

# The Emptiness of Naturalism

## 1. Introduction

I used to spend a fair amount of time thinking and worrying about naturalism. In particular, I used to think it was an important philosophical question how best to formulate naturalism as a thesis so as to avoid falling into some kind of pernicious scientism. I even produced a couple of publications with the word ‘naturalism’ in their titles<sup>1</sup>. But eventually I came to realise that there is no interesting, substantial philosophical question or thesis in this vicinity that is worth worrying about. So then, the conclusion that I hope this paper will persuade you to accept is that: the term ‘naturalism’ is not suitable for serious 1<sup>st</sup>-order theorising in philosophy. ‘Naturalism’ is really no more than an empty term of approbation that philosophers tend to bestow on theories that they find plausible and withhold from those they find implausible. The methodological moral I suggest we draw is that we should just stop talking about naturalism entirely – at least when doing serious 1<sup>st</sup>-order theorising in philosophy. I include this qualification about 1<sup>st</sup>-order theorizing so as to leave open that there could still be interesting, worthwhile work to be done in the history of ideas, or meta-philosophy, or perhaps the sociology & anthropology of academia, concerning the influence of the concept ‘naturalism’. This kind of higher-order theorising about ‘naturalism’ (theorising about theorising about naturalism) need not assume that ‘naturalism’ has any tolerably clear meaning in order to proceed. We can hold the concept at arm’s length, as it were, just as we can theorize about, say, the concept of ‘phlogiston’ without assuming that it has any clear reference.

Some of the reasons I will discuss for thinking that naturalism is an empty notion have already been advanced by various philosophers in various places. And yet, naturalism remains a thriving topic in philosophy; papers and books and collections about naturalism continue frequently to be produced<sup>2</sup>. My hope for this paper then is that it will re-frame and re-present the case for the emptiness of naturalism in a suitably blunt and polemical way so as to gain converts and garner support for the positive methodological conclusion that we should just stop theorizing about naturalism altogether.

It has become standard to distinguish “metaphysical naturalism” from “methodological naturalism”. The plan for the paper then will be firstly to discuss the emptiness of naturalism as a metaphysical thesis and then secondly to say something about the emptiness of naturalism as a methodological thesis. I will also briefly discuss the view that naturalism is not a thesis at all but rather a kind of ‘stance’ and suggest that this too succumbs to the charge of emptiness.

## 2. Metaphysical Naturalism

Metaphysical (ontological) naturalism is the thesis: the natural world is all that exists. Or formulated as a negative claim: there are no supernatural or non-natural entities. Roughly the same sorts of problems for naturalism construed as a metaphysical thesis can be found in Hempel (1966, 1969), Chomsky (1968, 1996, 2010), Crane & Mellor (1990), Stroud (1996) and Collins (2015). Though in some cases the explicit target was *physicalism* – the thesis that

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<sup>1</sup> See Cahill & Raleigh (2018), Raleigh (2022).

<sup>2</sup> Recent collections of essays on the topic of naturalism include: Bashour & Muller (2014), Clark (2015), Chabada & Maco (2021), De Caro & Macarthur (2022), Hartmann & Särkelä (2023). Some recent monographs about naturalism include: Goetz & Taliafero (2008), Ritchie (2008), Audi (2014), Oppy (2018), Spiegel (2021), Emery (2023).

everything that exists is physical – the same sort of criticisms can be applied against naturalism. Following Hempel, the core complaint is standardly formulated as a dilemma: attempts to formulate naturalism (or physicalism) as an ontological thesis about what exists will end up either being false or trivial. If naturalism (or physicalism) is defined in terms of the existential commitments of our current scientific theories, then the thesis is almost certainly false, since our current scientific theories will almost certainly turn out to be incorrect in all sorts of unforeseeable ways. If naturalism (or physicalism) is defined in terms of future scientific theories, then the thesis becomes the triviality that: whatever the ultimate correct theory of everything says exists is what exists. In what follows I will also level the charge of triviality against metaphysical naturalism, but my core complaint will be somewhat different. I will argue that the question of whether some theory or thesis should count as naturalistic or not is *an empty verbal dispute with no further theoretical significance*. To illustrate this I will discuss what are generally taken to be the textbook examples of supernatural or non-natural phenomena: ghosts, gods, irreducible qualia, possible worlds and abstract mathematical objects.

## **2.1 Ghosts**

An initial reason to be suspicious that naturalism is an interesting, substantive philosophical thesis is that it seems to exclude so little. Apart from some non-naturalist ethicists<sup>3</sup> and some avowedly theistic philosophers<sup>4</sup>, almost everyone in philosophy considers their own preferred theory to be naturalistically acceptable – for example, panpsychists, emergentists about causation, Free-Will Libertarians, will all typically insist that their theories are naturalistically acceptable. Attempts to gloss ‘naturalism’ almost always have a line to the effect that it means ‘not being committed to anything supernatural or spooky’. But of course almost nobody in philosophy these days is a card-carrying *supernaturalist*<sup>5</sup>, nor would any philosopher be happy to describe their own preferred theory or posits as ‘spooky’. Moreover, it is a familiar point that sometimes what initially strikes us as ‘spooky’ can later become scientific orthodoxy. Newton’s force of gravity, was thought to be too spooky by at least many of the serious scientists of his day. Non-local quantum effects are still considered too spooky to stomach by some physicists today. De Caro & Macarthur put this point neatly: ‘What is “supernatural” today... may be part of tomorrow’s new science’ (De Caro & Macarthur, 2022, p2).

