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Sliding from methodological naturalism to philosophical naturalism?

ESTELLE POIROT-BETTING

Abstract

Methodological naturalism is a limited pragmatic method which gives way, most of the time, to philosophical naturalism. Our description of philosophical naturalism will emphasize the plurality of its kinds. These considerations will bring us to the conclusion that methodological naturalism takes us far, yet still not far enough. Methodological naturalism is one of the tools that scientists use to overcome problems created by personal beliefs. Therefore, adopting such a methodological naturalism is relevant and pragmatic. Our conviction is that such a pragmatic position leads inevitably to philosophical questions and thus to philosophical naturalism. Philosophical naturalism involves several kinds, according to the ontological and epistemological dimensions involved. We will describe here three principal kinds of philosophical naturalism. If they are all totally compatible with scientific inquiry, this is not the case with their relation to religious belief. Methodological naturalism is certainly a useful tool, but it seemed important to us to go a step further and consider that everyone has a philosophical or religious position rooted in a preexisting worldview. This worldview commands an engagement with a kind of philosophical naturalism and thus the possibility or not to take into account religious beliefs. Three case study are presented in order to illustrate this assertion.

Keywords

methodological naturalism; philosophical naturalism; science and theology.

Introduction

One of the conditions for establishing a relation between science and theology requires us to examine and understand scientific practice. Science is the main source of knowledge in the description and explication of nature. Science affects our way of thinking and our way of life. Thus, scientific knowledge has an impact on theology as well. One of the main aspects of scientific practice is naturalism. But what is naturalism?

First, we need to define the term ‘naturalism’ because it has different senses and we need to be wary (Andler 2016:11), as naturalism ‘means so many different things to so many different people’ (Peterson and Ruse 2016: 30). In a first approach we can say that naturalism asserts that all things in nature can be describe only by natural factors. It then seems necessary to distinguish two kinds of naturalism: methodological naturalism and philosophical naturalism. These two kinds of naturalism will be described as it follows.

Methodological naturalism is a pragmatic method which has limits and gives way, most of the time, to philosophical naturalism. Our description of philosophical naturalism will emphasize the plurality of kinds it involves. These considerations will bring us to the conclusion that methodological naturalism takes us far, yet still not far enough. Philosophical naturalism, on the grounds of its ontological and epistemological dimension and in the way describe below, can explain why scientists, philosophers and theologians accept or not that rationalities other than the scientific one can be used to explain our world.

Methodological Naturalism: A good tool?

Methodological naturalism is a tool that scientists use to overcome problems created by personal beliefs. Methodological naturalism is adopted by scientists to avoid any reference to God in scientific inquiry. In accordance with this, methodological naturalism asserts that religious commitments have no relevance to scientific practice: natural sciences require no specific attitude to religion and can be practiced just as well by adherents of religious faiths as by atheists or agnostics. Such a method is non-metaphysical, in principle. Adopting such a methodological naturalism is relevant and pragmatic, it is a sort of ‘methodological atheism’ (Ottaviani 2012: 704). Methodological naturalism may be understood as a thesis about natural scientific method itself, not a philosophical method (Papineau). In this meaning, it is a pragmatic position adopted by scientists that consists in an intrinsic limitation and not an ontological limitation. The important force of conviction of methodological naturalism results from an important power of persuasion, due to the more and more convincing and numerous explanations which can be provided concerning natural phenomenon. If such a position implies that God has nothing

to do in scientific explanations, it does not imply that scientists must be atheists to practice science, but that their scientific research must be done without any reference to God (Sober 2011: 359-377). But we should ask ourselves if scientists are able to leave all their philosophical and theological beliefs outside their laboratory (Peterson and Ruse 2016: 31). In fact, when a scientist who is a believer embraces methodological naturalism, this already involves a presupposition: 'there is a creator to bracket out' (Torrance 2017: 692). Is this not the believer who 'denies' his faith so it adapts to methodological naturalism rather than methodological naturalism which rejects God?

