ABSTRACTS

Philosophy and Methodology of Change: Systems of Change as an Object of General Change Methodology
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By present time, a large number of different types of abstract systems (e.g., systems of regulation, autopoietic systems, dissipative systems, self-organizing systems etc.) have been developed within the framework of the systems approach and systems philosophy. Each of these types of systems, on the one hand, is the object of the appropriate methodology, and, on the other hand, serves as a conceptual framework to describe and study a certain level or aspect of organisation of some ontological phenomena. However, the further development of the concept of “a system of complementary changes”, introduced by Henri Bergson, is still important. Because none of the known types of systems is focused specifically on the description of such ontological phenomenon as the continual variability of the real. The resulting lack of appropriate general methodological tools leads to a number of significant problems in the development of many areas of modern knowledge, design and production.

This paper reviews methodological issues surrounding the conceptualization of non-independent and intertwined moments of conservation and change; examines a methodological approach, based on the concept of systems of change – systems oriented to description and/or implementation of the processes of conservation and change; provides definitions of appropriate basic processes, basic principles and basic analytic units; discusses the advantages and disadvantages of proposed approach; provides comparisons to other similar approaches and examples of analysis performed using the systems of change methodology.

Scientific Thought Experiments and their Context: Einstein’s Magnet-Conducto
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The contemporary debate on scientific thought experiments is characterised by an epistemological focus: what needs explanation is how thought experiments, as a form of a priori reasoning, can provide us with new knowledge of reality. I will start by showing how this epistemological claim contains three sub-claims: (i) thought experiments bring about epistemic effects, (ii) they do this via epistemological mechanisms, and (iii) they have this effect on rational agents. Via a discussion of Albert Einstein’s magnet-conductor thought experiment I will put this epistemological perspective to the test. By contrasting my analysis of the thought experiment with John Norton’s epistemological analysis, I will show how this epistemological focus is both too strong and too narrow. The epistemological focus is too strong in the sense that the thought experiment does not bring about new knowledge of reality: it rather suggests a theoretical hypothesis, the electric field transformation, to make electrodynamics conform to the special theory of relativity. The epistemological focus is too narrow in the sense that the thought experiment has effects on other levels besides the rational agent: I will distinguish (intended) effects on the level of the scientific theory, the individual scientist and the level of the scientific community. These results will then allow me to formulate an alternative perspective on scientific thought experiments that takes into account the historical context in which they function.

Comprehensive Epistemology and the Philosophy of Science
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What is the relationship between our commonsense view of the world and our scientific view of the world? The logical empiricists provided one prominent answer to this question. They maintained that normal discourse and scientific discourse were factual in nature—based on a theory of verification or confirmation that found its roots in normal observation of the world, capable of being applied as an epistemological account of what separates science from non-science. All genuine knowledge rest on empirical testability (and, eventually, empirical observation). The boundary between commonsense and science is merely illusory, based on a misconception that there is something more to the “logic of science” than an extension of normal empirical methods. Whether we are making ordinary empirical judgments, or claims of a more sophisticated sort in physics, we are to be held to the same demands imposed by the empiricist account of warrant. Call this “comprehensive empiricism”. While the logical empiricists’ unified account of all factual discourse was rightly criticized for its reductionism, and their logic of confirmation problematic for several technical reasons, their commitment to comprehensivism has received too little attention in the recent literature. I argue that this commitment is attractive in its own right, and divorceable from other logical empiricist theses regarding reductionism, physicalism, verificationism, and anti-metaphysicalism.
My principal aim in this presentation will be to establish the cleavage between comprehensive empiricism and logical empiricism. I will argue that comprehensive empiricism is a promising research project, amalgamating some recent technical developments in general epistemology and the philosophy of science. In particular, I will focus on Anil Gupta’s new empiricism in general epistemology, exploring the possibility that some variant of this empiricism (based on the logic of interdependence) might be fruitfully extended to recalcitrant problems in the philosophy of science.

Inconsistency Handling in the Sciences: Where and How Do We Need Paraconsistency?
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Ever since the pioneering papers by John Norton, Joel Smith, and Bryson Brown in the late eighties, inconsistency in science received considerable attention from philosophers of science (as witnessed, for instance, by Peter Vickers’ recent book "Understanding Inconsistent Science"). This led, on the one hand, to downplaying the importance of inconsistent theories and, on the other hand, to the view that inconsistency handling in the sciences, if needed at all, is a matter of content, not of form. Following Norton and Smith, most philosophers of science now seem to agree that scientists, when faced with inconsistencies, avoid "logical anarchy" by a "content-driven control" and not by a "logic-driven control". This is in striking contrast to the view of the "friends of paraconsistency". For decades, they have been claiming that the history of science shows numerous examples of inconsistent theories and that handling such theories requires a suitable non-classical logic. Should they now admit that, in their enthusiasm for promoting their tools, they may have been overrating the importance of inconsistencies in the sciences? Or, could it be that philosophers of science are missing something?

In the present talk, I shall first investigate into the possible reasons for the deep divide between philosophers of science and paraconsistent logicians. On the one hand, I shall argue (by referring to examples from the sciences) that inconsistencies in the sciences occur more frequently than Vickers and others admit, but that one has to look in the right places. On the other hand, I shall argue that paraconsistent logicians have not always been using the right kind of arguments to promote their tools. A second aim is to discuss the distinction between content-driven and logic-driven approaches and argue that some content-driven approaches presuppose a logic-driven control.