The fact that the term ‘naturalism’ excludes so little is, I suggest, a symptom of a deeper problem, which is that there is no principled basis for distinguishing between naturalistic theories that are false and (false) supernatural theories. The flip-side of this is that there is likewise no principled metaphysical basis for distinguishing between supernatural theories that turn out, very surprisingly, to be true and (true) naturalistic theories. As a way of dramatizing this point, consider what we should say or think if a paradigmatically supernatural theory turned out to be true. For example, suppose it turned out, to everyone’s immense surprise, that ghosts are in fact real. We establish beyond reasonable doubt that ghosts exist and they sometimes, somehow exert enough of a causal influence on things that they can occasionally be observed or detected. I think it is clear that were this to happen, there would not be any point in asking whether ghosts are ‘natural’ or ‘supernatural’. They would be *real* – part of reality. Once we admit that they are part of reality, what further possible theoretical interest would be served by asserting or denying that they are part of ‘nature’? For example, suppose that theorist A reacts to this amazing new discovery by saying: “Wow, well I guess it turns out that in addition to all the animals and plants, all the planets and galaxies and atoms, nature (the ‘the natural world’) also includes ghosts”. And suppose that theorist B disagrees: “No, what the discovery of ghosts shows is that not everything that exists is natural

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<sup>3</sup> See e.g. Enoch (2011).

<sup>4</sup> See e.g. Plantinga (2011)

<sup>5</sup> Though it is worth remembering that two of the classic sense-data theorists, C. D. Broad and H. H. Price, both actively pursued parapsychology and ‘psychical research’. See Broad (1962), Price (1995).

(part of nature). It turns out that reality is divided into two realms: the natural, which includes all the atoms and animals and galaxies etc. that we already accepted in our ontology, and the supernatural, which includes the ghosts.” This sort of disagreement about whether to use the word ‘nature’ (‘natural’) to describe everything that exists or just some of what exists is, I submit, a clear example of an empty verbal dispute. Of course, we can imagine that there is a more significant/substantial disagreement between A and B – perhaps A thinks that ghosts are constituted by fundamental particles and forces that we already accept in our ontology whereas B thinks that ghosts require accepting a fundamental new category of stuff that cannot be composed from or reduced to other stuff that we already accept. This would be a disagreement about the fundamentality and composition of something that is accepted by both sides as real, which could be a perfectly interesting and substantial disagreement to have. But notice: there is no reason to think that positing new fundamental stuff in our ontology is any less ‘naturalistic’ than explaining the phenomenon in question by appeal to stuff that we already accept. So there would be no reason to frame this latter, substantive disagreement as taking sides about ‘naturalism’. (We will return to this point in section 2.3, below.)

Conversely, consider those theorists who try to provide scientifically respectable evidence for ghosts, or ESP, or memories of past lives, etc. There are many different journals filled with papers in this genre, complete with tests of statistical significance and p-values and impressively complicated-looking graphs and diagrams. Do such theorists qualify as supernaturalists or naturalists? Again, I think it is clear that there is simply no interesting, non-arbitrary answer. These people think the phenomena in question are *real* and can be somehow observed or detected by us. Of course, we orthodox folk all assume that they are wrong and that such phenomena do not exist. But once it is settled that they are wrong, what possible purpose would be served by trying to decide the further question of whether their false theory was a false naturalistic theory or a false supernatural theory? Paul Horwich claimed that the minimal and most plausible form of naturalism, shorn of any inflationary metaphysical baggage, is what he calls ‘anti-supernaturalism’ – which he defines as follows:

‘Within the domain of phenomena that bear spatial, temporal, causal, and explanatory relations to one another, science rules.’ (Horwich, 2014 p. 38)

Horwich’s anti-supernaturalism does not tell us how to deal with the sorts of believers in ghosts or telepathy who treat these phenomena as having causal, spatio-temporal effects, which they try to detect and then publish journal articles about. Such people are evidently trying to adhere to something like the norms of science. Of course, we assume that they are doing *bad* science whilst they presumably think that the scientific orthodoxy of the day is mistaken in not recognizing the legitimacy of their ghost-detecting methods. But exactly the same could be said of legions of bad scientific theories about more reputable subjects. For example, think of the steady stream of discredited claims to have produced cold fusion, starting with Fleischman and Pons (1989). Or just think of all the pseudo-scientific forms of cancer ‘treatment’ that exist: electro-magnetic devices, special diets, injecting various unproven chemicals, etc. So-called ‘supernatural’ theories are really just theories that posit the existence of things that we sensible, orthodox folk think obviously do not exist. But this is also true of any number of discredited scientific theories. There is no deep, interesting difference between a theory that posits the existence of a new fundamental particle that we think does not really exist, a theory that posits the existence of fundamental conscious properties that we think do not really exist, a theory that posits the existence of a vital force or ‘*élan vital*’ in living things that we think does not really exist, a theory that posits the existence of telekinesis that we think does not really exist, a theory that posits the existence of ghosts and spirits that we think do not really exist... The only difference between these cases is one of degree – that is, how implausible we find them and perhaps how irrational or crazy we find their proponents.

## **2.2 God**

If instead of ghosts we take the example of theistic theories that assert the existence of a god, we find the same issues playing out. I expect that for many self-described ‘naturalists’, if naturalism is to exclude anything it must exclude the existence of God. And also in the opposing theist camp it has sometimes been taken as definitional of naturalism or ‘the natural realm’ that it excludes a deity – see e.g. Plantinga (2011) or Kopersky (2017). However, there have also been some theist philosophers who insist that God is part of the natural world. Fiona Ellis defends this view in her 2014 book ‘God, Value and Nature’ and in various subsequent articles, as does Teed Rockwell (2017). Likewise it is the view of the distinguished rabbi and philosopher, Jack J. Cohen (2019), and also of the eminent theologian and scientist Arthur Peacocke (2001). So, we have some theists who insist that God exists but is not natural and others who insist God exists and is natural. But just as with the imaginary dispute between ghost-theorist A and ghost-theorist B, if God really does exist it is hard to see what further theoretical purpose would be served by insisting that God is or is not ‘natural’. God would be real! Suppose we somehow discover or learn for sure that some monotheistic religion is correct: God created everything, God will punish or reward us after death, God can sometimes causally intervene in our affairs, etc. What difference would it make to then insist that God is ‘part of’ nature or ‘outside’ nature? What further theoretical purpose could those labels possibly serve?

