



Philosophy of Science Today An Interview with Federica Russo

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Introduction. Federica Russo is Assistant Professor at the University of Amsterdam, where she teaches philosophy of science. She started her career at the University of Padua, before moving to Belgium (Catholic University of Louvain) for her MA and PhD. She has then obtained several grants and held various research, teaching, and visiting positions in different countries, specifically in Belgium (at the Free University of Brussels and the Catholic University of Louvain), the UK (at the University of Kent and the London School of Economics), the US (at the University of Pittsburgh), Italy (at the University of Ferrara) and now in the Netherlands. She is founding member of the *Society for the Philosophy of Information* (socphilinfo.org) and organiser of the *Causality in the Sciences Conference Series* (blogs.kent.ac.uk/jonw/conferences/cits). In her research, she works on central issues in philosophy of science (explanation, mechanisms, modelling), focusing on causality and probability in the social, biomedical and policy sciences and on the relations between science and technology.

I would like to thank her for spending precious time on this interview, where we have discussed the current state of philosophy of science, its methodological changes and how it can be relevant to contemporary society.

I would like to start by asking about recent development in philosophy of science. In the last few years, the discipline has seen quite significant changes in terms of methodology: this has been described as a “practice turn” (Leonelli, 2015, p. 814), leading to the establishment of the Philosophy of Science in Practice methodology (see the *Society for the Philosophy of Science in Practice*, www.philosophy-science-practice.org). The main suggestion here is that philosophers should focus on scientific practices in order to inform their considerations, rather than using science as a discipline to which apply theoretical issues. Your work on philosophy of causality and, more generally, the life and social sciences definitely lies within this framework. I wanted to ask why you think that this ‘practice turn’ has been necessary and whether you consider this a radical shift or there’s continuity with more traditional philosophy of science. The “practice turn” has been a very important step in the development of the philosophy of science of the last years. This, in some sense, goes back to pre-Vienna Circle discussions, or to French epistemology (see e.g. Canguilhem, Bachelard, and even Foucault), both of which have been relatively neglected by ‘analytic’ Anglo-American philosophy of science. In my view, once we put the practice at the centre of our philosophical inquiry, it is much easier to study the relations between different dimensions of science: methodology and epistemology, in its relation to ontology and metaphysics, but also ethics and policy.

I agree, the focus on practice helps connecting many dots of philosophical discussions on science, and I would say that abstraction – which remains necessary – should come as a second step, while it is too often the starting point. I would also say that the focus on practice has consequences on the traditional approaches of analytic philosophy, doesn’t it? Normally, analytic philosophy is presented as the kind of philosophy applying the “method of analysis”, which consists in criticising and ‘breaking up’ concepts in order to find their logical relations (see e.g. Russell, 1918). Recently, there have been attempts at broadening the scope of analytic philosophy, as for instance it has been argued that constructionist approaches are better suited for the philosophical issues we face today (see Floridi, 2011). It seems to me that these metaphilosophical discussions are related to what we were saying about the “practice turn”, don’t you think? Indeed, I would say that you follow these suggestions as a philosopher: for instance, your work on causality and evidential pluralism in the health sciences (Russo and Williamson, 2007) is certainly based on an analysis of philosophical accounts, but it also attempts at developing and constructing new concepts which can then be useful for scientific methodology. In a recent talk of yours I have attended, you said that analytic philosophy may sometimes run the risk of being a ‘counterexample factory’

and the value of philosophy should be seen in terms of *relevance*. What do you mean by relevance? Can you give us an example of relevant philosophical work you have carried out? Rigour is essential to philosophical inquiry (as well as to scientific ones, of course). But rigour is one thing, and hair splitting is another. The reason why we, philosophers, must make distinctions, clarifications, and all sorts of precisions, is because all these things help making better science, i.e. distinctions, clarifications, or precisions are *relevant* to designing better methods, or clearer concepts, or more effective policies, etc. We don't always know in advance whether relevance will lead to impact. But starting from the practice – rather from an abstract problem that has no ground in any scientific, ethical, or any other 'real issue' – contributes to ensuring that what we do is relevant philosophical research and not sophisticated hair splitting.

Let me tell you that I like very much the idea of relevance as a moving target, one which is difficult to predict but anyway worth having always in mind. I'd argue that one of the ways in which we can look for relevance, at least in philosophy of science, is being aware of what fellow philosophy researchers as well as scientists are up to; this is where collaboration and interdisciplinarity get into the picture. We often hear that collaboration and interdisciplinarity are very important values and that we all should carry out research in collaboration with others, possibly reaching out other disciplines or areas of expertise. Still, I would say that this almost always remains "on paper" and not so many researchers – especially in philosophy – actually do that. From this perspective, you are quite an exemption, in the sense that collaboration and interdisciplinarity can be considered defining features of your career: you collaborate with colleagues on different projects (e.g. Phyllis Illari, Jon Williamson, Brendan Clarke) and, often, you also work with scientists (e.g. Paolo Vineis of EXPOsOMICS, see Illari and Russo, 2014, pp. 258-272). What do you think this adds to your philosophical work? Would you say that interdisciplinary is difficult but it also enriches your work? In this sense, how can philosophy be of help to scientists? I started my career researching causal methods in social science, and since my doctoral studies I have been collaborating with practicing social scientists (e.g. Michel Mouchart and Guillaume Wunsch)¹. As I broadened my interests towards the biomedical sciences, I also sought exchanges and collaborations with people working in this field, for instance Paolo Vineis. To me this has been essential to understanding what science in practice is, as textbooks and even research articles give you a different insight of the practice. This has always helped understand whether I was working on a relevant problem, or on an hair splitting problem. And yes, interdisciplinarity (real interdisciplinarity!) is difficult. It requires a lot of patience, resilience, intellectual honesty and mod-

¹ *Editor's note:* see e.g. Mouchart, Russo, and Wunsch, (2012).

esty. I don't like the idea of being of help to anybody. I like the idea of working together towards solving a same issue. If anything, it is *mutual* help.

