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Philosophy and Science

I shall sketch the views of two of the most influential philosophers of the last century, Willard van Orman Quine and Ludwig Wittgenstein, on the relationship between science and philosophy. In their talks here at the CAS, the philosophers have emphasized the fact that science *sets limits* to philosophy in the sense that one should be suspicious of philosophical positions which contradict, or are incoherent in the light of, established scientific knowledge.[1] The issue has been whether and to what extent these limits admit philosophical issues and philosophical reflection.

To Quine, the size of this "free space" is limited indeed. We begin with an extract from "Has Philosophy Lost Contact with People".[2] Quine has underscored that the great philosophers from the past, including Plato, Aristotle, Descartes, Hume and Kant "were scientists in search of an organized conception of reality"; and he continues:

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"Their search did indeed go beyond the special sciences as we now define them; there were also broader and more basic concepts to untangle and clarify. But the struggle with these concepts and the quest for a system on a grand scale were still integral to the overall scientific enterprise. The more general and speculative reaches of theory are what we look back on nowadays as distinctively philosophical (*Theories and Things*, pp 190 –191)."

Thus, philosophy used to be an integral part of science, and should continue to be so. As Quine views matters, philosophy presupposes science in the following two senses: It adopts the ontology of the sciences, and the evidence it invokes is of the same nature as that of the sciences them-selves. Now, the ontological commitments of a theory can be determined as follows. One *paraphrases* the theory into first-order quantification theory and thereby determines the domain of the universal quantifier; this domain circumscribes the ontological commitment of the actual theory. The details of the second point are rather tricky, and Quine's view evolved over the years. Let me just observe that Quine characterizes scien-tific, or to be more precise, "sensory" evidence, by the use of such phrases as "the stimulation of sensory receptors", "surface irritations" and "the triggering of nerve endings". Note that this notion of evidence is *itself* a result of scientific development.[3] Quine's philosophical program is nicely captured by the title of his last book: *From Stimulus to Science*. This *very* long road, from stimuli, i.e. the triggering of nerve-endings, to science, i.e. a rather comprehensive theory about the world, with respect to the indi-vidual as well as to the culture to which she belongs, is to be accounted for by way of relying on the sciences themselves in the two ways mentioned. Quine mistrusts everything that smacks of a priori or "purely philosoph-ical" reasoning – all reasoning takes place within the one big ongoing

scientific enterprise. Thus he rejects a number of the traditional philosophical tools, such as the classifications of truths into necessary or contingent and/or analytic or synthetic. Truth is truth, period.[4] The concluding passage of "Five Milestones of Empiricism" is telling:

The naturalistic philosopher begins his reasoning within the inherited world theory as a going concern. He tentatively believes all of it, but believes also that some unidentified portions are wrong. He tries to improve, clarify, and understand the system from within. He is the busy sailor adrift on Neurath's boat (*Theories and Things*, p. 72).

We conclude so far by saying that although Quine's two-fold commitment to science is a metaphysical commitment, he objects to all other kinds of metaphysics.

Quine and Wittgenstein have many philosophical views in common. Both focus on the learning of language when they reflect on the philosophy of language, and both deny that meaning is a kind of abstract entity; in particular, they reject the idea that there are propositions in G. E. Moore and Bertrand Russell's sense of the term – a leading assumption of analytic philosophy since the turn of the 20th century. And both subscribe to holism in one version or another. In other respects, they are miles apart, and Wittgenstein, at least according to my reading, is even less of a metaphysician than Quine. This is particularly clear with respect to our present topic. For while the naturalistic philosopher is a busy sailor adrift on Neurath's boat, Wittgenstein's philosopher is not even on board. Wittgenstein's view is that philosophy is more or less completely independent of science, and he thinks that the philosopher from time to time is incoherent, confused and talks nonsense. Now, why is philosophy independent of science, and what kind of confusion are we talking about?

Wittgenstein returned to philosophy in 1929, after a 10-year break. A major aim of his *Tractatus*, the main work of his youth, had been to give the "*general form of propositions and language*" – one could certainly call this the *most* general aim that one can have in philosophy. But upon his returning to philosophy, this very aim becomes a main target of criticism. By now, the author of *Tractatus* accuses the philosophers, and foremost among them is no doubt his formerly close associate Bertrand Russell, of a "craving for generality"– they strive at formulating theories, and that makes them insensitive or even blind to the distinctiveness of the particular; they see similarities where one ought to look for differences. This shows up in a variety of ways, and the one to be focussed on here is the different kinds of, or uses of, concepts in science and in philosophy, respectively. In *Philosophical Investigations*, Wittgenstein introduces his notion of family resemblance. This notion plays a central role in Wittgenstein's response to his former self. He presents a number of different kinds of activities that we call "games", and he argues that the notion cannot be defined or explained by way of necessary and sufficient criteria; rather, he says "the result of this examination is: we see a complicated network of similarities overlapping and criss-crossing: sometimes overall similarities, sometimes similarities of detail" (*PI*, §66). And then in the next paragraph:

I can think of no better expression to characterize these similarities than "family resemblances"; for the various resemblances between members of a family: build, features, colour of eyes, gait, temperament, etc. etc. overlap and criss-cross in the same way. – And I shall say: 'games' form a family … (*PI* §67).

