METAPHYSICS AND EPISTEMOLOGY

The problem of universals

1. It often happens that some things are the same in some respect. E.g. many walls are white, many pieces of paper are square, various pairs of people are pairs of father and son, etc. How does it come about that many things are the same in some respect? More precisely, what is it for many things to be the same in some respect?

For example, what is it for many things to be red? There is an easy answer to that question: it is for them to reflect light at a certain frequency. But when we put the question in metaphysics, we seek a different answer: we seek an answer that can be generalized so as to become an answer to the general question 'What is it for many things to be the same in some respect?'

Some philosophers reply by talking about universals.

2. What are universals and what are particulars?

Let's begin with types. How many words have I written in the following line?

       child   child   child   child

In one sense, I wrote four words. In another sense, I wrote only one, but wrote it four times. This one word that is repeated is a *type*; it is the common type of the four separate marks. Those four marks on the specific paper are *tokens* of the type. Likewise, we have types of car (e.g. Lamborghini), types of living beings (the whale, the olive tree), types of action (stealing, reading), etc. Tokens are particulars.

Then, let's go to properties. Examples of properties: whiteness (the white colour), being composite, having electric charge, being a piece of furniture, wisdom, prudence, etc. *One-place predicates* express properties. Let's take a simple sentence in which a name occurs once; e.g. 'Socrates is wise', 'Object A is a piece of furniture', 'Everyone loves John'. A one-place predicate is any linguistic expression that results from such a sentence when we abstract away from the name; e.g. 'is wise', 'is a piece of furniture', 'everyone loves …'.

In addition, we have relations. *Two- or more-place predicates* express relations. Let's take a simple sentence in which there are two or more occurrences of names; e.g. 'Mary loves Peter', 'The Morning Star is identical with the Evening Star', 'Rome lies between Naples and Florence'. A two- or more-place predicate is any linguistic expression that results from such a sentence when we abstract away from the names. So, the expressions '… loves …' and '… is identical with …' are two-place predicates; the expression '… lies between … and …' is a three-place predicate. Two-place predicates express two-place relations, three-place predicates express three-place relations, and so forth.

Note that predicates express properties or relations, but are neither properties nor relations. A predicate is a word or series of words. A property or relation is not a word or series of words. E.g. the property of wisdom is expressed by both the English predicate 'is wise' and the French predicate 'est sage'.

Universals are types, properties and relations. Here, however, some clarifications about contemporary terminology are necessary. Some philosophers consider that there are types, properties and relations, but they are sets; e.g. a type is the set of its tokens. If those philosophers are right, then we don't say that there are universals and they are sets; we say that there are no universals and that, in the end, types, properties and

relations are not universals. For sets do not count as universals. (Again, some philosophers even consider that there are no types, properties or relations.)

Also, one may say that there are types, properties and relations, but they are concepts; e.g. the species (type) olive tree is the concept of an olive tree, and the property of electric charge is the concept of electric charge. If that view is right, then once more we don't say that there are universals and they are concepts; we say that there are no universals and that, in the end, types, properties and relations are not universals. Concepts are psychological entities; they are the constituents of our thoughts.

Particulars are the things that are not universals. Particulars present great variety. The various material objects (specific tables, cars, cells, clothes, etc.) are particulars. But also specific events (car collisions, volcano explosions, etc.) are particulars. If there are immaterial souls, they, too, come under particulars. Moreover, some philosophers of mathematics consider that numbers are particulars, and not universals, but have no location in either space or time.

Philosophers who believe that there are universals are called *realists* (realists about universals — we shouldn't confuse them with realists about the objects we perceive). Those who believe that all entities are particular are called *nominalists.* Realists accept that there are all the things recognized by nominalists, but consider that, in addition, there are universals. So nominalism is a theory that is ontologically more economical, both quantitatively and qualitatively. Realism, however, may have advantages that suffice to counterbalance its handicap in respect of ontological economy.

3. Various nominalist answers to the question "What makes many things be the same in some respect?" (that is, "What is it for many things to be the same in some respect?"):

(a) Predicate nominalism. According to that theory, what makes many things be the same in some respect is that a predicate is true of all those things. E.g. what makes many things red is that the predicate 'is red' is true of all of them.

There are serious objections to that theory: (i) Predicates are universals (a predicate is a type, since we can write it many times), and nominalists shouldn't accept that there are universals. Here predicate nominalists may reply that a predicate is the set of its tokens and not a universal. But if they offer that reply, they have made a step towards the next nominalist theory, class nominalism. (ii) Predicate nominalism seems to reverse the right order of explanation: it seems that the predicate 'is red' is true of various objects because those objects are red, and not that the objects are red because the predicate is true of them. (iii) If there were no people and no languages, there would be no predicates. Yet some objects (e.g. planets) that are the same in some respect would be the same in that respect then too. Since then what made them the same would not be a matter of predicates, why say that now what makes them the same is a matter of predicates?

