has been significant effort invested in discrediting the findings of climate scientists.[1] I think, however, that part of the reason for our collective denial of anthropogenic climate change lies deeper, and is embedded in the way science (and technology) have become an almost sacrosanct pillar of our social hierarchies.

Various trends suggest that some of the authority over facts and truth that science formerly enjoyed is crumbling—although public trust in the scientific expert has remained rather stable. Conspiracy theories—such as doubts about the safety and effectiveness of vaccines, or belief in chemtrails and, most recently, a flat earth—seem to have taken flight in recent years, at least in political prominence. Various political actors, of all political colors, have consistently attacked the reliability of scientific findings. Questions of particular relevance include what guidance science, that crumbling vestige of epistemic authority, can still provide in dealing with environmental issues, such as climate change, and how to communicate scientific findings effectively—while remaining cognizant of their uncertainty and the limits to scientific knowledge.

1 On how climate change challenges our lifestyles, see Kari Norgaard, *Living in Denial: Climate Change, Emotions, and Everyday Life* (Cambridge, MA: MIT Press, 2011), and Amitav Ghosh, *The Great Derangement: Climate Change and the Unthinkable* (Chicago, IL: Chicago University Press, 2016). On the psychosocial capacity to perceive its urgency, see George Marshall, *Don't Even Think About it: Why Our Brains Are Wired to Ignore Climate Change* (London: Bloomsbury Publishing, 2014), and Timothy Morton, *Hyperobjects: Philosophy and Ecology at the End of the World* (Minneapolis: University of Minnesota Press, 2013). On efforts to discredit climate science, see Naomi Oreskes and Eric M. Conway, *Merchants of Doubt: How a Handful of Scientists Obscured the Truth on Issues from Tobacco Smoke to Global Warming* (New York: Bloomsbury Press, 2010).

Would Decentering Science Help?

In this issue of the Rachel Carson Center's Perspectives series, Lynda Walsh argues that Science,[2] the systematic project of knowledge production within and beyond academia, as it has come to be understood in the Western world—and because of the West's cultural hegemony, far beyond—should actively be decentered from its role as the sole provider of knowledge. She argues that models of science communication, in its various modes, and the recent turn to a more participatory citizen science—which hopes to capture the knowledge of citizens and laypeople—"rest on neoliberal logics that privilege technoscientific authority by virtue of its imbrication with global economic development" (this issue, p. 15). As a result, a neoliberal "Triple Helix of state, industrial, and academic actors continues to form a nexus through which all knowledge production on climate must be validated" (p. 18). This means, for Walsh, that "for too long we have depended on experts . . . to tell us what to think and say" (p. 20). Instead, she argues, we should award the scientist only a limited epistemic authority and should actively question and resist the scientist's connection to the Triple Helix. In short, we should decenter science and scientists from their perceived role as the final authority on knowledge.

What Does It Mean to Decenter Science?

In principle, Walsh's suggestion sounds helpful and desirable. It is difficult to disagree with her statement that "it's time for us to listen to vulnerable communities express their own climate knowledge and needs, and to put our considerable resources toward advocating for those needs in the best way we know how with the most powerful agents we can find—with or without the aid of climate scientists" (pp. 20–21). Yet underneath Walsh's suggestion of decentering science, further bringing into question the normative authority of the academic system, hides a balancing trick that is far more difficult than it seems at first glance.

For, what does it mean to "decenter science"? What is included in science? What does it mean to decenter the Western academic structure as the core provider of "truth"? What are the alternatives we can envision? While there are compelling reasons to distrust our scientific construct and many of its findings, decentering science, in the way that knowl-

2 As Saskia Brill outlines in her article in this volume, an important distinction to make is between Science as an overarching fact-finding enterprise and ideology, and science as a practice. See her piece for more details on this distinction introduced by Bruno Latour.

edge societies culturally understand it as a fact-finding enterprise (and a legitimization of power and policy), could lead to a general relativism and skepticism that would likely make it difficult to decide between different conceptions and opinions about reality. Evidently, science and scholarship has by and large been in the service of power,[3] not immune from using political games to create epistemic authority. It has also been an intricate part of capitalist and communist extractive hubris. But would disregarding science not lead to more power for the powerful rather than more of a voice for the marginalized?

