VERTAISARVIOITU
KOLLEGIALT GRANSKAD
PEER-REVIEWED
www.tsv.fi/tunnus

2
On 'naturalism'

Timothy Williamson

Introduction

I have known Panu Raatikainen and his work since the last millennium. He has always struck me as a force for both sanity and clarity, two quite different virtues. The first time I heard him give a paper, when I was still a professor at Edinburgh, he deftly used the basic distinction between theories and languages to diagnose a fatal confusion in some famous arguments about the philosophy of language, cutting through the technicalities to expose the underlying philosophical error. Again and again, Panu deflates pretentious overblown claims and looks beneath slick formulations to see what they conceal. He does so in debates where formal logical considerations loom large, and mathematical prowess can easily be mistaken for philosophical insight; because he understands the mathematics so well, he is able to show what it does *not* imply about the problem at issue. Such work is vital to keeping philosophy honest and on the right track. Long may Panu continue to contribute in his distinctive way!

Early in his career, Panu was much concerned with the philosophy of Quine, and its proper interpretation. That connection makes the theme of 'naturalism' not unnatural for this volume. I will pursue it in a spirit of which I hope Panu will approve, asking what lies behind the word, so often deployed as a mantra. My discussion will be sketchy and schematic; its main purpose is to emphasize how much is likely to be swept under the carpet when 'naturalism' is invoked.

Williamson, T. (2025). On 'naturalism'. In A. Laitinen, M. Keinänen, J. Reinikainen & A. Honkasalo (eds.) *Language, Truth, and Reality*. Tampere University Press. (pp. 19–28). https://doi.org/10.61201/h5fbdk64

Naturalisms

When I hear someone begin a sentence with the words 'As a naturalist, I …' my reaction has always been to stiffen with resistance, just as it is when I hear someone begin a sentence with the words 'As a Christian, I …'. I smell dogma and self-righteousness. What do their loyalties matter to me? But there is a difference. Whereas I *know* that I am not a Christian, I do not know that I am not a naturalist—nor do I know that I *am* a naturalist. Although both words—'Christian' and 'naturalist'—are vague, 'Christian' is at least precise enough for me to know whether it applies to me, whereas 'naturalist' does not even achieve that level of precision.

This unclarity was brought home to me by reactions to my book *The Philosophy of Philosophy*. Some philosophers described the approach developed in the book as 'naturalist', others described the same approach as 'anti-naturalist'.[1] The reason for the clash was not so much divergence in what more specific views they read into the book, as divergence in whether those specific views count as 'naturalist' or as 'anti-naturalist'. Evidently, the use of such an unclear and perhaps ambiguous word risks doing more harm than good. The term 'naturalism' needs to be clarified, and indeed attempts at such clarification have not infrequently been attempted, although with little impact so far on how the term is used in practice.

One standard distinction is between *ontological naturalism* and *methodological naturalism*. As the distinction is typically understood, both kinds of 'naturalism' privilege *science*, but in different ways. Schematically, ontological naturalism is the view that the ontology of science is (metaphysically) privileged over all other ontologies. For example, an ontological naturalist may claim that only those entities recognized by science genuinely exist. Correspondingly, ontological *anti*-naturalism is the view that the ontology of science is *not* (metaphysically) privileged over all other ontologies. Equally schematically, methodological naturalism is the view that the methodology of science is (epistemically) privileged over all other methodologies. For example, a methodological naturalist may claim that only those methods used by science yield genuine knowledge. Correspondingly, methodological anti-naturalism is the view that the methodology of science is not (epistemically) privileged over all other methodologies.

Neither ontological naturalism nor methodological naturalism strictly entails the other—if you doubt me, just try constructing a rigorous deduction of one view from the other. Nevertheless, ontological naturalism looks much easier to motivate from methodological naturalism than from methodological anti-naturalism. We can try to unfold this connection.