Expanding on the idea of philosophy and the sciences being of mutual help to each other, an actual example may be the project on Evidence-Based Medicine that you and a number of colleagues have recently started (www.ebmplus.org). This project, indeed, involves philosophers, scientists, policy experts, etc. Can you tell us something about it? Why did you decide to focus on this topic? Would you say that it is an instance of the relevant kind of philosophy of science we need today? When Jon Williamson and I started working on 'evidential pluralism' back in 2006, we didn't think it would grow that much. At least, I didn't. But I was on a problem that I thought was interesting, and relevant, and important to the biomedical sciences. The more I worked on it, the more I discovered that it went beyond the biomedical sciences, and that it needed reflections from different angles. So we gradually included philosophers with different expertise (e.g. Phyllis Illari) or scholars with competences also in history of medicine (e.g. Donald Gillies and Brendan Clarke), and from this group we tried to bring in the reflections scientists, policy experts, etc². We managed to get one project funded by the AHRC³, and then another one. We also thought we should try having a broader collaboration with scholars sharing our objectives of improving medical methodology and we gave this a (hopefully) stable platform: the EBM+ consortium. I certainly regard it as *an instance* of the relevant philosophy of science I have in mind, and it is not the only one. I claim no uniqueness in this. I just hope that the "practice turn" will produce more and more of relevant projects.

Speaking of EBM+ as an instance of the relevant philosophy of science we need today, I guess that you would also say that relevant philosophy of science should investigate beyond natural sciences and should considerably focus on the social sciences. These aren't disciplines on which philosophy of science usually focuses. I would thus like to ask you what social sciences can add to philosophy of science discussions and whether you could suggest some important work one should look at if interested in studying these disciplines from a philosophical perspective. This has been a long-standing bias, most probably a heritage of the view of the Vienna Circle that dismissed, quite similarly, problems in biology. While I am methodological pluralist, there must be something the sciences share. So instead of looking for gold standards, I have been trying to understand the conditions of possibility of knowledge (to use a Kantian expression) in social research. One thing that philosophy of the social sci-

²Editor's note: see one of the outcomes of this collaboration in Clarke et al., (2013)

³Editor's note: Arts & Humanities Research Council (www.ahrc.ac.uk).

ences adds is that physics is but a special case. The complexity and messiness that many people think make the social science less objective than physics is, instead, the norm. If you don't know where to start, and look for a primer in the philosophy of social science, I would recommend reading Eleonora Montuschi, for her ability of describing the practice of many social sciences and for her insightful philosophical analyses; I would recommend Daniel Little, for his views on explanation and causality in the social realm; and I would recommend Harold Kincaid, for his attempts in finding a dialogue with 'mainstream' philosophy of science⁴. I would recommend many others, but that's enough to start!

That's definitely enough material to start and I'm sure readers will find it very useful. Now, to conclude, I wanted to ask you a more general and open question. Part of your work is also in the philosophy of technology and information. I would say that the significance of this new area of research is twofold, in the sense that on the one hand its aim is using information as a conceptual tool in philosophy (see Illari and Russo, 2013; Floridi, 2008) and, on the other hand, it also aims at having philosophical discussion about information technologies. Would you agree? Do you think that philosophy is actually capable of positively shaping our attitude towards technology? My interest in the philosophy of technology and information is very similar to the one in the philosophy of the social sciences: debates and discussions that have been relatively neglected in mainstream philosophy of science. Philosophy has a *duty* to shape our attitude towards technology, moving away from either utopian or dystopian views. The philosophy of technology developed by Luciano Floridi goes precisely in this direction, and for this reason it is a must-read. My personal interest is in the *relations* between science and technology, and I hope to develop a line of research that updates (or upgrades) our epistemological toolbox, in the light of the complex interactions between the two. To be sure, even the distinction between science and technology is, by and large, artificial but it may help in the process of the conceptual design that I think is needed.

I know, the previous was meant to be the final question, but something you've said in the reply got me thinking and prompted me to ask another (quick) one. What do you mean when you say that the distinction between science and technology is artificial? In which way does such a distinction help with the conceptual design we need? Could you expand a little bit on that? You must come to my course 'Techno-science and epistemology'! What I mean is that there is a longstanding tradition in philosophy that investigates the relations between science and technology, or between *episteme* and *techne*. But at least

⁴Editor's note: For these authors, see e.g. Cartwright and Montuschi, (2014), Kincaid, (2012) and Little, (2011).

since the scientific revolution of Galileo and Bacon, the two have been deeply intertwined, rather than separated. However, both philosophy of science and philosophy of technology tackled questions about science and technology as if they belonged to different domains. Notable exceptions exist – again French philosophy (e.g. Bachelard or Simondon) should be dusted off. If you are looking for more recent authors, the works of Mieke Boon, Hans Radder⁵, or Luciano Floridi certainly go in the direction I have here in mind, namely investigating how the two interact, rather than where the demarcation line is. I examined some of these issues in my paper “The Homo Poieticus and the Bridge Between *Physis* and *Techne*” (Russo, 2012) and in a forthcoming paper titled “*On the Poietic Character of Technology*” (Russo, forth.).

⁵ *Editor's note*: see e.g. Boon, (2015) e Radder, (2003).

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