

Naturalism is (literally) self-explanatory

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Abstract

Methodological naturalism states (roughly speaking) that only science can be a route to knowledge. This purported piece of knowledge looks self-condemning, however; after all, it was formulated in the armchair, and not in the laboratory. I argue that on a popular (if largely unarticulated) construal of naturalism as inference to the best explanation, methodological naturalism escapes this charge of internal incoherence, and in fact is self-endorsing rather than self-condemning.

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NATURALISM IS (LITERALLY) SELF-EXPLANATORY

1 A problem

Recall this philosophical chestnut from the downfall of logical positivism:

VERIFICATIONIST: The meaning of a proposition is fully determined by the observable tests for the truth or falsity of that proposition.

SMARTYPANTS: Oh? And what's the meaning of *that* proposition?

Naturalists who cannot remember this past, it seems, are in danger of repeating it:

METHODOLOGICAL NATURALIST: The only source of knowledge is scientific methodology.

SMARTYPANTS: Oh? And by what *scientific* methodology did you obtain that knowledge?

Paul Moser and David Yandell, in (2000), press this problem—the problem of naturalism's internal coherence. As they put it,

[Naturalism] is not itself a thesis offered by any empirical science. In particular, neither its ontological component nor its methodological component is a thesis of an empirical science. Neither component is represented in the empirical scientific work of either physics, chemistry, biology, anthropology, psychology, or any other natural or social empirical science. As a result, no research fundable by the National Science Foundation, for instance, offers [naturalism] as a scientific thesis. In contrast, the National Endowment for the Humanities would fund work centered on [naturalism].¹

The problem, in a nutshell, is that naturalism seems by its nature to be a decree from “first philosophy”—philosophy that is imagined, by something like its *a priori* nature, to take conceptual priority over the results and practices of science. But the content of this first philosopher's decree is to the effect that first philosophy should not be done.

It's worth noting that Moser and Yandell have overstretched a bit here, because the *ontological* variety of naturalism can escape the strict charge of incoherence. One could theoretically endorse first philosophy and at the same time assert—from the armchair, NEH grant in hand—that all that exists are the objects blessed by science. This is of little comfort to the naturalist, however; first, though it doesn't violate the letter of ontological naturalism, it violates the spirit. Such a position is *broadly* incoherent, if

¹Moser and Yandell (2000) pp. 10–11. For ‘naturalism’ they substituted what they called “Core Scientism”—the twin claims of “Core ontological naturalism” (that, roughly, the only objects that exist are those countenanced by science) and “Core methodological naturalism” (that, roughly, the only route to knowledge is through scientific methods).

not narrowly. Second, the methodological claim is at least important to this spirit of naturalism, if not central to it. Let us then focus on the methodological formulation and its internal coherence.

The source of the incoherence trouble is what Moser and Yandell call naturalism's "monopolistic posture". It's one thing to claim science gets us knowledge, and another to claim *only* science does so. So one possible solution is simply to drop the monopoly clause from naturalism, and indeed some have taken that route. Marc Alspector-Kelly suggests instead an "opportunistic" naturalism that seeks to explain as much as possible naturalistically without insisting along the way that non-naturalists must be on the wrong track. Penelope Maddy has drifted toward a similar position with her "second philosophy" formulation of naturalism.² This should be a last resort, though, because to give up the monopolistic posture is to give up on naturalism's ideological weight, and that ideological weight is the entire point to naturalism. Renouncing the monopolistic aspect is automatically to endorse a tolerant, pluralistic attitude toward non-naturalistic entities and methods of exactly the type that motivate people (and non-profit foundations, and lobbying institutions, and such) to champion naturalism in the first place. If naturalism just says in effect that "science helps get knowledge (and we are agnostic whether there are other ways)," then naturalism has been robbed of all interesting content.