Walking the Tightrope

As Yuval Harari points out, Western science started out from the admitting of ignorance.[4] Instead of seeing the world as either unknowable (mystical) or known (to the relevant extent), natural philosophers came to see the world as "knowable but not yet known." From this conception grew a systematic desire to understand and know the world, and eventually a codified method for doing so. In itself, this method was intimately bound up with the drive for domination of nature (already appearing clearly in the works of Francis Bacon), with the legitimization of colonialism, and with political power. Over the following centuries, the European scientific method developed into a cursed blessing or a blessed curse, depending on your outlook. It lifted more people out of poverty than was ever conceivable before, enabled (and limited) large-scale democracies, lengthened lifespans, increased health, and allowed tremendous improvements in living conditions for a large part of the world population.[5] At the same time, the scientific method was brought about at least in part by colonialism,[6] which it in turn enabled. It made possible the systematic subjugation and exploitation of people on an unprecedented scale, and was unimaginable without this entanglement. In doing so, it led to our current environmental predicament. It was co-opted to legitimize the world order on a "factual basis," led to incomparable horrors, and structured entire societies according to a promethean estate of science and evidence practices.[7] This tension is still present. The structures of

3 Christophe Bonneuil and Jean-Baptiste Fressoz, *The Shock of the Anthropocene: The Earth, History and Us,* trans. David Fernbach (London: Verso Books, 2016).
4 Yuval N. Harari, *Sapiens: A Brief History of Humankind* (New York: Harper, 2015).
5 On how science lifted people out of poverty, see Harari, Sapiens. On large-scale democracies, see Timothy Mitchell, *Carbon Democracy: Political Power in the Age of Oil* (London: Verso Books, 2011).
6 Kenneth Pomeranz, *The Great Divergence: China, Europe, and the Making of the Modern World Economy* (Princeton, NJ: Princeton University Press, 2000).
7 Zygmunt Bauman, *Modernity and the Holocaust* (Cambridge: Polity Press, 1989); Yaron Ezrahi, *The Descent of Icarus: Science and the Transformation of Contemporary Democracy* (Cambridge, MA: Harvard University Press, 1990).

academia, as well as the mindset of many of its researchers, still exhibit colonial tendencies, legitimizing the voice of the strong over those of the weak. At the same time, science has not yet lost its capacity to shock and disappoint, to lead to unexpected results that question dominant structures and narratives.

Although reasons of space do not permit an extensive treatment of what science is and what parts of the academic project are included in this discussion, the science spoken about here predominantly refers to the natural sciences. Where the humanities and the social sciences act in conjunction with the facts-provision of the natural sciences, within similar academic structures, their expertise faces similar questions of decentering.[8] When talking about the decentering of (Western) science, there are two important aspects of that "Western" science that should be retained. For one, there is a moderated form of positivist realism, meant here as a commonly accepted way of finding knowledge and a social acceptance of the resulting "truth." Knowledge is made, mediated, constructed, and coproduced through social and psychological processes, and is never an accurate description of an outside reality. Truth may well be unattainable, and the social and natural order are themselves also coproduced.[9] But the advances made in medicine, technology, and our understanding of the climate system (to name a few) show clearly that there is *some* access to external reality which, when findings are distributed fairly and equitably, has the potential to improve the lives of many. More importantly, science can represent and provide a widely shared and accepted vision of the world. While all science necessarily operates within the categories, distinctions, and visions given to the epistemological cultures of particular societies and places, the successes of science and technology, even in their political (and military) applications, have a widespread appeal—an appeal that is not neutral, but that could be utilized for better rather than for worse.

Second, in this realism there is the potential for an honest broker, weighing options and developments in a systematic manner.[10] Again, the concept of an honest broker requires much more qualification than can be given here—because how honest and objective can

8 Often, however, the humanities especially complicate visions of facts and futures rather than provide facts and knowledge. Here, questions of decentering would take another shape, to be discussed in other ways.

9 David Bloor, *Knowledge and Social Imagery* (Chicago, IL: Chicago University Press, 1976); Ian Hacking, *The Social Construction of What?* (Cambridge, MA: Harvard University Press, 1999); Sheila Jasanoff, *States of Knowledge: The Co-Production of Science and Social Order* (London: Routledge, 2004).

