

NATURALISMS

Amanda Bryant

The word 'naturalism' has a bewildering array of uses in philosophy. Roughly speaking, it connotes pro-scientific attitudes and approaches. This article introduces the subject of naturalism by sketching a history of pro-scientific attitudes and approaches in philosophy, from their origins in the early modern period through to the present day. It then distinguishes a number of distinct families of naturalism: metaphysical, logico-linguistic, epistemological, and methodological. The resulting taxonomy encompasses a plurality of loosely related views rather than a number of variations on a single clear and unified theme.

Philosophers sometimes claim to be 'naturalistic' or to subscribe to 'naturalism'. This often indicates a respectful attitude towards science, as well as a scientifically engaged approach to philosophy. I will begin by sketching an abridged philosophical history of such broadly 'naturalistic' attitudes and approaches. However, when we try to get a more precise grip on the stance at issue, we find that 'naturalism' is a tremendously ambiguous term, used to denote many substantively distinct views. The second half of the article will attempt to lay out a clear taxonomy of naturalisms, organized into four central categories: metaphysical, logico-linguistic, epistemological, and methodological naturalism. I will try to capture as broad an array of usages as possible, but I can't hope to capture them all. In the course of the article, I hope to clarify the relation of various naturalisms to adjacent views such as physicalism, empiricism, and scientism.

A Brief History of Naturalism

While 'naturalism' means many things, most naturalisms share a basic respect for scientific evidence, practices, and ways of knowing. Conversely, they often share a suspicion of philosophical intuition, speculation, and other a priori (that is, reason-based) methods. Several versions contend that there are fruitful points of contact between science and philosophy. Philosophers sometimes speak of a *naturalistic impulse* running through parts of the history of philosophy. In the broadest strokes, the naturalistic impulse is the desire to make philosophy reflect our scientific understanding of the world.

Prior to the advent of modern science, the study of nature was not distinguished from philosophy but part of it. Natural philosophy was the attempt to describe the natural world, and it included elaborate physical theories laid out by influential historical philosophers such as Aristotle. However, naturalism usually incorporates a respect for the institution of science as we now think of it – namely, modern science, which did not emerge until the scientific revolution of the early modern period. For that reason, the historical roots of 'naturalism' should be traced to early modern philosophy.

Hume was a prominent early naturalist. Where empiricism was not followed to its logical conclusion, i.e. scepticism, it was friendlier to science than rationalism, since it privileged empirical evidence. However, Hume was a naturalist in more direct ways. In general, he rejected things outside nature that science could never study and instead proposed philosophical accounts that located certain phenomena in the natural world and considered them amenable to scientific study. For instance, he rejected immaterial substances and miracles, grounded morality in human nature, accounted for causal thought and talk in terms of natural cognitive habits, and so on.

In the first half of the twentieth century, the logical positivists carried on the spirit of Hume's empiricism and

naturalism. They accepted the empiricist claim that empirical evidence is required for knowledge. They also shared the naturalist's respect for science. The positivists opposed traditional metaphysics, including the metaphysics commonly attributed to Hegel, which posits extra-empirical objects such as God and the soul. According to the positivists, Hegel's claims about God and the soul were literally meaningless. That's because they accepted a verificationist criterion of meaning, according to which sentences are only meaningful if they are empirically verifiable. They thought metaphysical claims failed the criterion. Ultimately, logical positivism failed, partly due to the difficulty of formulating the verificationist criterion of meaning precisely and partly because the criterion was self-defeating (how do you verify the verificationist criterion of meaning?). Notwithstanding the failure of logical positivism, from the naturalists' perspective, it had a noble spirit: it incorporated an explicit respect for science and demanded of philosophical methodology that it privilege scientific evidence.

In the wake of the failure of logical positivism, Quine defended the possibility of metaphysics while preserving the positivists' respect for science. Importantly, Quine articulated and defended his own characteristic brand of naturalism. He characterized his naturalism as the abandonment of first philosophy and the recognition that science is our guide to reality. Knowledge, he thought, can only be gained through the empirical methods of science. This has many concrete implications, one of which is that we must determine what exists by appeal to our best science. Quine helped resurrect metaphysics from its apparent death at the hands of the positivists, but he reined in its wilder speculative character by advocating a science-based methodology.