2 A solution

Methodological naturalism can avoid this incoherence, though, without throwing out the ideological baby with the first-philosophical bathwater. The crux of the solution is to make sense of naturalism's classical claim that philosophy is "continuous with science."³ If we can make sense of this claim—a claim that, admittedly, is *prima facie* implausible—then we would be home free, for then a philosophical theory could *also* be a scientific one. In particular, for philosophy to endorse only scientific methodology would be for a branch of science to endorse science as a methodology. Like many self-endorsements, this may not be strong evidence *for* the view, but at least it would not be at all incoherent.

Well, how is philosophy like science? (I might just mean "analytic" philosophy here and in what follows.) I think many would agree, on reflection, that philosophy and science share a central methodology best summed up as Inference to the Best Explanation (IBE). My proposal is simple, then: methodological naturalism commits to (and only to) IBE as a method for getting knowledge. If you have never thought of IBE as central to the method of science, or to the method of philosophy, or to either of them, then I will briefly discuss in the following why you might consider doing so. Otherwise, you can skip the respective section(s), and see how this construal of naturalism solves the problem of internal incoherence.

²The latter is Maddy (2007), where for example Maddy's says of her "second philosopher" that "nowhere does she repudiate, on principle, any inquiry or method" (p. 85). The former is currently unpublished.

³Quine (1969) p. 126.

2.1 Science and inference to the best explanation

I have two quick and dirty arguments for the centrality of IBE to science: one is a heuristic thought-experiment, and the other is a more direct appeal to philosophy of science. The thought experiment simply asks you to consider some theory now clearly non-scientific—say, astrology—and imagine that suddenly, contrary to our expectations, the theory came to cohere with our explanatory practices. (Suddenly we can say precisely why the position of the planets and stars at your birth would influence your destiny in fine-grained, predictable ways; or, alternatively, suddenly there are data that only some correlation between stars and your behavior could possibly explain.) Would you continue to deny the theory scientific standing in such a case? If not, then probably the reason you denied it scientific standing previously is its lack of explanatory power. Pseudosciences like astrology appeal to mystery in key places, and mystery is the antithesis of explanation. When the mystery is replaced by explanation, or when the mystery remains mysterious but becomes absolutely necessary to explain other things, we see science where there didn't used to be.

The more direct appeal to philosophy of science focuses on the Quine-Duhem thesis. In its most radical form, this holds that the theoretical core of *any* consistent theory is consistent with *any* body of observations.⁴ When faced with apparently recalcitrant evidence, the devoted theorist need merely deny a sufficient number of “auxiliary hypotheses” not at the core of the theory. For an innocent example, think of the inaccuracies in the data from high school science labs. When students' results differ from the expected ones, they do not thereby falsify the theory at hand; instead, we all quite correctly suppose that the instruments were not adequately accurate, or the testing method was not performed correctly, or some such. These are clearly legitimate circumstances for keeping the theory despite the data by denying auxiliary hypotheses. On the other hand, when an astrologer answers complaints (about not meeting the attractive stranger after all) by saying the star chart accidentally neglected Venus ascendant this time, we should find this suspiciously *ad hoc*. If the Quine-Duhem thesis is correct, however, a devotee of some theory will always be able to make similar maneuvers to save it. In summary, consistency with data comes pretty cheap, and so testability (or falsifiability) is not enough to make a theory scientific.

The post-Quinean problem of demarcation, then, becomes in effect one of determining when such maneuvers are properly scientific.⁵ Given that multiple conflicting theories are each consistent with the data available, this amounts to the need to pick theories on grounds other than mere consistency with the observations. Of course the goal is to pick the *best* of these theories capable of explaining the data; to do so is, roughly speaking, to do inference to the best explanation. What makes one theory better than another is of course theoretically contentious, though in practice it is often fairly obvious. Traditionally, the supreme theoretical virtue is *simplicity*—a theory is better if it can explain more with less. Other possible candidates for theoretical virtues include conservativeness (minimizes change from past theories) and fecundity (suggests future

⁴As Quine (1951) put it, “any statement can be held true come what may, if we make drastic enough adjustments elsewhere in the system” (p. 43).

⁵I speak loosely here of “post-Quinean”; Popper and others were well aware of the problem.

work).⁶

2.2 Philosophy and inference to the best explanation

It is more controversial to insist that the central method of philosophy is also IBE. For one thing, many take explanation to be a matter of finding causal relations,⁷ and philosophical theories are not usually in the business of finding particular causal relations. On this picture there remains a wide gulf between philosophical and scientific method.

