

# Review of: "In the doing of science, what is the place for naturalistic philosophy? Implications for the teaching of science"

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Potential competing interests: No potential competing interests to declare.

I fully agree with the main argument in most general terms. Science should not be viewed as purely experimental. Both *a priori* and *a posteriori* are necessarily present. I would put it differently, emphasising that there is necessarily the metaphysical component in science. We cannot have a science that consist of testable propositions only. Assumptions that are not testable have to be included. The point has been made thoroughly by Nicholas Maxwell in many papers and books he has written. Still, it may be that we need not speak about metaphysics here. The nontestable assumptions that the scientists normally make – taking the universe as comprehensible, preferring simple theories to more complicated ones and unified theories to disunified ones – can be called methodological rather than metaphysical ones. Therefore, using the terminology that the authors of this paper have chosen may be even more appropriate for achieving the main task.

From the one hand, there could be more historical background given in the paper, like for instance analysing Newton's general considerations that prove his belonging to the tradition of natural philosophy rather than to science in the contemporary sense. On the other hand, more considerations of scientists, physicists and chemists, of the latest decades could be brought in. Richard Feynman and Werner Heisenberg are interesting examples. However, big names from self-organisation theory, synergetics or chaos theory like Ilya Prigogine or Hermann Haken could be added.

Taking Wittgenstein as an example of naturalistic world picture is interesting but I'm not sure to what extent do his ideas support the main argument. To be honest, not sure about Feynman in this context as well given his sceptical if not to say negative attitude towards philosophy of science.

Hannah Arendt's worries about intelligibility of science to nonscientists in the context of her considerations about the human condition in the contemporary world seem quite a different story to me but I may not get the point of the authors here. This argument needs to be developed further. Martin Heidegger might be a more convincing source here than Arendt. After all, the latter studied with the former. Even Feynman might fit better into this other context as he seemed to be concerned with the intelligibility of science.

Despite my hesitations concerning certain points addressed above I consider the paper very interesting and innovative and encourage the authors to continue their work in the chosen direction.

