

Preface

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In 1912 the 23-year-old Wittgenstein read a paper to a meeting in Cambridge whose minutes say that he defined philosophy as ‘all those primitive propositions which are assumed as true without proof by the various sciences’. I still think this is the best short definition of metaphysics, because it shows how the subject can add to the ‘various sciences’ without being either entailed by or inconsistent with them. It applies moreover not only to the empirical sciences but also to logic and mathematics, since no system of either can prove its basic axioms or rules of inference: there are no premise-free proofs. So they too need ‘primitive propositions ... assumed as true without proof’, like the necessary truth for all ‘P’ of ‘P or not-P’, which must therefore be argued for in other ways. Hence Russell’s and Whitehead’s statement, in the preface to their *Principia Mathematica* (1913), that ‘the chief reason in favour of any theory on the principles of mathematics ... must lie in the fact that the theory in question enables us to deduce ordinary mathematics’.

Similarly with the empirical sciences: their metaphysics must, if they cannot entail them, at least be consistent with them. But this does not require metaphysicians to give way whenever they contradict scientists. Take Feynman’s 1949 *Physical Review* theory that positrons are electrons travelling backward in time. His theory rests on the fact that positrons are repelled by positive charges, just as electrons are attracted to them, so that a video of either, played backward, looks just like a video of the other played forward. But that no more makes positrons time-travelling electrons than it makes electrons time-travelling positrons: neither are travelling back in time in any serious sense; and saying that they are merely relabels the fact it purports to explain: namely that electrons and positrons differ only in the sign of their electric charge.

The moral of this and other examples of scientists making metaphysical mistakes is not that scientists need to be metaphysicians, any more than metaphysicians need to be scientists. All each needs to do is attend to and respect the other, and realise that, as Wittgenstein implies, science and metaphysics needn’t be independent to be distinct. Nor, as he also implies, can we draw the line between them *a priori*, since the subject matter of metaphysics is what the ‘various sciences’ presuppose, which changes as they do. Euclidean geometry, for example, was a metaphysical presupposition of Newtonian mechanics until the advent in the nineteenth century of other geometries (and of physical reasons to let light define straight lines in space) moved spatial and spacetime geometries from metaphysics to physics. Similarly with the developments in microphysics that replaced the seventeenth century’s metaphysical atoms, first with the nineteenth century’s chemical atoms and physical fields, and then with modern quantum ensembles.

The fact that metaphysical theories can turn into scientific ones does not of course mean that metaphysics is, or ever will be, redundant: Wittgenstein’s ‘various sciences’ will always need presuppositions. But this does not require the methodology of metaphysics to differ from that of the sciences. The methods of the sciences vary, of course, with their subject matter: biologists have as little use for telescopes as cosmologists have for microscopes. More generally, logic, mathematics, and metaphysics respond less directly to observational data than empirical sciences do. But this does not stop all these subjects sharing an objective that their methods are meant to achieve: namely, to generate and support theories that will explain the apparent facts of their domains

— ‘apparent’ because theorists who cannot explain some of these facts may trade scope for success by denying or excluding them. (One way of protecting the ‘gills’ theory of how fish breathe, for example, is to limit its scope by denying that aquatic mammals are fish ...)

More seriously and positively, one virtue of the theory of continental drift (that what are now separate continents were once conjoined) is its ability to explain otherwise inexplicable and hence suspect similarities between land-bound animal species, e.g. in the Americas and Africa, as an effect of past migrations. And so it is in metaphysics: the theory that causes and effects are facts, which I argue for in *The Facts of Causation*, and which puts events (e.g. a movement) and non-events (a staying still) on a causal par, can credit the latter with causal powers that theories which limit causes and effects to events cannot explain.

In short, the criteria of scope and success used to judge metaphysical theories are the same as those used in science and mathematics. There is nothing peculiar about the methodology of metaphysics. Indeed there is very little to it beyond a few platitudes that apply equally to all secular non-fiction: admit no unchallengeable authorities; write relevantly, clearly, and concisely; don’t assert or infer anything you don’t believe; and don’t use jargon or be needlessly technical.

Not only is the methodology of metaphysics neither special nor problematic, it helps its practitioners as little as that of most other subjects helps theirs. No one, I hope, thinks studying the methodology of drama would have made Shakespeare a better playwright; merely a less prolific one. The methodology of science is no more helpful to scientists, not even in scientific revolutions. For even then, what rescues or replaces a faltering theory, like classical mechanics in the nineteenth century, is usually not a methodological but a metaphysical thesis: for example, that the same laws of nature apply everywhere and always to all things, whatever their relative motions – a thesis which, if something (e.g. light) has an invariant finite speed, entails the Lorentz transformations of special relativity.