Our conviction is that the pragmatic position of methodological naturalism leads inevitably to philosophical questions: about the limits of scientific research or query of a worldview, and thus to a philosophical naturalism. We will now to describe various kinds of philosophical naturalism and explain why we believe that an open philosophical naturalism can be used to establish a constructive relation between science and theology. Thus, we may overcome the separation between science and theology and go a step further than complementarity.

Philosophical Naturalism and its different kinds

Methodological naturalism stands never far from a philosophical commitment, which does not pertain to scientific activity. This philosophical commitment is called here philosophical naturalism. In this perspective, we need to engage in a reflection over nature. Actually, 'Naturalism means various things, it depends on what we understand by nature which is underlying this expression' (Kasper 1998: 672). This means that we may consider its epistemological and ontological dimensions. In other words, we must think about 'how we know' and 'what there is.' First, we may notice that philosophical naturalism does not necessary take a materialist or physicalist form. A more open philosophical naturalism can be considered. In fact, philosophical naturalism involves ontological and epistemological dimensions. There are different kinds of philosophical naturalism and each one corresponds to a combination of these dimensions.

Epistemology (what we know, how we know). Ontology (what there is).

We will now describe three principal kinds of philosophical naturalism. These developments are parts of our PhD thesis concerning the relation between science and theology (Poirot Betting 2016: 53-104). The three kinds of philosophical naturalism result from various combinations of ontological and epistemological dimensions. They are all totally compatible with scientific inquiry, but not always with the religious belief or with theology.

The epistemological dimension of philosophical naturalism deals with what we know and the way we know it. It takes into account the method of the act of knowing and also the result of this act. The epistemological dimension of philosophical naturalism may be viewed as an extension of science. From this point of view, philosophy and science are indeed committed in the same venture, pursuing the same purposes and using the same methods to establish synthetic knowledge about natural world. The epistemology of philosophical naturalism is then a reflection on the relation between philosophy and science. It means that we have to take into account the nature and the methods involved in the acquisition of our knowledge. That is to say that we may determine what latitude is granted to the explanatory capacity supplied by science and see how the methods of the natural sciences are used to legitimate any other cognitive method.

The epistemological dimension can take three forms: eliminative (a), reductive (b) and non-reductive (c). Eliminative epistemology (a) admits as justifiable knowledge only knowledge expressed in terms which can be translated into those of the natural sciences. In this case, any explanation which is not elaborated by the natural sciences must be translated into the language and the conceptualization of these sciences. It means that what is intelligible is only knowable by the language and the conceptualization of the natural sciences. This epistemological eliminative form grants an exclusive place to explanation such as conceived in the natural sciences and aims to eliminate explanations formulated in the terms and concepts of other disciplines by requiring their translation into expressions resulting from natural sciences. This kind of epistemology is particularly limited as sciences are considered in a hierarchical manner. That means that physical knowledge is at the fundamental level and

has a high priority over other disciplines. Such a conception leads to a universalist reductionism. In this eliminative epistemology of philosophical naturalism, only scientific explanations are to be considered.

The reductive type of epistemology (b) adopts knowledge expressed according to eliminative epistemology but by adding knowledge expressed in terms which can be explained by natural sciences. In this perspective, knowledge is recognized because the terms which express it can be translated or explained by those of the natural sciences. This operation is called reduction. The field of knowledge from (b), involves the knowledge from (a). In this perspective, knowledge must refer, by reduction or by replacement of the terms, to methods belonging to sciences in the broad sense (natural sciences and the human and social sciences).

