

# Naturalism as a coherent *ism*

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## Abstract

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# Naturalism as a coherent *ism*

Philosophical naturalism faces a dilemma: take it as an ideology, and you face charges of internal incoherence, since the ideological stance itself does not look to be a deliverance of science. Forgo the ideological aspect, on the other hand, and naturalism becomes a merely subjective assessment, a cry of “yay for science!” that carries no normative weight for those who are not inclined to agree.

I first argue that both horns of this dilemma are sharp, and that current attempts to negotiate them have failed. I then give a plausible construal of methodological naturalism that is both ideological and internally coherent, and so threads this dilemma. Finally, I consider objections to this formulation of naturalism.

## 1 Motivation

First, let me briefly motivate the concerns here. Naturalism is both a philosophical and a political movement. It is an ideology; it is a way of doing things that scorns alternatives in the same way that other “isms” like capitalism and communism do. Many—probably most—professional analytic philosophers are on board with this movement, and would classify themselves as naturalists. An accusation of non-naturalism would hold force with them, and make them reconsider their views. Meanwhile in the political sphere organizations like the Center for Inquiry, The Brights, and the Center for Naturalism raise money and seek to influence public policy in its name. They fight, for example, having non-naturalistic views taught in public schools.

Many of us do, in other words, take naturalism seriously. Are we justified in doing so? Considering naturalism’s relation to its most notorious target, William Alston asks

How much of a threat is [naturalism] to theistic religion? That all depends on what there is to be said for this kind of naturalism. Why should we suppose that there is nothing except what we can learn about from science? What grounds are there for this kind of scientism?

I fear that one will find little real argument for this position in the writings of its proponents. One gets the impression that it is felt to be sufficient to bask in the glow of the prestige of science.<sup>1</sup>

My hunch is that many self-proclaimed naturalists will find themselves uncomfortably reflected in this quotation; I know I did. Still more awkward is this claim from Quentin Smith, a dedicated naturalist.

Due to the typical attitude of the contemporary naturalist . . . the vast majority of naturalist philosophers have come to hold (since the late 1960s) an unjustified belief in naturalism. Their justifications have been defeated by

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<sup>1</sup>Alston (2002).

arguments developed by theistic philosophers, and now naturalist philosophers, for the most part, live in darkness about the justification for naturalism.<sup>2</sup>

If these two are right—and I fear they are—then the naturalistic majority has become too complacent for its own good.

## 2 The dilemma

I hope to help fix this situation, and here I focus on what I think is the main problem naturalism faces: namely, the problem of how and whether naturalism can be both internally coherent and ideological.<sup>3</sup>

### 2.1 The incoherence horn

To see the first horn of the dilemma, 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 is the meaning of *that* proposition?

Naturalists who cannot remember this past are in danger of repeating it. Consider, for example, this dialog with an ambitious methodological naturalist, who is committed to the procedures of science:

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

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

The first of these problems was instrumental in burying verificationism, and the problem for naturalism looks disturbingly analogous.

Variations on this argument have been popping up in the literature. Paul Moser and David Yandell, in their attack on naturalism, put it this way:

[Ambitious 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

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<sup>2</sup>Smith (2001).

<sup>3</sup>Another much-discussed problem for naturalism, for example, is Alvin Plantinga's "Evolutionary Argument"—see Beilby (2002). This problem does not concern me, as it happens.

Foundation, for instance, offers [ambitious naturalism] as a scientific thesis. In contrast, the National Endowment for the Humanities would fund work centered on [ambitious naturalism].<sup>4</sup>

Alston puts it this way:

... on any halfway plausible way of drawing boundaries around “scientific method”, the proposal to do epistemology only by scientific method would put virtually all actual epistemologists out of business—Quine included.<sup>5</sup>

Robert Almeder, in his attack on ambitious versions of naturalism (on the way toward a “harmless” naturalism to replace it), puts it this way:

... Quine’s argument for [ambitious naturalism] is a *philosophical* argument whose general conclusion, whatever the premises, is not properly testable under the methods of natural science. Indeed, as an hypothesis, Quine’s conclusion that there are no correct answers or statements that either have emerged, or can emerge, from extra-scientific methods (that is, that there is no “first philosophy”) has no storable sensory test implications that would allow us to confirm it positively.<sup>6</sup>

Almeder credits Harvey Siegel with the first statement of this argument, and he also cites instances in Laurence Bonjour, Nicholas Rescher, Alex Rosenberg, and Paul Sagal.<sup>7</sup> Almeder says that this argument from incoherence is “as solid a refutation of the position as one could possibly imagine,” and that “nobody who adopts [ambitious naturalism] has yet confronted the argument seriously.”<sup>8</sup> By now, the general shape of this objection is clear; call it the *incoherence objection*.

