

## Epistemic instrumentalism, exceeding our grasp

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**Abstract** In the concluding chapter of *Exceeding our Grasp* Kyle Stanford outlines a positive response to the central issue raised brilliantly by his book, the problem of unconceived alternatives. This response, called “epistemic instrumentalism”, relies on a distinction between instrumental and literal belief. We examine this distinction and with it the viability of Stanford’s instrumentalism, which may well be another case of exceeding our grasp.

**Keywords** Antirealism · Eliminative inference · Instrumentalism · Pessimistic induction · Realism

The Israeli physicist Asher Peres describes an encounter with the Jim Cushing at a 1986 conference. Cushing had noted that Peres’ position “appeared to be an instrumentalist one” and asked whether this was indeed the case. Commenting on that encounter Peres writes, “Jim had asked me that question with the same tone as if he were asking whether I was a cannibal.”(Peres 2003).

In the concluding chapter of *Exceeding our Grasp* Kyle Stanford outlines his own response to the problem of unconceived alternatives. He sketches a view that he calls *epistemic instrumentalism* and that may well open him up to the same charge as Peres, at least in the mind of realists. For despite their well known tolerance for butchery—cutting nature at her joints—realists do seem to regard the views of those who oppose realism as moral kin to cannibalism. Since my good friend NOA falls into that non-realist category, I am inclined to solidarity with

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Stanford. So, in my official capacity here today, and as someone who has known Kyle for quite a long time, I want to put these doubts to rest. Not only is Kyle doing a heck of a good job, I can assure all of you that Kyle Stanford is *not* a cannibal. You can trust me on this.

I wish I could be as upbeat about his epistemic instrumentalism. Like van Fraassen's instrumentalism (a.k.a. constructive empiricism), Stanford's also involves two tiers. I don't have in mind the distinction between observables and unobservables, which Stanford sensibly rejects (although note his occasional references to a "really inaccessible" domain). Rather I am concerned with a distinction he draws between two propositional attitudes, both of which are crucial for his instrumentalism. One is an attitude of belief in the truth of certain claims (about entities, events, phenomena—or whatever) which, echoing van Fraassen's use of "literal truth", Stanford calls "strict and literal belief". The other attitude (echoing my own take on Dewey's pragmatism) is belief in the reliability of such claims. Like van Fraassen's "acceptance", belief in the reliability of a theory involves two components. It involves commitment to use the resources of the theory in relevant inquiries and it involves literal belief where that is appropriate. For constructive empiricism literal belief is appropriate only for observables. For epistemic instrumentalism literal belief is appropriate only when "a claim can be understood independently of the theory or theories towards which we are adopting an instrumentalist stance" (p. 197). Despite the air of tautology here (it appears to say that literal belief is restricted to what we can literally believe) I take Stanford to mean that we can believe literally when that belief is not anchored in a theory subject to the problem of unconceived alternatives. I use the vague expression "anchored" to cover both grounds for belief and grounds for understanding what the belief amounts to. (In this context Stanford uses similarly vague expressions like "characterizing" "grasping" and, more romantically, even "embracing".) The idea is that belief in reliability requires that we can follow through to see where and how the theory is reliable. Doing that, according to Stanford, will involve literal belief at some stage or other.

All this belief mongering, however, makes me uncomfortable. I have problems with a view that requires locating *where* beliefs are anchored (I'd guess it is most often in miscellaneous conversations) and, more fundamentally, I have problems with the epistemological credo according to which beliefs, generally, *are* anchored—or should be. Even more fundamentally still, I wonder whether we actually *have* beliefs to be anchored at all, or at any rate very many of them. So any philosophy that depends on there being bunches of beliefs of different kinds depending on their different grounds is a philosophy, like realism, that seems to me to be wandering off into the land of, yes, make believe.

With that as skeptical backdrop, I want to look at a specific challenge to the two-tiered belief structure built into epistemic instrumentalism. I want to try out an argument which shows that if the instrumentalist attitude of belief in reliability were connected with literal belief in the way proposed, belief in reliability would become unintelligible (or perhaps just unavailable; we'll see). Here are the connections that Stanford proposes.

