

The Problems of Metaphysics: the “New” Metaphysics

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1. Modality

Philosophers have long recognized that there is an important distinction within the class of true propositions: the distinction between those propositions that might have been false and those that could not have been false (those that must be true). Compare, for example, the proposition that Paris is the capital of France and the proposition that there is a prime between every number greater than 1 and its double. Both are true, but the former could have been false and the latter could not have been false. Likewise, there is a distinction to be made within the class of false propositions: between those that could have been true and those that could not have been true (those that had to be false).

Some Medieval philosophers supposed that the fact that true propositions are of the two sorts “necessarily true” and “contingently true” (and the corresponding fact about false propositions) showed that there were two “modes” in which a proposition could be true (or false): the mode of contingency and the mode of necessity—hence the term ‘modality’. Present-day philosophers retain the Medieval term ‘modality’ but now it means no more than “pertaining to possibility and necessity”. The types of modality of interest to metaphysicians fall into two camps: modality *de re* and modality *de dicto*.

Modality *de dicto* is the modality of propositions (*dictum* means proposition, or close enough). If modality were coextensive with modality *de dicto*, it would be at least a defensible position that the topic of modality belongs to logic rather than to metaphysics. (Indeed, the study of modal logics goes back to Aristotle's *Prior Analytics*.)

But many philosophers also think there is a second kind of modality, modality *de re*—the modality of things. (The modality of substances, certainly, and perhaps of things in other ontological categories.) The status of modality *de re* is undeniably a metaphysical topic, and we assign it to the “new” metaphysics because, although one can ask modal questions about things that do not change—God, for example, or universals—a large proportion of the work that has been done in this area concerns the modal features of changing things.

There are two types of modality *de re*. The first concerns the existence of things—of human beings, for example. If Sally, an ordinary human being, says, “I might not have existed”, almost everyone will take her to have stated an obvious truth. And if what she has said is indeed true, then she exists contingently. That is to say, she is a contingent being: a being who might not have existed. A necessary being, in contrast, is a being of which it is false that it might not have existed. Whether any objects are necessary beings is an important question of modal metaphysics. Some philosophers have gone so far to maintain that all objects are necessary beings, since necessary existence is a truth of logic in what seems to them to be the best quantified modal logic. (See Barcan 1946 for the first modern connection between necessary existence and quantified modal logic. Barcan did not draw any metaphysical conclusions from her logical results, but later authors, especially Williamson 2013 have.)

The second kind of modality *de re* concerns the properties of things. Like the existence of things, the possession of properties by things is subject to modal qualification. If Sally, who speaks

English, says, “I might have spoken only French”, almost everyone will take that statement to be no less obviously true than her statement that she might not have existed. And if what she has said is indeed true, then “speaking English” is a property that she has only contingently or (the more usual word) only accidentally. Additionally there may be properties which some objects have essentially. A thing has a property essentially if it could not exist without having that property. Examples of essential properties tend to be controversial, largely because the most plausible examples of a certain object's possessing a property essentially are only as plausible as the thesis that that object possesses those properties at all. For example, if Sally is a physical object, as physicalists suppose, then it is very plausible for them to suppose further that she is essentially a physical object—but it is controversial whether they are right to suppose that she is a physical object. And, of course, the same thing can be said, *mutatis mutandis*, concerning dualists and the property of being a non-physical object. It would seem, however, that Sally is either essentially a physical object or essentially a non-physical object. And many find it plausible to suppose that (whether she is physical or non-physical) she has the property “not being a poached egg” essentially.

