

The Consensus Is Real and it Matters

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The natural sciences are not infallible. But, by far and away, they are the very best examples we have of disciplined and successful inquiry.

It is with great puzzlement, then, that I read my friend Jay Richards's essay "Politics Disguised as Science: When to Doubt a Scientific 'Consensus'." In this essay, Richards claims that we should be skeptical of the verdicts of climatology, particularly as they concern global warming (by which I mean global average temperature increase that is *human-caused*). I think Richards is deeply mistaken about this.

Let me explain why by introducing the notion of an "expertise-domain." Climatology is an expertise-domain in the sense that to make rational judgments about its verdicts, one either must have a high level of expertise in the domain (say, a PhD) or one must substantially rely on the claims about the climate made by those who are experts in the domain. In this respect, climatology is like evolutionary biology, theoretical physics, and oncology: the vast majority of us lack the requisite high level of expertise to make informed judgments regarding the quality of their verdicts. So, to be rational in our judgments about these verdicts, we must substantially rely on the claims made by experts in the domain. We must rationally defer to their judgment. That is the intellectually responsible thing to do.

The concept of an expertise-domain enables us to formulate what I take to be the best argument for the position that Richard attacks, which I'll refer to as The Consensus Argument:

The Evidential Premise: All else being equal, when there is massive convergence within a natural science about whether some phenomenon P it studies is real, then it would be intellectually irresponsible for those who are not experts in that domain to hold that P is not real.

The Empirical Premise: There is there is massive convergence within climatology about whether global warming is real.

So, all else being equal, it would be intellectually irresponsible for those who are not experts in climatology to hold that global warming is not real.

The Consensus Argument does not assert that convergence within an expertise domain is a guarantee of truth. (The experts can be wrong!) Rather, it rests on the broadly commonsensical claim that there is a time to trust your own judgments and a time to defer to those of the experts. This argument states that, all else being equal, when it comes to issues regarding the climate, the only intellectually responsible thing to do for those of us who aren't experts in climatology is to trust the experts when there is consensus among them.

Richards presents twelve claims whose function is to undercut each premise of The Consensus Argument. I want now to argue that these claims do not hit the mark.

Richards' treatment of The Empirical Premise consists in denying that there is convergence among climatologists about whether global warming is caused by humans. I shall say only one thing about what Richards writes on this score. The most recent studies reveal that not only is there convergence among climatologists around the world about whether (human-caused) global warming is occurring. It also says that this convergence is *massive*: upward of 90% of climatologists (probably around 97%) hold that global warming is occurring (<http://iopscience.iop.org/article/10.1088/1748-9326/11/4/048002>). That is powerful reason to believe that, contrary to what Richards maintains, The Empirical Premise is *true*.

But what about The Evidential Premise? Is it true that, all else being equal, we should accept a verdict from a natural science when its practitioners massively converge on its truth? While interpreting what Richards says about this matter is not straightforward, I will interpret him as holding that we should be suspicious of not science as such but climatology in particular. That is, I will interpret Richards to hold that, while we have good reason to defer to the experts in the natural sciences, all else being equal, in the case of climatology, all else is *not* equal. Because it is not, we should be in doubt regarding the verdicts of climatology.

Let me make five remarks about Richards's skepticism.

First, note that a good many of Richards's claims do not even concern the verdicts of climatology. They concern what journalists such as Ellen Goodman and public figures such as Al Gore have said. Presumably, though, what these people say has no more bearing on the quality of climatology's verdicts than on the quality of physics' verdicts. They are orthogonal to The Consensus Argument.

Second, by my counting, there are only three claims that Richards makes that bear upon the quality of climatology's verdicts. Richards charges that (1) climatologists are pressured to "toe the party line" by such things as the allure of "tenure, job promotions and ... social respectability" (2) that "peer review in the discipline is cliquish," and (3) "dissenters are ... marginalize[d]." Note, however, that Richards advances a strong conclusion. He claims not simply that we should lower our confidence in the verdicts of climatology given these issues, but rather that we should be *in doubt* about them. In general, however, simply pointing out that members of an expertise domain might be pressured to toe the party line, or that the domain can be cliquish, or that it can shun dissenters, is not enough to warrant such skepticism.