First, assume methodological naturalism. Thus, the methodology of science is (epistemically) privileged over all other methodologies. Now, one can reasonably

[1] The edition of *The Philosophy of Philosophy* that elicited these reactions is the first (Oxford: Wiley-Blackwell, 2007). Chapter 11 of the enlarged edition (2021) collects together my engagements with self-identified naturalists of several kinds (Andrea Bianchi, Hilary Kornblith, Penelope Maddy, Alex Rosenberg, and Robert Stalnaker) and develops some themes of the present remarks in more detail.

expect the conclusions delivered by an (epistemically) privileged methodology to be (metaphysically) privileged over the conclusions delivered by an (epistemically) unprivileged methodology. Therefore, by methodological naturalism, one can reasonably expect the conclusions of science to be (metaphysically) privileged over all other conclusions. As a special case, one can reasonably expect the ontological conclusions of science to be (metaphysically) privileged over all other ontological conclusions. In other words, one can reasonably expect the ontology of science to be (metaphysically) privileged over all other ontologies. In sum, methodological naturalism makes ontological naturalism a reasonable expectation.

Analogously, assume methodological anti-naturalism. Thus, the methodology of science is not (epistemically) privileged over all other methodologies. Now, one cannot reasonably expect the conclusions of a methodology to be (metaphysically) privileged over the conclusions of another methodology when the former is not (epistemically) privileged over the latter. Therefore, by methodological anti-naturalism, one cannot reasonably expect the conclusions of science to be (metaphysically) privileged over all other conclusions. As a special case, one cannot reasonably expect the ontological conclusions of science to be (metaphysically) privileged over all other ontological conclusions. In other words, one cannot reasonably expect the ontology of science to be (metaphysically) privileged over all ontologies. In sum, methodological anti-naturalism makes ontological naturalism an unreasonable expectation.

Those two arguments are far from watertight. The term 'privileged' is obviously imprecise, even as qualified by 'epistemically' or 'metaphysically', and 'reasonably expect' is at least as vague. Philosophers of science will wince at the crude talk of 'the methodology of science' and 'the ontology of science', as though all of science had the *same* methodology and the *same* ontology. Moreover, the terms 'methodology' and 'ontology' are themselves vague. At best, the two arguments provide a defeasible, *prima facie* connection.

One suppressed complexity is the relation to whatever specific question happens to be at issue in a given context of inquiry. A methodology may be very good at answering some questions and very bad at answering others. For example, the methodology of deductive proof is very good for answering questions in mathematics, but very bad for answering questions in biology or history. It is epistemically privileged as applied to the former, but not as applied to the latter.

Still more pernicious in practice is an ambiguity in the term 'naturalism', even as qualified by 'ontological' or by 'methodological', which derives from a pervasive ambiguity in the word 'science' itself, as used in their definitions. In a broad sense, 'science' means any kind of systematic, critical, evidence-based inquiry. In a narrower sense, 'science' means specifically *natural* science, comprising physics, chemistry, biology, and other sciences which use experiments, measurements, technical instruments, and the like. The most salient example of a *non-natural* science is *mathematics*, which is primarily proof-based. Another non-natural science is *history*, which is primarily document-based. Both mathematics and history are kinds of systematic, critical, evidence-based inquiry, in their very different ways,

as befits the very different kinds of question they address, but they do not normally use experiments, measurements, technical instruments, and the like. In the broad sense, 'science' *includes* both mathematics and history. In the narrow sense, 'science' *excludes* both mathematics and history. *Soft naturalism* privileges science in the broad sense. *Hard naturalism* privileges science in the narrow sense.

The distinction between hard and soft naturalism cross-cuts the distinction between ontological and methodological naturalism. All four combinations are at least logically consistent:

> hard ontological naturalism with hard methodological naturalism
> hard ontological naturalism with soft methodological naturalism
> soft ontological naturalism with hard methodological naturalism
> soft ontological naturalism with soft methodological naturalism

However, the hard/hard and soft/soft combinations look more stable than the hard/soft and soft/hard combinations. For *hard* ontological naturalism looks comparatively easy to motivate with *hard* methodological naturalism, and comparatively difficult to motivate without it, while *soft* ontological naturalism looks comparatively easy to motivate with *soft* methodological naturalism, and comparatively difficult to motivate without it. For the hard/hard combination, one can run the two *prima facie* connecting arguments sketched above, with 'science' read throughout in the narrow sense. For the soft/soft combination, one can run the two arguments with 'science' read throughout in the broad sense. These motivating connections make the hard/soft and soft/hard combinations look correspondingly ill-motivated. We can reasonably use the term 'hard naturalism' for the combination of hard ontological naturalism with hard methodological naturalism, and 'soft naturalism' for the combination of soft ontological naturalism with soft methodological naturalism.

