Metaphysics

Jonas Raab and Chris Daly

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> We are all metaphysicians whether we like it or not, and whether we know it or not.
>
> E. J. Lowe (2002: 4)

> Metaphysicians are musicians without musical ability.
>
> R. Carnap (1932/57: 80)

This entry considers the philosophical subject called *metaphysics*. There have been many conceptions of metaphysics, and metaphysics has faced severe criticism throughout the history of philosophy and continues to do so. Besides discussing some major trends in analytic metaphysics—understood as 'metaphysics done by analytic philosophers'—we consider some of the criticisms and possible responses.

1 Introduction: What Is Metaphysics?

Let's start by considering the origins of 'metaphysics'. The origin is the title of Aristotle's *Metaphysics*—from the Greek *ta meta ta physika* which means 'that which comes *after* the natural things' (Rapp and Corcilius 2011: §III.9, pp. 123f.). However, Aristotle didn't name this treatise and there are several ways of understanding the title. One way is the *editorial* which suggests that a later editor—Andronicus of Rhodes—put the treatise *after* Aristotle's *Physics* and named it accordingly. Another way reads the *meta* as suggesting what's *beyond* nature; see Rapp and Corcilius (2011: §III.9). Not only did Aristotle not provide the title, neither does he use the word 'metaphysics'.

The first book (Book A) of the *Metaphysics* looks for a *science* (*epistêmê*) which Aristotle calls *wisdom* (*sophia*, A1, 981a27). Moreover, he provides three more names, viz., 'first philosophy', 'science of being *qua* being', and 'theology'.[1]

Aristotle calls it *first philosophy* based on his understanding of science and philosophy. He distinguishes three subdisciplines of theoretical philosophy, viz., mathematics, natural science (*physikê*), and theology (E1, 1026a18–19). These three are related as follows: mathematics concerns immovable, but not independently existing entities, natural science movable and independently existing entities, and theology immovable and independently existing entities (cf. Rapp and Corcilius 2011: §IV.43).

Aristotle introduces a hierarchy of sciences. He thinks that sciences look for causes (*aitiai*) and principles (*archai*), and first philosophy seeks first causes and principles. As our world contains physical/movable entities, theology is considered *first* philosophy as it concerns the original cause of such movement. However, if there were no immovable, independent entities, Aristotle suggests that natural science would be first philosophy (E1, 1026a27–29).

Besides naming the disciplines, Aristotle determines their subject matters. Let's briefly sketch some of his account of the science of being *qua* being.

The discussion in the *Metaphysics* begins by considering how we acquire knowledge (*gnôsis*). Aristotle notes that we start from sensations (*aisthêsis*) which turn into memory (*mnêmê*). From memory we gain experience (*empeiria*) which leads to science (*epistêmê*) and art (*technê*). For art arises "when from many notions gained by experience one universal judgement about similar objects is produced" (A1, 981a5–7).[2] However, experience is knowledge only of individual facts whereas art is knowledge of the general; experience can only tell us *that* some facts obtain, but it lacks the resources to answer *why* they obtain, i.e., it lacks the needed causal information.

One problem Aristotle faces is that the required knowledge might simply be unobtainable by human beings (A2, 982b28–29). Aristotle responds to this problem in two steps. Firstly, he presents his account of learning which says that we must start from something we know and proceed by demonstration, definition, or induction (*epagôgê*). Secondly, he makes a more general point. Clearly, we cannot demonstrate everything; demonstration itself does not start from demonstration (Γ6, 1011a13). Crucially, "there is no demonstration of substance [*ousia*] or of the essence [*ti estin*], but some other way of revealing it" (E1, 1025b14–16). One example is Aristotle's treatment of the *law of non-contradiction*. Aristotle notes that, on pain of an infinite regress (Γ4, 1006a8–9), there cannot be a demonstration of everything, but one can "demonstrate negatively" (Γ4,

[1] First appearances at, respectively, Γ2, 1004a2–4, 1003b12–16, and E1, 1026a19. See Shields (2014: ch. 6) for discussion.

[2] Translation by W. D. Ross as printed in Barnes (1984).

1006a11–12) that it's impossible to deny the law (for critical discussion, see Priest 2006: ch. 1).

Each particular science has its subject matter delimited in a particular way, but the science of being *qua* being does not, or, as Aristotle puts it, the other sciences only consider "a part of being" (Γ1, 1003a24). But the science of being *qua* being investigates being at its most general, not, e.g., *qua* moving as natural science does.

Aristotle notes that, similarly to the impossibility of a demonstration of substance, the more specific sciences don't answer the question of whether their particular subject matter exists (E1, 1025b16–18)—this would be part of the subject matter of the science of being *qua* being.

We can also note that Aristotle doesn't accept just any claims, but criticizes his predecessors for not expressing themselves clearly or consistently (A4, 985a18–23, A5, 986b4–6) and accuses their doctrines of being just "empty talk" (A9, 991a21–22, 992a28) because they just introduce words without further explanation. His alternative strategy is based on his account of learning. But given that not every starting point can be demonstrated, Aristotle suggests starting from "common beliefs" (B2, 997a20–21).

Furthermore, given the relation of metaphysics to other sciences, Aristotelian metaphysics doesn't 'float free'. Rather, insofar as we start from common beliefs and knowledge from experience to arrive at sciences, and that metaphysics is the most general science, whatever can be demonstrated from within metaphysics must answer to the other sciences and experience. One reason for this is that science concerns general knowledge which does not mean that its possession implies knowledge of each instance, but it does so potentially (A2, 982a4–23).

Aristotle's conception of the science of being *qua* being comes quite close to how the subject matter of metaphysics is commonly described today, viz., as 'the study of ultimate reality', though it has been noted that this description is not particularly informative (cf. van Inwagen 2015: ch. 1). Together with an understanding of the science of being *qua* being, we can get some content from it. As noted, other disciplines investigate particular subject matters which are delimited in a particular way. E.g., biology investigates living beings (being *qua* living). Metaphysics isn't so restricted, but investigates the most general features of reality, i.e., being *qua* being and examines "what is prior and posterior, genus and species, whole and part" (Γ2, 1005a16–17) and related topics. Today, we also consider questions regarding the existence and nature of mental entities, personal identity, laws of nature, causality, processes, powers, etc. as belonging to metaphysics.