To illustrate, Republicans are pressured to toe the party line on tax cuts—they pay for themselves! We should be a little skeptical when we hear them say these things because we know there's pressure to say them. But it needn't be the case that we should entirely doubt they're right. In the case of climatology, what has to be shown is that the (alleged) problems that Richard cites are so widespread and problematic that they *vitate* climatology's verdicts. For note that an expertise domain could be susceptible to these problems to some degree and we could still have excellent evidence that the vast majority of its outputs are examples of excellent science. Richards does not, however, provide any argument for holding that the alleged rot in climatology has spread so wide and deep that we should be in doubt about its verdicts *full stop*.

Third, look again at the three accusations leveled against climatology (stated above). Now bring to mind other natural sciences such as evolutionary biology, theoretical physics, or oncology. These domains are subject to many, if not all, the same concerns. For example, there are pressures within evolutionary biology to toe the party line; peer review is executed by a select group of experts; and the discipline tends to shun dissenters. (The discipline does not smile upon Young Earth Creationists.) But that is hardly a decisive reason for holding that we should be in doubt about the verdicts of evolutionary biology as such. In short, Richards' argument threatens to overgeneralize to the point of yielding skepticism about the sciences in general. That is an excellent sign that something has gone wrong with it.

Fourth, while there *might* be reasons to be suspicious of the verdicts of climate science, there are equally powerful reasons to be suspicious of the suspicion. The motivations to *dismiss* climate science are legion and powerful. For reasons that escape me, most political conservatives take it to be their duty to do so. The impulse to toe the party line is, apparently, extremely powerful among the politically conservative. And it cannot escape notice that *very, very* powerful corporations and political figures have deep financial and social interests in maintaining the status quo. To the extent that climate science issues verdicts that threaten to upset the status quo, it is no surprise that those with deep interests in maintaining it are strongly inclined to reject these verdicts. The game of casting suspicion on the other party can be played by two.

Fifth, consider Richards's characterization regarding climatology. He writes:

The evidence is scattered and hard to track. It's often indirect, imbedded in history and laden with theory. You can't rerun past climate to test it. And the headline-grabbing claims of climate scientists are based on [complex computer models](#) that don't match reality. These models get their input, not from the data, but from the scientists who interpret the data. This isn't the sort of evidence that can provide the basis for a well-founded consensus. In fact, if there really were a consensus on the many claims around climate science, that would be suspicious. Thus, the claim of consensus is a bit suspect as well.

I believe that Richards is just wrong about this. The core evidence is not scattered and hard to track. It's very clear what the evidence is. We understand very well how the Greenhouse Effect works. And we also understand very well how the band saturation effect works. We are able to identify a whole host of contributors to temperature variations of the earth's climate and decisively rule out some of them as being primary causal contributors (such as that the variations are primarily caused by solar radiation). True, non-experts will have to exercise some patience to understand these things. But that does not distinguish climatology from any other science. As for the charges that Richards rehearses above: it is not an objection to say that climatology gets its inputs from interpreted data. *All* the natural sciences do. And I see no reason to believe that "if there really were a consensus on the many claims around climate science, that would be suspicious." Why would one conclude that?

My conclusion is that nothing that Richards says casts serious doubt on either The Empirical Premise or The Evidential Premise. The Consensus Argument stands.

Let me conclude with a point about which Richards and I agree: the issues must be untangled. The evidential case for global warming is distinct from the question of what to do about the verdicts of climatology, or what the costs will be if we act on these verdicts. My view is that our best work in decision theory implies that the evidence for global warming doesn't even have to be that powerful in order to have excellent reasons to take steps to avoid or mitigate its effects. For when one understands the nature of rational action in the face of potential catastrophes—whether it be a nuclear holocaust, a terrorist attack, or a pandemic—we are often rationally required to act even when the probability of that potential catastrophe's occurring is low or unknowable. It follows that while the evidential case for global warming matters, the strength of the case might matter less than one might think.