The hard/soft ambiguity in 'naturalism' is not innocent. For philosophers who self-identify as 'naturalists' not infrequently exploit the ambiguity by arguing *for* soft naturalism but then arguing *from* hard naturalism. That is cheating. They pay the price of the cheap version but walk out of the shop with the expensive one. Presumably, they are unaware of doing so. The pervasive ambiguity of the term 'science' as used in ordinary English—though not of the corresponding term in some other languages, such as German—facilitates the confusion. For example, one may find a self-identified naturalist arguing that 'science' is privileged by appeal to the advantages of systematic, critical, evidence-based inquiry, but then dismissing some philosophical discourse as 'unscientific' because it does not involve experiments, measurements, technical instruments, and the like. That is to equivocate on the word 'science'.

For clarity, we do best to examine hard naturalism and soft naturalism separately from each other.

Hard naturalism

Perhaps the most striking challenge to hard naturalism is *mathematics*. For, as noted above, mathematics is not a natural science, and so is not a science in the narrow sense; thus, it is not methodologically privileged, according to hard naturalism. Yet mathematics is as rigorous, exact, and 'hard' a form of inquiry as we have. Moreover, the natural sciences comprehensively depend on mathematics. How can natural science be methodologically privileged if it relies on the results of a methodologically unprivileged discipline, mathematics?

Quineans may respond that mathematics derives its privilege from that very indispensability to natural science: empirical confirmation goes to the total package of natural science and mathematics, not directly to just a part of it. But that holistic response ignores the methodological autonomy of mathematics as actually practiced; mathematicians do not vet new developments in mathematics (for example, in axiomatic set theory) for their integration with natural science. Moreover, the holistic response fails to vindicate hard naturalism proper, since it makes the conclusions of a non-natural science as epistemically secure as the conclusions of the natural sciences. Indeed, if mathematics can attain that epistemic status indirectly, through its relation to the natural sciences, may not the same apply to other disciplines too, perhaps even to philosophy?

Another challenge to hard naturalism is this: it cannot be established by the methods which it privileges. For it claims that the methodology of natural science is privileged over all other methodologies—for example, that only those methods used by natural science give knowledge. But such claims about methodological privilege are of a general epistemological nature. The characteristic methods of natural science are quite unsuited to testing such claims. Of course, one can imagine statistical studies of the reliability, or at least level of consensus, achieved by different methodologies. But to design, motivate, and implement such tests of diverse methodologies would itself require abstract epistemological reasoning, rather than the use of experiments, measurements, technical instruments, and the like. If hard naturalists reply that the methodology of natural science includes such abstract epistemological reasoning, they risk watering down their 'hard' naturalism to a point where it no longer serves their dialectical purposes. In particular, they will be unable to dismiss abstract epistemological reasoning as 'unscientific'. Thus, by its own standards, hard methodological naturalism has a low epistemic standing.

I have pressed both these challenges on hard methodological naturalists, without ever receiving an effective response.

As for hard ontological naturalism, the other half of hard naturalism, its motivation comes from hard methodological naturalism, as explained above, and so is undermined by the problems just explained for hard methodological naturalism. But there is also a more specific problem for hard ontological naturalism, understood as saying that there is only what natural science says there is. For natural science itself does not say that there is *only* what natural science says there is: it does not

address such general metaphysical questions. For example, particle physics does not say that there are *only* particles. It does not say that there are no non-particles such as wars or societies or suchlike; it simply does not raise the question whether there are wars or societies. Thus, a denial that there are wars or societies does not have the authority of natural science behind it. Equally, of course, an *assertion* that there are wars or societies does not have the authority of natural science behind it, but failing to answer a question does not amount to giving it a negative answer.

At this point, hard ontological naturalists may invoke Ockham's Razor, arguing that if our best methodology (by hypothesis, that of natural science) does not require us to postulate a more populous ontology than that of natural science, we are justified in the parsimonious postulate that there is nothing beyond that sparse ontology. But that conclusion is a *non sequitur*. For even if the methodology of natural science is epistemically better than that of all other methodologies, it does not follow that those other methodologies are epistemically worthless, especially on questions about which natural science has nothing to say. In particular, if history tells us that there are wars and societies, and natural science does not tell us otherwise, it may be a good bet that there are wars and societies. The testimony of moderately reliable sources may make a proposition much more probable than not, when our most reliable sources do not address the question. Otherwise, law courts would have to revise their procedures drastically.

