

Varieties of naturalism

1. What do you take naturalism to mean? How does it influence the discourse in your field, particularly its conception(s) of human nature?

The long story: Naturalism is one of these ubiquitous terms that is used in very different ways and thereby produces confusion. In my field of theoretical philosophy, many call themselves 'naturalists', but more often than not it remains elusive what is meant by that. Worse still, efforts to clarify lead to a pluralism of attribute-naturalisms, such as 'moderate naturalism', 'restricted naturalism', 'scientific naturalism', etc. I suggest that it is more productive to clarify what naturalist positions have in common such that they all deserve to be called 'naturalism' before making up new labels. This, however, proves to be a difficult task, especially if you want naturalism to be a term on its own. More often than not a position that is considered to be 'naturalist' could simply be called 'materialist' or 'physicalist' instead. Here is why:

Two important types of naturalism to be distinguished are metaphysical and methodological naturalism. Metaphysical naturalism maintains that "natural properties, events, and individuals are the only properties, events, and individuals that exist" (Cohen, 2003). However, this claim is only intelligible if we specify what we mean by saying that only that which is 'natural' exists. Often, what 'natural' is supposed to denote remains undefined. This vagueness is intended, as it allows for different versions of metaphysical naturalism. What claim, then, is effectively being made? If we were to say that everything is 'natural' in opposition to 'supernatural', this would raise the question of what exactly the 'supernatural' is – are we merely stating the commonsensical idea that there are no witches or unicorns? At this point, let us assume instead a straightforward reading: that metaphysical naturalism is the claim that there is only one spatiotemporal world, which is composed of natural entities. These are the only entities that exist and 'natural' is that which can be an object of the natural sciences. This seems to be a certain type of materialism.

But notice that our conception of natural science needs to ground our notion of nature. Assuming what we have said so far, we need to give an account of what makes a natural science a 'natural' science in order to distinguish that which is 'natural' from that which is 'supernatural' or 'unnatural'. And this, in turn, is a type of physicalism or scientism, i.e., methodological naturalism: "In the dimension of describing and explaining the world, science is the measure of all things, of what is that it is, and of what is not that it is not." (Sellars, 1963). An alternative definition of this type of naturalism reads as follows: "The closest thing to a common core of meaning is probably the view that the methods of natural science provide the only avenue to truth" (Thompson, 1964). The scientific method with its inherent reductionism has been a hugely successful research program. One might think that the objects of the natural sciences are not the only objects that exist, but rather that they are part of a more complete picture. However, methodological naturalism claims that it indeed can provide the full picture. Science has the authority and unravels what actually matters in the end. According to this position there is nothing that is in principle hidden from science's glare. It is purported that science, in contrast to religious or artistic practices, defines what there is to be known. A more moderate version of this naturalism states that only that which can be described and explained by the sciences and arts exists.

A particularly influential type of methodological naturalism is physicalism. Physicalism assumes there to be grounding relations between the different sciences; as physics and chemistry underlie the function of the brain, psychology and biology are considered to be grounded in these sciences. Physics, in turn, is assumed to underlie chemistry. In this view, the nature of a chemical bond can be stated in physical terms. Some even consider macrophysics to be reducible to particle physics, as demonstrated in the kinetic theory of gases.

Both metaphysical and methodological naturalism are widespread positions that one encounters in academia, politics, the media, and everyday life.

However, both positions are neither new nor do I think the label 'naturalism' is helpful. As I suggested, in most cases we could just speak of 'materialism', 'scientism' or 'physicalism'. Using the term 'naturalism' is often nothing but pouring old wine into new bottles. I should mention that there are other types of naturalism which make use of the double meaning of the word 'nature'; so far, we used nature in its substantival sense which we can distinguish from an adjectival sense, as in 'human nature' or 'the nature of storytelling'. In these phrases 'nature' could be replaced by 'essence' or 'true character'. It goes without saying that such naturalisms denote entirely different positions.

2. Why has naturalism become so widespread, particularly in certain intellectual circles in the West? What is so attractive about it?