As I hinted above, a naturalistic stance must be minimally “ambitious”, in a certain sense, in order to be susceptible to this objection. Moser and Yandell, for example, say their argument targets any naturalism with a “monopolistic posture.”<sup>9</sup> Marc Alspectorkelly, in an unpublished response to the incoherence objection, says any naturalism with an “exclusionary clause” will fall prey.<sup>10</sup> Almeder says his version of naturalism escapes the dilemma for being “less imperialistic.”<sup>11</sup> All these suggestions point to the same thing: naturalism gets in trouble with internal coherence when it not only applauds science, but also boos any competing endeavors. The examples above focus on the methodological naturalist who has the chutzpah to say *only* the method of science is proper (for some important realm), but the ontological naturalist is in just as much trouble if she says that what exists is what is countenanced by science, *and nothing*

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<sup>4</sup>Moser and Yandell (2000) pp. 10–11. For ‘ambitious 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).

<sup>5</sup>Alston (2002).

<sup>6</sup>Almeder (1998) p. 64.

<sup>7</sup>Siegel (1984); Bonjour (1994); Rescher (1992); Rosenberg (1996); Sagal (1987).

<sup>8</sup>Almeder (1998) p. 198 (footnote 66) and p. 36.

<sup>9</sup>Moser and Yandell (2000) p. 11.

<sup>10</sup>Alspectorkelly (2006).

<sup>11</sup>Almeder (1998) p. 197 (footnote 65).

*else*. We expect a science lab to find scientific entities, but we would be surprised if the same lab published a result to the effect that *only* the scientific entities exist.

## 2.2 The tolerance horn

Naturalists who have considered this objection have all responded in essentially the same way: by giving up the ambition. We should think of naturalism as basically a pro-science position, they say, and not burden it with any particularly *philosophical* attempt to rule out competitors. Alspecter-Kelly, for example, 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.<sup>12</sup> Penelope Maddy has drifted toward a similar position with her “second philosophy” formulation of naturalism; she says of her second philosopher that “nowhere does she repudiate, on principle, any inquiry or method.”<sup>13</sup> Almeder’s “harmless naturalism” concedes that “some legitimately answerable questions about human knowledge and the world are not answerable by appeal to the methods of the natural science.”<sup>14</sup>

This all sounds admirably pluralistic, at least in the abstract. But to give up the exclusionary clause is to give up on naturalism’s ideological weight, and this is no small concession. It is automatically to countenance a permissive attitude toward non-naturalistic entities and methods of exactly the type that motivate people to champion naturalism in the first place. If tolerant naturalism were widely adopted in the political sphere, for example, the political organizations mentioned previously would have to abandon what seems to be the genuine and worthwhile agenda of excluding non-naturalistic elements from public policy. Genuinely tolerant naturalists have no ground for keeping programs like “intelligent design” out of public schools, or for denying NSF grants to faith-based research programs.<sup>15</sup> In the philosophical sphere, a truly tolerant naturalist should be indifferent between hiring a Cartesian dualist and a physicalist for a cognitive science job. Though they prefer the scientific approaches themselves, they view this as a mere preference; they cannot condemn the non-scientific. Let a hundred flowers blossom! Of course, the tolerant naturalists might say they would resist each such thing on different grounds. To make any kind of general case for preferring the scientific options, though, would just be regular, ideological naturalism with a new name. (And I hope it feels to you, as it certainly does to me, that there is such a case to be made.) Frankly, the only other option I see for the tolerant naturalist is the hypocritical strain of “tolerance” favored by so many undergrads—the ones who proclaim moral relativism in the classroom and then vote, march, and generally judge as though some views were better than others after all.

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<sup>12</sup>Alspecter-Kelly (2006).

<sup>13</sup>Maddy (2007) p. 85.

<sup>14</sup>Almeder (1998) p. 143.

<sup>15</sup>A note here specifically on Almeder’s “harmless naturalism”: it can claim that some questions are to be purely scientific. But in giving up ambitious naturalism—which he calls the “replacement thesis”—Almeder’s version countenances any claim for which there is *some possible set of circumstances* that would tell for or against the claim, *whether or not anyone can even state what these circumstances would be* (see especially Almeder (1998) p. 166). Thus programs like astrology—not to mention intelligent design—are straightforwardly naturalistic, on his view.

