

When Philosophy is No Longer Philosophical

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Abstract — We examine the idea that there is a sub-discipline in philosophy of science, philosophy *in* science, whose researchers use philosophical tools to advance solutions to scientific problems. Rather, we propose that these tools are standard epistemic, cognitive, or intellectual tools at work in all rational activity, and therefore these researchers engage in scientific or metascientific research.

Résumé — Nous examinons l'idée selon laquelle il existerait une sous-discipline en philosophie des sciences, la philosophie *dans les* sciences, dont les chercheurs utiliseraient des outils philosophiques pour avancer des solutions à des problèmes scientifiques. Nous proposons plutôt l'idée que ces outils sont des outils épistémiques, cognitifs ou intellectuels standards, à l'œuvre dans toute activité rationnelle, et, par conséquent, ces chercheurs se consacrent à la recherche scientifique ou métascientifique.

1] What is Philosophy *in* Science?

We mentioned in our article in the first issue of *Metascience* that one of our goals is to find thinkers in philosophy of science who no longer practice philosophy (Maurice 2020). The task seemed impossible to us since we do not have a team to undertake the arduous work of finding and evaluating thousands of philosophers with metascientific potential. We were pleasantly surprised when we read an article that listed about 160 authors who appeared to us as metascientists.

Thus, in “Philosophy in Science. Can Philosophers of Science Permeate Through Science and Produce Scientific Knowledge?” Thomas Pradeu, Maël Lemoine, Mahdi Khelifaoui and Yves Gingras

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propose the idea that there is a subfield in philosophy of science that they call *philosophy in science* or *PinS*:

Most philosophers of science do philosophy ‘on’ science, that is, they contribute to our knowledge of the methods, concepts, objects, and problems of science, and/or address philosophical problems using lessons taken from science [...]. By contrast, some philosophers of science do philosophy ‘in’ science, that is, use philosophical tools to produce scientific knowledge rather than knowledge about science [...]. Instead of studying, discussing or talking about science, they permeate through science and try to participate in resolving problems that scientists raise or encounter in their work—problems that most other philosophers of science consider local and technical. We propose calling this trend in philosophy of science, in which philosophers use philosophical tools to address scientific problems and provide scientifically useful proposals, ‘philosophy in science’ (*PinS*). (Pradeu *et al.*, forthcoming; italics in original)

Thus, philosophy of science is divided into two: on the one hand, philosophy *on* science, practiced by the majority of philosophers of science, on the other, philosophy *in* the sciences, practiced by a minority of philosophers of science. The authors selected three criteria to identify philosophers who practice philosophy *in* science: 1) they tackle *scientific problems*; 2) propose *scientific solutions*; 3) but use *philosophical tools* to achieve this. There is nothing wrong with the first two criteria. This is the third characteristic that is problematic for us. Philosophers who practice philosophy *in* science would use philosophical tools and it is this characteristic that makes the authors say that “PinS papers do not cease to be philosophical because they are also scientific”.

The authors therefore offer us a partial list of six philosophical tools used by philosophers of science belonging to the PinS:

- Investigating and/or proposing a scientific **definition or distinction**.
- Rooting a scientific problem in its broadest philosophical or historical **context**.
- Questioning the **consistency** of a set of claims made in a scientific field.

- Questioning **methods** on the grounds of broader views on methodological concepts.
- Questioning a scientific **claim**.
- Proposing a **combination** of scientific domains.