One motivation to embrace ontological and methodological naturalism is an appreciation of the natural sciences' explanatory successes. Many phenomena that could not be explained about 200 years ago – like electromagnetism, the emergence of new species and the cause of certain illnesses – proved themselves accessible to rational investigation. This came hand in hand with technological innovations like the telegram, steam-engines, and modern medicine. To some philosophers, this suggests that everything that is explainable by the natural sciences can also be characterized by the natural sciences. Consequently, if we can explain certain phenomena such as measles with the help of the natural sciences then this also seems to suggest that our *way* of explaining what measles are is an apt description of *what* they are. If we can describe what a telegram does, then a naturalist position suggests that it is also an apt description of what a telegram is. After all, we even invented the telegram; why should we be unable to characterize the telegram in a reasonable manner using the natural sciences? To avoid these difficulties, let us make use of inductive reasoning: If the natural sciences are able to characterize certain phenomena in a reasonable manner, then in principle all phenomena can be reasonably characterized. Therefore, the natural sciences can provide a reasonable characterization for every phenomenon.

However, this sketch of a possible motivation for assuming naturalism reveals problems. First, why must everything that can be explained by a given natural-scientific model also be aptly characterized by it? Second, why should we assume this induction to be valid?

Concerning the first problem, consider that the history of science is filled with models that aptly explain and even predict certain phenomena, while their theoretical entities at some point become outdated. For example, people assumed light to be particles and thereby gave explanations of what light was and predicted how some surfaces would reflect light. But no matter how well this worked in practice, it turned out not to be an apt characterization of what light is. Or consider the differences of opinion concerning the 18th century theory of preformationism according to which people assumed that organism embryos were miniature versions of adult organisms. These theories had a certain explanatory power, but surely were not apt characterizations of what was really going on. So why should we assume that everything that can be explained today by a given natural-scientific model can also be aptly characterized by it? Why assume that our current way of explaining what light is also provides an apt characterization of light?

Concerning the second problem (the validity of the proposed induction): Any inductive reasoning is making broad generalizations from specific observations. The problem is that even if all our specific observations were correct, inductive reasoning still allows for the conclusion to be false. Borrowing from a familiar example, if I observe four white swans and infer the generalization "All swans are white", I will be surprised to encounter a black swan in Australia. The mistake was not the observation, but the inherent fallibility of inductive reasoning. So why should we assume the induction under discussion to be valid? Granted that it is the case that the natural sciences are able to characterize certain phenomena in a reasonable manner, why should it follow that the natural sciences could, in principle, provide a reasonable characterization *for every* phenomenon?

Both these problems stem from traditional debates on materialism and physicalism. As suggested above, the label 'metaphysical naturalism' can often be characterized as materialism. According to classical definitions of materialism, such as one given by Henry More in the 17th century, there is nothing in the world but matter which moves in one way or another. A central focus of the debate surrounding materialism has been how mental phenomena should be aptly characterized according to materialism. Some suggest that the denial of mental phenomena is at the heart of materialism, claiming that there cannot be a mind if it is understood as an independent substance, and that there cannot be a God if it is understood as a spiritual, personal, and other-worldly being. The meaning of materialism is very much dependent on how one conceives of what matter is. Philosophers of the 17th century such as Descartes and Hobbes conceived of matter as a three-dimensional extension obeying certain impact laws. As is the case with many scientific concepts, this conception of matter changed drastically over time. A later conception of matter included further fundamental attributes such as mass and electrical charge. This evidently changes the meaning of 'materialism'. Furthermore, the exploration of the internal structure of atoms has led to a controversy over whether there even is such a thing as matter.

The term 'physicalism' was coined in the early 20th century by the logical empiricists. They were skeptical of metaphysics in general, i.e., theses about the world and its fundamental principles. They considered materialism to be a type of metaphysics and thus rejected it. However, some wanted to keep what they appreciated about materialism – including its association with 'progressive' political thinking, which was liberated from religiosity, and the traditions passed on by the humanist tradition, and their affirmation of a scientific stance towards the fundamental questions of life. This led to the formulation of 'physicalism' by Rudolf Carnap and Otto Neurath – this is the thesis that all sentences of other sciences are translatable to sentences of physics. In this way we assume a linguistic unity of the sciences. In the 1970s, theoreticians started to interpret theories and their associated vocabulary realistically and changed the meaning of physicalism. Since then, people do

not merely understand 'physicalism' to be a claim about the translatability of different sciences but rather as a metaphysical claim that everything that happens is in the end physical.

One motivation to assume this type of physicalism is a certain reductionist view of causality. According to this view, we should assign causal powers *only* to physical entities, particularly the entities under discussion in the field of microphysics. This type of physicalism even trumps other reductionist views. Consider for example the stance of Sir Francis Crick, the discoverer of DNA: "You, your joys and your sorrows, your memories and your ambitions, your sense of personal identity and free will, are in fact no more than the behaviour of a vast assembly of nerve cells and their associated molecules." For a reductionist physicalist, this is not radical enough. Nerve cells are made of electrons, protons and neutrons which in turn are made up of quarks. The reductionist physicalist would ask why we should consider nerve cells our bottom level, as Crick the biologist suggests. Why would we assign nerve cells causal powers when their behavior is nothing but the behavior of electrons?