This gulf can be bridged, however, with a more ecumenical view of explanation—that explanation is essentially *unification*.⁸ According to this view, explanations are attempts to unify our knowledge by subsuming the explanandum into a wider pattern. To provide an explanation is, in Kitcher’s words, to “reduce the number of types of facts we must accept as brute.”⁹ That is, to explain is to reduce the totality of unanswered why-questions—ideally by batches (types)—by showing how the answers to some follow from other unexplained phenomena that we already accept. For example, Newton famously answered the question of why the planets have the orbits they do by showing how it follows from what we already accept about gravity locally. That answer of course generates its own why-question (“why does gravity behave that way?”), which might in turn follow from other unexplained phenomena that minimize the totality still more (“because 11-dimensional strings behave this way”). The unification at issue is comparable to the “consilience” of William Whewell and E. O. Wilson.¹⁰

This account, if correct, subsumes the causal one, since reducing phenomena to their causes is a particularly unifying trick for empirical claims. But causation needn’t be taken as explanatorily brute, on unificationism; causation, too, could potentially be explained by still more basic notions—such as, say, possible worlds. Once we try explaining causation we are doing philosophy of science and not empirical science, it seems, but the approach is all the same. On the unification picture of IBE, the methods of science and philosophy can be continuous. It is all in the business of seeking explanations.

Note that in this sense of explanation, mathematics can also be explanatory—as Kitcher emphasizes—and thus it too can be a science. The distinction between causal and non-causal explanation does an admirable job explaining (!) ambivalence we might have about counting both philosophy and mathematics as scientific.

It may still seem strange to speak of philosophy as IBE; if so, compare John Rawls’ celebrated philosophical methodology of “wide reflective equilibrium”,¹¹ according to which we try to capture as many of the philosophical intuitions as we can by a consistent, unifying philosophical theory—just as a physicist tries to capture observations with a unifying physical theory. On the unificationist account, wide reflective equilibrium is just IBE with conceptual intuitions as explananda. This is not to say, of course, that our philosophical intuitions are sacrosanct, any more than physical data from any

⁶Harman (1965); Thagard (1978)

⁷Lewis (1986); Salmon (1998)

⁸Friedman (1974); Kitcher (1981)

⁹Kitcher (1981) p. 529.

¹⁰Whewell (1858); Wilson (1998)

¹¹Rawls (1971); Daniels (1979).

old laboratory are sacrosanct. It's to say that they're the starting point from which we try to build a coherent theory. Some (like G. E. Moore) are more reluctant to pitch the intuitions for the theory, while some (like Stephen Stich) are more reluctant to pitch the theory for the intuitions—but both are playing the same game.¹² Theories in normative ethics explain intuitions like “it’s wrong to torture infants,” theories in epistemology explain intuitions like “beliefs from wishful thinking are unjustified,” and theories in metaphysics explain intuitions like “one thing can cause another.” (In each case the intuitions could be explained *away*, given enough theoretical considerations from other intuitions.)

2.3 Naturalism is literally self-explanatory

So if we agree that naturalism is simply a methodological commitment to IBE as the only route to knowledge, and that explanation is unification, then it is easy to see how philosophy is continuous with the empirical sciences. We also have a way for naturalism to be self-endorsing rather than self-refuting, since to ask whether naturalism can be a naturalistic position is just to ask whether a methodological commitment to IBE can itself result from IBE.

It's clearly an epistemological question whether IBE is the only route to knowledge. But as suggested earlier, one typical way to do epistemology is to seek the best (simplest *etc.*) unification of our epistemic intuitions. That is, we can do epistemology by IBE. In particular, “IBE is the only route to knowledge” is just the kind of thing that an epistemologist might posit as the best explanatory unification of our epistemic concepts. Naturalism could indeed be naturalistic, then, because naturalism can be literally self-explanatory.