### **2.3 Dualism**

Now, of course, very often when someone claims that some phenomenon, X, can be naturalized, they mean that X can be explained by appealing only to stuff that we already, uncontroversially accept in our ontology. But clearly not *everything* can be reductively explained in this way. Every theory or explanation relies on some primitive elements that are taken for granted. And it is an accepted part of normal scientific practice that sometimes, when we cannot explain some phenomena as arising out of stuff we already accept and understand, we need to posit new fundamental entities or forces etc. One of the best known instances of this in the history of science was when James Clerk Maxwell, partly in response to the many failed attempts to explain magnetism and electricity as arising out of mechanical interactions of matter, introduced a set of new fundamental laws governing electromagnetism. Clearly there is nothing inherently spooky or supernatural about accepting new fundamental stuff into one’s ontology that cannot be reduced to other stuff, though this is something we try to avoid most of the time for reasons of parsimony. And if we now turn to thinking about Dualist theories of the mind/consciousness, we find that David Chalmers – surely the most prominent contemporary defender of the claim that consciousness cannot be fully explained in neurophysical terms – describes his own theory as ‘naturalistic dualism’ and invokes the story of James Clerk Maxwell as a comparison:

‘It turned out that electromagnetic phenomena...had to be taken as fundamental, and Maxwell introduced new fundamental electromagnetic laws. Only this way could the phenomena be explained. In the same way, to explain consciousness, the features and laws of physical theory are not enough. For a theory of consciousness, new fundamental features and laws are needed.’ (Chalmers 1996, 127)

And on the next page he justifies his use of the label ‘naturalistic’:

‘...I call it naturalistic dualism. It is naturalistic because it posits that everything is a consequence of a network of basic properties and laws, and because it is compatible with all the results of contemporary science.... There need be nothing especially transcendental about consciousness; it is just another natural phenomenon. All that has happened is that our picture of nature has expanded.’ (ibid, 128)

In contrast to Chalmers’ suggestion that we take consciousness to be one more fundamental part of nature, there have been various philosophers – e.g. Montero & Papineau (2005), Wilson (2006) – who take the non-fundamentality of mental phenomena to be their core

principle. This *via negativa* strategy for defining physicalism effectively takes physicalism to be the negative existential claim that there are no fundamental mental properties. Now, to be clear, these *via-negativists* were talking about physicalism rather than naturalism, but we could just as easily take the *via negativa* route to defining naturalism. If we define naturalism in this negative fashion then Chalmers' naturalistic dualism will seem like a contradiction in terms, just as naturalistic theism will seem oxymoronic to people like Plantinga and Kopersky. On this view, if consciousness turns out to be an extra fundamental feature of reality, then rather than having expanded our picture of nature, this discovery would show that naturalism is false. But would it have made any real theoretical difference if Chalmers had instead chosen the label 'non-naturalist' dualism for his own theory? Of course not. This alternative label might suggest how very different and *sui generis* conscious properties are from familiar properties by, as it were, drawing a line around them and calling them 'non-natural' rather than allowing the natural domain to expand so as to include them. But the actual substance of his theory would be totally unchanged, which is the claim that conscious qualities must be accepted as extra primitive/fundamental elements in our best theory of reality and that cannot be reduced to stuff we already accept. Of course, many philosophers disagree with Chalmers about this and that is a perfectly good, substantial philosophical debate to have. But whether or not Chalmers' proposal should count as *naturalistic* is not a substantial question, it is an empty verbal dispute.

#### **2.4 Possible Worlds**

I think that often when people try to articulate what they mean by 'naturalism', in the background there is the idea that 'the natural world' forms a single domain or realm that is *spatially connected* and *causally complete*. The idea then would be that naturalism is the thesis that everything that exists, exists within this single spatially connected, causally complete domain, whereas supernaturalism involves ontological commitment to some further distinct domain – perhaps heaven, perhaps a spirit realm, perhaps a mental realm, perhaps a platonic realm – which is (at least mostly) spatially and causally disconnected from the natural domain. It is worthwhile to make this idea explicit so we can see that it does not survive scrutiny.

Consider, for example, David Lewis's (1986) somewhat notorious realism about possible worlds. According to Lewis, other possible worlds are just as concrete and real as our world, but there are no spatio-temporal or causal connections between different possible worlds. Lewis was a student of Quine and his motivation for being ontologically committed to all these concrete possible worlds was, at bottom, the Quinean motive that they are indispensable for explaining the truth and falsity of modal claims (and modal claims are indispensable to our best theories of how the world works). So is Lewis's theory a naturalistic theory or not? David Papineau asserts that it is not:

'Since non-actual worlds do not inhabit our spatiotemporal realm, an ontologically naturalist realism [about possible worlds] seems to be ruled out from the start.'  
(Papineau, 2007, section 1.8)

But is it really so obvious that naturalism requires commitment to the existence of at most one spatio-temporal realm? The 'Many Worlds' interpretation of quantum physics (Everett 1955/1973) would presumably not count as a naturalistic theory by that criterion<sup>6</sup>. More importantly, what difference does it make to call Lewis's theory naturalistic or not? All that really matters is whether it is correct or not (whether it really is the best explanation for the truth/falsity of our counterfactual claims).

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<sup>6</sup> See Wilson (2020) for defence of the idea that the Many Worlds interpretation of quantum mechanics supports modal realism of a broadly Lewisian kind.

Or consider Strawson's thought experiment of 'massive reduplication' near the start of *Individuals* (1959). Strawson imagines that the entire known universe might be exactly qualitatively duplicated. Now, Strawson did not specify that the two qualitatively identical regions of reality are spatially and causally disconnected. But let's suppose for a moment not only that Strawson's thought-experiment is in fact true – there exists a perfect qualitative duplicate of our entire known universe – but that these two regions of reality are spatially and causally disconnected. Would this mean that naturalism is false? Or would it just mean that our picture of the natural realm ought to be revised and expanded? Once more I think the only sensible answer here is: who cares?! What possible theoretical interest or significance would either withholding or awarding the label 'naturalist' have?