In the latter half of the twentieth century, analytic philosophy departed from Quine's methodological vision and began to depend heavily on common-sense intuitions about things like reference, essences, identity, and possibility and necessity. However, recent philosophy has seen much naturalistic criticism of the method of addressing

substantive philosophical questions by appeal to individual armchair intuitions. For instance, experimental philosophy emerged in the early 2000s. Its proponents use scientific methods, such as statistical and survey methods, to study folk intuitions about language, ethics, mind, epistemology, and metaphysics, among other things. Sometimes the goal is to study philosophically interesting aspects of human psychology (such as moral psychology) directly; sometimes it is to gauge the uniformity or non-uniformity of folk intuitions across social contexts, potentially undermining the evidential weight of intuitions where we find variation across contexts. Regardless, experimental philosophers denounce attempts to make philosophical progress by consulting individual intuitions and expressly consign the armchair to the flames. Other philosophers have explicitly taken up the naturalist mantle by sharply criticizing certain domains of philosophy, such as metaphysics, for their reliance on ordinary intuitions and their insulation from science, by urging closer contact with science, and by developing scientifically engaged theoretical programmes.

In the course of this brief and sketchy history of naturalism, we've seen a glimpse of the variety of views that get lumped together under the same name. Hume rejected entities and phenomena not amenable to scientific study; the positivists built science into their conceptions of meaning and serious inquiry; Quine urged that knowledge requires scientific evidence; experimental philosophers implemented scientific methods; and other self-proclaimed naturalists have urged philosophers to engage more closely with science. Here we have many distinct forms of 'naturalism' and ways of being 'naturalistic' – some metaphysical, some logico-linguistic, some epistemological, and some methodological. These attitudes and approaches differ from one another in important and interesting respects, and hence an adequate understanding of the jumble of views we call 'naturalism' requires that we carefully tease them apart – a task to which I now turn.

Naturalisms

Metaphysical Naturalisms: When Hume denies the existence of non-natural entities such as immaterial substances, he exhibits a kind of metaphysical naturalism. Metaphysical naturalisms make claims about reality and its contents. They are descriptive, in the sense that they aim to objectively describe what reality is like. Some of them are specifically *ontological*, in the sense that they describe what exists or not; others are more broadly metaphysical in that they describe the nature of certain kinds of fact or property. I'll start with a common form of metaphysical naturalism.

Global Metaphysical Naturalism: Whatever exists is natural.

I call this thesis 'global' to indicate that it is an overarching metaphysical view of maximal scope – it applies to everything. So global metaphysical naturalism is antithetical to theisms of all varieties (or almost all, since Spinoza identifies God with nature). The idea is that there are no gods, ghosts, or other beings whose nature and capacities are different in kind from the natures and capacities found within nature. Whatever there is, is within nature rather than beyond it.

This raises the question of how, precisely, to conceive of nature and distinguish it from contrasting categories, such as the supernatural. On one conception, the natural world is the world we study scientifically. So one way of cashing out global metaphysical naturalism would be as follows: whatever exists is amenable at least in principle to scientific study (given enough time, money, ingenuity, and so forth). It is an open question which sciences count here – natural or social, too? If natural, fundamental physics or special sciences, too?

More generally, we face the question of what counts as *scientific* study in the first place. This lands us in the

treacherous territory of what philosophers call *the demarcation problem* – namely, the problem of what the characteristic hallmarks of science are, in virtue of which we can cleanly distinguish it from non-science (i.e. religion, pseudoscience, speculative metaphysics, and so forth). Resolving this problem is not nearly as easy as it may seem at first glance.

Take the standard conception of science most of us inherit from our basic science education. According to that conception, the hallmark of science is the scientific method – roughly, the method of forming hypotheses about the world and testing them via observation and experiment. This conception fails to single out what is unique to science, since hypothesis-testing is ubiquitous outside science. Ordinary inductive inference (inference which draws a conclusion going beyond what the evidence strictly entails) furnishes us with plenty of examples. If I hear scratching at the door, I form an educated guess, based on prior experience and background knowledge, that my cat wants to be let in. I can easily test my hypothesis by collecting further observational evidence – I can open the door and take a look. We could in theory count hypothesis-testing such as this as bona fide science, but this stretches our ordinary conception of science beyond recognition and probably beyond usefulness. The point is that hypothesis-testing is far too broad a phenomenon to count as the distinctive feature of science. At the same time, it is too narrow a criterion, in that it precludes less empirical pockets of science (such as the more speculative kinds of theoretical physics) from counting as bona fide science. This failed attempt to identify the distinctive feature or features of science gives us only a small taste of the trouble philosophers face in trying to precisely demarcate science from non-science. This means that the proponent of global metaphysical naturalism has her work cut out for her: she must either provide an adequately worked-out conception of ‘scientific study’ or else provide an alternative conception of nature.