With non-reductive epistemology (c), it is possible to consider cognitive methods which do not belong to the natural sciences and cannot be reduced to them. They have proper referents and appropriate terms that they can share with those of the natural sciences. With this epistemological attitude, the natural sciences and the human and social sciences are taken into account in their wholeness and considered as describing and explaining the realities which they study. They are not suspected of the fact that they use methodological principles and modes of causality distant from the natural sciences. This last epistemological attitude is by far the most open and enlarges knowledge issued from (a) and (b). In this case, all discussion about reality can be taken into consideration without excluding the sensitive dimension of this reality.

The second dimension of philosophical naturalism is the ontological one. This ontological dimension questions what exists and what we call reality. We can consider there to be no place for the supernatural in our reality nor for any other strange entity. Such an opinion entails an opinion on what nature is. This remark highlights the fact that naturalism is dependent on what nature means. It is what we consider to be the natural world which defines philosophical naturalism in its ontological dimension. We can emphasize that this ontological dimension of philosophical naturalism is close to methodological naturalism by asserting that nature, or the natural world, establishes all existence, but both are not to be taken together. Where methodological naturalism limits itself to the scientific domain, philosophical naturalism goes beyond this domain by including the philosophical field. It suggests a worldview that implies a meta-

physical choice concerning the existence of the world (Stanzione 2011: 380). Either there exists nothing else except the world or nature, and then spirit is a natural process and there is no supernatural reality; or the natural world relies on a different entity (personal or impersonal), of a supernatural being, which is its creator. In naturalized ontology, metaphysical choice qualifies what we understand by nature and by naturalism. In one case nature is the ultimate reality, while in the other it is creation which implies a personal or impersonal creator. Below this choice, the ontology of philosophical naturalism is qualified according to the place given to the sciences in this domain (Moser 2010: 63-73), and they are differentiated by the place granted to the entities of the natural world apprehended by the natural sciences.

Just as with the epistemological dimension of philosophical naturalism, the ontological dimension can take three forms: eliminative (*a*), reductive (*b*) and non-reductive (*c*).

The eliminative form (*a*) of the ontological dimension holds only for entities described and understandable by natural sciences. In other words, any real entity is included in the ontology of natural sciences. Behind this eliminative form, there is an epistemological option according to which assured reality consists solely of what the natural sciences know (Shook 2011: 2). This ontology is realistic in the domain assured by natural sciences. Apart from this domain, nothing is assured, because nothing is verifiable according to scientific procedures. Philosophical naturalism holding this position returns to a scientific exclusivism according to which reality is only constituted by what science acknowledges.

The second type of the ontological dimension of philosophical naturalism is called reductive (*b*). Reality is established by entities belonging to the ontology of natural sciences or which can be reduced to them. This is an extension of the eliminative form (*a*). It consists in accepting as real also those entities which can be described from objects belonging to the ontology of natural sciences. From this point of view, science is always the only source of knowledge and ontology includes the entities of the eliminative form (*a*) but possesses a bigger extension.

The third form of the ontological dimension is the non-reductive one (*c*). According to this last perspective, there are entities which stem from the ontology of natural sciences (*a*) and those who can be reduced to them (*b*). There

are also entities involved in a non-reductive way by some of the previous entities. It means that these entities are in coherence with the other entities and receive from them the recognition of their existence. From this point of view science offers a more and more reliable knowledge of reality and thus reality is wider than what science describes in a given time. This third ontological form (c), consequently, includes the entities of science and opens up other ways to know. These ways are not more accurate than those of science but enrich them and lead to a more global worldview.

These three forms of ontology are inserted into each other: (a) in (b) and (b) in (c).

By combining the various forms of epistemological and ontological dimensions, we can describe many philosophical naturalisms.

Philosophical naturalism

Before we combine these different embodiments of the ontological and epistemological dimensions, we must highlight that these dimensions do not arise from scientific work but result from a philosophical choice. The principle of verification through observation and experimentation is necessary in every science. But the epistemological challenge will be found in the way this verification is considered. The same is true for reality: the extension of the field of entities is the one which leads to the ontological choice.