However, as no one is perfect, and authors in different subjects may fall short in different ways, a few peculiarly philosophical bad habits may be worth listing and deploring. One is that of relying too much on conceptual analysis, i.e. on clarifying our concepts without questioning the factual assumptions built into them. Take our concept of kittens as being (a) the offspring of cats that (b) grow into cats. That is mostly true, but what makes it so is biology, not our concepts. And since cats, like humans, evolved from simpler organisms, (a) and (b) cannot both be true of all of them. Some ancestors of cats were not cats, just as some of our ancestors were not human. Similarly, Russell’s 1921 ‘hypothesis that the world sprang into being five minutes ago, with a population that “remembered” a wholly unreal past’ is not refuted just by our concept of the world being of something that is thousands or millions of years old.

The second bad habit on my list is that of requiring philosophical disputes to be won by a knockout, i.e. by showing that no rival theory *could* be true, which rarely if ever happens either in philosophy or in the empirical sciences. Cartesian scepticism, for example, can no more be absolutely disproved than can creationism. But that is no excuse for being, or posing as, a Cartesian sceptic or a creationist: since in both these cases other theories – that there *is* an external world, and that species *do* evolve – win, if not by a knockout, then decisively on evidential points. I do not of course deny that in philosophy, as in science and history, even the best theory of a subject may face serious objections: but that is no excuse for giving equal credence to others that face worse ones. To vary the sporting metaphor: just as no sane bookmaker will offer the same odds on every horse in a race, so philosophers should not offer the same odds on every competing theory of a philosophical subject.

This brings me to a third bad habit, of wasting too much time on theories no one believes, like Cartesian scepticism. I do not mean it is never worth discussing what is wrong with arguments for such theories, only that their internal consistency is not a sufficient reason to take the theories themselves seriously. When, in my *Real Time II*, I argue against the possibility of backward time travel, I have real opponents, just as evolutionists have real, creationist, opponents. Those are serious debates about what to believe, which debates about Cartesian scepticism are not.

The last bad habit on my list is that of discussing philosophy instead of doing it, i.e. of doing meta-philosophy, or the philosophy of philosophy, whose remit I take to be what philosophy is and how to do it. About what it is, I think Wittgenstein's definition above says all that need or can usefully be said. The topic of how to do it comprises its methodology, discussed above, and its methods, which, like those of other subjects, are best mastered by emulating exemplars. That is why most philosophers, like scientists and mathematicians, as well as historians, lawyers and other academics, start as apprentices, learning their trade by doing it under supervision: e.g. by writing Ph.D. theses that assess and add to existing work *in* their subject, not meta-work *about* it.

It is a fact that this process, of mastering a subject by learning how to do it, rarely needs to include learning a rationale for its scope and methods. Hence the lack of interest of most practitioners of most subjects in their subjects' definition and methodology. Why then is philosophy different, as it seems to be: why do so many philosophers indulge in meta-philosophy? Perhaps because, unlike the philosophy of other subjects, it is itself a part of the subject it is about. But that is not a good reason to do it unless it is an enlightening or important part, which I have never found it to be.

Nor is it necessary, since we can do philosophy perfectly well without doing meta-philosophy, just as we can do other subjects without doing their philosophy. But not *vice versa*, because philosophy, like mathematics and languages, is not a spectator sport: its products, unlike those of chefs and poets, can only be judged by those who can do it. So would-be meta-philosophers must first learn to do first-order philosophy. And anyone who can do that well, i.e. can add seriously to metaphysics, ethics, aesthetics, political philosophy, or the philosophies of science, mathematics, logic, language, history or law, has better things to do than meta-philosophy.

Finally, to the charge that this preface is itself a piece of meta-philosophy, I can only reply that it is meant to be aversion therapy: i.e. to do just enough meta-philosophy to deter readers from doing any more! It may fail, of course, but that will not make it false, not worth saying, or self-refuting. And anyway, there is not much of it: I have never been guilty of lecturing, or editing or writing a book, *about* philosophy. There is no meta-philosophy in *Real Time II* and *The Facts of Causation*: all they, like all my other philosophy books, contain, for better or worse, is philosophy itself.