One has an option here: try to define "game", or accept Wittgenstein's argument that all such definitions would involve a more or less sharp break with our ordinary notion of a game. Here we shall pursue Wittgenstein's line and ask: What is the significance of this phenomenon, that of family resemblance? How can this distinction between kinds of concepts be used to draw a wedge between science and philosophy? As I understand him, Wittgenstein thinks that in the sciences the occurrence of such concepts play a relatively minor role, while in philosophy they play a decisive role.[5]

We need another notion introduced into the philosophical vocabulary by Wittgenstein, namely that of a language-game. *Very* roughly, we might say that a language-game is the product of a circumstance and a use of language; a language game consists of language-users and some material circumstance. Wittgenstein's point is that while scientific concepts are relatively stable from language-games to language-games, such is not the case with respect to concepts characterized by way of family resemblance. The most non-uniform of all such concepts are those of ethics and aesthetics, and he maintains that if you look for definitions corresponding to our concepts here, you will find none that satisfies you. Wittgenstein offers the following advice:

In such a difficulty always ask yourself: how did we *learn* the meaning of this word ("good" for instance)? From what sort of examples? In what language-games? Then it will be easier for you to see that the word must have a family of meanings (*PI*, §77).[6]

Thus, when the philosopher treats a family notion by way of theory, this theory simplifies or even goes against the very use of the notion. One thinks one is studying a phenomenon, but what one is studying is really the use of a word. In Wittgenstein's own phrasing: "Philosophical investigations: conceptual investigations. The essential thing about metaphysics: it obliterates the distinction between factual and conceptual investigations" (Zettel, § 458).

It is not clear to me whether Quine or Wittgenstein, or neither, is right. I believe that most philosophers, and certainly those at the CAS, take for granted that more meaningful work can be done in philosophy than is allowed for by Quine and Wittgenstein. And most, I think, are closer to Quine than to Wittgenstein. In closing, let me note that we have looked at two out of several ways of understanding the relationship between science and philosophy, and my tentative conclusion is simply that this issue is a philosophical one, and thus in no way neutral. But that might have been obvious from the outset.

References:

W. V. Quine: *Theories and Things*, Cambridge, Mass: Belknap Press, 1981.

W. V. Quine: *From Stimulus to Science*, Cambridge, Mass.: Harvard University Press, 1995.

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L. Wittgenstein: *Philosophical Investigations*, Oxford: Blackwell, 1953.

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Notes

1 Let me note in passing that I shall not even make an attempt at spelling out the highly problematic "established scientific knowledge." (I understand it to contain both descriptive and normative aspects.)

2 The article is from 1978. It is Quine's response to Mortimer Adler's accusation that during the past half century, philosophy has been transformed into a new subject that no longer confronts questions of broad human interest, and no longer speaks to the ordinary man.

3 Quine needs some such notion of evidence in order to be an empiricist and to avoid "making scientific method …solely a quest for internal coherence" (Theories and Things, p. 39).

4 It should be evident that by way of the two restrictions we have looked at, Quine goes beyond Plato, Aristotle and the other philosophers that he mentions in "Has Philosophy lost Contact with People." But, as is made entirely evident in the essay with the informative title "Five Milestones of Empiricism," this is itself a result of the development of philosophy; cf. Theories and Things, pp. 67–73.

5 Family resemblance should be distinguished from related phenomena. It is not the same as vagueness. To be bald is a vague concept in the sense that there are persons about whom it is indeterminate whether it is correct to ascribe to them this property or concept. But still, when we reflect on the use of this concept we do not encounter a "complicated network of similarities overlapping and criss-crossing". An ambiguous term, on the other hand, is one with two or more distinct meanings, as for instance "bank", but neither of its distinct uses need have a "complicated network of similarities overlapping and criss-crossing".

6 I assume the parenthetical remark is directed at G. E. Moore's idea in Principia Ethica, that the main task of ethics or meta-ethics, is to give a correct general explanation of the concept 'good', applicable in every possible instance. Moore's view was that good is a simple, non-natural quality that certain things in the world exhibit.