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MEASUREMENTS AND KNOWLEDGE OF THE MIND: ON PATRICK SUPPES' PHILOSOPHICAL METHODOLOGY

Carlos Montemayor

ABSTRACT: This paper discusses the importance of scientifically informed philosophy and philosophically informed science for improving extant approaches to the study of the mind, and in particular, of conscious awareness. By using the work of Patrick Suppes as an illustration, the paper shows that a balance between science and philosophy is needed not only to produce new insights, but also to prevent dogmatism.

KEYWORDS: Philosophical methodology; Consciousness; Measurement; Psychology; Patrick Suppes.

The work of Patrick Suppes is hard to categorize. It is not speculative philosophy in which thought experiments are proposed in order to guide intuitions, which are then assessed in “sub-disciplined” ways (e.g., epistemology, metaphysics, ethics). Such methodology appeals only to those who are already committed to reflective thought as the main source of truth. Suppes’ work may be interpreted as a reaction against this way of tackling philosophical questions. But Suppes’ work is not strictly experimental either, because typically philosophical questions are not set aside or ignored in order to promote a narrow focus on testable questions. Suppes is neither a typical “armchair” philosopher nor a typical scientist.

In philosophy, this issue concerning methodology is a very central one, but the tension between theory and experimentation is present in all types of inquiry. Regarding philosophy, the methodological view that philosophical questions cannot be answered through scientific experimentation has a negative and a positive version.

According to the negative version, philosophical puzzles need clarification, rather than solutions. Experiments are of no use to address philosophical problems precisely

because experiments are empirical solutions to specific testable questions. The problems of philosophy are unlike any other kind of problem because what they demand is clarity and a deeper understanding of the problem itself, rather than experimental responses or solutions to the problem. This approach to philosophy, associated with the work of Ludwig Wittgenstein, is negative in the sense that philosophy has not much to offer to science and scientific truth because it does not offer solutions of any kind, particularly scientific solutions—thinking that philosophy *could* offer any scientific insight is a complete misunderstanding of philosophy. In doing science, philosophical questions must be avoided.

According to the positive view, philosophical problems are the most important scientific problems, and science would be a blind exercise in empty empirical confirmation without the guidance of philosophy. Not only are the problems of philosophy the most important scientific problems, they are also the most central problems for the general project of living a good life. Scientific methodology is, therefore, not only insufficiently equipped to deal with the central problems in science, but also hopelessly limited to tackle the most important problems concerning our human existence. It is because of this limitation that speculative philosophy must play a central role both in scientific reasoning and in intellectual inquiries. In doing science, philosophical questions *cannot* be avoided, and they must guide all other questions, including technical or experimental ones.

At the opposite extreme is the view that philosophical problems *should* be addressed with scientific methodology. Unlike the two versions of the view that scientific methodology is inadequate to answer philosophical questions, this view claims that, on the contrary, scientific methodology is the *only* way in which one can responsibly answer these questions. Such a view, taken to the extreme, is associated with the work of Willard Van Orman Quine, who said about epistemology (the theory of knowledge, rationality and understanding) that it should become a “chapter of psychology.” This strong view is generally known as the “replacement” naturalist approach to philosophy. Naturalism, more broadly (and less strongly), is the view that the scientific method should help answering philosophical questions and that philosophy must at least be compatible with scientific evidence.

Philosophical priority and naturalism are opposing views. One confronts them in most contemporary philosophy. But instead of being torn by these opposing methodological forces, one may interpret them as challenges. Philosophical priority is the challenge to resist scientism—to avoid reducing (and misinterpreting) every important philosophical question to a technical or empirical question. Naturalism is the challenge to resist unconstrained speculation—to make philosophy compatible

with science by testing its conclusions with the scientific method. Striking a balance between these views—meeting both challenges—is what I think Suppes tried to achieve in his work, and he may have succeeded with respect to at least two critical requirements to meet these challenges.

The first way in which Suppes met these challenges was by not endorsing the superiority of either philosophy or scientific methodology. Too frequently one finds philosophers and scientist preaching and pontificating, rather than engaging in real debate. Verbal disputes, dogmatism, and misunderstandings are natural consequences of favoring one approach over the other. The second and related way in which Suppes stroke a balance is by not imposing jargon produced by a small group of philosophers on the way in which scientists describe or understand a problem, and vice versa.

Striking a balance between speculation and experimentation is difficult in any area of research. It is in studying the conscious mind, however, that this tension is at its most explicit and vivid. Some researchers believe in what is called “the hard problem” of consciousness, while others think this problem is confused or meaningless. Some researchers think neuroscience will provide the final solution to any problem concerning consciousness while others are deeply skeptical about this hypothesis. Some think understanding consciousness is going to require changing fundamental assumptions about how we currently understand the world while others think no such revision is necessary.

In his work, Suppes brought philosophical rigor concerning the exact meaning of terms to experimental questions that could help advance philosophical understanding. At the same time, Suppes showed that scientific inquiry could produce important philosophical insights, test philosophical questions, and constrain philosophical speculation. Suppes’ work on neuroscience and quantum cognition illustrates this effort. Since these are contributions that are emphasized in the present volume, I shall briefly focus on his work on the theory of measurement, particularly in psychology.

In his characteristically balanced style, Suppes focused a substantial amount of his attention and efforts on problems concerning the meaning and importance of measurements in different sciences. In particular, Suppes was interested in a question that is as philosophically important as it is scientifically fundamental: what is, exactly, the epistemic status of measurements—what kind of knowledge do they provide, how do they provide such knowledge, and is there a general theory of measurement that is part of a general theory of knowledge? The opening paragraph of his influential co-authored volume on measurement theory reads as follows:

Although measurement is one of the gods modern psychologists pay homage to with great regularity, the subject of measurement is as elusive as ever. A systematic treatment of the theory is not readily found in the psychological

literature. For the most part, a student of the subject is confronted with an array of bewildering and conflicting catechisms, catechisms that tell him whether such and such a ritual is permissible or, at least, whether it can be condoned. To cite just one peculiar, yet uniformly accepted, example, as elementary science students we are constantly warned that it ‘does not make sense’ (a phrase often used when no other argument is apparent) to add numbers representing distinct properties, say, height and weight. (Suppes and Zinnes, 1963, 3)

Independently of the merits of these claims, it is clear that Suppes is interested in the intellectual balance described above. Clear definitions and argumentation are at the center of the analysis (a typically philosophical demand) but the question is about how to interpret scientific methodology. The goal is theoretical in nature—to develop a theory of measurement—but the focus of the analysis is the very practice of science. Other volumes on the theory of measurement followed, and active engagement was fostered. These are now classics on the topic of measurement. They produced the type of exchange that is at once productive and balanced. There was no pontification and misunderstanding. It is important to emulate this attitude in contemporary debates, particularly on consciousness.

cmontema@sfsu.edu

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