Metaphysics faces several challenges, the most common being the aforementioned acquisition of relevant knowledge. However, it is not always clear what exactly is being criticized as it is rarely made clear by critics what's meant by 'metaphysics'. To evaluate the criticisms, we must have an understanding of what metaphysics is. One line of criticism comes

from the position that we cannot know anything that goes beyond science (as currently understood). Metaphysics doesn't seem to answer to empirical evidence in the same way as science does, so that metaphysics would have to be done from the armchair via *a priori* reasoning—which might seem problematic.

2 Russell, Moore, and *the Tractatus*

The last reason also motivates Kant's *Critique of Pure Reason*. Kant notes that our attempts to learn something about objects via *a priori* reasoning have "come to nothing" (B xvi)[3]. The consequence he draws is that for *a priori* reasoning to be possible, "the objects must conform to our cognition" (B xvi).

Kant's approach gave rise to Idealism, a position G. E. Moore and Bertrand Russell—two of the key figures in developing *analytic* philosophy—responded to early in their careers; see MacBride (this volume).

Moore, like Aristotle, starts from common sense. Given the Idealism of his time, this is quite astounding, because Idealism propagated metaphysical positions which are quite remote from common sense; the idealists consider their arguments as even trumping common sense. In opposition to this, Moore starts with statements "which may seem, at first sight, such obvious truisms as not to be worth stating" (1925: 32). He divides the statements into a list of statements (about himself), and a "single truism" (1925: 34) (also about others)—both of which Moore claims to "know, with certainty, to be true" (1925: 32, 33). An example of a statement on the list is the following:

> There exists at present a living human body, which is my body.
>
> (1925: 33)

The 'single truism' says that other people know analogous statements from the list about themselves and about others. Hence, Moore does not only claim that *he* has a living human body, but that others do too, and that they also know this about him; similarly for other statements on the list (cf. 1925: 34f.).

Moore goes on to defend his claims in a way which is reminiscent of Aristotle's suggestion of 'negative demonstration', viz., he attempts to show that anyone claiming that the statements are false thereby shows that at least one of them is true—from which the others follow. The reason is that from the denial it follows that there are no material objects, and, thus, no philosophers capable of denying; the denial presupposes the existence of entities which are being denied (1925: 40).

However, as the single truism says that there are other people, Moore might just beg the question. But he argues that

[3]Translation by Paul Guyer and Allen Wood as printed in Kant (1998).

> if I have no reason to believe that the proposition in question is true, I have still less reason to believe that they [i.e., philosophers denying the proposition in question] have held views incompatible with it; since I am more certain that they have existed and held some views, i.e. that the proposition in question is true, than that they have held any views incompatible with it. (1925: 40)

Moore's point is that there is no reason for him to have any higher confidence in positions which are incompatible with common sense because they are less certain than common sense statements.

In describing the beginning of Moore's (1925), we only presented one example of a list of statements. Given that this list is an expression of common sense, we can ask what statements are on this list. Moore answers this by alluding to the features we have just encountered, viz., 'if we know that they are features in the "Common Sense view of the world", it follows that they are true' (1925: 44f.). These are statements whose denial is incoherent. Moore even claims that for many of such statements it holds that 'if they are features in the Common Sense view of the world (whether "we" know this or not), it follows that they are true' (1925: 45). However, Moore does not provide any guidance as to how to extend the list.

Surprisingly, Moore (1939) takes it to be unclear what some of these statements mean and devotes much space to analysing them. This, though, means that the status of common sense statements becomes less clear, too. Yet, if those statements are not entirely clear, but open to the kind of clarification that Moore rejects as "profoundly mistaken" (1925: 37), it becomes also unclear whether philosophical positions such as Idealism are incompatible with such common sense beliefs. Hence, we must distinguish between sentences whose meaning we understand perfectly well without analysis, and sentences in need of analysis, to carry out Moore's programme—something Moore does not provide us with (see also Rinard 2013).

Bertrand Russell, following Moore, rejects Idealism. Again, following Moore, Russell doesn't reject it because of its association with metaphysics, but as a metaphysical theory; Russell had no quarrels doing metaphysics, even though he was quite dismissive of various metaphysical theories (e.g., 1914/2009: 37).

Russell started as a Meinongian, endorsing a difference between *being* and *existence* (1903/2010: 455f.). He argues that, given a term A, '"A is not" must always be either false or meaningless' (1903/2010: 455) because we couldn't say anything about something that *is* not. Indeed, Russell claims that "[n]umbers, the Homeric gods, relations, chimeras and four-dimensional space all have being" (1903/2010: 455). Nevertheless, that doesn't mean that such things *exist*:

> Existence [...] is the prerogative of some only amongst beings. (1903/2010: 455)

Despite his early endorsement of Meinongianism, Russell turned into a vocal opponent. The opposition stems from his understanding of *logical form*—first introduced in his (1905). The general thrust is that the *grammatical* and *logical* forms of statements come apart and, insofar as negative existentials like 'A is not' can be true, it becomes unnecessary to ascribe *being* to A.

One important respect in which grammatical and logical form come apart is exemplified by sentences involving quantification such as 'every human being is mortal'. The grammatical form sees 'every human being' as the subject of the sentence. Yet, the logical form consists of a quantifier $(\forall x)$ acting on an open formula $(H(x) \rightarrow M(x))$. Similarly, the logical form of statements like 'human beings exist' involves a quantifier $(\exists x)$ so that the logical form of 'A is not' is either $\neg\exists x A(x)$ or $\neg\exists x(x = A)$ (depending on 'A')—no assumption about A's being is needed.

