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Science as a Game, Marketplace or Both: A Reply to Steve Fuller

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Steve Fuller's response to our criticism of the "game" analogy in science studies comes at an opportune time.¹ One of us has recently published an exhaustive review of decades of ExxonMobil's climate change communications, finding that while the vast majority of the oil company's internal documents acknowledged the reality of anthropogenic climate change, only a vanishing minority of its public-facing statements expressed the same position, instead sowing doubt about the same scientific consensus its own in-house scientists overwhelmingly accepted.² This case study provides a helpful illustration of why we continue to defend our initial position, despite criticism from Fuller in two principal areas: truth and consensus, and political economy.

Truth and Consensus

Fuller describes our veritism (our insistence on talking about truth outside of scare quotes) as "gratuitous." This complaint is hardly novel, and was expressed perhaps most influentially by Richard Rorty.³ The basic idea, in all of its veneers, is that talk of truth furnishes philosophers and social scholars of science with no additional explanatory powers. "Truth" is instead a pointless metaphysical tack-on to an otherwise robust descriptive enterprise.

ExxonMobil's sordid climate history provides a compelling counterexample to this assertion. Any answer to the question of why ExxonMobil continued to accept internally the same scientific claims it was disputing publicly (and that it had an obvious incentive to dispute) that does *not* invoke truth—or at least related notions as evidence and empirical adequacy—will be convoluted and tendentious. The best *explanation* of this fact is simply that the scientific consensus on climate change is largely correct, which is to say true.⁴ It was in ExxonMobil's interest both to understand the truth and to deny it publicly. If, as Fuller maintains, truth-seeking is wholly extraneous to the scientific enterprise, it is almost impossible to understand why ExxonMobil's *own scientists* would perform research and publish papers antithetical to the company's political and financial interests.

Veritism also helps to explain two broader features of scientific consensus that Fuller emphasizes. First, its formation in a social process. Fuller thinks that he has caught us in a contradiction when he observes us talking about "building" consensus. Hardly. On the contrary, it is difficult to understand the (social) process of consensus-building in science *without* a sense of truth-seeking as a constitutive feature. If scientists did not orient themselves in relation to a commonly accessible physical and social world about which the truth can, at least to some degree, be known, why would they put so much effort into

¹ Erik Baker and Naomi Oreskes. "It's No Game: Post-Truth and the Obligations of Science Studies." *Social Epistemology Review and Reply Collective* 6, no. 8 (2017): 1-10; Steve Fuller, "What are You Playing At? On the Use and Abuse of Games in STS." *Social Epistemology Review and Reply Collective* 6, no. 9 (2017): 39-49.

² Geoffrey Supran and Naomi Oreskes, "Assessing ExxonMobil's climate change communications (1977–2014)," *Environmental Research Letters* 12, no. 8 (2017).

³ Richard Rorty, *Contingency, Irony, and Solidarity* (Cambridge University Press, 1989).

⁴ Or that it conforms to the real (objective) world, to once again employ Helen Longino's account of truth in her *The Fate of Knowledge* (Princeton University Press, 2001).

persuading their colleagues and trying to achieve consensus? Why would they even consider such a thing possible? Indeed, what would the project of science be?

Non-cognitive goals do not bear the same explanatory weight. As the history of climate change denial illustrates, taking consensus and consensus-formation seriously is not a prerequisite for scientists to attain fame and fortune (and even credibility, in some circles). For an example of the kinds of practices that result when communities do not regard truth-seeking as feasible in a given realm, one only has to consider the common American proscription of politics and religion as conversation topics at “mixed company” dinner parties.

Veritism also helps to explain why scientific consensus occasionally comes undone. Fuller clearly believes that “the life expectancy of the theories around which scientists congregate at any given time” is quite low. (Here we wonder about the nature of this assertion: Does Fuller, perhaps, think it is *true*? If so, why is truth-seeking constitutive of certain social-scientific disciplines like STS, but not the natural sciences? One marvels at the conviction of some scholars in science studies that claims to speaking “truth to power” are illegitimate unless they are the ones making them.) We think that the evidence is more equivocal.⁵

Yet even granting Fuller’s claims—and acknowledging that non-cognitive social forces can obstruct consensus formation or cause a consensus to come undone—it is hard to fathom why new evidence should ever cause consensus to shift—and even harder to criticize an existing consensus—while banishing all talk of evidence, accuracy, correctness, and the notion that a conclusion can be shown to be true? Why would Earth scientists in the 1960s have *bothered* to re-open debate about continental drift? Fuller points out that evolutionary biologists have recently started to rethink some elements of the consensus around the twentieth-century modern synthesis, with some even calling for a new “extended evolutionary synthesis.” He clearly regards this development as salutary. But reference to evidence, facts, and truth—but often explicitly *not* intelligent design, it’s worth emphasizing—is at the core of the claims these scientists have made in promulgating and winning over some support for their theories.⁶ If Fuller is right about science in general, he must, on pain of contradiction, find these same scientists whose work he welcomes to be under the grip of a profound and disturbing delusion.