The most able and influential enemy of modality (both *de dicto* and *de re*) was W. V. Quine, who vigorously defended both the following theses. First, that modality *de dicto* can be understood only in terms of the concept of analyticity (a problematical concept in his view). Secondly, that modality *de re* cannot be understood in terms of analyticity and therefore cannot be understood at all. Quine argued for this latter claim by proposing what he took to be decisive counterexamples to theories that take essentiality to be meaningful. If modality *de re* makes any sense, Quine contended (1960: 199–200), cyclists must be regarded as essentially bipedal—for “Cyclists are bipedal” would be regarded as an analytic sentence by those who believe in analyticity. But mathematicians are only accidentally bipedal (“Mathematicians are bipedal” is not analytic by anyone's lights). What then, Quine proceeded to ask, of someone who is both a mathematician and a cyclist?—that person seems both essentially and only accidentally bi-pedal. Since this is incoherent, Quine thought that modality *de re* is incoherent.

Most philosophers are now convinced, however, that Quine's “mathematical cyclist” argument has been adequately answered by Saul Kripke (1972), Alvin Plantinga (1974) and various other defenders of modality *de re*. Kripke and Plantinga's defenses of modality are paradigmatically metaphysical (except insofar as they directly address Quine's linguistic argument). Both make extensive use of the concept of a possible world in defending the intelligibility of modality (both *de re* and *de dicto*). Leibniz was the first philosopher to use ‘possible world’ as a philosophical term of art, but Kripke's and Plantinga's use of the phrase is different from his. For Leibniz, a possible world was a possible creation: God's act of creation consists in his choosing one possible world among many to be the one world that he creates—the “actual” world. For Kripke and Plantinga, however, a possible world is a possible “whole of reality”. For Leibniz, God and his actions “stand outside” all possible worlds. For Kripke and Plantinga, no being, not even God, could stand outside the whole system of possible worlds. A Kripke-Plantinga (KP) world is an abstract object of some sort. Let us suppose that a KP world is a possible state of affairs (this is Plantinga's idea; Kripke says nothing so definite). Consider any given state of affairs; let us say, *Paris being the capital of France*. This state of affairs obtains, since Paris is the capital of France. By contrast, the state of affairs *Tours being the capital of France* does not obtain. The latter state of affairs does, however, exist, for there is such a state of affairs. (Obtaining thus stands to states of affairs as truth stands to propositions: although the proposition that Tours is the capital of France is not true, there nevertheless is such a proposition.) The state of affairs *x* is said to include the state of affairs *y* if it is impossible for *x* to obtain and *y* not to obtain. If it is impossible for both *x* and *y* to obtain, then each precludes the other. A possible world is simply a possible state of affairs that, for every state of affairs *x*, either includes or precludes *x*; the actual world is the one such state of affairs that obtains.

Using the KP theory we can answer Quine's challenge as follows. In every possible world, every cyclist in that world is bipedal in that world. (Assuming with Quine that necessarily cyclists are bipedal. Apparently he had not foreseen adaptive bicycles.) Nevertheless for any particular cyclist, there is some possible world where he (the same person) is not bipedal. Once we draw this distinction, we can see that Quine's argument is invalid. More generally, on the KP theory, theses about *de re* essential properties need not be analytic; they are meaningful because they express claims about an object's properties in various possible worlds.

We can also use the notion of possible worlds to define many other modal concepts. For example, a necessarily true proposition is a proposition that would be true no matter what possible world was actual. Socrates is a contingent being if there is some possible world such that he would not exist if that world were actual, and he has the property "being human" essentially if every possible world that includes his existence also includes his being human. Kripke and Plantinga have greatly increased the clarity of modal discourse (and particularly of modal discourse *de re*), but at the expense of introducing a modal ontology, an ontology of possible worlds.

There is not the only modal ontology on offer. The main alternative to the KP theory has been the 'modal realism' championed by David Lewis (1986). Lewis's modal ontology appeals to objects called possible worlds, but these "worlds" are concrete objects. What we call the actual world is one of these concrete objects, the spatiotemporally connected universe we inhabit. What we call "non-actual" worlds are other concrete universes that are spatiotemporally isolated from ours (and from each other). There is, Lewis contends, a vast array of non-actual worlds, an array that contains at least those worlds that are generated by an ingenious principle of recombination, a principle that can be stated without the use of modal language (1986: 87). For Lewis, moreover, "actual" is an indexical term: when I speak of the actual world, I refer to the world of which I am an inhabitant—and so for any speaker who is "in" (who is a part of) any world.

