Introduction: On the Philosophy of Science in Practice

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This issue contains a selection of five papers that were presented at SPSP 2011, the third biennial conference of the Society for the Philosophy of Science in Practice held at the University of Exeter, UK. The conference was hosted by Egenis (http://socialsciences. exeter.ac.uk/sociology/research/sts/egenis/), a leading centre for the study of the life sciences which strongly supports collaborations between philosophers, social scientists and biologists.

In the mission statement of SPSP (see www.philosophy-science-practice.org) one find expressed the original motivation of the founding team: a philosophy of science "based on an analytic framework that takes into consideration theory, practice and the world simultaneously" and which is "concerned with not only the acquisition and validation of knowledge, but its use" (see also Ankeny et al. 2011). However accurate this expression may be to the original position of the SPSP founders, it is important to see what contributors to the SPSP conferences have made of it. In Exeter, one of the most useful contributions in this respect was made by Egenis Director John Dupré in a plenary panel discussion focused on the question "How do we study science in practice?". Dupré suggested that there are at least two distinct ways of answering this question, which he called philosophy-of-science in practice and philosophy of science-in-practice (see also Kosolosky 2012).

Philosophy-of-science in practice is philosophy directly engaged with scientific research through interaction with scientists about philosophical problems (e.g. background assumptions, logical structure, implications of unexpected or even undesired test results)

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or/and collaborations on joint questions (e.g. the status of mathematics in biology, the reliability of simulations or the cogency of central concepts used in data analysis). This type of approach does not require philosophers to engage with empirical methods, though this may happen depending on the context; rather, the emphasis here is on identifying common ground between scientific and philosophical inquiry, which often result in joint publications and the organisation of joint events. By contrast, philosophy of science-in-practice is philosophy that analyses science in the making, that is the daily practice of scientific research and everything that such practice entails (e.g. processes of inquiry, institutional settings and social dynamics among investigators). Within this approach, philosophers do not necessarily collaborate with scientists, but use empirical methods drawn from the historical or social sciences (such as archival research, ethnographies or interviews) to acquire insights into and evidence of scientists' research behaviour.

Irrespective of which of the two ways one prefers, both forms of inquiry emphasize actual engagement with science in the same spirit as Philipp Frank's 'science of science' (Frank 1957). The papers presented at the Exeter conference reflected this empirical engagement, as do the five articles published in this issue. The first of these paper serves as a useful reminder that SPSP founders were not the only group of philosophers aiming at more engagement with science in practice. In the same year that SPSP was founded, Léna Soler started in Nancy a research group called 'PratiScienS', a name that stands for "Rethinking science from the standpoint of scientific practices". Her co-authored paper, on processes of calibration, is an output of this research group. Secondly, Isaac Record's contribution, 'Technology and Epistemic Possibility', uses the case of ENIAC in the Manhattan Project to discuss the relation between available technology and the knowledge that it makes possible, which he calls 'technological possibility'. In the third paper of the issue, Henrik Thorén and Johannes Persson focus on sustainability science as exemplifying interdisciplinary research, and use their analysis to identify problem-feeding as a new type of interdisciplinarity. The fourth paper, by Ann-Sophie Barwich, reveals the close inter-relationship between science and fiction: contrary to the view of science as the antithesis of fiction, scientists need fiction when carrying out and explaining their activities. In the fifth and last paper, Moti Mizrahi discusses the meaning of scientific progress, but not from a semantic or epistemic account but by looking at scientific practice.

All five of these papers constitute contributions to philosophy of science-in-practice. This may not fully reflect the methods and practices of their authors, but may rather be the artefact of the specific kind of output required in this special issue: these papers are meant as contributions to philosophical, rather than to scientific, scholarship. Recognising the possible variations in the disciplinary identity of potential outputs is an important feature of philosophy of science in practice, as institutional requirements on authors—determined by the departments or institutes in which they work—certainly determine to some extent the way in which PSP is carried out. Authors who work primarily in philosophy departments will need to emphasise writing that can be published in philosophy journals, thus putting more weight on philosophy of science-in-practice. Authors based in science institutes will instead favour scientific outputs, such as the ones derived through philosophy-of-science in practice.

This latter preference is not necessarily detrimental to philosophical scholarship: in fact, we wish to argue that for philosophers to publish in science journals is a great achievement. Indeed, one of the motivations to start up SPSP was to enhance the impact of philosophy of science outside philosophy, and visiting laboratories and publishing jointly with scientists is one excellent way to do this. But how much should philosophy of science turn to practice? Is there not a risk of losing generality, of becoming too specialized, too

fragmented? A recent issue of this journal discussed these worries and reflected on the 'prospects for a *general* philosophy of science'. Our position on this key issue is in agreement with the argument proposed by Hans Radder in the introductory article to that discussion, where he claimed that a turn to practice does not necessarily imply a loss of a general philosophy: "It is often, or perhaps even always, the case that studies of concrete scientific practices are based on general interpretations, methods or principles" (Radder 2012). The five papers in this issue evidence this claim, as the issues of calibration, epistemic possibility, interdisciplinarity, fiction and scientific progress are central to a general philosophy of science, but their study has been crucially extended and enriched through the investigations of real practices.

References

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