To these explicitly tolerant views I would add the group of naturalistic “undefiners”—naturalists who deliberately demur from defining naturalism in an informative way. David Papineau, both in his 1993 book on naturalism and later in his entry on naturalism for the *Stanford Encyclopedia of Philosophy*, simply begs off of definition. As he put it in the encyclopedia entry:

... this entry will not aim to pin down any more informative definition of ‘naturalism’. It would be fruitless to try to adjudicate some official way of understanding the term. Different contemporary philosophers interpret ‘naturalism’ differently.<sup>16</sup>

Similarly Maddy says of her brand of naturalism that it “isn’t a set of beliefs, a set of propositions to be affirmed; it has no theory ... its contours can’t be drawn by outright definition.”<sup>17</sup> Quentin Smith skirts the problem by defining naturalism as that which permits nothing supernatural.<sup>18</sup> This is unhelpful as a definition until we have a very specific idea of what counts as supernatural—which seems to be an equivalent problem. (For example, are non-physical mental properties “supernatural”, or not?)

Papineau justifies his abstention from giving boundaries to naturalism in this near continuation of his quotation above:

For better or worse, ‘naturalism’ is widely viewed as a positive term in philosophical circles—few active philosophers nowadays are happy to announce themselves as ‘non-naturalists’. This inevitably leads to a divergence in understanding the requirements of ‘naturalism’. Those philosophers with relatively weak naturalist commitments are inclined to understand ‘naturalism’ in an unrestrictive way, in order not to disqualify themselves as ‘naturalists’, while those who uphold stronger naturalist doctrines are happy to set the bar for ‘naturalism’ higher.

In effect, Papineau is reluctant to define ‘naturalism’ because so many want to claim it that too few will be happy with any given definition. This strikes me as placing the cart before the horse. Imagine making such a response to the challenge of defining ‘democracy’, for example. If despots want to call their envisioned government “democratic” in order to capture its positive connotations, this would make defining the term in a principled way all the more urgent. ‘Naturalistic’ cannot maintain its positive connotations if any project satisfies it, or if it is totally unclear which do.

To the extent such tolerant or deliberately unspecified naturalisms are unpalatable, that is the extent to which we are committed to the ideological aspect of naturalism. Both horns, then, are sharp. The naturalist is in danger of being gored.

### 3 Naturalism as literally self-explanatory

What the naturalist would like is an internally consistent but sufficiently ideological naturalism: a scientific way to say that science is importantly right in a way that non-science is not. As it happens, I think many philosophers already hold just such a view

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<sup>16</sup>Papineau (1993, 2007).

<sup>17</sup>Maddy (2007) p. 2.

<sup>18</sup>Smith (2001).

in practice—it just has not been sufficiently articulated yet. In summary, my solution is a recipe of the following three steps:

1. Construe “naturalism” as a methodological commitment to science.
2. Construe “science” as inference to the best explanation.
3. Construe “explanation” as conceptual unification.

Each of these steps is independently plausible and widely accepted. Together, they provide a way out of the dilemma naturalists face.

### 3.1 Step one: naturalism is scientism

My first hypothesis is about the broad nature of naturalism—roughly, that naturalism is a kind of “scientism”.

(N=S) Naturalism is the view that science is the only route to knowledge.

This hypothesis merits three quick disclaimers. First, I use the word ‘scientism’ somewhat idiosyncratically and anachronistically here, simply as a handy shorthand for (N=S). I do not intend the straw man connotations ‘scientism’ carries these days, according to which (for example) science is the only worthwhile human endeavor. (N=S) does not claim science has jurisdiction over art, friendship, or other meaningful but non-knowledge-seeking activities. Second, the claim is not that science is the only route to true beliefs, since of course even astrology can get those sometimes. (N=S) claims rather that science is the only *good* route to true beliefs—the only one that results in knowledge. Finally, everyday knowledge (such as “Barack Obama is President of the United States in 2009”) may seem to make for easy counterexamples. But by “science” I do not mean anything so esoteric as to require a lab, a PhD, and grant funding—discovering everyday facts are still (if done well) investigating the world scientifically. It is just that this level of science is so easy for most of us that we do not even notice it.<sup>19</sup>

If the (N=S) hypothesis is correct, we immediately recapture the ideological aspect of naturalism via its exclusionary clause. Just as political ideologies such as capitalism and communism advocate exclusive methods for obtaining political goods, naturalism advocates an exclusive method for obtaining an epistemic good. Of course this hypothesis does not on its own settle whether naturalism advocates the *correct* route to that