Extending the general idea leads Russell to his *logical atomism*. Russell criticizes what he calls the 'traditional' logic deriving from Aristotle; see MacBride (this volume). He claims that the old logic is not capable of accounting for all inferences because it lacks *relational predicates* (1914/2009: 36). Thus, for the old logic, every statement must be of subject-predicate form, such as 'every human being is mortal'. However, statements such as 'every human being has ancestors' relate different entities and aren't of subject-predicate form.

Russell argues that predicates stand for *universals*, i.e., potentially shareable entities (1912/98: ch. 9). In the above example, *being mortal* might be understood as a universal of which human beings partake. Thus, Russell assumes there to be particulars (which can partake of universals) and universals (which particulars can partake of). If a particular partakes of a universal, we get a *fact* which is "objective, and independent of our thought or opinion about it" (1914/2009: 42).

Crucially, Russell claims that there is a close correspondence between facts and language when he says:

> Given any fact, there is an assertion which expresses the fact. (1914/2009: 42)

Indeed, true assertions express facts. However, if there are ineffable aspects of reality (e.g., Hofweber 2017), then Russell's picture is already problematic.

The basic idea of logical atomism is that we create a logical language which appropriately corresponds to reality. The language consists of variables, names, predicates, quantifiers, connectives, and auxiliary symbols. The names refer to particulars, the predicates to universals. With these ingredients, we can introduce *atomic* sentences which are well-formed combinations of names and predicates ($P(a)$, $R(b, c)$, ...). True atomic sentences correspond to facts—which Russell calls, "to preserve the parallelism", "atomic facts" (1914/2009: 43).

Given atomic sentences, we can utilize the connectives to introduce

complex sentences. Lastly, we can form general sentences by utilizing the quantifiers which correspond to *general facts* (1972/2010: 8).

Wittgenstein's (1921/74) picture is similar. One point of divergence between their accounts is that Wittgenstein doesn't think that there are general facts (Soames 2003: 198). The reason is that Wittgenstein thinks that general facts can be exhaustively explained by atomic facts. But Russell disagrees because

> general truths cannot be inferred from particular truths alone, but must, if they are to be known, be either self-evident or inferred from premisses of which at least one is a general truth. (1914/2009: 45)

Indeed, Russell's logical atomism is also driven by his epistemology, whereas Wittgenstein's is not. So far we've been speaking of 'particulars', but Russell is more specific: his logical proper names refer to sense-data and (if it exists) the ego (1972/2010: 119) whereas Wittgenstein introduces no such restriction.

In this respect, let's consider two questions. Firstly, how do we acquire knowledge of general truths? Secondly, what is Russell's epistemology more generally?

Regarding the first question, Russell notes that the empiricists claimed that all knowledge "is derived from the senses and dependent upon them" (1914/2009: 46) which would mean that we couldn't have knowledge of general facts. He concludes that we must have "primitive" general knowledge, "not derived from sense" and "not obtained by inference" (1914/2009: 46). Knowledge of general truths must be logical knowledge and it must be "self-evident" (1914/2009: 46). However, it is less clear how we gain knowledge of general truths which aren't logical, and Russell doesn't provide an argument that all general truths must be logical or derivable using only general logical truths.

Regarding the second question, Russell (1914/2009: 65) attempts to reduce a large class of statements to statements solely about our sense-data and claims that "[v]erification consists always in the occurrence of an expected sense-datum" (1914/2009: 65). He even claims that such verification shows that the statements are *about* sense-data. We can understand this as a precursor of a verifiability criterion of meaning (Soames 2003: 172) which resurfaces in Section 3.

Wittgenstein introduces a different distinction in his conception, viz., he uses his logical atomism to demarcate meaningful sentences. Wittgenstein also starts from atomic sentences which correspond to atomic facts (calling them "elementary" 1921/74: 4.21). Atomic sentences also combine to form complex sentences, but there are no complex facts. All facts are atomic since atomic sentences suffice to describe the world (1921/74: 2.0201, 4.26); complex sentences are made true by the atomic facts.

Wittgenstein demands that "[a]ll propositions are results of truth-operations on elementary propositions" (1921/74: 5.3). Also, he says

that "[o]ne elementary proposition cannot be deduced from another" (1921/74: 5.134) and "there can be no elementary proposition contradicting" (1921/74: 4.211) another elementary proposition/atomic sentence. This limits what can count as an atomic sentence but Wittgenstein doesn't even provide a single example (Soames 2003: 235).

Wittgenstein classifies all meaningful sentences into (i) tautological, (ii) contradictory, and (iii) contingent—and the atomic sentences are all contingent such that "[a]ll atomic facts are independent of one another" (1921/74: 2.061). Non-tautological and non-contradictory sentences are only meaningful if there could be a fact which the sentence expresses (Soames 2003: 217). Thus, true sentences correspond to actual facts whereas false sentences don't. Insofar as sentences are only meaningful if they potentially express a fact, and atomic sentences correspond to atomic facts, the only meaningful sentences are atomic sentences and truth-functional combinations of meaningful sentences.

Wittgenstein claims that we can determine the tautological sentences by their logical form alone (1921/74: 6.113), though they do not have *sense* (1921/74: 4.461)—because they do not say anything, i.e., they are not *informative* regarding what the world is like—yet they aren't nonsensical (1921/74: 4.4611). Just as we can spot tautologies by their form alone, we recognize contradictions (1921/74: 6.1202), so that we are able to recognize meaningful sentences of that kind. With respect to the contingent sentences, one must see whether they are truth-functional combinations of atomic sentences—and given that Wittgenstein doesn't provide us with a way to spot atomic sentences or even just a single example, it is understandably difficult to recognize any.