In the matter of modality *de dicto*, Lewis's theory proceeds in a manner that is at least parallel to the KP theory: there could be flying pigs if there are flying pigs in some possible world (if some world has flying pigs as parts). But the case is otherwise with modality *de re*. Since every ordinary object is in only one of the concrete worlds, Lewis must either say that each such object has all its properties essentially or else adopt a treatment of modality *de re* that is not parallel to the KP treatment. He chooses the latter alternative. Although Socrates is in only the actual world, Lewis holds, he has 'counterparts' in some other worlds, objects that play the role in those worlds that he plays in this world. If all Socrates' counterparts are human, then we may say that he is essentially human. If one of Hubert Humphrey's counterparts won (the counterpart of) the 1968 presidential election, it is correct to say of Humphrey that he could have won that election.

In addition to the obvious stark ontological contrast between the two theories, they differ in two important ways in their implications for the philosophy of modality. First, if Lewis is right, then modal concepts can be defined in terms of paradigmatically non-modal concepts, since 'world' and all of Lewis's other technical terms can be defined using only 'is spatiotemporally related to', 'is a part of' and the vocabulary of set theory. For Kripke and Plantinga, however, modal concepts are *sui generis*, indefinable or having only definitions that appeal to other modal concepts. Secondly, Lewis's theory implies a kind of anti-realism concerning modality *de re*. This is because there is no one relation that is the counterpart relation—there are rather various ways or respects in which one could say that objects in two worlds "play the same role" in their respective worlds. Socrates, therefore, may well have non-human counterparts under one counterpart relation and no non-human counterparts under another. And the choice of a counterpart relation is a pragmatic or interest-relative choice. But on the KP theory, it is an entirely objective question whether Socrates fails to

be human in some world in which he exists: the answer must be Yes or No and is independent of human choices and interests.

Whatever one may think of these theories when one considers them in their own right (as theories of modality, as theories with various perhaps objectionable ontological commitments), one must concede that they are paradigmatically metaphysical theories. They bear witness to the resurgence of metaphysics in analytical philosophy in the last third of the twentieth century.

2. Space and Time

Long before the theory of relativity represented space and time as aspects of or abstractions from a single entity, spacetime, philosophers saw space and time as intimately related. (A glance through any dictionary of quotations suggests that the philosophical pairing of space and time reflects a natural, pre-philosophical tendency: “Had we but world enough, and time ...”; “Dwellers all in time and space”.) Kant, for example, treated space and time in his *Transcendental Aesthetic* as things that should be explained by a single, unified theory. And his theory of space and time, revolutionary though it may have been in other respects, was in this respect typical of philosophical accounts of space and time. Whatever the source of the conviction that space and time are two members of a “species” (and the only two members of that species), they certainly raise similar philosophical questions. It can be asked whether space extends infinitely in every direction, and it can be asked whether time extends infinitely in either of the two temporal “directions”. Just as one can ask whether, if space is finite, it has an “end” (whether it is bounded or unbounded), one may ask of time whether, if it is finite, it had a beginning or will have an end or whether it might have neither, but rather be “circular” (be finite but unbounded). As one can ask whether there could be two extended objects that were not spatially related to each other, one can ask whether there could be two events that were not temporally related to each other. One can ask whether space is (a) a real thing—a substance—a thing that exists independently of its inhabitants, or (b) a mere system of relations among those inhabitants. And one can ask the same question about time.

But there are also questions about time that have no spatial analogues—or at least no obvious and uncontroversial analogues. There are, for example, questions about the grounds of various asymmetries between the past and the future—why is our knowledge of the past better than our knowledge of the future?; why do we regard an unpleasant event that is about to happen differently from the way we regard an unpleasant event that has recently happened?; why does causation seem to have a privileged temporal direction? There do not seem to be objective asymmetries like this in space.