Note that the *correctness* of the claim “IBE is the only route to knowledge” is not at issue—at least, not directly. The question is only whether settling that claim could be approached by seeking best explanations. As long as philosophical IBE could deliver the result that IBE is the only route to knowledge, then naturalism can avoid incoherence. That is not to say, of course, that by this possibility it thereby also avoids falsity. Self-endorsement is cheap; those whose belief-forming method is astrology can also consult the stars about whether astrology is a good method, and find that lo, the constellations themselves insist on astrology. It is a good result for naturalism that it can bootstrap, but a methodological skeptic can reasonably ask why we should start by tugging that bootstrap rather than some other, non-naturalistic one. It is a familiar worry that there can be no good answer to this question, because any explicit justification for a choice of method must arise from a belief-forming mechanism that is at that point suspect.

I share pessimism about a general solution to this problem; it may just be one with which we have to live. The advocate of IBE has a *pragmatic* leg up here, however, because as a matter of (empirical) fact, people capable of even asking the kind of questions relevant here cannot help using IBE in at least some cases. Astrologists will still look at wet sidewalks and conclude, through unreflective IBE, that it must have rained. They will encounter a cliff and conclude, through IBE, that stepping over

¹²Moore (1903); Stich (1990)

the edge is unlikely to promote health—and so on for the vast majority of their beliefs. If IBE is indeed this pervasive, then it will be available to provide a common ground between those disputing method. The issue becomes whether we should use IBE *plus* some other method(s), or IBE alone; rejecting IBE outright is not typically on the table. Given this, the disputants can discuss on explanatory grounds the merits of the other methods at issue. Here of course the claim that IBE is the only proper method will have a strong presumption (especially on the unification formulation), since it is a more simple (and unificatory) theory that claims at root there is only one method for forming good beliefs.

Such disputes—taking IBE for granted in order to discuss the worth of non-IBE methods—are not merely an exercise of imagination. They happen every time philosophers disagree about whether there are non-naturalistic routes to knowledge. As philosophers, they take on board philosophical methodology (plausibly: IBE methodology) to ask whether some extra methodology might be legitimate. If a philosopher gave no reasons to treat astrology as a source of knowledge other than by pointing up to the stars, she would at that point have given up the philosophy game. Again, though, this is only a pragmatic point in favor of IBE; it is epistemically consistent to reject IBE outright, and trust *only* the deliverances of astrology, or divine revelation, or some other non-naturalistic but self-endorsing method. It is of some pragmatic consolation to the naturalist that those who do try this are, tragically, not likely to be around for long. (At least, so we have naturalistic reason to believe.)

3 An objection

To gain this solution to the internal incoherence problem, we had to broaden what is commonly counted as “scientific” and “naturalistic”. This may seem like too high a price to pay. When naturalism is understood so broadly, it may seem trivial, without any important implications at all. As Moser and Yandell say, considering the possibility of a solution like mine,

One might seek to expand the empirical sciences to include methods for making such monopolistic normative claims [as naturalism does]. In that case, however, one would have made meta-epistemology a branch of the empirical sciences. Under such an expansion, much of what is now included in first philosophy would become “empirical science,” owing not to a revision in first philosophy but rather to a sweeping liberalization of the idea of empirical science. Antinaturalists can consistently welcome such sweeping conceptual revision, given that it poses no threat to first philosophy. Naturalists, in contrast, will have to concede that such revision removes the epistemological teeth from [naturalism], as it then allows first philosophy to proceed apace.¹³

Moser and Yandell are wrong about this. The broad construal of naturalism as IBE keeps just the sharp epistemological teeth we want, though perhaps it removes some of the fake fangs.

¹³Moser and Yandell (2000) p. 17. Again, for ‘naturalism’ they have ‘Core Scientism’.