Overall, the only sentences with sense are the contingent ones, and these truth-functionally depend on atomic sentences. This restricts the class of meaningful sentences considerably, and many sentences will be meaningless, including those of *the Tractatus* itself—of which Wittgenstein was well aware (1921/74: 6.54).[4] Using such a criterion, Wittgenstein suggests that "whenever someone else wanted to say something metaphysical, to demonstrate to him that he had failed to give a meaning to certain signs in his propositions" (1921/74: 6.53).[5] This sentiment, too, is prominent among the philosophers we consider next.

3 Retrenchment - the Linguistic Turn

This brings us to the most vocal anti-metaphysical philosophers. As we noted that it is difficult to determine what metaphysics is, we have to consider the question of what these philosophers think metaphysics is.

One important anti-metaphysical group was the so-called Vienna Circle which consisted of scientifically trained philosophers and philosophi-

[4]See Soames (2003: 249ff.).

[5]For an account of early analytic philosophy, see MacBride (2018).

cally interested scientists such as Moritz Schlick, Hans Hahn, Otto Neurath, and Rudolf Carnap.[6] The Vienna Circle wasn't the only such group, but there was a like-minded group in Berlin which included Hans Reichenbach, David Hilbert, and Carl Gustav Hempel; see Richardson (this volume).[7] As one of the most vocal anti-metaphysicians, we focus on Carnap.

Carnap endorsed Wittgenstein's doctrine that tautologies have no content because they don't say anything about the world, and he was also attracted to Wittgenstein's attempt to demarcate meaningful sentences. Meaningless sentences are neither true nor false, but simply nonsense, and Carnap thought that metaphysical statements are exactly of that kind.

Carnap's criticism boils down to the claim that metaphysics is meaningless because it cannot be verified so that we cannot gain corresponding knowledge. For Carnap, verification is basically empirical verification as it occurs in science. However, we already have seen that it is at least questionable whether empirical facts can establish general facts, and Carnap thought that *logic* cannot be so verified. Nonetheless, the logical positivists allow the use of logic. Notably, Carnap, during his Vienna Circle period, endorses logicism—roughly the doctrine that mathematics can be reduced to logic—which provides the means also to consider mathematics as well-established.

Carnap (1932/57) extends the Russellian analysis of language to show that metaphysical statements are meaningless—without giving a clear indication what exactly he means by 'metaphysics'. Carnap notes that not only metaphysics is meaningless, but also "all philosophy of value and normative theory" (1932/57: 61). He calls statements which are grammatically well-formed, but which are neither analytic/contradictory nor verifiable, "pseudo-statements" (1932/57: 61). Russell also notes with respect to sentences like 'Quadruplicity drinks procrastination' (1940/95: 166f.) that they are grammatically correct, but problematic—one of the reasons Carnap (1932/57: 68) takes natural languages to be inadequate.

Carnap suggests that there are two ways of introducing pseudo-statements, viz., by using meaningless words in the construction of statements or by incorrectly combining meaningful words (1932/57: 61). The second way can be counteracted by laying down the formation rules of the language and considering the predicates' categories (1932/57: 68). In order to filter out the meaningless constructions, Carnap specifies when words are meaningful:

> Let "a" be any word and "$S(a)$" the elementary sentence in which it occurs. Then the sufficient and necessary condition for "a" being meaningful may be given by each of the following formulations,

[6] For details, see Uebel (2022).

[7] Carnap (1963: 29f.) also mentions the Warsaw group which included Alfred Tarski, but the members did not share the anti-metaphysical attitude; see also Brożek (this volume).

which ultimately say the same thing:

1. The empirical criteria for a are known.
2. It has been stipulated from what protocol sentences "$S(a)$" is deducible.
3. The truth-conditions for "$S(a)$" are fixed.
4. The method of verification of "$S(a)$" is known.

(1932/57: 64f.)

Thus, a sentence is only meaningful if it is empirically verifiable. Overall, Carnap claims the following.

> The metaphysician tells us that empirical truth-conditions cannot be specified; if he adds that nevertheless he "means" something, we know that this is merely an allusion to associated images and feelings which, however, do not bestow a meaning on the word. The alleged statements of metaphysics which contain such words have no sense, assert nothing, are mere pseudo-statements. (1932/57: 67)

Let's consider two questions. Firstly, what exactly is metaphysics? Secondly, how well does science do, assuming this picture?

Clearly, Carnap takes metaphysics to exclude science. Assuming that we can say what science is, this provides us at least with a negative understanding of metaphysics. Indeed, some have understood the problem of demarcation—the problem of specifying what science is—to be the problem of distinguishing science from metaphysics (see, e.g., the title of Bartley 1968; also note Hansson 2021: §3.1). However, demarcating science is quite difficult.

Carnap leaves it open what exactly metaphysics is. His understanding of metaphysics seems to amount to 'not empirically verifiable'. In a remark added to the English translation of his (1932/57), Carnap says:

> *To section 1, "metaphysics."* This term is used in this paper, as usually in Europe, for the field of alleged knowledge of the essence of things which transcends the realm of empirically founded, inductive science. Metaphysics in this sense includes systems like those of Fichte, Schelling, Hegel, Bergson, Heidegger. But it does not include endeavors towards a synthesis and generalization of the results of the various sciences. (1932/57: 80)

Carnap determines metaphysics by way of example—a common way of doing so—and with the description that it 'transcends the realm of empirically founded, inductive science'. Crucially, with his last sentence he implicitly responds to problems arising out of his own understanding of empirical verifiability. For, given a naive understanding of what that means, many sentences of science turn out to be meaningless. We noted

already that the step from particular to general facts is somewhat difficult, and this difficulty shows up again: general statements cannot be verified. E.g., a sentence like 'All human beings are mortal' cannot be so verified, and it clearly isn't logically true. Given that science depends on such general statements, large parts of science would turn out to be meaningless. There have been different accounts of verification, but each has been shown to be problematic (e.g., Hempel 1965a and Soames 2003: ch. 13).