A more positive observation is in order. Even if a given theory in natural science does not posit entities of a given kind, one may still have to posit entities of that kind in order to explain how there is evidence for the theory. For example, a theory in particle physics may not posit macroscopic objects, but explaining the nature of the empirical evidence for it may involve bringing in macroscopic observers and their macroscopic instruments of observation. Scrutinizing a theory involves scrutinizing the confirming or disconfirming evidence.

In short, the further the debate goes beyond slogans and bluff, the harder hard naturalism is to take seriously.

Soft naturalism

The preceding challenges to hard naturalism pose no threat to soft naturalism. After all, for soft naturalism, science includes mathematics, history, and even epistemology, at least when they are done in a systematic, critical, evidence-based way, as they often are. Nevertheless, even soft naturalism faces some residual challenges.

Despite the soft naturalist's inclusive view of science, the emphasis on systematic, critical, evidence-based inquiry tends to privilege *reflective* cognitive steps—the conclusions of systematic inquiry—over non-reflective steps. But reflective steps depend on non-reflective ones, on pain of an infinite regress. For reflection consists in consciously chaining together many individual steps: a simple paradigm is a mathematical calculation. Those individual steps are not themselves reflective. This

does not mean that we cannot later criticize or justify those non-reflective steps, just that such a process can never be brought to completion: at any point, we are relying on some steps on which we have not yet reflected. For finite inquirers, full reflection is an impossible ideal. This is a much less severe challenge than those considered above to hard methodological naturalism, but it is not trivial. After all, it is not obvious that more reflection must always lead to better cognition. There is such a thing as overthinking. Decision-making on the basis of elaborate conscious reflection does not always end better than unreflective decision-making.[2]

We can reasonably expect that any limitations of soft methodological naturalism will tend to have repercussions for soft ontological naturalism too. If we cannot justify awarding exclusive methodological privileges to science, broadly understood, why should we assume that only those entities recognized by science, broadly understood, exist?

After all, it is far from obvious that whatever exists can be known (scientifically or unscientifically) to exist. To put the point crudely, if the epistemic privilege of science means that whatever can be known can be known scientifically, that privilege does not entail that whatever is true can be known scientifically. To bridge the gap, one needs the additional lemma that whatever is true can be known, but what is the evidence for that lemma? The inductive case that sooner or later science always succeeds in finding the answers to its questions is far from convincing. Questions about the ultimate constitution of the universe have been around since the ancient beginnings of science, and are still nowhere near to being answered. Moreover, we are now reading 'science' in the broad soft naturalist sense, so we also need to consider whether non-natural sciences sooner or later always succeed in finding the answers to their questions. Mathematicians are nowhere near to establishing new axioms of set theory that would enable them to prove or refute Cantor's Continuum Hypothesis, and philosophers of mathematics are nowhere near to establishing whether it even has a determinate truth-value. Many questions in ancient history will forever remain unanswerable because too little potential evidence has survived. Why should we even assume that all entities, states of affairs, properties, and relations are capable of being picked out in thought? If they cannot be thought of, they cannot be known.

Naturalists themselves (hard or soft) often make the point that current science is not final; we must expect science to continue making new discoveries and revising its current theories. Thus, if all truths of some kind will sooner or later be known to a given science, and some putative truths of that kind are not currently known to that science, it does not follow that they are not genuine truths. That science may come to know them in a few centuries. The gap between a science in its current state and its ideally completed version may be potentially so large that applying naturalist slogans (hard or soft) in practice may have to be a highly speculative business.

[2] For the limits of reflection, see Hilary Kornblith, *On Reflection* (Oxford: Oxford University Press, 2012).

Concluding reflections

I have not attempted to survey all the claims to which the label 'naturalism' has been attached, but I hope to have given a sense of why the word as philosophers currently use it does not denote a theory in good shape. Nevertheless, one might still feel, although the term is associated with some negative tendencies, such as scientism, it is also associated with some positive tendencies. To put it crudely, 'If you want to know the answer to a question in physics, ask a physicist, not a preacher' is good advice. The point is not restricted to natural science. 'If you want to know the answer to a question in history, ask a historian, not a politician (or a physicist)' is also good advice.