The combination of the three forms of the ontological dimension with the three forms of the epistemological dimension give rise to nine types of philosophical naturalism. But there are some incompatibilities. Let us consider how each epistemology operates with ontology. The eliminative epistemology (a) can only be associate with an eliminative ontology (a). The obligation to express knowledge in scientific terms can only take place if entities can be referred to them. Considering this epistemology only one philosophical naturalism is possible. With epistemology (b) and (c), we can associate the three forms of ontology, and we have for each three philosophical naturalisms. Finally, only seven out of the nine possible philosophical naturalisms are relevant, and three will be described below.

Eliminative philosophical naturalism

The first philosophical naturalism, and the most closed, is called here *eliminative philosophical naturalism*. It stems from the combination of the epistemological and ontological eliminative forms (a-a). In this case, knowledge can be expressed in terms of the natural sciences and only the entities belonging to the domain of the natural sciences are considered as real. This eliminative kind of naturalism is by far the most closed, because it does not allow the existence of rationalities other than scientific ones. Natural sciences are considered as the only possible sources for a reliable knowledge. This position is limited because of its scientific exclusivism. This kind of naturalism is adopted by scientists that consider science to provide the only true knowledge of the world. This position is not necessarily implied by natural sciences. It is a particular understanding of science, which consist in a philosophical commitment. This perspective is adopted by materialism, scientism and physicalism. This eliminative philosophical naturalism can be related to metaphysical naturalism. This philosophical position settles on a metaphysical position according to which nature is the fundamental reality and there is no divinity or a divine connection with the world. References made to naturalism are often done with only this meaning, but there are also other kinds of philosophical naturalism.

Agnostic philosophical naturalism

The second kind of philosophical naturalism gives science the prerogative of knowledge but maintains the existence of realities not knowable by scientific explanation. This second philosophical naturalism results from the combination of the epistemological reductive form (b) with the ontological non-reductive form (c). Such a naturalism entails that knowledge can be explained in terms of natural sciences and includes entities of the various sciences but also those who are in coherence with them. This *agnostic philosophical naturalism* (b-c) is more open than the eliminative philosophical naturalism. Its open character is due to a very wide field of entities, even if it reduces knowledge to the natural sciences and partly to the human and social sciences. In the same time, it allows an immanent religiosity or to consider the meaning and values without pronouncing on this matter.

Non-reductive philosophical naturalism

The third philosophical naturalism which holds our attention possesses a non-reductive epistemological form (c) and a non-reductive ontological form (c). The non-reductive epistemological form allows all sciences to be taken into account. The non-reductive ontological form includes entities of the natural sciences and of the human and social sciences but also any entity in coherence with those of these sciences. The combination of these two open forms entails an open naturalism, *non-reductive philosophical naturalism (c-c)*. This type of naturalism considers reality in diverse ways, but it implies also that scientific theories are not anymore built on natural sciences only but may include other modes of knowledge. This non-reductive philosophical naturalism makes possible the theological understanding of the world.

According to this third kind of philosophical naturalism, entities not directly knowable by scientific methods of inquiry exist.

The table below summarizes our demonstration of philosophical naturalism in this paper.

| Kinds of Philosophical naturalism | Eliminative philosophical naturalism | Agnostic philosophical naturalism | Non-reductive philosophical naturalism |
|--|---|--|---|
| Epistemology | Eliminative (a) | Reductive (b) | non-reductive (c) |
| Ontology | Eliminative (a) | non-reductive (c) | non-reductive (c) |
| Open or closed to other rationalities | closed | open | open |
| Possibility of relation between science and theology | no | limited | yes |
| Representatives | Steven Weinberg Daniel Dennett | Charles Darwin, Christian De <u>Du</u> ve Stephen J. Gould | Willem B. Drees Ian Barbour Arthur <u>Peacocke</u> John <u>Polkinghorne</u> Jean-Michel <u>Maldamé</u> <u>Wolffhart</u> Pannenberg Marcel Conche Denis <u>Andler</u> |
| | Richard Dawkins | | |

The last line contains a list of scientists, philosophers and theologians, whose analyses allowed us to determine to which type of philosophical naturalism

they relate. As it would be excessively long to develop an analysis of them all (for more details see my PhD dissertation), only three will be propose here: one representative of each categories of philosophical naturalism.