10 Roger A. Pielke Jr., *The Honest Broker: Making Sense of Science in Policy and Politics* (Cambridge: Cambridge University Press, 2007).

an honest broker and the connected knowledge even be?—but the possible common ground on which political adversaries could meet needs to be retained, in a sense that holds a strong commitment to a mutually agreed-upon truth.

When we talk about decentering Western science, about questioning scientific authority, we should not *just* ask ourselves what is gained. Importantly, we should also ask, what is lost? In an era that is often feared to be moving towards factual relativity (post-truthism) and manufactured distrust in science,[11] this common ground—on which, in principle, everyone could meet—is more direly needed than ever. If we decenter science, will this mean that we will also lose, to the extent that we haven't already, the ideal of an impartial, non-partisan truth? In short, the decentering of science, in climate communication as in all other controversial topics, should only be undertaken if there is a valid, workable replacement. In this issue of *Perspectives*, we will see instances in which the epistemic authority of science is used precisely *for* this honest brokering, enabling marginalized communities to have a voice in the climate change debate that they would otherwise not have had. We also see instances in which it is precisely science and the way it is centralized that perpetuate exclusion and extractivism. Where does decentering science lead?

The Crisis in Science

This skepticism about decentering Western science, for a lack of better alternatives, should not be misinterpreted as resignation to and acceptance of the status quo. Science, of course, faces its own problems and these should be critically examined. Under the weight of neoliberalism and other economic pressures, academia cannot really act except in conjunction with the demands of the state and industry. It is clear that the required common ground, which in principle should be accessible to all, is in practice far more accessible for, and receptive to, the needs of the powerful. Obfuscation of what has often been called lay knowledge (and, correspondingly, indigenous knowledge) has been, and to a large degree still is, inherent to common scientific practice.[12] Scientific knowledge has typically been regarded as the objective standard of truth, trumping the experience of communities with intimate knowledge of their environments.

11 See Oreskes and Conway, *Merchants of Doubt*.

12 See, for example, Brian Wynne, "May the Sheep Safely Graze: A Reflexive View of the Expert/Lay Knowledge Divide," in *Risk, Environment and Modernity: Towards a New Ecology*, ed. Scott Lash, Bronislaw Szerszynski, and Brian Wynne (London: Sage Publications, 1996), and "Patronising Joe Public," *Times Higher Education Supplement*, 12 April 1996, https://www.timeshighereducation.com/news/patronising-joe-public/93081.article.

Furthermore, according to Andrea Saltelli and Jerome Ravetz, science is in crisis.[13] This crisis is multifaceted. Science, while portraying a potential for firm and reproducible knowledge, faces many distinct and interrelated crises. It has a crisis of reproducibility, as the core tenet of science—that results must hold when experiments are reproduced by others—is often not met. It has a crisis of governance, because the way in which science both exerts influence on governance and is governed itself is opaque and controversial. It has a crisis regarding the use of science for policy, as its hypothetical predictions are unquestioningly used as reliable projections of the future.

This is not just a problem because scientific facts become uncertain, and the associated high stakes aren't met with a solid basis of facts. It is an issue because science isn't simply a fact-oriented search for knowledge. As Lynda Walsh also points out, science is intimately connected to power structures, with policy prescriptions, and with particular (narrow) visions of the future. As such, the promise of scientific and technological advances should never displace normative and political questions about how to organize the society and future that people collaboratively want to construct.

Many scientists, however, even now, still believe in a morally neutral, non-prescriptive science. This is naïve. Science is treated as policy prescriptive, and it is often also produced in order to influence policy. In the realm of climate change, for example, climate findings clearly *are* prescriptive (which is one of the reasons they attract so much controversy). At a talk I attended recently, Sheila Jasanoff pointed out that the IPCC explicitly states that its findings are merely an assessment, not policy prescriptive. As she rightly argued, the IPCC's findings are in fact policy prescriptive. They may not tell the political world how to reach the aim of climate mitigation, but the political and moral overtone is glaring: mitigate your carbon emissions now, or suffer the consequences!