There is also the question of temporal passage—the question whether the apparent “movement” of time (or the apparent movement of ourselves and the objects of our experience through or in time) is a real feature of the world or some sort of illusion. In one way of thinking about time, there is a privileged temporal direction marking the difference between the past, present, and future. A-theorists hold that time is fundamentally structured in terms of a past/present/future distinction. Times change from past to present to future, giving rise to passage. (The name ‘A-theorist’ descends from J.M.E. McTaggart’s (1908) name for the sequence past/present/future which he called the ‘A-series’.) Within the A-theory, we might further ask whether the past and future have the “same sort of reality” as the present. Presentist A-theorists, like Prior 1998, deny that the past or future have any concrete reality. Presentists typically think of the past and future as, at best, akin to abstract possible worlds—they are the way the world was or will be, just as possible worlds are ways the actual world could be. Other A-theorists, like Sullivan (2012), hold that the present is metaphysically privileged but deny that there is any ontological difference between the past,

present, and future. More generally, A-theorists often incorporate strategies from modal metaphysics into their theories about the relation of the past and the future to the present.

According to B-theories of time, the only fundamental distinction we should draw is that some events and times are earlier or later relative to others. (These relations are called ‘B-relations’, a term also derived from McTaggart). According to the B-theorists, there is no objective passage of time, or at least not in the sense of time passing from future to present and from present to past. B-theorists typically maintain that all past and future times are real in the same sense in which the present time is real—the present is in no sense metaphysically privileged.

It is also true, and less often remarked on, that space raises philosophical questions that have no temporal analogues—or at least no obvious and uncontroversial analogues. Why, for example, does space have three dimensions and not four or seven? On the face of it, time is essentially one-dimensional and space is not essentially three-dimensional. It also seems that the metaphysical problems about space that have no temporal analogues depend on the fact that space, unlike time, has more than one dimension. For example, consider the problem of incongruent counterparts: those who think space is a mere system of relations struggled to explain our intuition that we could distinguish a world containing only a left hand from a world containing only a right hand. So it seems there is an intuitive orientation to objects in space itself. It is less clear whether the problems about time that have no spatial analogues are connected with the one-dimensionality of time.

Finally, one can raise questions about whether space and time are real at all—and, if they are real, to what extent (so to speak) they are real. Might it be that space and time are not constituents of reality as God perceives reality but nevertheless “well-founded phenomena” (as Leibniz held)? Was Kant right when he denied spatial and temporal features to “things as they are in themselves”?—and right to contend that space and time are “forms of our intuition”? Or was McTaggart's position the right one: that space and time are wholly unreal?

If these problems about space and time belong to metaphysics only in the post-Medieval sense, they are nevertheless closely related to questions about first causes and universals. First causes are generally thought by those who believe in them to be eternal and non-local. God, for example—both the impersonal God of Aristotle and the personal God of Medieval Christian, Jewish, and Muslim philosophy—is generally said to be eternal, and the personal God is said to be omnipresent. To say that God is eternal is to say either that he is everlasting or that he is somehow outside time. And this raises the metaphysical question of whether it is possible for there to be a being—not a universal or an abstract object of some other sort, but an active substance—that is everlasting or non-temporal. An omnipresent being is a being that does not occupy any region of space (not even the whole of it, as the luminiferous ether of nineteenth-century physics would if it existed), and whose causal influence is nevertheless equally present in every region of space (unlike universals, to which the concept of causality does not apply). The doctrine of divine omnipresence raises the metaphysical question whether it is possible for there to be a being with this feature. *Ante res* universals are said by some of their proponents (precisely those who deny that universals are constituents of particulars) to have no relations to space and time but “vicarious” ones: the *ante res* universal “whiteness” may be said to be present where each white particular is, but only in a way analogous to the way in which the number two is present where each pair of spatial things is. But it is doubtful whether this is a position that is possible for a metaphysician who says that a white thing is a bundle composed of whiteness and various other universals. Those who believe in the existence of *in rebus* universals are fond of saying, or have been in recent years, that these universals (‘immanent universals’ is a currently popular name for them) are “multiply located”—“wholly present” at each place at which the things that fall under them are present. And by this they certainly do not mean that whiteness is present in many different regions of space only vicariously,