(b) Class nominalism. According to that theory, what makes many things be the same in some respect is that they are the members of a set (in the sense we talk about sets in mathematics). E.g. what makes many things red is that they are the members of a certain set (class). Types, properties and relations are sets; e.g. the property of being a book is the set of all books.

Various objections have been raised against that theory too: (i) It sometimes happens that distinct properties correspond to the same set of objects. E.g. the property of having a heart and the property of having kidneys correspond to the same set, since the creatures that have a heart are just those that have kidneys. So according to class nominalism, the property of having a heart is identical with the property of having

kidneys. Intuitively, that is wrong, given that the properties are two and not one. (ii) This objection was voiced by A Quinton. If we take any things, there is a set whose members are just those things. E.g. there is a set whose members are the number 4, our lesson today, and the Andromeda galaxy. Surely, those things are not the same in any respect. So if the fact that they are the members of that set is not sufficient to make them the same in some respect, why should e.g. the fact that red objects are the members of a certain set be what makes them the same in some respect?

(c) Resemblance nominalism. According to that theory, what makes many things be the same in some respect is the fact that they resemble one another, and there is nothing more to say about that. What makes many objects red is that they resemble one another in a certain respect.

Of course, there are objections to that theory too: (i) There could be just one red object. It seems that what would then make that object red is what now makes various things red. But what would then make that object red is not a matter of resemblance, since the object would not resemble anything else in colour.

(ii) This objection comes from elaborating on an argument by B. Russell. Since red things resemble one another, each pair of red things is a pair of things that resemble each other. What makes all those pairs be that way (i.e. be pairs of resembling entities)? Here one might say that what makes them that way is a universal, the relation of resemblance: in the case of each pair, that relation connects the two items in the pair and so renders it a pair of resembling objects. Alternatively, a nominalist may say that what makes all those pairs be that way is that they resemble one another in a certain respect. But then each pair of such pairs is a pair of entities (pairs) that resemble each other. Whence the question arises what makes all those pairs (the more composite ones) be that way (i.e. pairs of resembling entities). And so forth. Thus resemblance nominalists will either eventually accept that the universal of resemblance exists or be involved in an infinite regress, that is, in a situation in which the answer they give to a question engenders essentially the same question again, only at a more composite level, with the consequence that their answer is never satisfactory. The infinite regress will consist in the following: resemblance nominalists will answer the question 'What makes these pairs be pairs of resembling entities?' in a way that will engender the question 'What makes those pairs be pairs of resembling entities?' where those pairs are more composite than these. On the other hand, if one concedes that the universal of resemblance exists, why not also concede that the universals of other relations and properties exist too?

4. The realist answer to the question 'What is it for many things to be the same in some respect?' is 'It is for there to be a universal that characterizes them'. We say that the various things *instantiate* the universal. According to realism, types, properties and relations are universals and not sets. So every white object instantiates the universal that is the property of whiteness, and every pair of equal quantities instantiates the universal that is the relation of equality. But if there are universals, where are they? The main answers to that question are two:

(a) The ante rem theory. Universals are outside of the entities that instantiate them. In fact, they are located in neither space nor time and are not part of the empirical world. If e.g. a piece of paper is square, the paper instantiates the square shape, and so something that is part of the empirical world (the paper) is related to something beyond that world (the square shape). This theory comes from Plato's philosophy and at some time was preferred, among other people, by B. Russell.

Many philosophers believe that everything there is has spatiotemporal location and is part of the world that we get in touch with by means of our senses. Such philosophers of course reject the ante rem theory in principle. Another problem for the theory is to set out how entities that belong in so different sides of reality relate to each other.

Note that the ante rem theory can accept the existence of universals instantiated by nothing. It is a controversial issue whether that is an advantage. Prima facie, it seems that there are properties which are borne by nothing (e.g. the property of being a unicorn).

(b) The in re theory. Universals are in the entities that instantiate them. So universals instantiated by material objects are located in space and time and are part of the empirical world. Indeed, in most cases, a universal doesn't have only one position in space; at every moment, it has the position of every object that instantiates it. This theory comes from Aristotle's philosophy and is adopted by the main recent realist about universals, the Australian philosopher D. Armstrong.

