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METAPHYSICS

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Introduction

Both science and metaphysics are concerned with the question of what there is and, to that extent, they have the same subject matter. Historically, some of the most significant debates in metaphysics have concerned the nature of universals (properties and relations), substance, causation, laws of nature, modality, identity, time, and truth. This list is not exhaustive, however, and there can be metaphysical issues in all other areas of philosophy. The mind–body problem is a metaphysical debate in the philosophy of mind, for instance, and in philosophical logic we may consider the nature and existence of propositions and logical forms, which is to consider metaphysical issues.

Given that metaphysics and science seem to seek the same thing – a description of the nature and workings of the world – we can well ask the question how, if at all, they differ. Assuming that we can find some difference between them, we can then ask how they relate. Is one discipline above the other in any respect? Is either of them logically or epistemologically prior to the other? We will see that philosophers of science and metaphysicians have had views on these questions and that there has been substantial disagreement. In the spectrum of views that are available, we find at one extreme the view that metaphysics is meaningless nonsense and at the other the view that all empirical and scientific knowledge is dependent on prior metaphysical understanding.

The chief concern of this essay will be with the demarcation of science and non-science: what it is, if anything, that makes them different subjects or ways of investigating, despite having seemingly the same subject matter. Given that the rest of this book is concerned with the nature of science, the focus here will be on the contrasting nature of metaphysics. Some philosophers have wondered how metaphysics is possible, given its abstract and non-experiential character. I will consider, therefore, how metaphysics relates, if at all, to empirical knowledge. It should be conceded, however, that there is very little agreement over the precise nature of metaphysics, even among the metaphysicians themselves. The nature of metaphysics is one among the number of problems considered by metaphysicians.

Early attempts at demarcation

The term “metaphysics” comes from Aristotle’s book of that name in which he discusses various problems that are of this general nature. Aristotle did not call it metaphysics but, rather, the study of Being *qua* Being (*Metaphysics*, Book IV.1). To have Being is to exist, and Aristotle’s concern was with what it was in general to exist and what it was for different categories of thing to exist. He also wanted to map out relations between the different categories of existence and thus produce the most general inventory of Being. Being *qua* Being covered everything: it would be an account of all that existed, not just what exists in the natural or empirical world, though that would be included as well. The *Metaphysics* was so named by later scholars just because the book appeared in their edition after *The Physics*, and metaphysics is often translated literally as “after physics.” But, coincidentally (or not, as the case may be), metaphysics is after physics in another sense, namely in being above or beyond physics in its subject matter. Aristotle considered Being in such a general and abstract manner that the study went beyond the empirical and thus we have the earliest case of metaphysics being distinguished from science as a distinct subject. There were, however, metaphysicians before Aristotle, as Plato’s theory of the Forms in the *Republic* is recognizably a metaphysical thesis and even the concerns of pre-Socratic philosophers were primarily metaphysical. A misnomer has been common since Aristotle in that the practitioners of metaphysics are standardly referred to as “metaphysicians.” If their discipline is after or beyond physics, however, then clearly they should be named “metaphysicists.” Practitioners of physics are known as “physicists,” whereas physicians practice medicine. I shall not here try to replace standard usage, however.

Aristotle’s metaphysics had a distinctly more abstract content than empirical science. Philosophers of science have tended to seek other distinguishing features with which to demarcate science and metaphysics. The concern has been largely to vindicate the position and legitimacy of science and in so doing distinguish it from various non-sciences: superstition, prejudice, pseudo-science, and metaphysics. Bacon famously concentrated on the context of discovery as the mark of science, proposing in the *Novum Organum* a new inductive method that could generate scientific truths as if by machinery. Knowledge was *scientific* if and only if it was derived in the right way, moving from observation of particular facts, through the tabular method, to a general theory, such as that heat is motion or that all swans are white.