The force of these two considerations together is why we do not and have never (contrary to what Fuller implies) held up consensus as a *definitional criterion* of truth, but rather as one of many possible *heuristics* to guide rational assessment (especially among non-experts) of the state of the science on a particular issue.⁷ Other such heuristics include the existence of

⁵ Naomi Oreskes, “Trust in Science?” Tanner Lecture on Human Values, Princeton University, November 30, 2016; Faye Flam, “Why Scientific Consensus Is Worth Taking Seriously,” *Bloomberg*, May 22, 2017.

⁶ See for instance Massimo Pigliucci, *Evolution: The Extended Synthesis* (MIT Press, 2010).

⁷ Naomi Oreskes, “Trust in Science?” Tanner Lecture on Human Values, Princeton University, November 30, 2016; Naomi Oreskes, “The Scientific Consensus on Climate Change: How Do We Know We’re Not Wrong?” in Joseph F. C. DiMento and Pamela Doughman, eds., *Climate Change: What It Means for Us, Our Children, and Our Grandchildren* (MIT Press, 2007), 65-99. This is where we depart from some scholars associated with

multiple methodological or disciplinary lines of evidence for the same conclusion. Or interested parties internally accepting the same scientific claims they publicly claim to doubt.

We think that developing grounds for such external assessment is crucial precisely because, as historians, we are acutely aware of the perishability of truth claims. How should we understand scientific knowledge as a basis for action and decision-making in light of this perishability? If parents only put their own children at risk by eschewing vaccination; if there were credible scientific evidence that vaccinations did cause autism; or if climate change were reversible, we might argue that deciding about these matters should be left to individuals. But none of these *if* conditions obtain. Intellectual positions that refuse to discriminate among these claims—or to discriminate only on social but not on cognitive grounds—put people at risk of real harm.

Do scientists have all the answers? Of course not. Should we have blind faith in science? Obviously not. Is the presence of expert consensus proof of truth? No again. But when scientists have come to agreement on a complicated matter like AIDS or evolution or climate change, it does indicate that *they* think that they have obtained some measure of truth about the issue, even if incomplete and subject to future revision. No climate scientist would claim that we know everything we could or should or might want to know about the climate system, but she would claim that we know enough to understand that if we don't prevent further increases in atmospheric greenhouse gases, a lot of land will be lost and people will suffer. Consensus is a useful category of analysis because it tells us that scientific experts think that they have settled a matter, and that has to count for *something*. We are not arguing for a return to a naïve correspondence theory of truth—that would hardly be defensible given the past fifty years of work in philosophy of science—must less a naïve assumption that scientific experts are always right. But we are arguing for the need for a more vigorous re-inclusion of the cognitive dimensions of science in STS—including some notions of evidence, empirical adequacy, epistemic acceptability,⁸ and truth without scare quotes.

Political Economy

The exigency of these considerations becomes even clearer in light of the concerns about economic and political power that we raised in our previous article. It is gratifying to see Fuller affirm the connection between the “game” view of science and neoliberal political economy for which we argued there. We hope that our colleagues who are sympathetic to Fuller's epistemology but not his politics will attempt to identify where they think he has gone wrong in perceiving a relationship between the two.

Nonetheless, the case of ExxonMobil and climate change exemplifies the issue we take with Fuller's assessment of the liberatory potential of the “free market thinkers” he extolls. Fuller rejects the idea of justice-motivated market interventions (such as a carbon tax, as we

pragmatism and Habermas. Readers will note that, once more contrary to Fuller's implication, these scholars comprise only one of the many diverse and sometimes internally disputatious traditions we cited as inspiration in our earlier article.

⁸ As suggested by Longino, *Fate of Knowledge*, 2001.

emphasized in our previous article) as obscuring the “real price” and its mysterious “educative function,” and he thinks that our defense of the scientific consensus on climate change places us in thrall to the “status quo.” But it is Fuller’s supposedly alternative “normative agenda” that supports the status quo, offering in practice a defense of a multi-billion dollar corporation, whose long-time CEO is now a cabinet member loyally serving one of the most reactionary presidents in United States history. This is precisely the bizarre situation that we described in our previous article: “STS, which often sees itself as championing the subaltern, has now in many cases become the intellectual defender of those who would crush the aspirations of ordinary people.”

