Synthese (2013) 190:1333–1335
DOI 10.1007/s11229-013-0269-1

Editorial: Formal epistemology meets experimental philosophy

Stephan Hartmann · Chiara Lisciandra · Edouard Machery

Received: 4 March 2013 / Accepted: 4 March 2013 / Published online: 16 March 2013
© Springer Science+Business Media Dordrecht 2013

In the past few years, there has been an increasing tendency in the application of formal and experimental methods to tackle philosophical issues. We very much approve of this trend, which we view as part and parcel of the recent renewal of "scientific philosophy": In our mind, the aim of a scientifically oriented philosophy is to adopt formal and experimental methods to address philosophical questions.

A distinguishing feature of contemporary scientific philosophy is that the use of formal and experimental methods is not confined to areas such as the philosophy of science, of mathematics, or of physics. Quite the contrary: This research program applies its broad toolkit of formal and experimental practices to a very large range of philosophical areas. For instance, in the philosophy of cognitive science, the development of mathematical models of concepts representation has proved to be an innovative way to compare normative theories against empirical results. In the philosophy of economics, agent-based models have been used to explore the notion of causality used in economics. More generally, different areas of philosophy—from the philosophy of language to the philosophy of cognitive science, and from ethics to the philosophy of economics—have become increasingly scientific and characterized by a highly interdisciplinary approach.

In tandem with this methodological turn, the dispute about whether philosophy should appeal to formal or experimental methods has made a comeback: Experimental philosophers defend the use of empirical methods as a means of exploring

S. Hartmann · C. Lisciandra (✉)
Munich Center for Mathematical Philosophy, LMU Munich, Ludwigstr. 31,
80539 Munich, Germany
e-mail: Chiara.lisciandra@lrz.uni-muenchen.de

E. Machery
Department of History and Philosophy of Science, University of Pittsburgh,
1017 Cathedral of Learning, Pittsburgh, PA15260, USA

philosophical questions while some formal philosophers object that philosophical questions are by definition inadequate to empirical research.

In this special issue, we reject the terms of this debate. We show that formal and experimental methods can be *complementary* in philosophy rather than mutually exclusive. Instead of considering only in an a priori fashion whether philosophy should rely on one methodology or the other, we present research projects showing that, and how, formal and empirical results can have a bearing on philosophical issues.

To explore this and related topics, the Tilburg Center for Logic and Philosophy of Science (TiLPS) together with the University of Pittsburgh organized a two-day workshop, which was held at Tilburg University at the end of September 2011. Three keynote speakers, Cristina Bicchieri, Ralph Hertwig, and Mark Colyvan, were invited to discuss their projects at the intersection of philosophy, economics, and psychology, all of which are paradigmatic examples of a fruitful combination of formal and experimental methods. The event attracted a number of scholars and young researchers from European and American universities. The aim of this special issue is to collect a selection of the papers they contributed. To give a flavor of their content we will briefly mention the questions they address.

This special issue starts with Mark Colyvan's paper, which focuses on the role of different kinds of idealization in normative models. Giovanna Devetag, Hykel Hosni, and Giacomo Sillari present an experimental study at the intersection of epistemic logic and game theory, and examine the role of common knowledge and mutual knowledge as coordination devices in a weak-link game. Another experimental paper is "'Explain' in Scientific Discourse" by James Overton, which offers a contribution to the debate on scientific explanation in philosophy of science. By means of the technique of text mining, the author has analyzed around 800 scientific papers from the journal *Science* in order to gain insight into the use of the term 'explanation' across a number of disciplines. Matthias Unterhuber and Gerhard Schurz present a study in non-monotonic logic, which criticizes, both normatively and experimentally, a purely subjective Bayesian approach to modeling epistemic states. Aron Vallinder and Erik Olsson's paper, "Do Computer Simulations Support the Argument from Disagreement?" faces a longstanding debate in moral philosophy by means of formal models and computer simulations. The special issue concludes with a paper from Carl Wagner, which presents a study on the corroboration paradox and puts together a framework for assessing probability paradoxes with simulation experiments.

The general picture that emerges through this brief overview is that the application of formal and empirical methods is not distinctive of a specific domain in philosophy, but is useful in a range of areas. The aim of the workshop was to bring together some of the newest and liveliest research studies across various fields and to discuss some of the problems they are encountering. We hope that the special issue will convey the gist of our discussions.

To conclude, we wish to make the following acknowledgments. First, we thank all the authors for their participation in this project and especially for having contributed with their work to a field that is rapidly growing. Their papers indicate new directions of research that will be an encouragement and an inspiration for the philosophical community. We thank the referees for their generous and detailed advice and the program committee for its help in selecting papers that contributed to the high quality

of the workshop. Last but not least, we thank the editorial assistant, Ms Sambandam Priya for her guidance and assistance.