Moreover, notice that those who believe in a heavenly realm or a spirit realm or a dualist mental realm, typically do *not* think that these are *totally* causally or spatially disconnected from the realm of familiar physical things, since angels or ghosts or non-physical souls are typically supposed to interact with the familiar physical realm at least on rare occasions. So it is doubtful that defining naturalism in terms of a single spatially-connected, causally complete domain will exclude these paradigm cases of alleged super-natural or non-natural phenomena. For presumably, when considered in combination, the familiar physical world and, say, the alleged spirit realm would together form a single spatially connected and causally complete domain – though the connections between the two 'realms' may be relatively sparse.

The basic point here: the extent to which reality comes divided into distinct, disconnected (or at least partially disconnected) domains is an open question to be answered by our best theories – scientific but perhaps also philosophical. If in fact, say, Lewis is correct and reality consists of more than one disconnected 'world', there is no obvious reason to think of this as any more or less 'naturalistic' a result than if reality consists of a single spatially connected, causally closed domain. After all, if the picture of reality provided by our best scientific theories counts as 'naturalistic' there is no obvious reason why having more of the same sort of stuff duplicated into two or more distinct worlds should then count as supernatural or non-natural (though of course it may be ontologically profligate).

## **2.5 Abstracta**

What about the suggestion that in addition to the concrete, causal domain there is also a non-causal realm of abstracta – numbers, propositions, truth-values, Platonic forms, perhaps also moral values or norms? Once more it is hard to see what useful theoretical motivation there could be for insisting that abstracta must be non-natural rather than allowing that 'nature' includes abstract objects. After all, Quine – often thought to be the arch-naturalist supreme – allowed that abstract numbers exist since he thought that our best scientific theories ineliminably quantify over them<sup>7</sup>. To take a more recent example, Matteo Morganti writes:

‘...there is no reason for not including [numbers] in the conception of nature endorsed by liberal naturalists.  
...Platonism, which certainly is not part of the manifest image, could plausibly be regarded as part of our explanation and understanding of Nature broadly understood’  
(Morganti 2022, p250.)

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<sup>7</sup> Indeed Quine sometimes toyed with the idea that physical objects should be reduced to numbers, which can in turn be reduced to sets. So the supposed arch-naturalist Quine may have held the view that abstract, non-spatial entities are fundamental. He even coined the name 'Hyper-Pythagoreanism' for this view. However, it is not clear whether Quine ever fully endorsed the view – he comes closest to doing so in Quine (1964) and Quine (1976). See Kemp (2017) for helpful discussion of Quine's evolving views.

I sympathise with what Morganti is saying here, and agree that there is no good theoretical reason to exclude numbers from the domain of ‘the natural’. But the conclusion that I think we should really draw is that: there is no good reason for *including or excluding* numbers from counting as part of ‘nature’. There simply is no interesting, substantial question as to: supposing abstract entities, such as numbers, really do exist, should they then count as natural or non-natural? Again, if one theorist says that abstract numbers exist but they are not part of the natural world, and another agrees that abstract numbers exist but insists that they are part of the natural world, this is surely nothing more than an empty labelling dispute. Notice that here we have a contrast between naturalism and physicalism insofar as any plausible notion of ‘the physical’ will presumably at least have to exclude abstract objects that have no location in space and time. But it is not at all obvious whether or why some notion of ‘the natural’ (or ‘nature’) should include or exclude abstracta, supposing that *reality* includes them. Here is the late, great Barry Stroud making this very point:

‘What is the conception of nature that is said to exclude [logical & mathematical truths]? ... To say that not everything that is accepted is accepted as a part of nature raises the question of how the naturalist distinguishes what he thinks of as the natural world from all the rest of what he takes to be the case. **And more importantly, what, if anything, now turns on making that distinction?**’ (Stroud, 1996, 53, emphasis added)

In general, one could always insist that what is real (what exists) and what is natural coincide. No matter what we accept into our ontology this just means that the realm of the natural has expanded. Or one could choose to divide reality into two sub-sets – and call one of them the natural and the other the supernatural or the non-natural. Whenever we posit new items in our ontology we would face this choice. But unless there is some important further theoretical reason or pay-off, either way of using the label ‘natural’ will just be an arbitrary stipulation. We have noted that many believers in ghosts or spirits or ESP etc. seek to prove that these phenomena are real using at least the rudiments of scientific method. We have seen how some theists claim that God is natural whilst others think this is a contradiction. We have seen Chalmers claim that his dualism about the mind is naturalistic. We have recalled Lewis’s view that *possibilia* are just as flesh-and-blood concreta as we are. And in this section we have seen Morganti and Quine claim that commitment to abstract numbers is entirely naturalistic. Ghosts, gods, primitive mental qualities, *possibilia*, abstracta – these were supposed to be the clear-cut cases of non-natural or supernatural stuff. And yet there is no good reason why those who believe that such things really do exist could not equally well claim that they are ‘natural’ phenomena. The moral in each case, I claim, is that the question of whether these phenomena are ‘natural’ or not is entirely empty and arbitrary. The only interesting question is whether these phenomena are real – whether they exist. Once this is established, any question about naturalism immediately fades into irrelevance. So: we should just drop talk of ‘the natural’ and simply talk about what is real, what exists, what is indispensable to our best theories of how the world works. If it turns out that this includes gods, libertarian free will, primitive conscious qualities, acausal normative facts, etc., so be it. If not, not. Once more, Barry Stroud – though he is sometimes counted as a ‘Liberal Naturalist’ by those who like that label – drew the conclusion that ‘naturalism’ is just an empty slogan, nearly 30 years ago:

‘By now it should begin to look as if this expandable or more open-minded form of naturalism does not amount to anything very substantive or controversial... Rather than calling it open-minded naturalism, **we could just as well drop the term “naturalism” and call it open-mindedness. It says that we must accept as true everything we find we have to accept in order to make sense of everything that we think is part of the world. If that is still called “naturalism”, the term by now is little more than a slogan on a banner raised to attract the admiration of those who agree that no supernatural agents are at work in the world.**’ (Stroud, 1996, 55, emphasis added)

## 2.6 Reductive Explanations and Fundamentality

Now, to be clear, I am *not* suggesting that once we drop the idea of ‘the natural’ then our philosophical or metaphysical anxieties about the various puzzling phenomena/topics will just evaporate. On the contrary, I think that all of the standard philosophical debates where naturalism (or physicalism) is typically invoked can still be perfectly well be posed and pursued, and all the genuine, substantial philosophical questions will remain, once we expunge talk of the ‘natural’.