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<sup>19</sup>C. S. Peirce concurs:

Looking out my window this lovely spring morning I see an azalea in full bloom. No, no! I do not see that; though that is the only way I can describe what I see. That is a proposition, a sentence, a fact; but what I perceive is not proposition, sentence, fact, but only an image, which I make intelligible in part by means of a statement of fact. This statement is abstract; but what I see is concrete. I perform an abduction when I so much as express in a sentence anything I see. The truth is that the whole fabric of our knowledge is one matted felt of pure hypothesis confirmed and refined by induction. Not the smallest advance can be made in knowledge beyond the stage of vacant staring, without making an abduction at every step (Peirce 1901).

epistemic good; it merely would settle, if correct, why and in what sense naturalism is in the ideology business. Now for escaping the incoherence objection, which requires the other two hypotheses.

### 3.2 Step two: scientism is explanationism

Next is probably the most controversial of my hypotheses:

(S=E) The scientific method is inference to the best explanation.

This is, in effect, a proposal to solve the scientific demarcation problem. Of course I do not intend in a few short pages to give a full defense of such a sweeping proposal. My goal here is just to give it plausibility, and then show how it fits with our common conceptions of naturalism and science.

First, to address briefly a natural objection: (S=E) seems to rule out the purely deductive practice of mathematics as nonscientific, and yet surely it is a source of knowledge. It is some consolation here that mathematics is a problem case for naturalism generally, whether that stripe of naturalism emphasizes an empirical methodology or a materialist ontology. I do have more than a mere *tu quoque* in response to this problem, though; in fact one ancillary advantage of my view is its handling of mathematics. I cannot explain how this works, though, until we get to the third hypothesis.

The main motivation for (S=E), meanwhile, is basically 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; as Quine famously put it, “any statement can be held true come what may, if we make drastic enough adjustments elsewhere in the system.”<sup>20</sup> The post-Quinean problem of demarcation, then, becomes in effect one of determining when such maneuvers are properly scientific.<sup>21</sup> 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, and to do so is, roughly speaking, to do inference to the best explanation (IBE). What makes one theory better than another is theoretically contentious, of course, though in practice it is often fairly obvious. Traditionally, the supreme theoretical virtue is simplicity; roughly, a theory is better if it can explain more with less. Other notable candidates for theoretical virtues include conservativeness (minimizes change from past theories) and fecundity (suggestive of future work).<sup>22</sup>

As a second plausibility argument for (S=E), consider some clearly non-naturalistic claim—for example that the positions of particular stars and planets when we were born significantly influence our romance lives. Suppose now that, contrary to all reasonable expectations, someone came up with a *good explanation* for how it is that the stars’ positions at our births can so influence us, in a way strikingly close to the way astrology predicts. It is not hard to concoct some story for how this might happen, and I leave it as an exercise for the reader. The point is that from the moment such a good explanation appeared, it seems, astrology would become naturalistic. What plausibly makes

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<sup>20</sup>Quine (1951) p. 43.

<sup>21</sup>I speak loosely here of “post-Quinean”; Popper and others were well aware of the problem.

<sup>22</sup>See, for example, the seminal Harman (1965), and Thagard (1978).

it clearly non-naturalistic now is exactly its resistance to good explanation. Astrology is, as it stands, inference to a theory that relies essentially on mystery. It is believed despite putative connections between stars and romance that is utterly baffling even to its strongest proponents.

The same is true for immaterial souls, new age crystals, and the parting of the Red Sea. If we actually had a good explanation for how such things worked, they would become perfectly respectable naturalistic theories. (And, I grimly suspect, the newly-explained phenomenon would immediately cease to have the popular appeal it once had.) To the extent good explanations can turn a non-naturalistic project into a naturalistic one, we have support for the twin theses of (N=S) and (S=E).

### 3.3 Step three: explanationism is unificationism

So far, though this naturalism is appropriately ambitious, it still looks vulnerable to the incoherence charge. And in fact, on one of the most popular accounts of explanation, this form of naturalism is indeed incoherent. According to the causal theorist, to give an explanation for some fact is (roughly) to show how it came about rather than some contrary fact, and this amounts to detailing its causes.<sup>23</sup> If this is the right account of explanation, then it seems there can be no explanation in fields like philosophy or math, since those do not typically advert to causal stories. Thus, by (S=E), philosophy and math would be non-scientific, and so by (N=S) non-naturalistic.