only as a number might be said to be present wherever there are things in that number, only in virtue of bearing the non-spatial relation “being had by” to a multitude of particulars each of which is present in a single region of space. All theories of universals, therefore, raise questions about how things in various ontological categories are related to space. And all these questions have temporal analogues.

3. Persistence and Constitution

Related to questions about the nature of space and time are questions about the nature of objects that take up space or persist through time, and these questions form yet another central theme in post-medieval metaphysics. Are some or all objects composed of proper parts? Must an object have proper parts in order to “fill up” a region of space—or are there extended simples? Can more than one object be located in exactly the same region? Do objects persist through change by having temporal parts?

Much work on persistence and constitution has focused on efforts to address a closely knit family of puzzles—the puzzles of coincidence. One such puzzle is the “problem of the statue and the lump”. Consider a gold statue. Many metaphysicians contend that there is at least one material object that is spatially co-extensive with the statue, a lump of gold. This is easily shown, they say, by an appeal to Leibniz's Law (the principle of the non-identity of discernibles). There is a statue here and there is a lump of gold here, and—if the causal story of the statue's coming to be is of the usual sort—the lump of gold existed before the statue. And even if God has created the statue (and perforce the lump) *ex nihilo* and will at some point annihilate the statue (and thereby annihilate the lump), they further argue, the statue and the lump, although they exist at exactly the same times, have different modal properties: the lump has the property “can survive radical deformation” and the statue does not. Or so these metaphysicians conclude. But it has seemed to other metaphysicians that this conclusion is absurd, for it is absurd to suppose (these others say) that there could be spatially coincident physical objects that share all their momentary non-modal properties. Hence, the problem: What, if anything, is the flaw in the argument for the non-identity of the statue and the lump?

A second puzzle in this family is the “problem of Tib and Tibbles”. Tibbles is a cat. Call his tail “Tail”. Call all of him but his tail “Tib”. Suppose Tail is cut off—or, better, annihilated. Tibbles still exists, for a cat can survive the loss of its tail. And it would seem that Tib will exist after the “loss” of Tail, because Tib lost no part. But what will be the relation between Tib and Tibbles? Can it be identity? No, that is ruled out by the non-identity of discernibles, for Tibbles will have become smaller and Tib will remain the same size. But then, once again, we seem to have a case of spatially coincident material objects that share their momentary non-modal properties.

Both these constitution problems turn on questions about the identities of spatially coincident objects—and, indeed, of objects that share all their (proper) parts. (A third famous problem of material constitution—the problem of the Ship of Theseus—raises questions of a different sort.) Some metaphysicians contend that the relation between the lump and the statue, on the one hand, and the relation between Tib and Tibbles, on the other, cannot be fully understood in terms of the concepts of parthood and (non-) identity, but require a further concept, a non-mereological concept, the concept of “constitution”: the pre-existent lump at a certain point in time comes to constitute the statue (or a certain quantity of gold or certain gold atoms that first constituted only the lump come to constitute them both); pre-existent Tib at a certain point in time comes to constitute Tibbles (or certain cat-flesh or certain molecules ...). (Baker 2000 is a defense of this thesis.) Others contend that all the relations between the objects that figure in both problems can be fully analyzed in terms

of parthood and identity. For a more thorough overview of the solutions to these puzzles and different theories of constitution in play, see Rea (ed.) 1997 and Thomson 1998.