I think it is fair to say that philosophers who are unfriendly to naturalism (as a metaphysical thesis) are very often suspicious of the over-use of reductive explanations, feeling that important or valuable phenomena are being ignored or explained away. Whereas those who are sympathetic to the idea of (metaphysical) naturalism tend to be impressed by various successful reductive explanations and the great successes of the physical sciences in explaining various phenomena by appeal to their microscopic constituents<sup>8</sup>. But it is, I suggest, plainly absurd to have a single attitude – positive or negative – towards the very idea of reductive explanations in general. There is no single attitude we ought to take to reductive explanation *simpliciter*. We should simply welcome those that work (the correct/true reductive explanations) and reject those that don’t (the false/bad explanations). Everyone should admit that sometimes a phenomenon X turns out to be ‘nothing over and above’ phenomenon Y. But everyone should also admit that at other times, in order to explain everything that needs explaining, we have had to admit new basic, primitive stuff into our ontology. For example: you might be unimpressed by primitivism about colours – the view that there are *sui generis* colour properties ‘over and above’ any other properties, which cannot be reduced to, say, spectral reflectance properties. And yet you might find yourself more sympathetic to some kind of realism about abstract mathematical entities. There would be no inconsistency or incoherence in such a combination of attitudes since they are just two separate topics. One can think that mathematical abstracta are indispensable, irreducible items in our best overall theory of reality but that primitive colours are not<sup>9</sup>. (Or vice versa.) We have to actually look at the details of the specific debates, at what needs explaining and what the alternative rival theories are, before we can make up our minds about the plausibility of reductive explanation or of accepting new fundamental primitives.

All of the familiar metaphysical/ontological debates we have looked at where the term ‘naturalism’ tends to crop up can be framed in terms of whether some phenomenon X is a brute/irreducible feature of reality or whether it can be reduced to/explained in terms of other stuff – or perhaps eliminated all together. And in pretty much all of these standard debates the crucial ‘pinch-point’ concerns causation – does X do causal work? Is X part of the causal structure of reality? If we think X *does* do causal work then the philosophical worries that tend to arise are about over-determination: we already have something else that is apparently doing all the causal work, so there is ‘no room’ for X to make a causal difference. This is what we find in the classic debates about free will and about non-reductive theories of mental states. The issue also arises for primitivism about colours – is there any ‘space’ for the alleged primitive colour properties of an object to causally affect my visual system, given that it is already being affected by how the microscopic texture of the surface modulates the wavelengths of light which are reflected into my retina. A closely related kind of issue is: if X *does* do extra, distinct causal work and make a causal difference, then we should be able to

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<sup>8</sup> Richard Feynman once said: ‘If, in some cataclysm, all of scientific knowledge were to be destroyed, and only one sentence passed on to the next generations of creatures, what statement would contain the most information in the fewest words? I believe it is the atomic hypothesis... that all things are made of atoms—little particles that move around in perpetual motion, attracting each other when they are a little distance apart, but repelling upon being squeezed into one another.’ (Feynman, 1994)

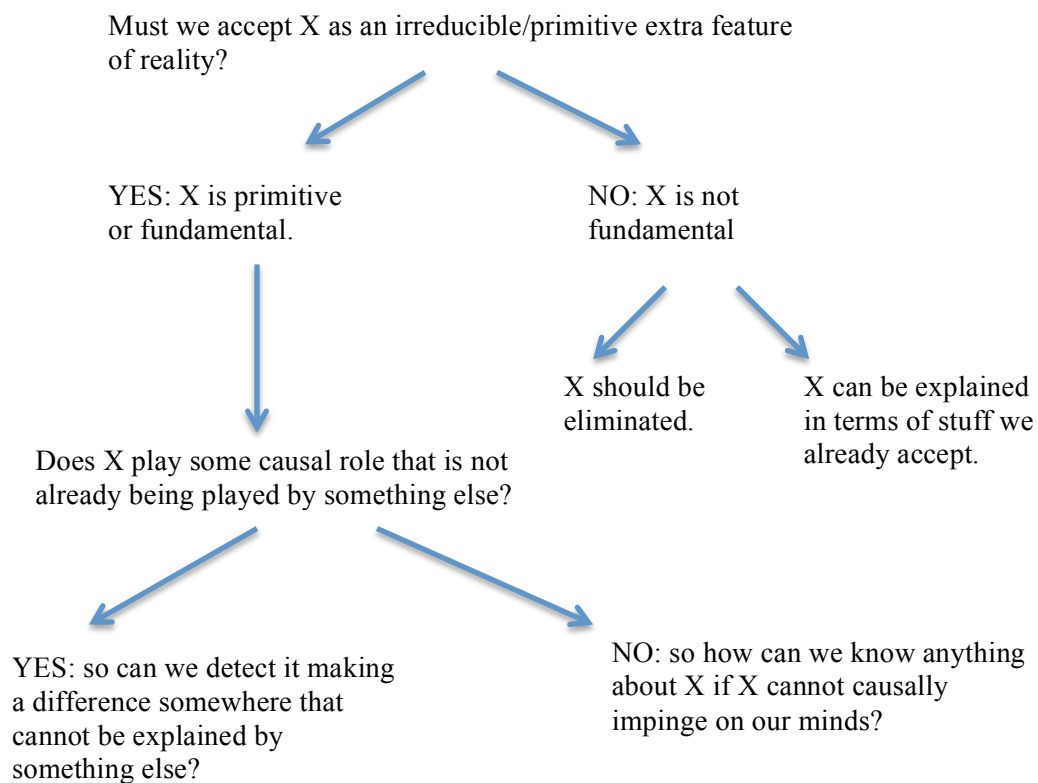
<sup>9</sup> It is perhaps worth noting that the vast majority of working vision scientists would reject primitivism about colour, whereas it seems that most professional mathematicians would endorse some kind of Platonism about numbers.