Another popular approach to explanation, though, does not have this implication.

(E=U) Explanation is unification.

Again, my goal here is not to defeat all competing accounts of explanation, but rather simply to show that (E=U) is independently plausible, and that it can solve the dilemma for naturalism.

The picture of explanation here is most familiar from the work of Michael Friedman and Philip Kitcher,<sup>24</sup> though I am not committed to one particular version of the (E=U) thesis. I need only the basic idea—namely, that 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.”<sup>25</sup> 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 (perhaps, “because 11-dimensional strings behave this way”). The unification at issue is comparable to the “consilience” of William Whewell and E. O. Wilson.<sup>26</sup>

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<sup>23</sup>Lewis (1986); Salmon (1998).

<sup>24</sup>Friedman (1974); Kitcher (1981).

<sup>25</sup>Kitcher (1981) p. 529.

<sup>26</sup>Whewell (1858); Wilson (1998).

If unification is the correct account of explanation, then there can be explanation in philosophy. Philosophy attempts to systematize our concepts, which seems equivalent to explaining (or sometimes explaining away) our conceptual intuitions with unified theories. Compare John Rawls' celebrated philosophical methodology of "wide reflective equilibrium";<sup>27</sup> according to which we try to capture as many of the ethical intuitions as we can by a consistent, unifying ethical theory—just as a physicist tries to capture observations with a unifying physical theory. Of course we may throw out some intuitions as mistaken (ideally in combination with a theory about why we would make such errors), just as scientists can have good motivation to throw out data outliers (again, ideally with explanation for their occurrence). On the view before us, the similarity is more than coincidence; it is exactly the same methodology. Theories in normative ethics explain intuitions like "it is 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." (This last is part of why, by its own lights, the unification account of explanation is superior to the causal one—it is not required to take mysterious causation as primitive.)

Furthermore, if (S=E) is correct and inference to the best explanation is indeed definitive of science, then analytic philosophy is literally a scientific enterprise—and so, by (N=S), naturalistic. The subject matter of philosophy is of course different from physics or biology, since philosophy seeks to unify conceptual intuitions rather than empirical observations,<sup>28</sup> but the methodology is the same, and it is the methodology that is definitive of science. It is in this way, I think, that philosophy is "continuous with science," as Quine famously put it.<sup>29</sup>

And with (E=U) we can see how this naturalism handles mathematics better than most. As Kitcher likes to emphasize, when we take explanation as unification, we can make sense of explanations in mathematics too.<sup>30</sup> Proofs plausibly reduce unanswered why-questions by showing how theorems depend on axioms, and we accept the axioms in part because they are so explanatory (in the unification sense) of mathematical truths. In effect mathematics, too, can be a form of IBE—and so scientific, and so naturalistic.

### 3.4 A coherent naturalism

Now we are in a position to solve the problem of internal coherence, by giving a positive answer to the question

- (1) Could naturalism itself be naturalistic?

Note the "could" is important, since we cannot hope to guarantee that someone's naturalism *will* be naturalistic; after all, one could come to this methodological commitment in a methodologically odious way. For internal consistency, it is enough to show it is possible for naturalism to be held on naturalistic grounds.

By (N=S), the question of whether naturalism can itself be naturalistic reduces to this question:

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<sup>27</sup>Rawls (1971); Daniels (1979).

<sup>28</sup>Or you might rather say: their empirical observations *are* conceptual intuitions.

<sup>29</sup>Quine (1969) p. 126.

<sup>30</sup>See Kitcher (1985).

- (2) Could “science is the only route to knowledge” itself be a scientific claim?

Of course, whether science is the only route to knowledge is a philosophical (epistemological) question. But that does not rule it out as a scientific question, on the broad construal here. In fact, by (S=E), (2) further reduces to this question:

- (3) Could “inference to the best explanation is the only route to knowledge” itself be a claim resulting from inference to the best explanation?

The question of whether IBE is the only route to knowledge is clearly an epistemological one. But as suggested earlier, one way to approach epistemology is by finding the best (simplest *etc.*) unification of our epistemic intuitions. That is, by (E=U), you 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 unification of our epistemic concepts. Thus the answer to (3) is “yes”, and so the answer to (1) is also “yes”. Naturalism could indeed be naturalistic, because naturalism can be literally self-explanatory.

Here, then, is the view in soundbite form:

(N=U) Naturalism is scientism is explanationism is unificationism.