The need for empirical evidence is even stronger in the empiricist tradition because of its view that all knowledge comes from experience (see Locke’s *Essay Concerning Human Understanding*, 2.1.2). This generates the principle that for any human idea or concept to be legitimate, we must be able to show from what original experience(s) it is derived. If we are unable to do so, then such an idea is illegitimate. This led, some centuries later, to an overall condemnation of metaphysics in logical positivism, particularly as described by Ayer (1936: Ch. 1). Ayer’s view employs Hume’s fork to savage effect. In order for a statement or judgment to be meaningful it must be, at least in principle, empirically verifiable. Hence, if I claim that there is a cat in my room, the statement has meaning if and only if there are some experiences it would be possible

to have – cat-like experiences in my room – that could verify it. But metaphysics seems to be non-empirical. When I claim that God exists, I do not claim this to be an empirical truth because God stands outside space and time and so cannot be seen or heard. But if verifiability is taken as a criterion of meaningfulness, then such a claim is deemed not just false – strictly speaking not false at all – but meaningless. The words are just empty sounds because we have literally no idea at all of what we are speaking when we use the word “God.” Non-science is therefore nonsense, according to this form of empiricism, though, like Hume, logical positivists allow truths of logic and mathematics, which are just relations between ideas and utterly trivial. The problem of metaphysics is that it purports to be both substantial – non-trivial – but also non-empirical. This is not a permissible combination, so Ayer advocates, provocatively, the “elimination” of metaphysics. The argument is, however, just the modern version of that famously offered by Hume:

When we run over libraries, persuaded by these principles, what havoc must we make? 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. (Hume 1748: 165)

Karl Popper (1959) was a critic of both Baconian induction and logical positivism. The inductive method, no matter how refined it may be, is logically invalid. And because scientific theories are general, they are not verifiable, even in principle. Logical positivism would have to pronounce them meaningless. It was clear to Popper, therefore, that verifiability is not the criterion by which we can distinguish science and non-science. In its place, Popper offered *falsifiability*. While no particular observation can verify a general theory, there are many observations that could falsify it. Popper then saw that a theory of science, and a demarcation between science and non-science, could be based on this. Any theory that was unfalsifiable was non-scientific. But here, too, Popper departed from logical positivism. Both Popper and the logical positivists had read Wittgenstein’s *Tractatus* (1921), but left it with differing views of metaphysics. Non-science need not be nonsense, according to Popper, as metaphysical claims may be among the most important to us. That is not to say that all non-science is important or good. Popper went to lengths to discredit Marxism and psychoanalysis for being pseudo-sciences: unfalsifiable theories claiming scientific credentials. But in allowing that metaphysics can be important, Popper scores an interesting victory over logical positivism. The logical positivist claim that statements must be verifiable to be meaningful is not itself verifiable, because, among other reasons, it is a modal claim. Hence it is self-undermining. In contrast, that a statement must be falsifiable to be scientific is not a self-undermining statement even if it is not itself falsifiable. That would just mean that it was not a scientific claim, but it may, instead, be legitimate as a philosophical one.

Popper’s account does not, however, tell us much about the nature of metaphysics, how it is possible and how it is meaningful if it is not falsifiable. It has also been

questioned whether the criterion of science that Popper offers is tenable. Science is likely to involve existential claims as well as general claims. Hence, it may be claimed that “There is a fifth basic force” or “There is a seventh kind of quark.” Such statements have the logical form $\exists xFx$: that something is F . While I can in principle verify statements of this form, for example by finding a seventh kind of quark, I can never falsify such a claim. No matter how many unsuccessful searches I conduct for a fifth basic force, I do not falsify the claim that there is one. Perhaps, then, falsificationism gains credence only by concentrating on a limited domain of scientific statements. Furthermore, it is clear that falsification of theories can be resisted. The Duhem–Quine thesis states that a general theory can still be held in the light of any apparently countervailing evidence, simply by rejecting the evidence rather than the theory. Hence, while I see a black swan I may nevertheless decide to retain my theory that all swans are white, by accepting some supplementary claim such as that my observation is unreliable.

Since Popper, more holistic accounts of scientific theories have been given, though these weaken the division between science and metaphysics. Theories are equated with paradigms (Kuhn 1962), research programmes (Lakatos 1970) or ideologies (Feyerabend 1975) which come in whole packages that can determine observations. Observation is depicted as theory-dependent such that if one accepts a theory then one will be unable to find empirical refutations of it. But then the theory as a whole seems as empirically unaccountable as metaphysics and we are left wondering again what, if anything, distinguishes the two.

Rethinking the divide

We have seen that neither the logical positivists nor Popper can be said to have succeeded in drawing a substantial divide between science and metaphysics. This suggests that we might want to rethink the assumption that there is such a clear distinction between the two disciplines. In this section I look more closely at the basis of the assumption and then, in the next section, consider some of the options we now have before us.