[...] These tools are not intended to define philosophy of science, but only to detect its presence. The list is non-exhaustive, as other tools may be added to the list; moreover, it is not entirely specific to philosophy of science, as scientists may also resort to them, albeit less frequently and less thoroughly. [...] The philosophical dimension is not highly visible in all PinS papers, but the key point is that it is never entirely absent. (Pradeu *et al.* forthcoming; emphasis in the original)

The authors defined PinS philosophers as those who tackle a *scientific problem* and propose a *scientific solution*, but with *philosophical methods*. What therefore connects these thinkers to philosophy would be the tools, techniques or methods used to address a specifically scientific problem. But according to the authors, these tools are also tools used by scientists, which is right. Moreover, even if we were to complete this list with an analysis of all the texts of the PinS, it is doubtful that we can find approaches, methods or tools that are strictly philosophical, that belong only to philosophy, and of which scientists make no use. Let us think of the following philosophical tools, techniques or methods²: transcendental argument, philosophical counterfactuality, philosophical thought experiment, philosophical logical analysis, philosophical conceptual analysis, philosophical linguistic analysis, philosophical necessity and possibility, philosophical conceivability, philosophical intuition, dialectics, *Epochè*, the Canberra program, and analyses using possible worlds (modal techniques), to name a few. The very use of these strictly philosophical approaches, methods or tools would make it impossible for these PinS thinkers to participate in the advancement of science.

It would in fact be impossible to propose something intelligible to scientists, and by the same token, scientists would not be able to assess whether the proposal is a scientific contribution or not. In

² We must label most of the approaches we list “philosophical” because most of them have also meaning and utility outside of philosophy.

short, it is no coincidence that the previous quotation mentions only tools that have proven themselves and whose use is widespread in all spheres of rational activity, unlike philosophical tools.

2] Five PinS Contributions Reviewed

We studied five articles among those identified by the authors as belonging to the PinS articles (Bernat, Culver & Gert 1981, Godfrey-Smith 2015, Kaptchuk *et al.* 2010, Sarkar 2000, Vandembroucke, Broadbent & Pearce 2016). There is room for debate in our review of the articles just mentioned. For example, what are the strictly metascientific elements and those strictly scientific? There may be continuity between metascience and science, but that is not the question we dwell on here. Above all, we want to emphasize the fact that some tools, approaches, and methods associated mainly with philosophy, but also used by scientists, as the authors of the study acknowledge, are not philosophical because they are tools, approaches and methods that are part of the arsenal of any reasonable and rational activity, theoretical or practical, be it science, law, technology, literary or artistic criticism, management, ethics, etc.

Let's begin our examination of the five articles we have selected in order to assess their "philosophicity", because that is what is at stake, namely that these contributions are both philosophical and scientific. Bernat, Culver and Gert (1981) propose a definition, a criterion and a test of death in humans, after having distinguished definition, criterion and test. There is therefore a metascientific aspect since the authors dwell on the nature of definition, criterion and test, and a scientific aspect since they propose a definition, a criterion and a test. Godfrey-Smith (2015) offers a conceptual (non-philosophical, however) analysis of the notion of reproduction and illustrates his point with examples. We are therefore in the presence of a contribution that is intended to be scientific, and not metascientific (and even less philosophical), since the author does not linger to identify the nature of definition, criterion, conceptual analysis, etc., because just like scientists, he takes these notions for granted. Scientists do not hesitate when necessary to use conceptual analysis, but most of them avoid conceptual analyses of a philosophical type, that is, conceptual analyses practiced within the

framework of a philosophical doctrine, because this leads to transcendent results, which are of no use for the advancement of science³.

Kaptchuk *et al.* (2010) conducted a randomized controlled trial that demonstrates that a placebo effect is caused even when patients know they are being prescribed a non-active substance. It is therefore a common scientific experiment. Sarkar (2000) criticizes the idea, supported in particular by Maynard Smith that genes are carriers of information. To do this, he introduces two metascientific distinctions. The first distinguishes a heuristic from a substantial role that a concept can play in the development of a “scientific entity”, a distinction that falls under metascience since it is based on an analysis of scientific constructs (concepts, propositions, classification, theory, etc.) in order to determine which are heuristic and which are substantial. The second historically distinguishes three information concepts used in genetics: cybernetic, communicational, and semantic information. The first distinction is synchronic and the second is diachronic. Everything happens at the conceptual level and not at the factual level, even if the goal is the advancement of science. Sarkar’s conceptual analyses are not philosophical since he uses standard tools and does not think based on a philosophical doctrine.