Those familiar with the philosophical terrain will recognize that, as I've characterized it, global metaphysical naturalism closely resembles physicalism. In fact, substitute 'physical' in place of 'natural' above, and you'll get a decent primer on physicalism. However, whether global metaphysical naturalism and physicalism collapse into one another depends on how we define 'natural' and 'physical'. We already saw that 'natural' can be characterized with reference to science; the same goes for 'physical'. For instance, we might say that the category of the physical is populated by the things scientists talk about. However, such a characterization faces what is known as Hempel's Dilemma, which arises when we ask whether our conception of the physical should be indexed to current science or to a hypothetical, completed future science. On the one hand, current science is incomplete and so cannot give us a full roster of the physical; on the other hand, a hypothetical, completed future science – being presently unknown to us – likewise leaves us without a contentful account of the physical. In the case of the 'natural', the issue is the same: whether we characterize the natural in terms of current science or hypothetical, completed future science, we can't be sure which things are natural and which ones aren't. So Hempel's Dilemma potentially poses a challenge to the formulation of physicalism and naturalism alike; if we define the views in parallel terms, predictably they face parallel challenges. However, in theory our definitions of 'natural' and 'physical' could diverge, and if they did, then so too would global metaphysical naturalism and physicalism.

In contrast with global metaphysical naturalism, we may distinguish a local variety of metaphysical naturalism.

Local Metaphysical Naturalism: Aspect x of reality is natural.

Local metaphysical naturalisms will differ with respect to how they fill in the placeholder x . For instance, some versions of moral naturalism claim that moral facts or properties are natural facts or properties. Likewise some versions

of mathematical naturalism claim that mathematical objects such as functions, numbers, and sets are natural in some sense. Naturalisms about mental phenomena such as mental content, mental representation, and intentionality would also count as local metaphysical naturalisms. Local metaphysical naturalism has a wide variety of potential locales, as it were.

We may also distinguish more sophisticated formulations of global and local metaphysical naturalism, which appeal to a distinction between *being* natural and *metaphysically depending on* that which is natural. Such formulations allow that some aspects of reality are not themselves natural – in the sense of being amenable to scientific study, let's say – but depend for their existence and nature on aspects that are and, as such, are nothing over and above the natural. The sophisticated global thesis would be that whatever exists is either itself natural or dependent on the natural; the sophisticated local thesis would be that a certain aspect of reality depends on the natural. Philosophers have identified a number of interesting dependence relations that might be appealed to here. For instance, both global and local metaphysical naturalism could allow that some non-natural properties are *grounded* in natural ones, which is to say exist in virtue of them. Take a putatively non-natural property – the property of being morally good, say. A grounding-based metaphysical naturalism could say that moral goodness exists in virtue of certain characteristics of human psychology. The point is that the notion of metaphysical dependence allows proponents of metaphysical naturalism to refine and potentially enrich their view.

Plenty of other metaphysical dependence relations could be appealed to. For instance, take the *truthmaking* relation – a metaphysical dependence relation in which some worldly state of affairs makes some proposition true. We can imagine global and local truthmaker naturalisms, according to which every true proposition, or every true proposition within a certain domain (say, the domain of ethics), is made true by natural states of affairs. Similarly, we could formulate global

and local reference naturalisms, according to which if a term, or a term within a domain, successfully refers, then it has a natural referent or referents. While these naturalisms deal with propositions and terms, they're nevertheless metaphysical, since they make claims about the metaphysical objects in virtue of which propositions are true or terms refer. However, a further class of naturalisms can be delineated, the members of which make claims about more thoroughly logical and linguistic phenomena such as meaning and entailment.

Logico-Linguistic Naturalisms: Logico-linguistic naturalisms make claims about semantic or logical relations among terms, sentences, and theories. Compare the following pairs of theses:

Lexical Naturalism:

Global: All referential terms can be translated without loss of meaning into exclusively natural terms.

Local: All referential terms in domain x can be translated without loss of meaning into exclusively natural terms.

Sentential Naturalism:

Global: All true sentences are sentences about nature.

Local: All true sentences in domain x are sentences about nature.

Theoretically Reductionist Naturalism:

Global: All true theories can be reduced to natural theories.

Local: All true theories in domain x can be reduced to natural theories.

Each is open to further refinement, since the question of what constitutes ‘nature’ or a ‘natural’ term or theory remains open. Note that theoretically reductionist naturalism can be fleshed out in different ways. One possible way would be to take theories to be syntactic objects – namely, sets of propositions – and claim that one reduces in Nagel’s well-known sense to the other. On Nagel’s view of reduction, Theory A reduces to Theory B if and only if Theory A can be logically deduced from Theory B using appropriate bridge principles. At any rate, when a particular naturalism makes a claim about what linguistic items mean, what they are about, or how they relate logically to one another, it belongs to this special class of naturalism.