Traditionally, metaphysics has been thought to be substantive and synthetic but also *a priori*. Science was understood to be entirely empirical and metaphysics entirely non-empirical, so the only real distinction was thought to be that truth in science was discovered *a posteriori* while truth in metaphysics was *a priori*. Hence, the world will look the same to an observer no matter which metaphysical theory is true. There is a division in metaphysics, for instance, between bundle and substratum theorists over the nature of substance (Loux 2002: Ch. 3). Bundle theorists think that particular substances are nothing more than bundles of qualities or properties, while substratum theorists think that there has to be an underlying, property-less substratum that collects together and individuates those bundles. Bundle theorists and substratum theorists can agree on all the empirical data, however, so the difference between the two theories cannot be an observable difference. If we are to decide between the two, therefore, it seems that we must use reason alone, unaided by the senses. Our choice

between competing theories of metaphysics can only, it seems, be rational and *a priori*, hence the classification of such a practice as rationalist metaphysics. Spinoza's *Ethics* is perhaps the *opus classicus* of this approach, as an entire world system is built up from rational first principles through *a priori* deduction.

However, what has made such an approach to metaphysics difficult to defend is the additional claimed features that it is also substantive and its truths are synthetic. Other forms of *a priori* knowledge, such as logic and mathematics, are insubstantive in that they do not purport to say anything about what is. To argue that if *A* then *B*, and if *B* then *C*, then if *A* then *C*, says nothing about whether *A*, *C*, or anything else exists. Following Hume, we may think of such truths as nothing more than expressing relations between ideas. But metaphysics clearly does make existential claims that are not simply relations between ideas, as when we say, for instance, that universals exist. This is not an analytic or conceptual truth: it is not true simply in virtue of the meaning of the terms employed; so it is synthetic. The combination of being substantive but non-empirical can now be seen as very deeply puzzling. In the case of substantive empirical truths, we have a grasp of how to confirm one such truth, perhaps by observing whether something in the world corresponds to the state of affairs reported in the statement (assuming we accept some version of the correspondence theory of truth). In saying that metaphysics is substantive, the metaphysician is wanting to say that "There are universals" is true if and only if there are indeed universals, regardless of the fact that realists and nominalists agree over all the empirical data and so we cannot discover its truth or falsehood empirically.

This worried, among others, Kant (1781), who asked how synthetic *a priori* knowledge was possible. His solution was ingenious though it is not one that matches the ambitions of many metaphysicians. Kant made metaphysics a more modest exercise by claiming that synthetic *a priori* knowledge was possible only because it is knowledge about the nature and limits of our own *thinking*. Instead of claiming, for instance, that causation is a real feature of the world, a Kantian account would say something along the lines of human beings, in virtue of what they are and the way they think, having to conceptualize the world around them in causal terms. Similarly, I cannot say that the world in itself is spatio-temporal but I can say that spatio-temporality is a necessary condition of human perception and apprehension.

Such an approach to metaphysics can be considered deflationary. Instead of saying something substantial about the world, metaphysics would be saying something substantial only about the nature of human thought: a far more modest ambition. And it is also worth noting that this issue is not simply a problem for metaphysics but is arguably a general feature of all philosophy. In ethics, for example, whether utilitarianism is the correct moral theory cannot be decided empirically; nevertheless a moral realist may claim that it is true or false – that it is a substantive thesis. Similarly, whether knowledge is justified true belief cannot be empirically known. So this is a very general problem for the whole of philosophy (including the philosophy of science). It can be argued that philosophy in general has the appearance of being synthetic *a priori*, so a Kantian deflationary view of metaphysics would have to apply to other areas of philosophy. To say that these were also just about the nature of human

thought would clearly be controversial. Although some philosophers may think that moral theories are just about the way we think, that itself is a philosophical position, one with which moral realists disagree. Similarly, metaphysical realists will disagree with the philosophical position that metaphysics is not about the world itself.