Vandenbroucke, Broadbent & Pearce (2016) criticize an approach in epidemiology, which tends to impose itself as the only possible approach for causal analysis, which they call the *restricted potential outcomes approach* (RPOA). The article is metascientific since this is about methodology, although the authors use concrete examples to show the shortcomings of RPOA to establish causal links. The authors then propose a pragmatic pluralism where

³ In our article published in the first issue of *Metascience* (Maurice 2020), we discuss the transcendent nature of philosophical discourse, that it is only a general discourse among others, which leads us to conclude that it is not the general discourse *par excellence*. Let us recall that for us empiricism is transcendent because, as Dominique Raynaud puts it so well in another context, “exploiting the idea that reality is not directly accessible” (Raynaud 2021, p. 419), empiricists deny either the existence or the possible knowledge of concrete objects, invoking the absence of *philosophical* or *metaphysical*, *logical* or *necessary* links (in the sense of philosophical logic) between our perceptions and the objects that produce them, which in turn implies that there would be a particular faculty to settle the question, whereas ordinary reflection is sufficient, and that if such links existed, they would be neither formal (in the sense of formal logic) nor material (in the sense of Bunge), which implies that they would be of a different nature and therefore transcendent.

various approaches produce a body of evidence to demonstrate the existence of a causal link.

The authors of the PinS study discovered the existence of thinkers with the title of philosopher, but who no longer practice philosophy, at least at times. The tools mentioned by these authors in the last quote above are quite standard ways of thinking, approaches and methods not only in the sciences, but in any rational enterprise, such as technology, engineering, medicine, law, management, etc. Thus, philosophy *in science* cannot exist because the third characteristic, the use of philosophical tools, does not apply to the articles selected by the authors. For this discipline to exist, it would be necessary to find articles that use exclusively philosophical tools or methods backed by philosophical doctrines to address scientific problems and propose solutions that scientists consider useful.

What seems true is that in philosophy of science, compared to any other field of philosophy, there are fewer thinkers who make use of modes of thinking that are alien to the standard ways of thinking of any normal rational activity (as opposed to philosophical rationality). In this case, if thinkers maintain a general discourse on the world and on science without this discourse being transcendent, without using non-standard tools or faculties, and without their goals being philosophical (according to the various philosophical doctrines), one wonders what remains of philosophy in such a discourse. Do these thinkers not rather practice a metascience, or even in some cases a science? Are they not closer to a Bungean approach to general discourse than to a philosophical one?

3] Conclusion

PinS thinkers are naturally part of a metascientific approach as we have identified it in Bunge⁴. Like the latter, these thinkers do not use any philosophical approaches or tools, methods and techniques specific to philosophical doctrines. They are content with the standard tools, methods and techniques used in the factual and formal sciences. This practice of *philosophy in science* distinguishes the latter from traditional philosophy of science, called *philosophy on science* by the authors of the study.

⁴ See our article “Metascience. For a Scientific General Discourse” published in the first issue of *Metascience*, and our article “What is Metascientific Ontology”, in this issue.

You can in principle take any philosophical doctrine and then talk about science. By the same token, you will use an approach, assumptions, tools, methods, and techniques specific to this doctrine. There is empiricist, positivist, rationalist, realist, antirealist, idealist, objectivist, subjectivist, analytical, continental, etc. philosophies of science. The doctrinal approach of traditional philosophy of science clashes with the non-doctrinal approach of philosophy *in* science. PinS thinkers, like Bunge, take the scientific approach for granted, at least in their scientific and metascientific texts. It is then difficult to argue, as the authors of the study do that PinS is a component of the philosophy of science since the various doctrines in philosophy of science tend to question the scientific approach because the latter is not adequately founded philosophically.

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