Fuller characterizes our position as “neo-feudal,” (whatever that might mean) but it strains credulity to think that his position, capable of mustering little more than an apathetic shrug in the face of—for instance—the manipulation of science by oil money is really the one that stands up best to anti-democratic accretions of power. As we emphasized earlier, such inequalities—in income and wealth, and the political inequalities that subsequently ensue—are characteristic of capitalist economies,⁹ and so it is perhaps unsurprising that the most loyal defenders of capitalism have not denied that fact but rather embraced and justified it. From Ludwig von Mises’ 1927 judgment that fascism was at one point a necessary evil to combat communism,¹⁰ to the material and intellectual support of Wilhelm Röpke (the most influential of the “ordoliberals” that Fuller especially praises) for the South African apartheid regime,¹¹ to Robert Nozick’s influential right-libertarian condemnation of wealth redistribution and democracy alike in his *Anarchy, State, and Utopia* (1974),¹² to twenty-first-century attacks on democracy from Austrian economists at institutions like the Mercatus Center at George Mason University and the Ludwig von Mises Institute in Alabama,¹³ the “freedom” that the neoliberals—and now Fuller—prize so dearly has typically meant the freedom of the few to oppress the many, or at least to place their needs and concerns above all others.

⁹ The now-canonical study on this question is Thomas Piketty, *Capital in the Twenty-First Century* (Harvard/Belknap, 2013).

¹⁰ Since the passage is controversial, we provide it in full and let the reader judge for themselves: “It cannot be denied that fascism and all similar efforts at dictatorship are full of the best intentions and that their intervention has, for the moment, rescued European civilization. The merit that fascism has thereby acquired for itself will go on living in history eternally. But the political program that has brought salvation in this moment is not of the sort whose sustained maintenance could promise success. Fascism was a makeshift of the moment; to consider it anything more would be a disastrous mistake.” Ludwig von Mises, *Liberalism*, 1927 (translation E.B.).

¹¹ Quinn Slobodian, “The World Economy and the Color Line: Wilhelm Röpke, Apartheid, and the White Atlantic,” *GHI Bulletin Supplement* 10 (2014).

¹² Robert Nozick, *Anarchy, State, and Utopia* (Basic Books, 1974), especially chapters 8 and 9. Nozick himself retreated somewhat on both positions later in his life (in his *The Examined Life*, Simon and Schuster, 1990, ch. 25), but current Mont Pelerin Society president Peter Boettke still preaches *ASU* as exemplary of the Austrian tradition (<https://goo.gl/8nqqPo>).

¹³ See for instance Bryan Caplan, *Myth of the Rational Voter* (Princeton University Press, 2007); Hans-Hermann Hoppe, *Democracy: The God That Failed* (Ludwig von Mises Institute, 2001); for a secondary-source account see Nancy MacLean, *Democracy in Chains* (Viking, 2017).

At least Fuller, with his modified ordoliberalism, seems to agree with us that some “normative agenda” must indeed be brought to bear in both economics and science. But two things are worth noting. First, what is such a normative agenda if not one of the “transcendent conceptions of truth and value” that Austrian wisdom is supposed to debunk? After all, the Bloorian analogy to which we initially drew attention was not just about “social constructivism” in general but specifically about Wittgenstein. And we read earlier in Fuller’s response his assessment of the Wittgensteinian “ordinary language” thinkers: they are “advertised as democratising but in practice they are parochialising.” Indeed. But with his later full-throated embrace of Bloor-cum-Mises, it looks awfully like he is trying to have his Wittgenstein and mock it too.

Second, it is odd to think that if a normative agenda is to be brought to bear on science, it ought to be of an utterly non-cognitive order, like neoliberal “freedom.” On the contrary, truth (along with evidence, facts, and other words science studies scholars tend to relegate to scare quotes) is a far more plausible choice for one of a potential plurality of regulative ideals for an enterprise that, after all, does have an obviously cognitive function. Ironically, Fuller’s insistence that freedom matters for science but truth does not reeks of the rigorous discrimination between the normative and the empirical that much of the best work in science studies has undermined. Both are necessary: besides the issue of *de facto* alignment with status quo power, once more we see in Fuller’s response how the adoption of the “game” view vitiates the critiques of its proponents even on their own terms. Fuller, despite his obvious sympathies, still refuses to say unequivocally that mainstream scientists should surrender to the superior arguments of their intelligent design opponents. He instead rests assured that the invisible hand of a well-constructed scientific marketplace will eventually accomplish the shift in opinion he wishes to see.

We invite Fuller to join us in abandoning the game or marketplace view of science and talking openly about truth. He will find it possible to criticize the “Darwinists” much more vociferously that way. But, of course, he would then run the risk of actually being wrong, instead of merely incoherent.

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