I have argued that (N=U) is both ambitiously ideological and internally coherent. It also makes sense of philosophy as continuous with the sciences, and makes for a plausible demarcation of the scientific and naturalistic.

Of course, it has some problems. But I do not think they are as bad as they may seem.

## 4 Too broad a naturalism?

To gain this solution, we had to broaden significantly what many would intuitively count as “scientific” or “naturalistic”. This may seem like too high a price to pay. When naturalism is understood so broadly, it can look trivial, without any important implications at all. Almeder (1998) and Moser and Yandell (2000) both press an objection like this against a view like mine; I respond to each in turn, and then consider a few problematic cases.

### 4.1 Almeder: testability and philosophy

Almeder rejects proposals like mine because

... defining science as it is usually practiced by scientists, rather than as it could be viewed by some philosophers or sociologists, requires that we accept some form of explicit testability as a usual or necessary condition for any proposed hypothesis or explanation in natural science. Hypotheses to the contrary have the maximally implausible effect of turning thinkers

such as Hume and Quine into natural scientists whose conclusions, oddly enough, are never established by appeal to the methods natural scientists actually use in the conduct of science.<sup>31</sup>

To give up on testability, Almeder suggests, is to let any old view into the pen.

Almeder defends testability as a necessary condition by turning to the practice of “scientists”. Assuming he does not already count philosophers among this group, he thereby begs the question against views like mine (and, I think, against views like Quine’s, and perhaps even Hume’s). I grant that if we polled the general public on who the scientists are, philosophers would be unlikely to make the list. And then if we asked those nominated scientists about who pursues the scientific method, they would not list philosophers either. But (and hear me out): why trust their opinion on a question that is not their specialty? On my view, we philosophers are the scientists who specialize in questions like “what is science?” The lab-coated scientists will indeed often insist on a criterion like testability, but plausibly this is due to being handed old-fashioned verificationism or falsificationism somewhere in their informal philosophy of science education. Furthermore, most practicing scientists probably have little idea of the methods of analytic philosophy. On these matters I frankly think philosophers of science simply have more expertise.

To declare as I do on the nature of science, even against the views of the lab-coated, is not Cartesian first philosophy; it is just one branch of science claiming expertise in one area. Just as botanists should not get special authority on chemistry questions, chemists should not get special authority on philosophy questions. The fact that most scientists outside physics would find 11-dimensional space counter-intuitive is not in itself much of an argument that the physicists are wrong, and the same goes here—we philosophers have, in our expertise, found a counter-intuitive result that, despite initial appearances, best systematizes our data. We do it all the time. It is typical of all specialized sciences.

Also, I should say it is not at all obvious to me that philosophers do not do explicit testing. Plausibly our testing is with counterexamples and thought experiments, which is to be expected if our own conceptual intuitions are the (empirical?) subject of study.

## 4.2 Moser and Yandell: first philosophy unscathed

Moser and Yandell also anticipate and then scorn a solution like mine, but for somewhat different reasons.

One might seek to expand the empirical sciences to include methods for making such monopolistic normative claims [as ambitious 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

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<sup>31</sup>Almeder (1998) p. 71.

philosophy. Naturalists, in contrast, will have to concede that such revision removes the epistemological teeth from [ambitious naturalism], as it then allows first philosophy to proceed apace.<sup>32</sup>

I think Moser and Yandell are equivocating here on ‘first philosophy’.

On one hand they contrast the phrase quite deliberately with ‘*empirical science*’; they repeat this latter phrase three times. Why the need to emphasize the empirical here—why not rest content contrasting first philosophy with just-plain science? I suggest it is because on the one hand they want ‘first philosophy’ simply to mean *philosophy*—a non-empirical discipline. (At least, philosophy is often thought not to be empirical; again, this will depend on whether you are willing to count conceptual intuitions as empirical.) (N=U) does not rule out “first philosophy” in this sense, but that is all right, for this sense is a harmless one. Yes, philosophy is not as obviously empirical as the more traditional sciences. But then neither is mathematics, or very abstract physics like string theory.<sup>33</sup> Perhaps some sciences simply are not empirical in such a narrow sense.

What Moser and Yandell wish to rescue in the face of naturalism, though, is a more traditional notion of “first philosophy”—a Cartesian picture that has philosophy conceptually prior to the traditional sciences. That is to say, where there is tension between philosophy and the traditional sciences, philosophy wins. This is indeed an anti-naturalist version of first philosophy, but this version (N=U) does rule out. If a first philosopher gave a ruling in tension with the results of the traditional 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 a *wide* reflective equilibrium. Sometimes philosophy might influence the traditional sciences, and sometimes, the reverse.<sup>34</sup> On the holist picture that unification brings, no science comes before the other in this sense.