observe this – but we don't. This is a standard objection to strong emergentism and also to libertarian views about free will and to interactionist dualism – if these emergent/libertarian/dualist phenomena are real and make a causal difference, then we should see exceptions to micro-physical laws. But, according to philosophers like McLaughlin (1992) and Papineau (1996, 2001) we have never seen any such exceptions – McLaughlin claims that 'there is not a scintilla of evidence' (1992, p.91) for novel, emergent macro-behaviour in physical systems. And in response, some philosophers have taken the robust route of replying: oh yes there is! For example Hendry (2017, 2019) points to various kinds of quantum chemical phenomena – roughly, discontinuous changes in the organisation of molecular structures – as examples of 'strongly emergent' behaviour that cannot be explained by the molecule's sub-atomic constituents. Similarly, Cucu (2024) supports interactionist dualism by claiming that there are certain kinds of neural events that cannot be explained by micro-physical processes.

On the other hand if X does *not* do any causal work or make any causal difference then the standard worry becomes the epistemological question: how could we ever know about X if it cannot causally affect us or impact our mental processes in any way? This is the classic worry for realism about abstracta (numbers, sets etc.) and also for non-naturalism about moral properties<sup>10</sup>. It also arises for epiphenomenalism about phenomenal properties – e.g. Chalmers (2003) ends up endorsing an unorthodox, non-causal account of the basing relation in order to explain how our beliefs about phenomenal properties can be justified despite these properties being epiphenomenal.

The point here is just that all these familiar debates really revolve around the question: must we accept X as an irreducible/primitive extra feature of reality or can X be explained by appeal to something else we are already committed to (or even just eliminated altogether)? This question produces a familiar set of dialectical options:



<sup>10</sup> The *locus classicus* for the mathematical case is Benacerraf (1973). For the moral case, see e.g. Harman (1977).

I suggest that when we frame ontological questions in this way, without any mention of ‘nature’ or ‘the natural’, it becomes easier to take each X on a case-by-case basis. Sometimes we can point to a real causal difference that X makes that cannot be otherwise explained, sometimes we cannot. Sometimes we do need to accept new primitive elements into our best theory/picture of reality. At other times we can successfully keep things simpler by showing that X is fully explained by/determined by stuff that we already accept the existence of. And sometimes we should just eliminate X altogether.

### 3. Methodological Naturalism

Let’s turn now to methodological naturalism. This is sometimes understood as a general claim about how to gain knowledge or undertake inquiry. For example:

‘To be a [methodological] naturalist on my favoured conception is simply to take one’s lead from the relevant ongoing empirical inquiry.’ (Collins, 2015, 86)

‘Methodological Naturalism... is, roughly, the view that causes and explanations of natural phenomena lie in – or at least should be sought in – the natural world, paradigmatically in terms of what meets at least three commonly endorsed criteria for scientific acceptability – testability, publicity and empiricity...’ (Audi 2022, 359)

An extreme version of methodological naturalism is formulated, though not endorsed, by De Caro & Macarthur:

‘Methodological Doctrine: Scientific Inquiry is our only legitimate form of inquiry.’ (De Caro & Macarthur, 2010, 5)

But methodological naturalism is sometimes formulated with specific reference to philosophy. For example:

“‘methodological naturalism’ will be understood as a view about philosophical practice. Methodological naturalists see philosophy and science as engaged in essentially the same enterprise, pursuing similar ends and using similar methods.’ (Papineau 2007)

Likewise, Quine’s ‘Naturalized Epistemology’ is concerned primarily with the continuity of philosophy and science and with the rejection of foundationalist or ‘first philosophy’ approaches<sup>11</sup>.

A first, obvious worry about methodological naturalism is that it is not at all clear what are to count as ‘scientific methods’ or ‘empirical inquiry’. I think it is by now widely acknowledged to be folly to look for some clear definition that neatly distinguishes science from non-science or pseudo-science, or that gives some non-trivial definition of the one true scientific method. Does scientific method include pure mathematics that (so far) has no empirical applications? Does it include historical inquiry into one-off, unrepeatable events? Does it include the methods of psychiatrists and anthropologists who ask questions of human subjects and ask them to describe their experiences? What about linguists who gather purely descriptive data about linguistic usage and linguistic intuitions? What about those theoretical physicists who mostly spend their days making speculative mathematical models and who never venture near an actual laboratory? Etc. Whilst there are certainly issues that are worth thinking about here, this sort of worry does not strike me as especially interesting or pressing. All it really amounts to is that the term ‘scientific’ is vague and has borderline cases and perhaps does not admit of

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<sup>11</sup> E.g. Quine once wrote ‘Epistemology... is contained in natural science, as a chapter of psychology.’ (Quine, 1969, 83)

a clean definition with necessary and sufficient conditions. But of course that applies to almost every worthwhile, interesting concept outside of mathematics and logic.