Epistemological Naturalisms: An additional family of naturalisms is epistemological in nature, meaning that its members make claims about the conditions for intellectual achievements such as explanation, knowledge, and justification. Like metaphysical naturalisms, epistemological naturalisms are descriptive, in that they purport to describe matters of fact regarding such phenomena. Take, for example, the following view.

Explanatorily Reductionist Naturalism:

Global: All facts can be fully explained in terms of natural facts.

Local: All facts about *x* can be fully explained in terms of natural facts.

Whether this form of naturalism should fall under the epistemological category is a matter of potential debate, since some take explanatory relations to be importantly metaphysical (for instance, some think they depend on metaphysical relations such as grounding or causation). This suggests that, unsurprisingly, the boundaries between the various families of naturalism may not always be clean and clear-cut. At any rate, I am thinking of explanation as a

process aimed at understanding and therefore as an importantly epistemological endeavour. This sort of view naturally accompanies metaphysical naturalism, since the *explanatory* reduction might be said to hinge on *metaphysical* reduction or dependence.

Explanatory reductionism notwithstanding, the phrase ‘epistemological naturalism’ is often reserved for the following thesis, associated with Quine.

Global Epistemological Naturalism: Only scientific-empirical methods provide knowledge and justification.

Proponents of this view sometimes use ‘scientific’ and ‘empirical’ interchangeably, and so I use the phrase ‘scientific-empirical’ to capture that vacillation (though I don’t approve of it myself). To say such methods are empirical is to say they’re a posteriori. Roughly, a posteriori knowledge and justification are gained through experience, as opposed to a priori knowledge and justification, which are gained independently of experience. While I have formulated the thesis of global epistemological naturalism positively, it has a negative implication, which is that there is no a priori knowledge or justification. Denying a priori knowledge and justification amounts to denying that knowledge and justification can be gained independently of experience.

This global view is similar in spirit to empiricism, but differs slightly in letter. In particular, some empiricists allow for a priori knowledge of certain kinds of truth. For instance, Hume allows for a priori knowledge of relations of ideas (truths, such as logical and mathematical truths, the denial of which is a contradiction); he simply denies that we can have a priori knowledge of matters of fact (truths about contingent, worldly states of affairs). The distinction between relations of ideas and matters of fact was a precursor of the analytic–synthetic distinction (the distinction between sentences that are knowable in virtue of the meanings of their component parts and those that aren’t),

which Quine famously attacked. By extension, Quine denies any basis for a coherent Humean distinction between the kinds of truths that can be known a priori and the kinds that cannot. So while empiricism in the Humean spirit allows that there are certain sorts of fact that can be known a priori, epistemological naturalism in the Quinean spirit denies this altogether.

Global epistemological naturalism also shares the spirit of scientism on one of its many characterizations. In particular, scientism is sometimes defined as the view that science has a kind of epistemic monopoly. That is, scientific methods provide the only route to knowledge and justification. By implication, all inquiries must adopt its methods if they are to achieve bona fide knowledge and justification. This is a strong formulation of scientism. On this strong formulation, scientism and global epistemological naturalism are equivalent. Weaker varieties of scientism claim merely that scientific methods are the best source of knowledge and justification or (weaker still) that science can benefit non-scientific inquiry. Such formulations diverge from global epistemological naturalism.

Epistemological naturalism can also come in local varieties, which describe conditions for certain kinds of knowledge and justification, such as knowledge and justification *via-à-vis* moral or mathematical truth.

Local Epistemological Naturalism: Only scientific-empirical methods provide knowledge and justification with regard to domain *x*.

There is also a local epistemological naturalism about epistemological knowledge. According to that view, knowledge of *knowledge itself* (its nature and possibility) must be gained through empirical means (i.e. through cognitive science). Just like local metaphysical naturalism, there are plenty of ways of filling in the view.

Epistemological naturalisms of the global and local variety also have normative implications (implications

regarding how things should be). If you can only acquire knowledge and justification, or knowledge and justification vis-à-vis certain domains, through scientific-empirical means, then anybody who wants such knowledge and justification ought to pay attention to science. That is, epistemological naturalism has implications for our methods of seeking knowledge and justification. This brings us to the final family of naturalisms.

Methodological Naturalisms: Methodological naturalisms make claims about how some domain of inquiry or inquiry in general should proceed. They are normative rather than descriptive, in that they say how inquirers ought to proceed. We can distinguish three broad families of methodological thesis, the members of which vary with respect to their scope. Each has a global formulation and admits of several possible local formulations (of which I'll present just two).

