

*Mathematical, Psychological, and Philosophical (?) Experiments for  
Wittgenstein*

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Wittgenstein famously criticized the idea of “experiment” in mathematics. But even outside of mathematics, he was also critical about experimental method in psychology. Then one may naturally expect that the same criticism applies to experimental philosophy. But what was wrong with experiment for him? After discussing such issues, I will then take up what I call Wittgenstein’s “first-person experiment”, which is neither thought-experiment nor mere introspection, and examine, in the context of X-Phi, its relevance and implication to empirical science.

**1) No Experiments in Mathematics:**

Wittgenstein rejected any notion of experiment in mathematics, in his 1939 lectures and *Remarks on the Foundations of Mathematics*. He was not trying to secure the notion of “apriority” like logical positivists, but trying to emphasize the *normative role* mathematics plays in empirical science and our form of life. However, it is often thought that the use of computers in mathematics made such a conception of mathematics obsolete. I defended the idea elsewhere (Mizumoto *forthcoming*), but here I mention in this connection the relevance of X-Phi even to mathematics: There is indeed a place where folk intuition is relevant even in mathematics. That is where the status of Church-Turing Thesis is debated.

**2) Psychological Experiments and Conceptual Confusions:**

The critical attitude against experimental psychology expressed in the very last passages of *Philosophical Investigations* is famous (there the phrase “psychology as a young science” is taken from Köhler). One may then expect that he would be all the more critical about the idea of philosophers’ doing experiment. In fact, what is often regarded as one of the major achievements in X-Phi, the discovery of “Knobe effect”, seems not really new from the traditional experimental psychology. With some data of my own, I shall show that the Knobe effect can be explained by Fundamental Attribution Error (together with people’s practical considerations), which has been well-known to psychologists. But even apart from this particular objection, most contemporary X-Phi research shares with experimental psychology the very assumption that Wittgenstein was attacking (as conceptual confusion) when he was criticizing the latter. Namely, that they are trying to reveal hidden mental processes, or “how the mind works”. At least this subfield of X-Phi is therefore no less conceptually confused for Wittgenstein than experimental psychology. Though I rather wish to remain neutral on this issue, I will explain why the experimental approach in this context is misleading or even pernicious

according to Wittgenstein, demonstrating the point by using the data of Machery *et al.* (2004), which allegedly shows the cultural divergence of “semantic intuitions”.

### **3) Experiment and Thought-Experiment:**

As we know, Wittgenstein presented many interesting thought-experiments. Contemporary philosophers often think, however, thought-experiments are for conceptual analysis. Wittgenstein does speak of analyzing a concept (PI 383). However, given his notion of family resemblance, one may naturally think that he must have been very critical about conceptual analysis. In fact, there is an important difference between conceptual analysis done by Wittgenstein and that of contemporary analytic philosophy. But I will argue that, if we distinguish Wittgenstein’s “elucidatory” analysis and contemporary “progressive” analysis, we will find not only that the latter need not be criticized by Wittgenstein, but also that neither types of conceptual analysis is in conflict with experimental philosophy, *unless* we assume Platonistic conception of concepts, which was of course Wittgenstein’s target of criticism in the early part of *Philosophical Investigations*.

But Wittgenstein’s considerations contain not only ordinary thought-experiments, but also actual instructions to do specific things, like “try this” or “try to do this” (PI 33, 303, 330, 332, 420, p. 176, etc.). This kind of “experiment” is neither *thought-experiment* nor introspection. It is aimed to show whether the reader can actually do a particular thing, letting him or her to realize “what it is like” to do it. It then suggests another important variant of experiment in philosophy, what might be called the “first-person experiment”, and makes us reconsider the naïve disjunction of X-Phi (as usually conceived) or armchair-philosophy. In fact, as I will show using my own brand of experiments (Mizumoto *et al.* 2001), which is closely related to Wittgenstein’s thought-experiment, that there is even an *a posteriori* version of such experiments (though “*a priori* experiment” may sound contradictory, this use can be justified). Now even though I do think this kind of experiment to be still scientific in a broad sense, providing no quantitative data it may not count as scientific experiment in the narrower sense. But I will argue, using various examples, that even if it is not taken as scientific, it can still be *scientifically* significant. If that is correct, we may say that, even though it is now justified for philosophers to go experimental (due to the flourishing results of X-Phi today), that does not necessarily mean they must thereby go “scientific” in the narrow sense. That would otherwise limit not only the potential of philosophy, but also the scientific development, if the purpose of science is not the accumulation of “scientific data” itself, but the understanding of the world based upon it (and if scientific theories are to be evaluated on the basis of contribution to the latter).