A deeper worry about methodological naturalism is another version of the trivial or false dilemma. If by empirical methods or scientific methods we mean those methods we currently use or have so far discovered, then it is very plausibly false that these are the only legitimate methods. Who knows what new methods may arise or may be needed in the future? Why should we want to limit ourselves to some pre-determined list of methods, rather than just using whatever is useful or necessary for arriving at knowledge, understanding, etc? This sort of complaint is voiced by Monton (2009):

‘If science really is permanently committed to methodological naturalism, it follows that the aim of science is not generating true theories. Instead, the aim of science would be something like: generating the best theories that can be formulated subject to the restriction that the theories are naturalistic...I maintain that science is better off without being shackled by methodological naturalism.’ (Monton 2009, 58)

And likewise by Fishman & Boudry (2013):

‘Methodological Naturalism imposes artificial constraints on science which are antithetical to its fundamental goal: to pursue the truth about the nature of reality on the basis of the evidence, wherever it may lead. (Fishman & Boudry 2013, 923)

But on the other hand, if we don’t restrict methodological naturalism to some actual definite list of legitimate methods, it seems that the injunction to only use ‘scientific methods’ is really just the claim that we should only use those methods that are useful for getting at the truth, and so ‘non-scientific’ methods turn out to be whatever methods don’t work.

These issues apply just as much to methodological naturalism construed as a thesis specifically about philosophy. For a start, what is to count as philosophy (or as a philosophical question) is presumably just as subject to vagueness and borderline cases as what is to count as science/scientific. But more importantly, why should philosophers, any more than scientists, wish to limit themselves in advance to some restricted set of methods rather than pursuing the answers to their questions using whatever methods turn out to be effective? If we are interested in concrete, spatio-temporal phenomena that have causal effects then it is obviously sensible to use empirical methods in some very broad sense – i.e. we should observe and measure stuff, try to identify repeatable patterns of events, perhaps manipulate some variables, if we can, to see what happens, etc. This is really just the trivial claim that for empirical questions one should use empirical methods of inquiry. But the extent to which philosophical questions are (perhaps partially) empirical questions is a difficult and contentious matter and is something that will presumably vary from topic to topic: philosophy of logic vs. applied ethics vs. philosophy of biology vs. aesthetics, etc. Notice also that the truistic claim that empirical questions require empirical methods tells us nothing about whether or how we should try to investigate or form beliefs about putative non-causal, non-observable domains, e.g. mathematical abstracta, ethical norms or facts. And if methodological naturalism advises that *all* legitimate inquiry is empirical/scientific inquiry in a sense that *requires observation/measurement of empirical phenomena*, then it would apparently be committed to the highly controversial implausible thesis that there can be no legitimate inquiry or method for gaining knowledge about non-causal subject matters – including pure mathematics! Of course, those who espouse methodological naturalism typically want to allow pure a priori mathematical inquiry to somehow count as ‘naturalistic’ or as scientifically respectable. But why should a priori mathematical reasoning count as methodologically naturalistic whereas, say, a priori metaphysical reasoning should fail to count as methodologically naturalistic? It is indisputable that pure mathematics has proved useful, indeed indispensable, to science on countless occasions, whereas metaphysics,

arguably, has not. But again, we don't want to end up with the empty claim that the legitimate naturalistic methods are those that lead to knowledge whereas the illegitimate, un-naturalistic methods are those that don't.

The core problem for making methodological naturalism about philosophy into any kind of worthwhile, substantive, non-trivial claim is that there does not seem to be any interesting middle-ground between a crude, verificationist-style claim that: only questions that can be settled 'empirically' are meaningful, and the bland, truistic claim that: philosophers should try to avoid contradicting well-established scientific theories and should be open to the possible relevance of scientific results/methods. The former crude verificationism is universally rejected these days, whereas the bland claim that philosophical theories should avoid being inconsistent with our best scientific theories and not ignore the possibility that science could turn out to be relevant will be accepted by everyone. I have never seen any clear formulation of methodological naturalism that stakes out a position intermediate between these two extremes – and I very much doubt that there is any such position.

So: if all that is meant by methodological naturalism is that our answers to philosophical questions should be constrained by overall holistic fit with whatever other well-established theories we already accept – including scientific theories – well, that is really no more than an empty platitude. But it is also worth recalling that we do sometimes find a brave, or perhaps foolhardy, philosopher accusing well-established scientific theories of being wrong. For example, Crisp (2008) gives philosophical arguments for rejecting the Special Theory of Relativity so as to vindicate 'presentism' (the view that only present things exist). Likewise, Jerry Fodor (2008, 2010) notoriously accused the 'neo-Darwinian orthodoxy' in biology of resting on various confusions. The point here, once more, is that even assuming these philosophers are indeed incorrect and foolish to accuse a well-established scientific theory of resting on a mistake, why should this be any less than fully naturalistic in methodology? These philosophers think they have identified a mistake – some kind of logical or inferential fallacy – in a theory. What would be non-naturalistic about pointing out a mistake in reasoning when you think you have found one? Presumably methodological naturalism is not meant to require *blind obedience* to current scientific orthodoxy. So the injunction to 'take one's lead' from the sciences must be understood as *ceteris paribus* and defeasible. Thus we end up with the even emptier claim that we should aim for consistency with established scientific theories *except when we think those theories are wrong!*

#### **4. Some naturalists concede that naturalism is not a well-defined thesis**

Looking at many recent attempts to state or defend some kind of naturalism it seems that nowadays it is increasingly often conceded, even by self-styled defenders of naturalism, that there is really no kind of definite, substantive thesis here. So for example, David Papineau, a prominent defender of both physicalism and naturalism, writes the following in his Stanford Encyclopedia entry on naturalism:

'The term "naturalism" has no very precise meaning in contemporary philosophy. ... "naturalism" is not a particularly informative term as applied to contemporary philosophers. The great majority of contemporary philosophers would happily accept naturalism...—that is, they would both reject "supernatural" entities, and allow that science is a possible route (if not necessarily the only one) to important truths about the "human spirit"... 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.' (Papineau, 2007)

So the canonical reference entry on naturalism, written by a leading advocate for naturalism (and an indisputably excellent philosopher), concedes that it has no precise meaning and is

not informative, that it is something which almost everyone wants to accept and that it is pointless to try to make the term more precise.