Emulation Theses:

Global: All inquirers should emulate science by adopting scientific methods.

Disciplinary: Philosophers should emulate science by adopting scientific methods.

Sub-Disciplinary: Practitioners of *philosophical branch x* should emulate science by adopting scientific methods.

Consistency Theses:

Global: All inquirers should make their commitments (posits, claims, theories) consistent with science.

Disciplinary: Philosophers should make their commitments consistent with science.

Sub-Disciplinary: Practitioners of *philosophical branch x* should make their commitments consistent with science.

Implementation Theses:

Global: All inquirers should use scientific evidence and results.

Disciplinary: Philosophers should use scientific evidence and results.

Sub-Disciplinary: Practitioners of *philosophical branch x* should use scientific evidence and results.

The main difference among these varieties of methodological naturalism is the recommended relationship to science. The emulation theses prescribe co-opting scientific practice, while the consistency and implementation theses prescribe attending to scientific products (results, theses, theories). The consistency theses demand only that we not contradict whatever unified scientific consensus there is, which is an extremely weak requirement; the implementation theses demand that scientific products positively support our claims and commitments.

The implementation theses are phrased in a way that allows them to capture a range of possible views. The strength of the view can vary – it could prescribe that inquirers use *only*, *primarily*, or just *some* scientific evidence and results. Moreover, the manner in which scientific products are to be *used* is open to specification. We might specify that they be used as a basis for the deductive derivation of posits, claims, or theories. For instance, Quine thought that metaphysicians should derive their ontology from simplified science. Alternatively, the proponent of an implementation thesis could recommend that we draw conclusions from science inductively. For instance, we might argue for a conclusion based on the service it provides in explaining or unifying scientific evidence or theses. Finally, we might use science to delimit the questions we take seriously and spend time on. Various combinations of these views are also possible. So there are a number of ways in which the implementation theses might be cashed out, corresponding to the number of ways in which inquirers could be expected to use science.

Local varieties of methodological naturalism sometimes present themselves as the claim that some domain or domains should be *naturalized* or approached *naturalistically*. Thus, Quinean claims that we should naturalize metaphysics, epistemology, ethics, legal philosophy, and so on are local methodological claims. Here we find a potential source of confusion. In particular, we run the risk of conflating *naturalisms* of one form or another with *naturalistic* approaches to particular domains. However, they should not be conflated. Epistemological naturalism and naturalistic epistemology are different things; the same goes for metaphysical naturalism and naturalistic metaphysics. Naturalistic epistemology and metaphysics are simply epistemology and metaphysics approached through a scientific lens; epistemological and metaphysical naturalism are, by contrast, categories of substantive philosophical views.

Conclusion

I have sketched a brief history of naturalism, understood in terms of respect for and philosophical engagement with modern science. We saw variations of that theme in Hume, the logical positivists, Quine, experimental philosophy, and other contemporary critics of insular philosophical methods. In fact, the variation was so vast that it called for a taxonomy of naturalisms that distinguished metaphysical, logico-linguistic, epistemological, and methodological families of view from one another. These categories can usefully capture many of the views that get called 'naturalistic' or 'naturalism'. However, the views differ so much in substance that there is little, if anything, that unifies them all. This doesn't mean that we should stop using the words 'naturalism' or 'naturalistic' but that we should endeavour to be painstakingly clear when we do use them.

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Further Reading

I direct readers seeking further materials on naturalism to the following excellent resources:

Clark, K. J. (ed.) *The Blackwell Companion to Naturalism* (Chichester: John Wiley & Sons, Inc., 2016). (A sizeable volume with chapters on a variety of naturalisms.)

Devitt, M., 'Naturalism and the A Priori', *Philosophical Studies* 92 (1998), 45–65. (A defence of Quinean epistemological naturalism.)

Maddy, P., *Second Philosophy: A Naturalistic Method*. (Oxford: Oxford University Press, 2007). (A defence of methodological naturalism.)

Papineau, D., 'Naturalism', *The Stanford Encyclopedia of Philosophy* (Summer 2020 Edition), Edward N. Zalta (ed.), <<https://plato.stanford.edu/archives/sum2020/entries/naturalism/>>. (An encyclopaedia entry that distinguishes ontological from methodological naturalism.)

Garrett, D., 'Reasons to Act and Believe: Naturalism and Rational Justification in Hume's Philosophical Project', *Philosophical Studies*, 132 (2007), 1–16. (A discussion of Hume's naturalism.)

Amanda Bryant is a Postdoctoral Fellow in the LanCog Research Group, Centre of Philosophy, University of Lisbon. abryant@letras.ulisboa.pt