Similar problems arise when trying to demarcate science. Besides the need to bridge particular and general facts, another problem is posed by observation. It has been disputed that any move from observations to theories is tenable. Popper (1953: §V) insists that we need a theory before we can start observing correctly. Similarly, Einstein suggests that it is "doomed to failure" to attempt to "derive the basic concepts and laws of mechanics from the ultimate data of experience" (1934: 166).[8] As such hypotheses are not verifiable, science would seem to be problematic.

The reason this problem arises is that any criterion distinguishing meaningful from meaningless statements must be applicable across the board and show that science is, whereas metaphysics is not, meaningful. Let's suppose that we can formulate an appropriate criterion which diagnoses metaphysical sentences as meaningless. What would the impact on metaphysics be? Well, that depends on the status of the criterion—call it 'criterion C'. As it is meant to apply across the board, it needs to be *self-applicable*. So, the question is: according to criterion C, is C meaningful? If the answer is 'no', C fails on its own terms. As C is meant to determine what counts as scientific, the question is whether C can be scientific. By assumption, metaphysics is not scientific because, allegedly, its claims cannot be verified in the same way as science's claims. But, likewise, no science has found evidence to verify such a criterion—just consider the sciences and see whether they even attempt to find observable evidence for it. Hence, according to C, C is not scientific so that it is meaningless. Since C is meaningless, there is no worry for metaphysics.

This doesn't mean that every metaphysical statement is meaningful, but only that *not all* metaphysical statements are *meaningless*. Given that such criteria fail, we can see that science might well include metaphysical statements—whatever exactly those are. And metaphysical theorizing might well be considered as unproblematic—simply because problematizing it just means problematizing science. Thus, it might be better to understand metaphysics as theorizing in concord with science, working together for an overall understanding of the world.

[8] Indeed, Heisenberg (1973: 79f.) reports that Einstein insisted on the priority of the theory which determines what we can even observe.

4 Dummettian Anti-Realism

An important approach to metaphysics, and to philosophy more widely, is inspired by Gottlob Frege (see Ebert and Rossberg this volume). This approach requires that the proper formulation and treatment of metaphysical questions rests upon a prior analysis of the structure of language. Its leading proponent was Michael Dummett (1977, 1978, 1991). It should also be noted that there is a variety of forms of anti-realism besides his.

Frege's guiding idea is that questions of the form, 'What are numbers?' are equivalent to questions of the form, 'What do expressions for numbers mean?', and these, in turn, are questions about the contribution such expressions make to the meanings of sentences in which they occur. Dummett generalises this idea. According to him, "the characteristic tenet of the analytical school of philosophy is that the philosophy of language is the foundation for all the rest of philosophy" (1978: 454). His reason is that "it is only by the analysis of language that we can analyse thought" (1978: 442). Moreover, this approach promises to resolve philosophical disputes to everyone's satisfaction (1978: 454) and to provide agreed methods of enquiry and evaluation (1978: 455).

Dummett frames the realist/anti-realist debate about a given metaphysical topic (such as the existence of the distant past) as a debate about what semantics to adopt for the class of sentences that describe that topic. Do these sentences have realist or anti-realist truth conditions? Realists take themselves to have knowledge of the verification-transcendent truth conditions of sentences such as, 'Exactly 250 million years ago a dinosaur stood on this spot'. But how can attributions of such knowledge figure in an explanatory account of our language use?

Dummett argues that such attributions collapse into circularity or vacuity. First, circularity. We can test for ordinary conscious or verbalizable knowledge by questioning speakers and inferring such knowledge from their behaviour. But, in the specific case of knowledge of meaning, it would be circular to construe it as verbalizable knowledge (1977: 373). Second, vacuity. If knowledge of meaning is construed as implicit or nonverbalisable knowledge, it cannot be tested by questioning speakers and so the only evidence justifying its attribution in the explanation of behaviour is that the speakers perform that very behaviour. In the absence of independent characterisation of such knowledge, the realist's hypothesis lacks explanatory power. Given realism's failure, Dummett explores the prospects for a verificationist semantics of natural language. On one interpretation of Dummett, to grasp the meaning of a sentence S is to have the ability to decide, of any putative verification procedure (such as a proof or a series of experiments), whether it establishes S as true or as false. We are not justified in assuming that either the condition for the truth or the condition for the falsity of S obtains unless we have an effective method for determining which.

Dummett's objection apparently overlooks the legitimate role of self-evidencing explanations (Hempel 1965b: 370–374). Astronomers can explain why light from a star is shifted towards the red end of the spectrum because of the velocity of the star's recession and the Doppler effect that links the two. The faster the recession, the lower the light frequency. The red shift is explained although the only way for the astronomer to tell the velocity of the star (and so the only evidence to support that judgment) is the observation of the red shift. Recession explains red shift; red shift is the sole evidence for recession. This is a virtuous circle as far as explanation is concerned. Returning to Dummett, the hypothesis that speakers have implicit knowledge of meaning explains their relevant behaviour, where that behaviour is the sole evidence for the hypothesis. An explanatory relation runs in one direction and an evidential relation in the other; this is no more vacuous than the red shift example is.

Chomsky (1980) takes attributions of implicit knowledge to play a role in explanatory theory—specifically, such knowledge is a mental structure belonging to a dedicated language model that has a biological basis in the 'mind/brain' (Chomsky's phrase). Dummett regards even this as lacking explanatory power in the absence of an account of how unconscious knowledge operates to affect conscious actions (Dummett 1981). Dummett's charge could equally (and equally implausibly) be levelled against Marr's information processing system of vision and the unconscious processes it posits to enable us to construct and interpret what we consciously see (Marr 1982). Dummett maintains that 'if the theory is a hypothesis, however well confirmed, there has to be an alternative, however indistinctly glimpsed' and he complains that Chomsky does not offer any such rivals. Yet Chomsky notably disposed of one such rival at the very beginning of his career—Skinner's behaviourism (Chomsky 1959). It might be thought that Dummett is following a Popperian approach: that science should strive to overturn its own theories and that in order to do so science should devise rival theories. But, even if we accept this methodological principle, it does not fall to Chomsky to undertake all of this. It would be a task for the scientific community, not for any one scientist. There is no basis for Dummett's criticism of Chomsky's methodology nor of his preferred theory.