Another approach, which is also in a sense deflationary, is to deny that metaphysics, and any other part of philosophy, is correctly characterized as synthetic and *a priori*. Such an approach would seek to maintain that metaphysics is about the world but deny that metaphysical thinking has the kind of features that we have found so puzzling. One could claim that metaphysical thinking was not synthetic after all, but that metaphysicians were largely in the business of collecting conceptual truths; or one could claim that metaphysics was not after all *a priori*, despite appearances and centuries of philosophical opinion to the contrary. I consider those options in more detail in the final section, but I wish to consider first an implication of this kind of response. It has been assumed that philosophers, and metaphysicians *par excellence*, have a distinctive way of thinking about the world that is sharply divided from the way scientists think about the world. Philosophers are able to find substantial non-empirical truths while scientists find empirical truths. But this may just be a philosopher's confidence trick, attempting to carve out some distinctive, esoteric domain that justifies philosophy as a separate discipline. In which case, there may not be a distinctly metaphysical way of thinking at all. Indeed, why should we think there might be? How would it have evolved? What use to humans would it be to think metaphysically? It is hard to see how thought that has no empirical consequences could bestow any evolutionary advantage on its thinker. Whether one believes realism about universals or resemblance nominalism, one is just as likely to survive and reproduce, so why should any such ability be selected and developed over the course of human evolution?

Contemporary responses: getting our priorities right

In these final sections I look at some contemporary responses to the problems outlined above. In doing so, I bring back into focus the two issues with which I began: How, if at all, does metaphysics differ from science? And what are the relations between the two? I will consider three different live options. These are not exhaustive, but represent the range of options that are still in the running as explanations of how metaphysics can be a substantive discipline. They differ on the nature of metaphysics and the degree to which it is empirically informed. This comes down to a disagreement over the order of priority between metaphysics and science. One view says that metaphysics is rationally prior to science and all empirical knowledge. Opposed to this is a view that metaphysics is a branch or extension of empirical knowledge, and the way that it differs from science is not in virtue of being *a priori* but in virtue of being more abstract. Another position is a halfway house, claiming that metaphysics and science are equal partners in the endeavor for knowledge. I do not side with any of these three views, partly because I see both merit and problems in all. I call the three positions, in the order I discuss them, realism, the Canberra plan (the equal partner view), and a posteriorism. I end with consideration of a more widespread conciliatory view of the correct method in metaphysics.

Realism

E. J. Lowe advocates metaphysics as a substantial and primary discipline. He says that his aim is “to restore metaphysics to a central position in philosophy as the most fundamental form of rational enquiry, with its own distinctive methods and criteria of validation” (1998: 1). Metaphysics does not tell us what there is, but it does tell us what is possible. It is then up to science to tell us which of the possibilities is actual (or which of the many possible worlds is ours). Science unaided cannot tell us what is possible, unless it becomes itself metaphysical. Science tells us what is actual, though that will rest on metaphysical and ontological assumptions about the possible. Metaphysics thus provides the modal background against which we set our empirical discoveries. For example, we can discover empirically that the morning star is identical with the evening star only if we accept the modal claim that two distinct material objects cannot occupy the same place at the same time. This cannot itself be an empirical claim as only *a priori* metaphysics may deliver it through its investigation of what is, and what is not, possible. Similarly, physics will often assume an ontology based on metaphysical rather than empirical commitments. Whether objects are just bundles of sensation or are mind-independent, continuing to exist unperceived, cannot by its very nature be decided empirically. Such considerations prompt Lowe to claim: “We are all metaphysicians whether we know it or not, and whether we like it or not” (2002: 4).

The biggest problem for such an account to overcome is how such modal knowledge can be acquired, which of course harks back to Kant’s question. Lowe continues to depict metaphysics as substantial: it is about the world (or at least what is possible for the world) rather than human thought. Yet it is *a priori*. It is also fundamental and primary, returning to the Aristotelian priority of metaphysics as First Philosophy. Lowe does make some concession to the empirical, however. Empirical and metaphysical considerations can interact so that we may choose to develop an empirically informed metaphysics. Science may tell us, for instance, that it is plausible that the world contains atomistic elements, and this could inform and justify atomism in metaphysics. Such a theory would no longer then be purely *a priori*, so would no longer have the certainty of the pure *a priori*; but certainty, says Lowe, is something we should be prepared to sacrifice in metaphysics.