### 4.3 Naturalism’s teeth

More worrisome, I think, is Moser and Yandell’s broader objection that liberalizing a notion of naturalism so far robs it of its “epistemological teeth.” They suggest such views are too ecumenical to rule out their intended targets. In a sense, they are right; my view does not rule out any intended targets *for free*. To take the most extreme example, (N=U) does not automatically rule out theism. When Richard Swinburne appeals to IBE in his 1996 book as the reason to believe God exists, he is—according to my theory—using purely “naturalistic” methodology. This is surely an odd conse-

<sup>32</sup>Moser and Yandell (2000) p. 17. Again, for ‘ambitious naturalism’ they have ‘Core Scientism’.

<sup>33</sup>Physicist after physicist will say string theory is not “testable”. When said derogatively, this is probably just hangover from old-fashioned positivism. Maybe string theory is closer to mathematics than it is to particle physics, I do not know; but even if so, this alone does not obviously rule it out as good *science*.

<sup>34</sup>Ancient philosophers decide *a priori* that the heavens are on spheres, until astronomy brings revision. Science assumes artificial intelligence projects are hopeless, until philosophical functionalism brings revision.

quence of the view. If a version of naturalism admits avowed theists, then it would be understandable to say that version has no epistemological teeth.

As a first response, note that this problem will almost surely be a burden for any *methodological* naturalism. Like many naturalists, I am inclined to think that Swinburne is using the IBE method incorrectly (though I would not pretend it is trivial to demonstrate as much). Whether Swinburne's use is correct or not, at any rate, surely it is possible to use IBE badly. If used badly enough, presumably, IBE could support just about any claim—thus making any claim the potential result of naturalistic methodology. But this fact is hardly unique to IBE; it seems to hold of any fallible method. Whatever method *M* might be proposed as defining naturalism, someone could abuse *M* to arrive “naturalistically” at traditionally non-naturalistic claims.

I think the oddity of this result comes from confusing methodological naturalism with ontological naturalism (or, as it is sometimes called, “metaphysical naturalism”). Hempel's dilemma convinces me that ontological naturalism is badly problematic;<sup>35</sup> the best I can make of it is something like this:

**Ontological naturalism** What exists is only what would be endorsed by the ideal and thorough application of the naturalistic method.

The advantage of this kind of naturalism is that we can speak of things as naturalistic or not, independent of our current application of method. Followers of the naturalistic method might disagree on whether there are superstrings, unicorns, or gods, but each is now such that it is either ontologically naturalistic or it is not. The disadvantage of this kind of naturalism is that our epistemic access to it is shaky at best. On this reading, to say “a theory that contains God is not naturalistic” does not mean that no one could come to believe in such a theory by naturalistic methods. It means instead that no one could believe in God by *correct* application of naturalistic method. This is a bold claim; to say a project is not ontologically naturalistic is to write a promissory note to the effect that it is not properly explanatory. This note needs to be cashed out in terms of ground-level debates about explanatory power. That is what I mean when I say that my view does not—nor does any methodological naturalism, I think—rule out any position “for free.”

In summary, methodological naturalism rules out only other methods, not particular theories. I actually take this as an advantage for my characterization of science and naturalism. We do not want to approach the demarcation of the naturalistic by simply marking 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 do not like, without principled reasons. Such a list has feeble ideological bite; to lose it is merely to lose a pair of dentures, not the real teeth. Instead we want a theoretically motivated standard of methodology—one that any project could in principle meet. Compare this challenge from Alston:

... what if physics should begin taking into account psychic forces or the *élan vital*, or other factors we now consider to be clearly non-physical.

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<sup>35</sup>As Daniel Stoljar puts the dilemma in Stoljar (2009) for the closely related problem of defining physicalism, “if physicalism is defined via reference to contemporary physics, then it is false—after all, who thinks that contemporary physics is complete?—but if physicalism is defined via reference to a future or ideal physics, then it is trivial—after all, who can predict what a future physics contains?”

Would we be prepared to recognize them as physical properties in that case?<sup>36</sup>

The naturalist's answer to this challenge should be *yes*. Assuming physics begins taking such things into account because they need them for the best explanation of observed phenomena, then they should be recognized as natural, physical properties.<sup>37</sup> Science has adduced unusual basic properties or entities for explanatory purposes many times before; consider Newton's universal gravitation, which was considered too occult for science until its explanatory power became persuasive. As with the thought experiment of naturalistic astrology, we should stay open to the possibility that science could potentially go any number of surprising ways, and still be science.