Philosophical Naturalism: Three case studies

Steven Weinberg

Stephen Weinberg believes that scientific inquiry leads to universal truths about nature. We do not know everything about the universe but what we understand leads us to a comprehension of the world where it is unnecessary to call upon pseudoscientific explanations or superstitions or creationism (Weinberg 1997: 56). Weinberg postulates that all that exists in the world has only natural causes and explanations. He is a naturalist. At the same time, he assures us that science has the opportunity and the possibility to find God in nature. But scientific inquiry does not find Him, because He does not exist. For Weinberg, only explanations such as those conceived by the natural sciences are reliable. He eliminates all explanations formulated in terms and concepts of other disciplines. This form of epistemology is an eliminative epistemology. As described above, only an eliminative ontology can be associated with it. Therefore, Weinberg's naturalism is an eliminative philosophical naturalism (a-a). Clearly Weinberg's naturalism is a naturalism which supports no possibility of constructive dialogue with rational authorities other than scientific ones. There is only a single field of expertise: the scientific domain. Here, only the scientific understanding of the world can answer the questioning raised by the confrontation with reality. Philosophical reflection is part of scientific inquiry.

Stephen J. Gould

Gould suggests a principle of a separation between two fields of expertise: science and religion. This principle postulates Non Overlapping MAgesteria, abbreviated as NOMA. This principle is a way to consider at the same time scientific and religious positions over reality. Such a principle asserts that science oversees the empirical domain which studies the universe and the natu-

ral world (facts) and explains why it works in this way (theory), while religion studies questions about purpose, direction and ethics.

The first commandment for all versions of Noma might be summarized by stating: 'Thou shall not mix the magisterial by claiming that God directly ordains important events in the history of nature by special interference knowable only through revelation and not accessible to science'. In common parlance, we refer to such special interference as 'miracle' – operationally defined as a unique and temporary suspension of natural law to reorder the facts of nature by divine fiat (Gould 1999: 84-85).

Gould assigns to science the study of natural world which takes place when he works in a scientific way, in a naturalistic position. For Gould there is no place for miracles or divine action in science. Gould adds that the necessity of leaving miracles outside scientific inquiry has not been respected, entailing numerous controversies. This is solved by 'bench top materialism' (Gould, 1999: 84) to which most scientists adhere (according to Gould). Such a prospect belongs to what was defined above as a methodological naturalism. This 'bench top materialism' does not handle ultimate meanings, which belongs to religious reflection, but applies to all questions concerning facts of nature. Religious beliefs cannot, for Gould, dictate answers to empirical questions. Scientific exploration is made in an acceptable way only if liberated from any religious prerequisite or from any divine intervention. Gould considers naturalism at the scientific level but accepts also that there is a religious field of expertise in which we can grant a place to a higher being and handle questions of purpose, meaning and values. Gould accepts the possibility of a religious understanding of the world while being personally agnostic. Separation of both fields of expertise is for Gould a necessity: each of the authorities of reflection possesses their specific work and there cannot be integration or fusion between them. Gould holds this position of NOMA which has the virtue to define two fields of expertise, science's one and religion's one. This principle corresponds to a philosophical position having an effect on the way scientific knowledge will be interpreted when updated in time. The principle of NOMA establishes a prerequisite in scientific research work. The same principle admits the existence of a field of expertise other than the science one: the domain of religion. This domain has to do with questions of meaning, moral values and ultimate significations. Gould demands a separation between both fields of expertise, scientific and theological. Gould makes by this separation

between scientific and religious fields of expertise a philosophical prerequisite in scientific inquiry. His methodological naturalism slides to a philosophical naturalism. The last one is a naturalism which recognizes the existence of questions concerning meaning, purpose and values. But the treatment of these questions is relevant in a religious approach, not in a scientific inquiry. Gould does not take a position about religion; his philosophical naturalism is an agnostic open naturalism (b-c).