The Canberra plan

Lewis (1970) proposes a way of doing philosophy, and metaphysics in particular, that has proved influential in recent years. It has been developed by Canberra philosopher Frank Jackson (1998). The metaphysician’s job is to gather the platitudes: all the *a priori* truths that tell us what some phenomenon is; for example, what it is that causation is supposed to be, or a law of nature. We form these into a “Ramsey sentence” that describes a complete role of something. $\exists x (Fx \ \& \ Gx \ \& \ Hx \ \& \ \dots)$ says that there is something of which it is true that *F*, *G*, *H*, and so on. In the Ramsey sentence for causation we might say that there is something that relates events, creates

constant conjunctions among types of event, supports counterfactuals, and so on. But this is only the first step. Next we look at the world and discover what, as a matter of empirical fact, fills such a role: modal relations between particulars, energy transference, causal powers or whatever. Scientists perform this second step.

The advantage of such an account is that it explains, even vindicates, the philosophical process. Philosophers doing conceptual analysis from the comfort of their living-rooms play a crucial organizational role in the acquisition of knowledge. They are concerned only with the *a priori* portion, but provide an ineliminable and vital contribution. The metaphysician uncovers the constraints on a theory. Anything offered as a theory of causation, for example, would have to satisfy the relevant Ramsey sentence.

There are two problems with this account, however. First, it is contentious that metaphysics is concerned only with the first of the two steps. Gathering the platitudes seems a relatively mundane and uninteresting task, which for the most part is merely assumed to have been completed. In the case of causation, for example, disputes are rarely about the platitudes themselves. Rather, there is a host of theories that claim to be able to satisfy the Ramsey sentence just as easily as any other theory, and that is more commonly the area of dispute among metaphysicians. They have proved reluctant to leave the second step to the empirical scientists. A second problem is that it offers no challenge to supposedly natural ways of thinking. Metaphysics is slave to the platitudes, which are just a collection of common sense. Philosophy in the Socratic tradition is depicted more as an antidote or challenge to common sense. Why should a pre-philosophical way of thinking about the world be right? It has proved enough for us to survive as a species but it might not have got right the more subtle points about the nature of our world (Lowe 1998: 6–7). Metaphysics might be able to improve, revise, and regiment our ways of thinking, and the Canberra plan does not seem to make room for this.

A posteriorism

Quine challenged the analytic–synthetic distinction and Putnam (1962) has argued that seeming knowledge of *a priori* necessities could turn out to be wrong. Cats may turn out, on empirical investigation, to be not animals but robots. That cats *are* animals ought, therefore, to be understood as an *a posteriori* truth after all. Putnam challenges in general the view that there are necessary, immutable truths. If this is correct, what would be left of metaphysics, which until now has been presented as a self-professed *a priori* enterprise?

Metaphysics might still be possible, though now understood as a kind of *a posteriori* study only. The division between science and metaphysics would not be that one is empirical and one is *a priori*, but then what would the division be? An option is to think of types of study falling on a spectrum of more-or-less concrete or abstract. Metaphysics would be continuous with physics but more abstract. We will sometimes reflect on our empirical knowledge and want to bring it together to form a global view, looking at what there is in the abstract. We may note, for instance,

that scientists invoke various specific laws of nature, such as the law of gravitational attraction and Coulomb's law. The metaphysician will then consider laws of nature in general, deciding what features something must have to qualify as a law, what role laws generally have in the functioning of our world, whether they relate events or properties, and so on. Metaphysics is, then, as *a posteriori* as anything else, but is distinguished by being at the more abstract end of the *a posteriori*.

Such a view would still have to answer Lowe's claim that metaphysical knowledge is a precondition for empirical knowledge. This last view reverses the order of priority claimed by realism: science, as empirical study, is prior to metaphysics. Presumably, the knowledge that distinct material objects cannot occupy the same space at the same time would be an empirical generalization from the cases of particular distinct objects. It is nevertheless difficult to explain how this knowledge can be modal and can support counterfactuals. If one is more of an empiricist philosopher, however, one may well deny that knowledge has any such modal value and be attracted to some such form of *a posteriorism*.

Non-alignment

Rather than adopt one of these three positions, many metaphysicians take a non-aligned, conciliatory view of their task. Metaphysics is for the most part judged to be non-empirical, so we are left to reason carefully about the truth of the matter. David Armstrong (1989: 135), for instance, who is one of the most important and influential contemporary metaphysicians, says:

Metaphysicians should not expect any certainties in their inquiries. One day, perhaps, the subject will be transformed, but for the present the philosopher can do no more than survey the field as conscientiously as he or she can, taking note of the opinions and arguments of predecessors and contemporaries, and then make a fallible judgment arrived at and backed up as rationally as he or she knows how.