More generally, science is an amazing source of knowledge, and so of evidence that one can bring to bear in assessing other claims. In philosophy, the term 'naturalism' can serve as a useful reminder that scientific evidence may be relevant in unexpected ways to philosophical theories. For instance, evidence for Einstein's theory of special relativity is at least relevant to the philosophy of time, even if the connection is not as direct as some may assume. Such connections may be far more widespread than philosophers have fully recognized. For example, the whole internalist tradition in epistemology, which grounds the justification of belief in the subject's conscious states, is at risk of being undermined by neuroscientific evidence that conscious processes are too slow to implement internalist models of justification for most ordinary perceptual beliefs.

Some sub-traditions of philosophy have a tendency to parochialism, a habit of not considering such 'alien' evidence, even if they have no principled justification for that habit. But they may have been put off by over-eager self-identified 'naturalists' who apply results from natural science too crudely to philosophy, riding roughshod over subtle logical distinctions between the natural scientists' questions and those the philosophers are asking, perhaps because natural scientists themselves ignore those distinctions when they become amateur philosophers—such as neuroscientists who ignore compatibilism when claiming to have refuted free will. Even philosophers who make an effort to apply relevant research in linguistics, psychology, biology, or whatever may be put off by the high levels of disagreement among the scientists, and how fast the science changes, making it hard to extract well-established conclusions from the science to use as constraints in their philosophizing. But that does not justify treating the science as simply irrelevant. Those disappointing levels of disagreement amongst the scientists are evidence that theorizing in that science is more like familiar messy theorizing in philosophy than those philosophers had idealistically hoped.

The word 'naturalism' may sometimes function as a flag: seeing it encourages one to keep engaging with evidence from other sciences, undaunted by the difficulties. What invoking 'naturalism' as a general theory cannot do is act as some sort of all-purpose enforcer, *making* scientific evidence relevant to philosophical theories. If there is a gap between theory and evidence, as there usually is, 'naturalism' does not

stand for any plausible general doctrine that can somehow bridge the gap, mediating between theory and evidence. The typically non-deductive evidential connection must be assessed on its own merits, for that specific theory and that specific evidence; it is not strengthened by something called 'naturalism'. The evidence may just *be* relevant to the theory, irrespective of whether some further theory says it is.

Sometimes, brandishing the word 'naturalism' may even act as a *substitute* for serious engagement with the relevant science. For example, Quine developed his naturalized epistemology mainly by armchair reflection, though under the influence of already outdated behaviourist psychology, with little interest in the rapidly developing experimental cognitive psychology of his time, despite its obvious relevance. Similarly, naturalists who take physics to have shown that really there are just 'atoms in the void' have not paid much attention to the actual development of physics over the past century. Prioritizing experimental methods over armchair reflection does not make much difference if you decide by armchair reflection what results experimental methods must have.

Of course, a bad metaphilosophical theory may still deny the relevance of empirical evidence to philosophical questions. Thus, on an old-fashioned, simple-minded metaphilosophical view, philosophical questions are conceptual questions, and empirical evidence is irrelevant to conceptual questions. Invoking 'naturalism' may signal one's rejection of such metaphilosophical views. But the 'naturalism' did not make the connection between the philosophical theory and the empirical evidence; it was there all along. One can recognize the connection without invoking any specific metaphilosophical theory, just by reflecting on what the theory says and what the evidence says. Still, if repeating the word 'naturalism' helped remove metaphilosophical blinkers that prevented philosophers from seeing evidential connections, it did some instrumental good.

No form of naturalism has the power to show that every good philosophical argument must invoke 'empirical' evidence, just as it has no power to show that every sound proof of a mathematical theorem must invoke such evidence. For all that, evidence from natural science often *is* relevant to philosophical claims. But one can acknowledge all that without endorsing any distinctive theory of naturalism. One need only reject exceptionalism about philosophy.

References

Kornblith, Hilary (2012): *On Reflection*. Oxford: Oxford University Press.

Williamson, Timothy (2007/2021): *The Philosophy of Philosophy*. 2nd edition. Oxford/Malden: Wiley-Blackwell.