

**'If we take in our hand any volume, of divinity or school metaphysics for instance; let us ask, "Does it contain any abstract reasoning concerning quantity or number?" No. "Does it contain any experimental reasoning concerning matter of fact and existence?" No. commit it then to the flames: for it can contain nothing but sophistry and illusion'**  
**(David Hume 'Enquiry Concerning Human Understanding', Section XII, Part III). - Comment.**

***Physics, Metaphysics and Methodology.***

Most of what is contained in metaphysics seems to be controversial, and there is little agreement as to what is supposed to be its subject matter. The line between metaphysics and other branches of philosophy is very difficult to draw. Having said this, it seems reasonable to start this riposte to Hume by noting some of the traditional concerns that have preoccupied students of metaphysics.

I would like draw a distinction between "internal" and "external" metaphysics. These terms are not in general use, although I have drawn them from the arguments between Carnap and Quine over the proper approach to ontology. External metaphysics is practiced by philosophers who believe in a world beyond language and beliefs. This metaphysics has been concerned with questions of existence, relations and modality. It has always taken a keen interest in what different kinds of things exist in the world, and what constitutes their "reality". What sort of things are trees, minds and numbers for example. Metaphysicians are also typically concerned with relational questions; they wish to understand how things hang together. How do such things as conscious beings, and social and cultural entities such as artefacts', works of art, and nations, relate to the objects described by the physical sciences? There are also *modal* questions about the properties an object *must* have to be of a certain type, about what it *would take* for there to be something of a given type, about the conditions under which individuals *would* be identical, or under which a given thing *would or would not* persist.

Sciences such as physics etc are often said to be "departmental", whereas external metaphysics seems to claim that it is much more general and fundamental, concerned with matters which cut across all of the natural sciences. This latter claim is a major irritation to many professional physicists and others, who doubt the usefulness of metaphysics, and question whether it still has anything useful to say.

This external metaphysics seems to be the target for Hume's attack. However, there is another tendency in twentieth-century philosophy, associated with Quine Carnap and Putnam, according to which metaphysics concerns itself not with the world itself but only with theories, languages or systems of beliefs. According to such thinkers

'external metaphysics' – is impossible. The best we can achieve is *internal metaphysics*, which is study of the ontological commitments of specific theories or systems of beliefs. External – traditional – metaphysics, that which would be known to Hume should be replaced by the study of the concepts of language or science. Traditional ontologists are seeking principles that are true of reality. The practitioners of internal metaphysics, in contrast, are seeking to elicit principles from subjects or theories. The elicited principles may or may not be true, but this, to the practitioner of internal metaphysics, is of no concern, since the significance of these principles lies elsewhere – for instance in yielding a correct account of the conceptual system used by the scientists working in a given discipline.

When Hume was writing, the natural sciences, using methods based on empirical observation were making striking advances, and it must have seemed that empiricism was the most successful way of attaining knowledge and making sense of the world. Metaphysics used reason based on a priori truths, methods judged sterile and unproductive in the new scientific environment. Kant, although an admirer of Hume felt stung by his remarks on metaphysics, and tried to inaugurate a "Copernican Revolution" which would ground the discipline in a sounder methodology. Despite the efforts of Kant, the influence of the English analytic philosophers often made "big" metaphysical problems, such as the nature of existence into matters best approached by linguistic and conceptual analysis. Carnap was thought by some have said the last word on metaphysics when he classified existence questions as "internal or external". Internal questions were framed within a particular language, asking such questions as

*"do Dodo's still exist" or  
"are there any primes between 16 and 20"*

capable of being solved within the scientific language, usually by empirical or logical methods. Questions such as

*"do numbers exist"  
"does anything exist"*

were external questions, framed outside of any language, and thus irrelevant. Of course, the big questions of metaphysics are all external questions. Such questions, if not ignored outright, were best dealt with by linguistic or conceptual analysis. AJ Ayer felt able to write;

*"no statement which refers to a 'reality' transcending the limits of all possible sense-experience can possibly have any literal significance from which it must follow that the labours of those who have striven to*

*describe such a reality have all been devoted to the production of nonsense"*

Because of the great success of the empirical method in the natural sciences, metaphysics seems suspect to some because it uses different (arguably weaker) methods. We should, according to Hume and others, abandon most metaphysical questions because they are unanswerable by empirical methods.

However, I think that there is more to metaphysics than this. To Hume, much of the metaphysics of his day compared unfavourably in terms of rigour with the natural sciences. However, I would argue that taken as a whole, metaphysics can call on a battery of techniques which make for a sound and robust methodology. There is more to metaphysics than just thinking very hard and just choosing the best argument. Traditionally metaphysics has used reason alone based on a priori arguments. Even in the time of Aristotle, metaphysicians developed theories of wider or narrower scope, and could test and refine their theories by examining them alongside counterexamples, or against the results of science. Additionally, there has been the use of inference to the best explanation. We can also use thought experiments. The appeal to what one can imagine often involves forming a vivid image of that state of affairs. We may also appeal to what one can coherently conceive, as well as what one cannot. We may also use appeals to intuitions about what is logically possible, or logically impossible, in order to support our claims about what really is possible, or impossible. These methods have been used, for example, to evaluate proposed analyses of concepts, and in connection with attempts to formulate truth conditions. Existence propositions have also been tackled using logic alone; (Eg; Bertrand Russell and the problems of a set of all sets and particularly a set of all sets that do not belong to themselves). We also have the use of possible worlds to supply truthmakers for modal statements.

I would also like to point out the contribution of Kant towards metaphysics. Although on one reading his critical approach in distinguishing noumena from phenomena seems to have reduced the scope of metaphysical enquiry, on another reading he has arguably strengthened its methods. Firstly, his argument for "transcendentally" establishing a body of synthetic a priori propositions as the basis for study of metaphysical problems has clearly established that enquiry must start prior to the acquisition of empirical knowledge. Secondly, he has something important to say about how we should approach empirical data. Such data is meaningless without our innate notions of time and space and causation. Time and space are not "out there" in any real sense; they are a priori ways in which we make sense of perceptions. Even in the natural sciences, empirical data does not come to us without our imposing a structure on it.

My reason for stressing this point, is to emphasise that physics does not have the last word on every subject merely by claiming the superiority of empirical data over all other forms of knowledge. Because of post-Kant developments in physics, eg; the existence of a space-time dimension, curvature of space, theory of relativity etc, the views of Kant have been arguably weakened. However, it is still possible to argue that metaphysicians have something useful to say about the methodology that physicists use, and what grounds the validity of results obtained by scientific enquiry. It can also be argued that the findings of science, especially in quantum mechanics, rather than reducing the scope of metaphysics have actually created new problems, such as the implications of the uncertainty principle, of assuming the existence of a multiverse, and the recurring questions about the nature of time. It is worth pointing out that the theories of cutting-edge physics can be just as speculative as any in philosophy.

In conclusion, I would argue that metaphysicians still have much of value to say about the traditional areas of ontology, namely; time, space, inherence, instantiation, identity, measure, quantity, functional dependence, process, event, attribute, boundary, and so on. Even if we limit ourselves to "internal" metaphysics, it is always possible to look at how scientists define the above concepts within their own "language" and examine them for consistency and rigour and compare their use across disciplinary boundaries. So I think metaphysics may still claim a seat at the table when the final Theory of Everything is decided.