Also like many other current metaphysicians, Armstrong accepts a cost-benefit approach:

We have to accept, I think, that straight refutation (or proof) of a view in philosophy is rarely possible. What has to be done is to build a case against, or to build a case for, a position. One does this usually, by examining many different arguments and considerations against and for a position and comparing them with what can be said against and for alternative views. What one should hope to arrive at ... is something like an intellectual cost-benefit analysis of the view considered... One important way in which different philosophical and scientific theories about the same topic may be compared is in respect of intellectual economy. In general, the theory that explains the phenomena by means of the least number of entities and principles (in particular, by the least number of sorts of entities and principles) is to be preferred. (*Ibid.*: 19-20).

Whether this is sufficient to generate truth in metaphysics is another matter. The factors mentioned are pragmatic, suggesting that the truth delivered by the cost–benefit analysis is truth as coherence only. If one generally favors a view of truth as correspondence, one may feel that the cost–benefit analysis in metaphysics cannot quite attain the substantial metaphysical truths that are being sought.

See also Critical rationalism; Essentialism and natural kinds; The history of philosophy and the philosophy of science; Logical empiricism; Scientific method; Underdetermination.

References

- Armstrong, D. (1989) *Universals: An Opinionated Introduction*, Boulder, CO: Westview Press.
- Ayer, A. J. (1936) *Language, Truth and Logic*, 2nd edn repr., London: Penguin, 1971.
- Feyerabend, P. (1975) *Against Method*, London: New Left Books.
- Hume, D. (1975 [1748]) *An Enquiry Concerning Human Understanding*, Selby-Bigge edition, Oxford: Clarendon Press.
- Jackson, Frank (1998) *From Metaphysics to Ethics: A Defence of Conceptual Analysis*, Oxford: Oxford University Press.
- Kuhn, T. (1962) *The Structure of Scientific Revolutions*, Chicago: University of Chicago Press.
- Lakatos, I. (1970) “Falsification and the Methodology of Scientific Research Programmes,” in I. Lakatos and A. Musgrave (eds) *Criticism and the Growth of Knowledge*, Cambridge: Cambridge University Press, pp. 91–196.
- Lewis, D. (1970) “How to Define Theoretical Terms,” in *Philosophical Papers*, Oxford: Oxford University Press, 1983, Volume I, pp. 78–95.
- Loux, M. J. (2002) *Metaphysics: A Contemporary Introduction*, 2nd edn, London: Routledge.
- Lowe, E. J. (1998) *The Possibility of Metaphysics: Substance, Identity and Time*, Oxford: Oxford University Press.
- Popper, K. (1959) *Logic of Scientific Discovery*, London: Hutchinson.
- Putnam, H. (1962) “It Ain’t Necessarily So,” in *Mathematics, Matter and Method*, Cambridge: Cambridge University Press, 1979, pp. 237–49.
- Wittgenstein, L. (1921) *Tractatus Logico-Philosophicus*, trans. 1961, London: Routledge.

Further reading

There are many introductory books on metaphysics. M. J. Loux’s *Metaphysics: A Contemporary Introduction*, 2nd edn (London: Routledge, 2002) is excellent and up to date. E. J. Lowe has two useful books both of which could be starting points: *A Survey of Metaphysics* (Oxford: Oxford University Press, 2002) is slightly more technical than Loux, as is *The Possibility of Metaphysics*, which asks Kant’s question anew. For a development of the Canberra plan, Frank Jackson’s *From Metaphysics to Ethics: A Defence of Conceptual Analysis* (Oxford: Oxford University Press, 1998) is the best source. For thorough treatment of individual topics there is Le Poidevin, Simons, McGonigal and Cameron (eds) *The Routledge Companion to Metaphysics* (London: Routledge, forthcoming). The classics remain rewarding, however. Metaphysics as a distinct subject begins with Aristotle in the *Metaphysics* (London: Penguin 1998) and the classic examination of how metaphysics is possible is to be found in Kant’s 1781 *Critique of Pure Reason*, Kemp-Smith edition (London: Macmillan). For the attack on metaphysics, the most readable source is A. J. Ayer’s *Language, Truth and Logic*, 2nd edn (London: Penguin, 1936).