These multiple crises, combined with the embedded authority of the scientific structures, has left science vulnerable to appropriation for a cause, regardless of what the results may be. This is a risk both for a centered and for a decentered science. Truth becomes even more bendable than it already is, only existing to serve a particular purpose. Doubt about science is peddled as a product for major industries to buy.[14] As Alice

13 As quoted in Alice Benessia, Silvio Funtowicz, Mario Giampietro, Ângela Guimarães Pereira, Jerome R. Ravetz, Andrea Saltelli, Roger Strand, and Jeroen P. van der Sluijs, *The Rightful Place of Science: Science on the Verge* (Tempe: Consortium for Science, Policy & Outcomes at Arizona State University, 2016).
14 Oreskes and Conway, *Merchants of Doubt.*

Dreger shows, the "activist left" too has appropriated science, adopting and accepting only those outcomes that fit within the liberal worldview.[15] Another peculiar form of scientific appropriation, this time in the form of decentering, also takes place in the rise of conspiracy theories. In this narrative, reality may still be knowable, yet scientists are certainly not providing "the rest of us" with access to this knowledge. The meteoric rise of anti-vaccination campaigns, belief that climate change is a hoax, belief in chemtrails, and belief that the Earth is flat bodes ill for a future that does not have a common narrative of truth. Would decentering science make it (and "truth") less or more vulnerable to such appropriation?

Conclusion

One of the main powers of "Western" science is that it can lead to inconvenient, unexpected, or even shattering truths. While cognitive capture is a reality—and the questions asked and solutions sought by scientists are definitely shaped and limited by their experiences, their funders, and their preconceived, often narrow, assumptions and epistemes—science has not yet lost its capacity to surprise, challenge, and reform. In this, a systematic search for a "truth" may be misguided in the sense that truth is in fact unattainable, but it is hard to deny that the Western scientific project has provided a very real (albeit particular) understanding of our world, and that no other knowledge system has seen such systematic accumulation of technological successes. Of course, the authority of science is, more often than not, a means of control and domination, shaping the way people can imagine their futures. But, at the same time, it can, ever so clearly, be a tool for empowerment instead.

The answer is not simple but, at least to me, it should not simply entail the decentering of science, in the sense of doing away with experts who can tell us what to think about certain issues. Rather, we should re-center other forms of knowledge production, and make science receptive to these and to the different voices that may enrich it. The belief in a single, knowable reality is naïve, colored as it will always be by the limits of human cognition and human culture. Still, operating under the assumption that there is a coherent reality out there, that it is, in principle, accessible through our mediated filters, that some truth may be attainable through systematic inquiry, provides indispensable

15 Alice D. Dreger, *Galileo's Middle Finger: Heretics, Activists, and the Search for Justice in Science* (New York: Penguin, 2015).

authority for a common discourse. Every society needs a principle of ordering, a common ground upon which to meet.

I think it is fair to state that part of the crisis of climate communication has been caused by the rigidity and normativity of the academic project, most notably the natural sciences, perhaps leading to a general skepticism of scientific findings (especially if they are uncomfortable!). At the same time, science, as an endeavor aimed at systematic knowledge production, has not yet completely lost its capacity to shock and disappoint while still being accepted. It should go without saying that we should appreciate and acknowledge the insight and experience of laypeople, communities affected by climate change, and different knowledge systems. But not at any cost. Rather than questioning the normative authority of scientific findings, then, decentering the implied neutrality of these facts should be the main aim. It is not the question of whether expertise should play a central role that is crucial; it is the question of whether or not expertise, and its associated technology, can help to build a desirable future. It is fine, and can even be societally productive and equitable, to decenter, to a certain extent, the scientist and the knowledge construct of this figure who is all too often still Western, white, and male. However, this must not regress to straightforward relativism. "Well, that is *your* truth," should never be the principal consequence of a decentered science.

Suggested Further Reading

Ghosh, Amitav. *The Great Derangement: Climate Change and the Unthinkable*. Chicago, IL: Chicago University Press, 2016.

Marshall, George. *Don't Even Think About it: Why Our Brains Are Wired to Ignore Climate Change*. London: Bloomsbury Publishing, 2014.

Morton, Timothy. *Hyperobjects: Philosophy and Ecology at the End of the World*. Minneapolis: University of Minnesota Press, 2013.

Norgaard, Kari. *Living in Denial: Climate Change, Emotions, and Everyday Life*. Cambridge, MA: MIT Press, 2011.

Oreskes, Naomi, and Eric M. Conway. *Merchants of Doubt: How a Handful of Scientists Obscured the Truth on Issues from Tobacco Smoke to Global Warming*. New York: Bloomsbury Press, 2010.