In short, naturalism has become so popular because of the natural sciences' explanatory successes and a changed understanding of matter, which led to a revision of materialism. Two primary motivations for adopting naturalism are (i) an induction ("If the natural sciences are able to characterize certain phenomena in a reasonable manner, then in principle all phenomena can be reasonably characterized") and (ii) a certain reductionist view of causality.

3. What contributions and/or difficulties does naturalism bring to the thinking around human nature?

Naturalism is itself a metaphysical thesis that does not necessarily follow from taking science seriously. It is truly astonishing how many people take one form of naturalism or another for granted. In my opinion, both types of naturalism that I discussed undermine human worth and inevitably lead to inhumanity. There is a large variety of reductive claims that are associated with naturalism;

whether I consider “consciousness to be an illusion” (Dennett, *Consciousness Explained*) and think that it plays no significant role in thinking, or if I think of us as “robot vehicles blindly programmed to preserve the selfish molecules known as genes” (Dawkins, *The Selfish Gene*) – such claims are to me positively threatening to a dignified conception of human beings. I want to suggest that this also remains true for the more sophisticated variants of naturalism, such as in the work of Sellars or Quine, but this would be a longer story to tell.

As I have already suggested, the sketched versions of naturalism, materialism, and physicalism are problematic. Among the many fallacies of these views (e.g., restricted domain of enquiry, unjustified extrapolation, evolutionary explanation of social sciences, neuroscientific explanation of social sciences, etc.), let us consider only the fallacy of excluded evidence at work in physicalism. By definition, physics assumes that the only relevant data is that from laboratories, telescopes, microscopes and other physical instruments. And by definition physics excludes any teleological explanations of phenomena, i.e., no explanations that involve direction or purpose. Then it comes at no surprise that such physicalist efforts conclude that the universe is meaningless (see for example Hawking’s *The Grand Design*).

There are more nuanced attempts at being a naturalist while preserving meaning, but I do not want to go into these writings at this stage. I am skeptical that such in-between-positions – for example, situating ethics only in relation to living things as such, while adopting the stance that the universe itself is meaningless (see for example Foot’s *Natural Goodness*) – can be adopted coherently. But these attempts would need to be considered in their own right.

4. What scholar(s) has or have offered you insight into the relationship between human nature and naturalism? What points have they raised?

If you want to understand the term 'naturalism', read Geert Keil's papers on naturalism. To reconsider what physics can and cannot do, read George Ellis' *How can Physics Underlie the Mind*. If you are interested in the moral implications of some types of naturalism, read Merlin Donald's *A Mind So Rare*. If you are interested in the position of humans in evolutionary thought, read Raymond Tallis' *Aping Mankind*. If you are interested in a bird's eye perspective on these issues in the history of philosophy, read Markus Gabriel's *I Am Not My Brain*.

5. Are there any insights from religion that could illumine our understanding of naturalism and human nature?

I think of religion, the fine arts, the sciences, the humanities, and craftsmanship to be complementary systems of knowledge. It is a characteristic feature of the natural sciences to be limited in their scope. They have their proper domain of application but cannot adequately deal with subjects of enquiry that have different characteristics. Consider the joys of literature, the pleasure of cooking with friends, the way wind feels on your skin, the characteristics of selfishness, receiving inspiration during meditation, true love for humanity, etc. These are phenomena which cannot be sufficiently characterized by the natural sciences because it is expressly not their aim to do so. Religion provides characterizations for some of these phenomena which need not conflict with taking science seriously.

Levin Zendeher is a PhD candidate in philosophy at Bonn University, Germany. His research focuses on metaphysical and epistemological issues raised by the Post-Kantian German philosophical tradition.

References

- Cohen, J. (2003). Information and Content. In L. Floridi (Ed.), *The Blackwell Guide to the Philosophy of Computing and Information* (pp. 215–227). Wiley-Blackwell.
- Foot, P. (2001). *Natural Goodness*. Clarendon Press.
- Sellars, W. (1963). *Science, Perception and Reality*. The Humanities Press.
- Thompson, M. (1964). Naturalistic Metaphysics. In R. M. Chisholm, Feigl, Herbert, Frankena, William K, J. Passmore, & M. Thompson (Eds.), *Philosophy* (pp. 183–204). Prentice-Hall.