It is also curious to require that a rival theory needs to be devised on pain of a theory's not being an explanatory hypothesis—and Dummett explicitly requires that 'ludicrous' or 'absurd' rivals will not do. If serious rivals need only be conceivable, as Dummett also indicates, this weaker requirement is readily met (Stanford 2006). In sum, Dummett's case for anti-realism requires more than Frege's language-focused approach but also controversial assumptions about psychology and epistemology.

These criticisms of Dummett are not intended to restore metaphysics to its former foundational role in philosophy. Far from it. They appeal to quite different sources. And why should any sub-discipline of philosophy—metaphysics, philosophy of language, epistemology...—be

regarded as foundational? A more fruitful approach might take these sub-disciplines to be mutually informing, criticising, and supporting enterprises engaged in a joint venture, that of theory construction and the pursuit of philosophical understanding.

5 The Quinean Reconfiguration

One figure generally credited with reviving metaphysics is Willard Van Orman Quine. Quine works in the tradition of the logical positivists, but disagrees about several core points. Wittgenstein and Carnap attempted to distinguish meaningful from meaningless statements. Meaningful statements divided into true/false statements which are true/false based on what they mean alone (Wittgenstein: tautological/contradictory; Carnap: analytic/contradictory) and contingent statements (Carnap: synthetic). The contingent statements are not simply true/false because of what they mean, but also because of what the world is like. Given that metaphysical statements are not analytic, Carnap dismisses them as meaningless because they aren't verifiable.

Quine (1951a) attacks the analytic/synthetic distinction which is essential for Carnap.[9] Carnap (1950) utilizes the distinction to justify the use of entities such as numbers and propositions when doing semantics. Indeed, Ryle notes Carnap's "alarming requisitions upon philosophy's stock of extra-linguistic entities" (1949: 69)—entities which are highly problematic for Carnap. In response, Carnap (1950: §2) distinguishes external from internal questions when discussing existence questions like 'Do numbers exist?' which can be meant as internal or as external *with respect to a framework* (roughly: a language). As internal questions, Carnap claims they are straightforwardly answerable because their answers are *analytic* within the framework. However, as external questions, they are meaningless so that we must reinterpret them as *pragmatic* questions regarding the adoption of frameworks (1950: 207).

This conception corresponds to what Carnap says about meaningful sentences, viz., sentences are meaningful only if they are analytic/contradictory or synthetic. As external questions cannot be either, they are meaningless. Internal questions answer to the framework's linguistic requirements, i.e., they can be checked with respect to the framework's rules whether they are analytic/contradictory, and, if not, their verifiability must be specified by the framework's rules. As the analytic statements of a framework do the heavy lifting regarding what kinds of entity exist within a framework, we can see that the analytic/synthetic distinction is crucial. For Carnap thought that we cannot empirically verify whether there are, e.g., numbers. But in order for 'number' and names of numbers to be constituents of meaningful sentences, those sentences have to be analytic. Therefore, rejecting the analytic/synthetic

[9] As Carnap (1963: 64) reports, Tarski, too, didn't think there is a sharp distinction.

distinction means that Carnap's framework collapses.

The general idea behind analytic statements is that they are metaphysically innocent. Quine, however, doesn't believe that there are such statements. But Quine's understanding of 'ontology' also diverges form the traditional one, and he feels justified in assigning it a specific meaning because he considers the traditional one to be meaningless (1951b: 66).

How does Quine understand 'ontology'? Quine notes that the "ontological problem" (1948: 1) is strikingly simple as we can put it 'in three Anglo-Saxon monosyllables: "What is there?"' (1948: 1). Similarly, the answer to the question is simply "Everything" (1948: 1). Quine acknowledges, however, that "[t]here remains room for disagreement over cases" (1948: 1).

We should note that the answer 'everything' isn't as innocent as it looks, but encodes Quine's metaontology. Thus, it is *not only* possible to disagree over cases, but with the Quinean picture more generally. So, what exactly is the Quinean picture?

Quine (1948) introduces talk of *ontological commitment* as a way of addressing the following problem. Suppose Q denies that there are As whereas P does not. P can consistently say that Q denies that there are As while P takes there to be As. But Q cannot express a difference of opinion, because Q would have to say that there is something (As) which P thinks there are, but Q herself not. Thus,

> [i]t would appear, if this reasoning were sound, that in any ontological dispute the proponent of the negative side suffers the disadvantage of not being able to admit that his opponent disagrees with him. (1948: 1)

Indeed, if this reasoning were sound, 'everything' would really mean *everything one can name*.

Russell (1905) addresses the underlying problem by positing logical forms. Quine follows suit. Russell considers definite descriptions such as 'the present king of France' and empty names, i.e., names that fail to refer to existing entities, such as 'Apollo' and 'Hamlet', and analyses them as definite descriptions (1905: 492); Quine extends the method to *all* names by *paraphrasing* them into descriptions (1948: 7). Quine thinks this can easily be done, if necessary via an "artificial and trivial seeming device" (1948: 8). As an example, Quine suggests understanding the name 'Pegasus' as an "unanalyzable, irreducible attribute *being Pegasus*" (1948: 8) and introduces derived verbs like 'pegasizes'.

Given that we can paraphrase statements, how do we know what the statements say there is? In this context Quine makes use of a formal language—his so-called canonical notation (cf. 1960: 160)—which displays the logical forms of the statements. Thus, we must translate our ordinary language into canonical notation. Canonical notation is a first-order language, so it includes quantifiers. Quine (1968) argues that the

existential quantifier $\exists$ expresses existence. Thus, we can express that Pegasus exists as $\exists x P(x)$ ("Something pegasizes"), and that Pegasus does not exist as $\neg\exists x P(x)$ ("Nothing pegasizes"); the existential quantifier ($\exists$) binds a variable (x), and the first sentence says that for some value of x, 'pegasizes' is satisfied. Quine points to the variable as the source of ontological commitment:

> To be assumed as an entity is, purely and simply, to be reckoned as the value of a variable. (1948: 13)

This is the metaontological side of the Quinean picture.