John Polkinghorne

John Polkinghorne's perspective is theological and consists in an articulation of Christian convictions to make them accessible to scientific thinking. It is necessary, according to him, to build a comprehension of the world according to a 'bottom-up causality' (Polkinghorne 2011: 101). His reasoning is based on phenomena that serve to develop or enrich a theory. This ascending approach finds its foundation in scientific experiment and Polkinghorne applies it in theology (Polkinghorne 1998a: 18). Polkinghorne considers science with a critical eye as for him science does not reach absolute truth: knowledge over reality is not an unchanging truth but an approximation of this reality. Furthermore, science cannot be diminished to a protocol which can be run by a computer. It requires judgment and decisions taken by people. Polkinghorne is then in the same line as Michel Polanyi who thinks discoveries require creative acts stemming from imagination, based on intuition and experience. The approach of science proposed by Polkinghorne is related to critical realism. His approach is realistic because it asserts that we can reach a credible knowledge of the nature of physical world and critical because this knowledge is not directly obtained by research into what exists. It also requires a creative interaction between interpretation and experience (Polkinghorne 1998a: 17). This position is established by the experience of the community of scientists, who are critical realists for the most part: 'One could define the program of critical realism as the strategy of seeking the maximum correlation between epistemology and ontology' (Polkinghorne 1997: 148). The analysis of the works of Polkinghorne highlights the characteristics of his naturalism. So, science has its specific domain of research which is limited to natural world. This position corresponds to what was describe above as methodological naturalism.

However, questions are inferred by scientific work, for example the interrogation concerning the place of the human being in universe. The answer to these questions overtakes the possibilities of understanding of science. Methodological naturalism is open and can entail different approaches to answering these questions. The question of values which humans gives to themselves to judge what is good or bad, for example, is not taken into account in scientific work: 'The fact that value is disregarded by science as its chosen methodological strategy in no way implies that this neglect should be elevated into a metaphysical principle' (Polkinghorne 1998b: 81). It is possible to adopt a philosophical point of view, compatible with science, in this case there is a sliding toward a philosophical naturalism. To handle questions implied by science, it is necessary to find a wider context. Theology can play a significant role here, by offering a wider vision of reality. The 'scientist-theologian' Polkinghorne considers that theology plays a role in knowledge and in the understanding of the world without cutting itself off from the underlying scientific understanding. He offers a theological understanding which takes root in scientific knowledge and joins a non-reductive philosophical naturalism (c-c).

Conclusion

Firstly, if correctly perceived, methodological naturalism is a pragmatic limitation of science, as its field of expertise is the study of natural world with specific methods. This pragmatic limitation of the natural sciences allows other rationalities, philosophical or theological, to develop and to offer a hermeneutic of the knowledge drawn by the natural sciences.

Secondly, about philosophical naturalism, science and philosophy are in continuity and science entails a philosophical understanding of the world that depends on ontological and epistemological prerequisite. Philosophical naturalism stems from the combination of ontological and epistemological dimensions. According to this combination we can consider it as open or closed to other rationalities. It seems to us that adopting an open philosophical naturalism, such as non-reductive philosophical naturalism, might lead us to a far better comprehension of the world, including the possibility (or not) of a worldview compatible with religious belief.

In conclusion, methodological naturalism is a useful tool, but it can certainly go a step further and consider that everybody has a philosophical or religious position rooted in a preexisting worldview, like the three case-study exposed above. This worldview commands our engagement with one kind of philosophical naturalism and thus the possibility or not to consider religious beliefs.

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