Many find that the consequences of the in re theory about how universals are located in space are odd. Here are those consequences: It often happens that a universal is in many separate places simultaneously; e.g. whiteness is in the place of each white object. It also often happens that many universals are in the same place simultaneously; if e.g. a thing is white and square, the two universals occupy the same place. Moreover, when an object is white, whiteness occupies the full extent of that object, but (since universals are thought to have no parts) it doesn't have parts each of which occupies part of that extent. Finally, when some universal that is a relation connects two separate objects (e.g. Naples and Florence), the universal is located in a divided area of space (the sum of the areas of the two objects) without being divided itself (since it has no parts).

Once we say that universals are in the entities that instantiate them, it is a small step to say, in addition, that the universals instantiated by a particular are *parts* of that entity. And it is yet another small step to say that the particular is simply a bundle of universals (many universals together). Here there emerges a difficulty. It appears that there are particulars instantiating the same universals, e.g. two entirely similar particles. But it isn't possible for each particle to be the bundle of those universals, as then the particles would be identical. Here are some ways of tackling this difficulty: (i) We may say that, for each thing x, there is the property of being identical with x. This property is a universal instantiated by only one thing, x. So there are no two particulars instantiating the same universals. (ii) Alternatively, we may say that a particular that instantiates various universals does not consist of only those universals: it also includes another particular, which differentiates the initial particular from other similar ones. (We can call the first 'thick particular' and the second 'thin'.) But if we don't want to end up with an infinite sequence of particulars, one inside the other, we must say that the thin particular instantiates no universal and hence (according to realism) has no property. But in this way we shall have endorsed the existence of a very strange being.

According to the in re theory, there are no universals that are not instantiated by anything, since such a universal would not be anywhere.

An argument that concerns instantiation has been used against realism about universals. The argument is the following: According to realism, whenever many things are the same in some respect, there is a universal instantiated by all of them. So let's take some objects instantiating the same universal, and let's examine the pairs in which the first item is one of those objects and the second is the universal in question. All these pairs are the

same in an important respect: in all of them, the first item instantiates the second. Consequently, realists must say that there is universal (an instantiation relation, let's call it **I**) which is instantiated by each pair and which connects, as a relation, the two items of the pair. Let's now examine the (more composite) pairs in which the first item is one of those pairs and the second is the relation **I**. These pairs, too, are the same in an important respect, like before. Consequently, realists must say that there is another universal (the instantiation relation **I′**) which is instantiated by all these pairs. Thus realists end up having infinitely many instantiation relations, and this amounts to ontological extravagance.

This argument (which is called 'Bradley's regress') is treated by realists as a serious difficulty. But in my view, it contains a mistake. When we examine the pairs whose second item is the relation **I**, realists must indeed accept that there is a universal instantiated by all those pairs. But they don't need to say that this universal is a new instantiation relation **I′**. They can say that we have **I** again. The same relation (**I**) which connects one of the initial objects, **a,** with the initial universal, **u**, and is instantiated by the pair ⟨**a**, **u**⟩ also connects the pair ⟨**a**, **u**⟩ with **I** and is instantiated by the pair ⟨⟨**a**, **u**⟩, **I**⟩.

5. Quite a few philosophers consider that, between the bearers of properties and relations and the properties and relations themselves, there is another category of entities, tropes. For example, let's take some objects that are white and, indeed, have just the same hue of white. The idea is that, for each object, there is something that is the whiteness of that object and is not identical with the whiteness of any other object. Those entities are tropes of whiteness (whiteness in general). For each property and each bearer of that property, there is supposed to be a trope of the property which concerns the specific bearer. Likewise, for each relation and each pair (or triple, quadruple, etc.) of objects connected by that relation, there is supposed to be a trope of the relation which concerns the specific pair (triple, etc.).

Tropes, if they exist, are particulars. Tropes are what 17th century philosophers called 'modes'.

Philosophers who believe that there are tropes usually consider that properties and relations are just the sets of their tropes and that the objects bearing the properties and relations are just bundles of tropes. E.g. whiteness is a set of tropes, and a table is a sum or bundle of tropes. According to that theory, the property of having a heart and the property of having kidneys are not the same set, since they do not have the same tropes, although they have the same bearers. Also, the theory allows there to be two entirely similar particles (they will not consist of the same tropes).

As for the question "Where are the tropes?", we can answer that e.g. each trope of whiteness is in the place where the corresponding white object is located, and each trope of a relation occupies the area (which is usually divided) that is occupied by the corresponding related objects. This answer of course has consequences analogous to the consequences that, as we saw, follow from the in re theory regarding the position of universals in space. The difference is that, in the case of tropes, we need not (and must not) accept that a trope is located in many places simultaneously.

The theory that there are tropes seems to be ontologically extravagant. Its supporters, however, believe that it avoids most of the problems that are faced by the various nominalist and realist theories we discussed previously.

Finally, by extending the terms 'property' and 'relation', we say that a trope, too, is a property or relation (although it is neither a universal nor a set or concept).