Quine is also a naturalist (see Tsou this volume) and thinks that we work out what exists by considering the ontological commitments of the regimentation of our best science. There are two factors which go into what, according to Quine, exists. One factor is the correct regimentation of the best science, and the second factor is what the best science *says* there is: if, e.g., our best science says that there are elephants, then, depending on its regimentation, it is ontologically committed to elephants. For Quine (1960: §55), the correct regimentation is set theory; as set theory says that there are *sets*, science is ontologically committed to sets.

This contrasts with Carnap's conception. For Carnap, sets exist in the internal sense: within a set-theoretical framework it is analytic that sets exist. Within the framework, the question of the existence of sets is a question which can be answered by considering the rules of the framework. However, no one forces us to use such a framework. For Quine, on the other hand, the question is not in this sense a logical question, but the combination of our best science and its regimentation:

> The quest of a simplest, clearest overall pattern of canonical notation is not to be distinguished from a quest of ultimate categories, a limning of the most general traits of reality. (1960: 161)

Whether the Quinean picture is tenable has been disputed. It has particularly been questioned whether Quine's criterion is adequate (e.g., Cartwright 1954, Chihara 1974, Scheffler and Chomsky 1958/59) and whether there are adequate criteria of ontological commitment at all (Alston 1958, Raab 2021: chs. 3–4, Searle 1969: §5.3). Nevertheless, Quine's metaontology has been influential and set the agenda for the coming decades and continues to be the dominant methodology.[10]

6 Kripke and Lewis

Quine also denies the intelligibility of modal logic, but his opposition is less successful than his metaontology. The debate has several layers, one

[10]See van Inwagen (1998) for an exposition of Quine's metaontology.

of which is purely logical: Quine (1947) is sceptical about the possibility of combining modality and quantification.

Another layer is ontological. Quine (1957/58: 23) rejects the existence of entities lacking clear identity conditions and thinks that the interpretation of quantified modal logic presupposes such entities.

Carnap (1956) and Ruth Barcan Marcus (1946, 1947) propose quantified modal systems.[11] However, the modalities are still considered to be linguistic. Saul Kripke (1959, 1963), however, introduces a general model theory for modal languages—now called *Kripke semantics*. The model theory includes a set of worlds, called *possible worlds*, and evaluates formulas in terms of worlds, which means that the modalities are non-linguistic.

David Lewis, a student of Quine's, uses Quinean metaontology to conclude that there are possible worlds: he claims that it is "uncontroversially true that things might have been otherwise than they are" (1973b: 84) and paraphrases 'things might have been otherwise than they are' as "there are many ways things could have been besides the way they actually are" (1973b: 84). Lewis argues that the last statement is ontologically committed to *ways things could have been*—which he prefers to call 'possible worlds' (1973b: 84). As the statement is 'uncontroversially true', its ontological commitments exist. Hence, there are possible worlds.

Since we must admit possible worlds and we have modal logics, there is no obstacle to making use of modal notions such as *necessity* and *possibility*—which is what Kripke and Lewis, among others, do. Also, both see their theorizing as connected to *common sense*.

One of Lewis's motivations is his account of causation in terms of counterfactual dependence (1973a). Lewis provides counterfactuals with a possible worlds semantics as has Stalnaker (1968) done previously (Bennett 2003: 152 reports Stalnaker telling him that Lewis's work is independent of Stalnaker's). Given Lewis's argument that we are ontologically committed to possible worlds, we can see that there is no in principle obstacle for Lewis to use them. Moreover, Lewis (1986a) argues that these possible worlds are as real as our actual world—a thesis which has triggered much incredulity. So how does Lewis defend his conception?

Lewis's defence has two steps. Firstly, he appeals to common sense. Secondly, he considers the theoretical benefits of his position. Let's consider these in turn.

Lewis follows Moore and argues that we have a lot of "everyday knowledge" (1996: 549) of which we are more certain than of any philosophical argument. So how does he still manage to argue for incredible seeming positions such as the existence of possible worlds?

Lewis starts to answer this as follows.

> One comes to philosophy already endowed with a stock of opinions.

[11] See Lavers (2022) for the important role of Barcan Marcus in this debate.

> It is not the business of philosophy either to undermine or to justify these preexisting opinions, to any great extent, but only to try to discover ways of expanding them into an orderly system. (1973b: 88)

Lewis doesn't specify whether these opinions are opinions of common sense but, presumably, common sense beliefs are among them. Moreover, Lewis indicates that the philosopher's job is to systematize such beliefs, and confirms that an analysis succeeds

> to the extent that (1) it is systematic, and (2) it respects those of our pre-philosophical opinions to which we are firmly attached. (1973b: 88)

However, the systematic analysis might conflict with the pre-philosophical opinions, and Lewis says that we may change those opinions

> with a doctrine that commands our belief by its systematic beauty and its agreement with more important common opinions. (1973b: 88)

Indeed, Lewis defends his conception of possible worlds by theoretical means; he argues that his theory better systematizes the 'important common opinions' and calls his approach "the only successful attempt I know of, to systematize these preexisting modal opinions" (1973b: 88). However, Lewis isn't explicit what exactly those are. One clue might be how we commonly talk, i.e., Lewis might argue that with his ontology we can supply a fitting semantics for natural language—which is partly how his project started. Another way is, and that's the point of his (1986a), that his theory is "serviceable, and that is a reason to think it is true" (1986a: 3)—its theoretical benefits strongly outweigh its problems.