That is all fine, but we might still be left wondering where (N=U) has any epistemic bite. Well, one reassuring place it has bite is the wider populace. Strikingly many non-professional philosophers—even quite intelligent ones—will cheerfully say that they believe some view because it is mysterious, or because they hope it is true, or for reasons totally other than the explanatory. My version of naturalism clearly rules out such views. To rule out such unreflective views may be a trivial philosophical triumph, but it would be a notable political one if naturalism gained wider audience.

In philosophy too, though, (N=U) has important traction. For example, though Swinburne may be happy to let the matter of God's existence be settled by appeal to IBE, many theists are not. Alvin Plantinga calls such appeals a "God-of-the-gaps" theology, where "the existence of God is a kind of large-scale hypothesis postulated to explain what can't be explained otherwise."<sup>39</sup> Plantinga explicitly rejects such an approach to theism, for

This line of thought is at best a kind of anemic and watered-down semi-deism that inserts God's activity into the gaps in scientific knowledge; it is associated, furthermore, with a weak and pallid apologetics, according to which perhaps the main source or motivation for belief in God is that there are some things science can't presently explain.

In a footnote he adds that a further worry about this approach is that

as science explains more and more, the scope for God's activity is less and less; it is in danger of being squeezed out of the world altogether, thus making more and more tenuous one's reasons (on this way of thinking) for believing that there is such a person as God at all.

Instead, he says, knowledge of God must come from a source other than IBE:

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<sup>36</sup>Alston (2002).

<sup>37</sup>Or at least as natural properties; my account allows for room between the "physical" and the "natural". For example, David Chalmers calls his view a "naturalistic dualism", according to which qualia are non-physical, but natural. They are not physical because (he argues) they are not a matter of structure and function, which he takes to be definitive of the physical. He insists they are natural, though—basically, because they are fundamental properties needed to explain experience. As he puts it, "to embrace dualism is not necessarily to embrace mystery;" instead, he avows a "commitment to natural explanation."<sup>38</sup> This notion of the anti-natural as the *mysterious* I take to sit well with my own proposal that the anti-natural is what is believed despite resisting explanation.

<sup>39</sup>Plantinga (1997).

First, the thought that there is such a person as God is not, according to Christian theism, a hypothesis postulated to *explain* something or other, nor is the main reason for believing that there is such a person as God the fact that there are phenomena that elude the best efforts of current science. Rather, our knowledge of God comes by way of *general* revelation, which involves something like Aquinas's general knowledge of God or Calvin's *sensus divinitatis*, and also (and more importantly) by way of God's *special* revelation, in the Scriptures and through the church, of his plan for dealing with our fall into sin.

Such alternative sources of knowledge are of course not kosher on the standard of (N=U).

In fact, if we take the *Stanford Encyclopedia of Philosophy* to be a decent guide to the general philosophical zeitgeist, then it seems current epistemology of religion turns on methodological naturalism. They summarize the debate as one about “whether evidentialism applies to the belief-component of religious faith, or whether we should instead adopt a more permissive epistemology.”<sup>40</sup> ((N=U) is just a species of evidentialism, with a more specified notion of both the “evidential” and of the “ism”.) These more “permissive epistemologies” are just what is at stake. Permissive epistemologies in this context are roughly those that appeal to mystery, and they do not appear only in discussions of religion; they are also found in classic discussions like those over free will (Peter van Inwagen), personal identity (Roderick Chisholm), and skepticism (G. E. Moore).

## 5 The dialectic

For these reasons, then, I think (N=U) is a naturalism that captures many key desiderata:

- It is internally coherent.
- It maintains an ideological posture.
- It characterizes naturalism in a principled way.
- It makes philosophy continuous with science.
- It does not privilege “first philosophy”.
- It has reasonable epistemic bite.

Aside from these advantages, my proposal is conservative in the sense that its methodology is not far from what most philosophers take to be standard philosophical practice, implicitly if not explicitly.

I conclude with a note about the current dialectic. Though (N=U) sidesteps a serious potential incoherence for naturalism, that is no particular mark in favor of the

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<sup>40</sup>Forrest (2009).

view. 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 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, since its claim that there is at root only one method for forming good beliefs is more simple and unificatory.

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. Naturalists like me are likely to give such methods a dismal chance of success, but that is just because we are already committed to naturalism.

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