4. Causation, Freedom and Determinism

Questions about causation form yet a fourth important category of issues in the “new” metaphysics. Of course, discussion of causes go back to Ancient Philosophy, featuring prominently in Aristotle's *Metaphysics* and *Physics*. But Aristotle understood ‘cause’ in a much broader sense than we do today. In Aristotle's sense, a ‘cause’ or ‘*aiton*’ is an explanatory condition of an object—an answer to a “why” question about the object. Aristotle classifies four such explanatory conditions—an object's form, matter, efficient cause, and teleology. An object's efficient cause is the cause which explains change or motion in an object. With the rise of modern physics in the seventeenth century, interest in efficient causal relations became acute, and it remains so today. And when contemporary philosophers discuss problems of causation, they typically mean this sense.

One major issue in the metaphysics of causation concerns specifying the relata of causal relations. Consider a mundane claim: an iceberg caused the *Titanic* to sink. Does the causal relation hold between two events: the event of the ship hitting the iceberg and the event of the ship sinking? Or does it hold between two sets of states of affairs? Or does it hold between two substances, the iceberg and the ship? Must causal relations be triadic or otherwise poly-adic? For example, one might think that we are always required to qualify a causal claim: the iceberg, rather than the captain's negligence, was causally responsible for the ships foundering. And can absences feature in causal relations? For example, does it make sense to claim that a lack of lifeboats was the cause of a third class passenger's death?

We might further ask whether causal relations are objective and irreducible features of reality. Hume famously doubted this, theorizing that that our observations of causation were nothing more than observations of constant conjunction. For example, perhaps we think icebergs cause ships to sink only because we always observe ship-sinking events occurring after iceberg-hitting events and not because there is a real causal relation that holds between icebergs and foundering ships.

Contemporary metaphysicians have been attracted to other kinds of reductive treatments of causation. Some—like Stalnaker and Lewis—have argued that causal relations should be understood in terms of counterfactual dependencies (Stalnaker 1968 and Lewis 1973). For example, an iceberg's striking the ship caused its sinking at time t if and only if in the nearest possible worlds where the iceberg did not strike the ship at time t , the ship did not sink. Others have argued that causal relations should be understood in terms of instantiations of laws of nature. (Davidson (1967) and Armstrong (1997) each defend this view albeit in different ways.) All of these theories expand on an idea from Hume's *Treatise* in attempting to reduce causation to different or more fundamental categories. (For a more complete survey of recent theories of causation, see Paul and Hall 2013.)

Debates about causation and laws of nature further give rise to a related set of pressing philosophical questions—questions of freedom. In the seventeenth century, celestial mechanics gave philosophers a certain picture of a way the world might be: it might be a world whose future states were entirely determined by the past and the laws of nature (of which Newton's laws of motion and law of universal gravitation served as paradigms). In the nineteenth century the thesis that the world was indeed this way came to be called ‘determinism’. The problem of free will can be stated as a dilemma. If determinism is true, there is only one physically possible future. But then how can anyone ever have acted otherwise? For, as Carl Ginet has said (1990: 103), our freedom can only be the freedom to add to the actual past; and if determinism holds, then there is only one way that the given—the actual—past can be “added to”. But if determinism does not hold, if there

are alternative physically possible futures, then which one comes to pass must be a mere matter of chance. And if it is a mere matter of chance whether I lie or tell the truth, how can it be “up to me” whether I lie or tell the truth? Unless there is something wrong with one of these two arguments, the argument for the incompatibility of free will and determinism or the argument for the incompatibility of free will and the falsity of determinism, free will is impossible. The problem of free will may be identified with the problem of discovering whether free will is possible—and, if free will is possible, the problem of giving an account of free will that displays an error in one of (or both) these arguments.

Van Inwagen (1998) defends the position that, although the modern problem of free will has its origin in philosophical reflections on the consequences of supposing the physical universe to be governed by deterministic laws, the problem cannot be evaded by embracing a metaphysic (like dualism or idealism) that supposes that agents are immaterial or non-physical. This leads into our next and final sample of topics from the “new” metaphysics.