For example, it does rule out “first philosophy”, given an substantive construal of that phrase. If by the phrase they just mean something like “philosophy that is not directly empirical”—as their passage’s emphasis on *empirical* science seems to suggest—then indeed they are right that the view here does not rule that out. This is a good result; it shouldn’t be ruled out, any more than math should be, or string theory.¹⁴ Some sciences simply are not directly empirical. At any rate this reading of “first philosophy” is not substantive. To be a substantive reading, they must mean a Cartesian picture whereby philosophy comes before the traditional sciences, and is conceptually prior to it. That is to say, where there is tension between philosophy and the traditional sciences, philosophy wins. Naturalism as unificatory IBE does rule out this substantive type of first philosophy. If a first philosopher gave a ruling in tension with the empirical sciences, and held that ruling despite that tension, then that ruling is thereby believed despite not being a *unifying* explanation of the relevant explananda. Though philosophy is not directly empirical, it is not immune to empirical results. Similarly, though empirical sciences are not directly conceptual, they are not immune to conceptual results. They must be brought into *wide* reflective equilibrium. Sometimes philosophy might “win”, and sometimes, the traditional sciences.¹⁵ On the holist picture that unification brings, no science comes before the other in this sense.

Naturalism as IBE also has teeth in the political sphere, since it gets straightforward results with which any naturalist would agree—such as that astrology, parapsychology, and the like are not naturalistic. Not only does it get such results, it grounds them in a clearer demarcation. As practiced, such belief systems appeal to mystery as reason to believe, rather than explanation, and so their methodologies deliberately pick clearly inferior explanations among those available.

I wrap up with a crucial word of caution, however: as a methodological ideology, this naturalism rules out only methods, not particular theories. Note, for example, that it could vindicate David Chalmers’ claim that his property dualism is naturalistic.¹⁶ If the best going *explanation* of phenomenal introspection involves irreducible, non-physical properties, then this is the least mysterious of the available theories, and so such properties are naturalistic. Indeed, on this picture even theism can be naturalistic *if* a god turns out to be the best explanation for, say, the existence of the universe. Call a theist who infers to the existence of God because they take God as the best explanation (for, *e.g.* the fine-tuning of the universe) an “IBE theist”.¹⁷ Are IBE theists *naturalists*?

First of all: perhaps, yes. Explanatory naturalism does not rule out theism *a priori*. We do not want to approach the demarcation of the naturalistic by simply listing which projects are on which sides, as though we introspected a Platonic list. That would make naturalism into an empty, rhetorical way of stating which projects particular people like and don’t like. (Those are the fake fangs, not the real teeth.) Instead we want a theoretically motivated standard of methodology—one that any project could in principle

¹⁴Physicist after physicist will say string theory is not “testable”. When said derogatively, this is probably just hangover from old-fashioned Popperism. Maybe string theory is closer to math than it is to particle physics, I don’t know; but even if so, this does not obviously rule it out as good *science*.

¹⁵Ancient philosophers decide *a priori* that the heavens are on spheres, until astronomy brings revision. Science assumes artificial intelligence projects are hopeless, until functionalism brings revision.

¹⁶Chalmers (1996) p. 128.

¹⁷For example, Swinburne (1979).

meet. As the example of naturalistic astrology shows, we should stay open to the possibility that science could potentially go any number of surprising ways, and still be science.

Second, though, there could be an important ambiguity in calling the IBE theists “naturalists”. The potential ambiguity is familiar from demarcation in science. Were early alchemists “scientists”? In one sense, to the extent they were genuinely and responsibly seeking best explanations (rather than succumbing to wishful thinking under the allure of gold), yes alchemists were scientists. In another sense—according to which, in retrospect, alchemy is not part of a best explanation—no, alchemy is not a science, so alchemists weren’t scientists. If theism does not turn out to be a best explanation, as most naturalists believe, a similar circumstance applies.

At best, then, to say a project is not naturalistic is to write a promissory note to the effect that it isn’t properly explanatory. The bad news is that this note needs to be cashed out in terms of explanatory power. The good news is that with careful attention to the nature of explanation this can be done. For example, an atheist arguing from naturalism needs to spell out exactly how inferences to the existence of God rely essentially on appeals to mystery rather than genuine explanation. (Just *how* does God bring anything about? If we had a full and *non-mysterious* story of how God did the things God is said to have done, would it be the same object of worship?) That is where the real issues can and *should* be met.

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