Nevertheless, it remains unclear what exactly remains of the common sense or pre-philosophical opinions one starts out with. Lewis might well argue that he provides a legitimate construal of those common opinions. But in a related context, Kripke is sceptical:

> Personally I think such philosophical claims are almost invariably suspect. What the claimant calls a 'misleading philosophical misconstrual' of the ordinary statement is probably the natural and correct understanding. The real misconstrual comes when the claimant continues, "All the ordinary man really means is. . . " and gives a sophisticated analysis compatible with his own philosophy. (1982: 65)

Thus, Kripke alleges that many philosophers claiming to provide an account of common sense are off the mark, and the views that they take to be incorrect are the correct ones.

Kripke is interested in the topic of reference which rests on his work on modal logic. He introduces the idea of *rigid designators*, i.e., expressions

which designate the same objects in any possible world in which they exist, and argues that names are rigid designators; to introduce them, Kripke needs modalities.

To understand one of Kripke's main contributions, we must note that the logical positivists and others took the notions *a priori*, *necessary*, and *analytic* to be coextensive (Soames 2003: ch. 12). Carnap's (1956) modal logic, e.g., identifies necessity with analyticity: a sentence is necessary iff it is analytic—understanding modalities *linguistically*.

Kripke (1972/81: 34) distinguishes between these notions. This lets him reconceive modalities as *metaphysical* (1972/81: 35f.). Kripke notes that

> [i]t's certainly a philosophical thesis, and not a matter of obvious definitional equivalence, either that everything *a priori* is necessary or that everything necessary is *a priori*. (1972/81: 36)

Indeed, *aprioricity* is an *epistemic*, whereas necessity is a *metaphysical* notion. Thus, these notions concern different domains.

Given that necessity and *aprioricity* don't need to coincide, there is room for *a posteriori* necessities: statements which are metaphysically necessary but not known independently of experience of the world. Kripke argues that there are such necessary *a posteriori* statements. A standard example is 'H_2O is water'; see also Putnam (1975a).

Kripke's account of necessity also opposes another doctrine which is strongly connected to Quine and, as Kripke (1972/81: 40f.) claims, is quite 'intuitive', viz., he argues that entities have essential properties. This gets Kripke closer to an Aristotelian view which allows for substances and essences.

7 Proliferation and Prospects

This brings us to current metaphysics which is quite a broad field. One thread continues to work on modality, essence, and substance, partly by continuing the logical work. Inspired by Fine (1994, 1995a), metaphysicians became interested in the connection of essence and modality. Before Fine, attempts have been made to analyse essence in modal terms. Fine, however, argues that it needs to be the other way around to account for ontological dependencies. His example is that the singleton of Socrates, {Socrates}, ontologically depends on Socrates, but not vice versa. With only modal tools available, this dependence cannot be captured. Fine (1995b) introduces a new logic which has the resources to express the dependencies.

One way of expressing such dependencies is by using expressions such as 'because' and 'in virtue of'. Fine, e.g., thinks that {Socrates} exists *because* Socrates does. Metaphysicians attempt to capture such relations under the heading of *metaphysical grounding* which has become a major topic in contemporary metaphysics. As grounding is partly motivated

by accounts of substance, it can be seen as part of neo-Aristotelianism—which currently is a trend in metaphysics.

Another trend is neo-Carnapianism which mainly attempts to deflate metaphysical debates by utilising different aspects of Carnap's metaontology, such as his internal/external distinction (e.g., Hofweber 2016) and his views on quantification and quantifier meaning (e.g., Hirsch 2002). The neo-Carnapians also engage in ongoing debates surrounding mereology—the study of part and whole—and realism/nominalism regarding particular kinds of entity. E.g., Hofweber (2016) argues that the realism/nominalism debate regarding the existence of particular kinds of entity depends on whether the quantification involved is internal or external and notes that, if it is internal, no existence claims follow. Hirsch, on the other hand, argues that the debate whether there are mereological sums is a merely verbal one as the answer depends on the choice of language (e.g., 2005: 144). Nevertheless, Hirsch (2009: §5) does not think that all metaphysical debates are merely verbal, but takes, e.g., the realist/nominalist debate regarding the existence of abstract objects to be substantive (2009: 243).

The study of metaphysics—metametaphysics or metaontology—is much debated too. Whereas metaphysics asks first-order questions such as 'Do numbers exist?', metametaphysics considers metaphysics itself. The dominant metaontology is still Quinean, but neo-Carnapians grow in number.

Another topic of current interest also deriving from Carnap and Quine is *conceptual engineering*; see Pinder (this volume). Conceptual engineering is the task of assessing, and, if necessary, improving on our conceptual apparatus (see Burgess, Cappelen, and Plunkett 2020). One root of conceptual engineering is *explication*—a method strongly connected to Carnap (1962: ch. 1) and Quine (1960: §53).[12]

Projects in conceptual engineering are connected to social and political reality (e.g., Haslanger 2012; see Díaz-León this volume). The metaphysics of this reality under the label *social ontology* has become an increasing focus of study (for an overview, see Epstein 2021). Topics include the study of race, gender, social structure, and whether, e.g., gender forms a natural kind (cf. Barnes 2021).

By and large, metaphysical theorizing is flourishing and expanding. However, scepticism regarding metaphysics hasn't completely died down as evidenced by the increasing popularity of neo-Carnapianism. Indeed, the deflationary attitude is that metaphysical disputes are ill conceived as substantial disagreements. Moreover, empiricists such as Bas van Fraassen (2002) still reject metaphysical theorizing and try to improve on the self-defeating attempts of previous philosophers to specify what exactly goes wrong with metaphysics. Such scepticism will likely persist in philosophy. In our opinion, we consider this sceptical attitude also to be something good as it presses metaphysicians to develop

[12]For Quine's account and a comparison to Carnap's, see Raab (forthcoming).

and strengthen their positions by addressing this scepticism. Given the amount of scrutiny metaphysics has received over the centuries, we can, in a loose comparison with the testing of scientific theories, consider metaphysics as doing well since several strong and serious attempts have been made to bring it down, but were unsuccessful. Metaphysical theorizing is likely to continue and can play its part in philosophical and scientific theorizing more generally.

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