In the same vein, there is a recent trend amongst some self-styled ‘naturalists’ of explicitly allowing that naturalism should not be understood as a thesis at all – whether ontological or methodological – but rather as a ‘stance’ or ‘attitude’ or ‘orientation’ or, as Poland (1994) puts it, a ‘research project’. This is suggested by van Fraassen (2002) in ‘The Empirical Stance’ and Rea (2004) in his book ‘World Without Design’. It is also endorsed by Ladyman and Ross (2007), by Ritchie (2008, 2022) and by Ney (2008). Here is Ney’s formulation of such a stance<sup>12</sup>:

“I hereby swear to go in my ontology everywhere and only where physics leads me.”  
(Ney, 2008, 10)

So a first obvious thing to say about this stance/attitude talk is that it simply concedes the point that there is no substantive interesting *thesis* of naturalism. Secondly, as Spiegel (2023) convincingly argues<sup>13</sup>, it seems that a stance/attitude formulation of naturalism can always be translated into a truth-evaluable claim about how one ought to proceed in inquiry, or what methods would be rational or justifiable. Thirdly, and to my mind most importantly, the stance/attitude formulation *still suffers from triviality and emptiness*. Recall how Quine (1954) and Putnam (1971) famously thought that physics indispensably refers to/quantifies over numbers, so we should accept abstract numbers into our ontology as physics leads us there. If Quine and Putnam are correct, believing in the existence of abstract numbers is legitimate for one who has adopted the naturalist stance since physics leads us to accept these abstracta. Of course, other philosophers disagree with Quine and Putnam – e.g. Field (1980) claims that apparent reference to numbers is a convenient fiction. On this view our best scientific theories do not lead us to accept numbers into our ontology; thus if we were to nevertheless accept them into our ontology we would be failing to obey Ney’s naturalistic oath. So who is right? What should a philosopher think who has pledged allegiance to the naturalist stance? Well, this much seems clear: doing more physics experiments is not going to settle this question. Physics does not explicitly say anything, positive or negative, about the correct ontology for numbers. Adopting the stance of aiming to settle ontological questions by following the lead of physics/science *offers no useful guidance* here. Likewise for other standard metaphysical disputes: e.g. Humean vs. non-Humean accounts of causation, endurance vs. perdurance, mereological disputes. In each case physics (or science more generally) offers no explicit lead. The point here is that it is a difficult, contentious, *philosophical* business to try to read ontological or philosophical commitments off from papers published in scientific journals. And so inevitably both sides in almost any metaphysical debate will feel justified in claiming that their view is keeping faith with the oath to go where physics/science leads. For example, Chalmers would presumably feel justified in saying something like: “Science accepts the existence of conscious experiences, and it is standard scientific practice to sometimes treat entities/phenomena as fundamental when they cannot be explained by anything else. So accepting that there are fundamental/irreducible phenomenal properties is perfectly in keeping with the naturalistic stance.”

## 5. Conclusion

We should just stop talking about ‘naturalism’ altogether, at least so far as 1<sup>st</sup> order-theorizing in philosophy is concerned. There is no worthwhile, interesting question as to how best to formulate ‘naturalism’ as an ontological thesis, such as: how strict or liberal or relaxed or

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<sup>12</sup> To be clear: Ney is claiming that *physicalism*, rather than naturalism, should be understood as an ‘attitude’. But this difference is not important for present purposes.

<sup>13</sup> Spiegel’s argument draws on earlier work by Peels (2017).

radical naturalism should be. To repeat: the problem is not just that metaphysical naturalism is vague and that there can be borderline cases. The core problem is that drawing a distinction between the natural and the non-natural/supernatural is arbitrary and empty *even in the supposed clear cases* of ghosts, gods, primitive mental qualities, possible worlds, abstracta. And when it comes to attempts to formulate naturalism as a methodological thesis (or as a ‘stance’) we end up with empty trivialities such as: philosophy should try to avoid contradicting well-established scientific theories (except when those theories are wrong!), or, naturalistically acceptable methods are those methods (whatever they turn out to be!) that tend to lead to knowledge about the natural world (i.e. reality!).

Of course this leaves open that we could stipulate or redefine some new, clearer, more useful meaning for ‘naturalism’. E.g. we could stipulate that naturalism is the thesis that there are no fundamental mental entities. Or we could stipulate that naturalism just means the Eleatic thesis – that only entities with causal powers are real. But it’s hard to see what would be gained by this. We can already express these theses perfectly well without invoking the label ‘naturalism’. So we can avoid the empty verbal disputes that are bound to arise when rival theorists insist that their theory of fundamental mental entities is naturalistic, or their theory about non-causal abstracta is naturalistic, etc.

I suspect the term ‘naturalism’ has endured for so long, despite lacking any clear meaning, because it is a convenient label for a vague and loose cluster of features/properties that happen to go together in a weakly correlated way – e.g. atheism, admiration for science, optimism about reductive explanations. In this respect it is like the labels ‘analytic’ and ‘continental’ as applied to philosophy. Almost everyone agrees that these terms make no real sense – many paradigmatic ‘analytic philosophers’ were from continental Europe, many paradigmatic ‘analytic philosophers’ explicitly reject conceptual analysis as a philosophical method, etc. *And yet...* we all lazily keep on using these labels. Why? Because they are a convenient way of referring to a loose cluster of characteristics. Or consider the labels ‘left-wing’ and ‘right-wing’. I loathe these terms! I think they encourage group-think and deaden the mind to rationally considering issues on a case-by-case basis. I wish we could stop using these labels altogether. *And yet...* of course I still find myself lazily using them when they conveniently allow me to gesture at a cluster of political traits and tendencies that are, for complex contingent reasons, loosely correlated. Ideally, I wish that we would eliminate talk of naturalism altogether. Alas, that is probably too much to hope for. It is probably just too convenient and habitual for us to talk of ‘naturalism’ in our lazy moments. But as a second best, I hope that we can at least learn to stop using this term when doing serious philosophy<sup>14</sup>.

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