- (1) Epistemic instrumentalism with respect to a given theory requires belief in the reliability of the theory as contrasted with literal belief in it.
- (2) Belief in reliability, in turn, commits us to literal belief in the truth of certain consequences of the theory whose reliability is our object of belief (p. 199).
- (3) Literal belief requires theories that avoid the problem of unconceived alternatives.
- (4) We don't know of any such theories, but that's ok because we can always fall back on beliefs about the middle sized, external objects of common sense and their causal relations (pp. 201–202).
- (5) These are literal beliefs because there is no challenge to them from “the possibility of radically distinct unconceived alternatives” (p. 201). (*Aside: why radically distinct?*)

It seems to follow that if we can conceive of alternatives (radically distinct?) to a causal realist picture of our middle sized world (those pesky external objects), then the problem of unconceived alternatives would get a grip. And, not unlike old-fashioned skepticism, once that problem takes hold then the fall-back to literal belief in the world of common sense experience would be unavailable. In the absence of any suitable replacement (and we do not know of any), we would have nowhere to go to in order to anchor our literal beliefs. But then we would not be in a position to understand what belief in reliability is belief in. Exit that instrumentalist attitude and with it epistemic instrumentalism.

Certainly there are places to break this argumentative chain. Realists would be happy to jump in on (4)'s requirement of literal belief since they think that there are plenty of theories we can believe literally. But then they reject the test of unconceived alternatives and the epistemic instrumentalism that goes with it. Stanford himself seems a bit uncertain about the necessity for literal belief posited in (2), noting that my treatment of Dewey and the pragmatic tradition does without it by taking reliability as a basic, unanalyzed notion (on par that of literal truth). Stanford thinks this is too extreme, but he might want to think again. For, of course, contrary to (5) there are many challenges to a causal and external realist picture of our everyday world. They are the bread and butter of our philosophy classes: idealism, phenomenalism, pragmatism (properly conceived) and a whole menagerie of constructivisms, from Kant to Latour. Worse yet, there are also serious scientific challenges, and as radical as you like (if that too is required).

For example, suppose we consider the everyday claim that the moon is there when nobody looks? In terms of theories this seems to implicate astronomy, theories of perception, and spacetime theories. Toward some of these theories it would probably be prudent to adopt a wait-and-see attitude. Even by-passing the test of unconceived alternatives, a realist might want to go instrumental, say, on spacetime theories. But, I think, Stanford will tell us that this not to the point. Belief about the moon is not anchored in such theories at all. Rather it is “grasped through our everyday experience of the world” (p. 202). But is it? Never mind that we actually have no experience about what happens when nobody looks. As some of you will recognize, the claim about the moon was Einstein's challenge to the Berkelian instrumentalism of the quantum theory. For, on the standard quantum view,

(i) observation makes a difference to the phenomena and (ii) assertions about unobserved objects are either false or meaningless. Since quantum systems come in all sizes, that applies to *all* unobserved objects; not just tiny atoms or middle sized cats or biggish moons. To put it plainly, quantum theory poses a challenge to the realist version of common sense that Stanford relies on as a ground for understanding most everyday claims. But if there is any place where the problem of unconceived alternatives applies it is surely to the quantum theory. As a consequence, the hypothesis of the body of common sense (to use Stanford's expression) is subject to the test of unconceived alternatives. It follows that we are not in a position to treat that everyday world as appropriate for literal belief. Rather, at best, we should accept common sense as a (more or less) reliable instrumental guide. Of course we can't do that either, since literal belief in the realm of common sense is the basis for *any* belief in reliability.

Stanford will certainly object that something has gone seriously wrong in this attempt to pull the rug out from under belief in reliability. As he nicely points out, belief in reliability is a well known entity. It is the attitude, as I suggested above, that a realist might want to adopt toward spacetime theories; or, as Stanford points out, toward Newtonian mechanics. But that is because a realist has no problem with finding theories she literally believes and hence no problem in anchoring reliability in literal truth. It is the epistemic instrumentalist who has a problem in that regard. Moreover Stanford can't just shelve the quantum challenge since he already recognizes that science can indeed challenge our common sense conceptions, for example in teaching us that rocks don't actually fall straight down as they appear to do. It is just that he seems to have thought that science impacts common sense, so to speak, only around the edges but not as a blanket challenge to the whole common sense story. Perhaps this shows a vestige of the idea of an "observation language" in Stanford's thinking?

Still, he is right, something has gone seriously wrong, for the argument has led us into cloud cuckoo land. How did a well confirmed physical theory as routinely understood lead us to reject a sophisticated philosophical view of science? One problem, certainly, is that Stanford's view makes possibilities alone (here of unconceived alternatives) criterial for what we are entitled to believe. That tie shortens the distance Stanford tries to put between himself and skepticism; it undermines his sensible intent to go local and to proceed on the basis of specific doubt. But there is a second problem that is also central. Stanford runs afoul of the common sense maxim that you can't make a silk purse out of a sow's ear. His sow's ear is everyday realism, the causal and external-realist account of common sense out of which he wants to weave an understanding of literal belief. Working with that realist material how then could he hope to make a viable instrumentalism? I have to report that NOA weeps to witness the tangle created by the presumption that the only (or best, or obvious) way to accommodate common sense is realism's way. Surely we ought to have learned from the realism debate that the playing field needs to be level; i.e., not to load up background beliefs philosophically. (Recall, that sort of baggage is what undid the old "no miracles" or explanationist arguments for realism, which needed to treat inference to the best explanation in a realist way). If there are common background beliefs to which one needs to appeal, then we must be careful not make them depend on any of the philosophical isms.

Kyle Stanford's *Exceeding our Grasp* holds out a tantalizing promise. The promise is twofold. Firstly, it promises a realistic picture of science and scientific change. Secondly it promises to disentangle that picture from many of the problems that beset contemporary philosophical alternatives; especially, versions of realism and instrumentalism. Along with my buddy NOA, we applaud the goal and think that Stanford has made an impressive advance toward it. Still, in a book that highlights the pitfalls of eliminative inference, it might be considered ironic that the project ends on just such an inference—to epistemic instrumentalism. After the deficiencies of the current generation of isms are exposed clearly, as they are in this work, why should we be inclined to respond either by defending a suitably modified version of the realist side (maybe better realists x-rays to locate the joints) or by proposing a new version of the instrumentalist side? Is it because we feel that a robust philosophical life is not possible without an ism or two? And do we also think that a healthy view of science demands them as well?

I hope not. For if we are moved by Stanford's argument, as I am, then it seems that realists and instrumentalists, both, are on shaky grounds in so far as they affirm, respectively, that our current scientific theories are true or are reliable. Given the compelling lines of argument that Stanford marshals, we have excellent reasons to think that alternatives not yet thought of will show that in making these affirmations our friends do in fact exceed their grasp. No doubt one could accommodate this situation in a variety of ways. For example realists and instrumentalists alike could reformulating their conception of fallibilism, in effect to weaken their claim to truth or reliability, and then they could refresh their preferred ism to accord with that reformulation. This would illustrate, as Duhem emphasized, that we can always dodge an alleged refutation by revising some background assumptions. At this late stage of the ism debate, however, with all sides weaving and dodging, and re-weaving and dodging some more, one might hope that Duhem's "bon sens" (or Boyle's "wise judgment") might kick in (or perhaps just fatigue). That is, it seems appropriate to stop to-ing and fro-ing among the isms and to consider whether we actually need (or want) isms in our philosophy or in our view of science. In my view—and NOA's—we don't. And to lend at least an air of credibility to that dissenting opinion, I'll conclude with some words of Einstein's. They echo my own sentiments on these questions and also point to the shaky position in which we find epistemic instrumentalism. Concerning the isms Einstein wrote,

I do not feel comfortable and at home in any of the "isms." It always seems to me as though such an ism were strong only so long as it nourishes itself on the weakness of its counter-ism; but if the latter is struck dead, and it is alone on an open field, then it also turns out to be unsteady on its feet. *So, away with the squabbling.* (Einstein Archives Document 22–301)

## Reference

Einstein Archives Document 22–301

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