8.B: the ***Philosophyldeas*** overview of

Properties

When we examine an individual object like a tree, rock or cat, we take it in as a whole, but when we think about it or describe it, we must break it down into parts and features. Our languages are full of words for shapes, textures, experienced qualities, magnitudes, structures, and potential behaviour, and without them it is hard to see how thinking about reality is possible. If we focus on processes instead of objects, we would still need to pick out those parts and features. This is because parts and features recur in many different objects, so a vast range of objects possess leaves, or look yellow, or are sharp, and so on, and we couldn't learn from experience if we didn't spot these resemblances. Our sciences rely totally on being able to compare the mass or charge or life span of different objects. Hence some notion of 'properties' seems indispensable to our metaphysics.

The problems start, though, when we ask exactly what these properties are. Do they exist in their own right, or are they part of a strange relationship called 'resemblance', or are they just consequences of how we talk? The features or attributes of a thing seem real enough (even if our senses present them in a very human way). A bold response here is to say that they are 'universals', which are real entities which exist (or are 'instantiated') in many different instances, as when we say that the one universal 'redness' is found in many different red objects. We can compare red with green and blue, so we certainly talk about redness as existing in its own right, and an early view was that many properties existed as Forms, which were a sort of blueprint for reality. Many modern thinkers believe in universals, as part of the real realm of abstract ideas. If this type of existence is rejected, then properties are often described as the 'modes' of an object, seen as ways for an object to be, rather than distinct entities. Comparing modes then focuses on resemblance of red modes, rather than on being the same redness in both cases. Describing properties as 'qualities' places more emphasis on the way we experience them. A complication is that properties can themselves have properties, as when red is light or dark.

So many distinctions are made among types of properties that the picture is confusing, but each distinction offers some illumination. The earliest distinction was between 'essential' and 'accidental' properties, the first being part of the very nature of the object, and the second being more variable; having inner organs is essential to a bird, but its exact size seems less important. Some properties are more general than others, and we can distinguish 'determinables' such as colour or weight from 'determinates' such as red or 12kg. We might want to say that only the determinates are the real properties here, and determinables concern our way of thinking, but we then need different theories to explain the two types of property. An interesting distinction is between 'resultant' and 'emergent' properties, where if a whole has the sum of the properties of its parts, such as weight, this is resultant, but emergent properties occur in the whole but not in the parts. Emergence is 'weak' if the higher property is (in theory) predictable from its components, such as transparency, and 'strong' if the emergent property has unpredictable causal powers, which some thinkers claim for consciousness.

Some features of an object concern how it is, and others how it could be, which are distinguished as 'categorical' and 'hypothetical' properties; modern accounts treat hypothetical properties as 'dispositions', which may be real features, or may be reducible to categorical properties. Extreme claims are that properties are all categorical, or that they are all dispositional. An important recent distinction is whether to see properties as 'abundant' or as 'sparse'. The abundant view interprets properties through language, and says there are as many properties as there are predicates in the language. A property is just the semantic value of each predicate, and there are vast infinities of properties (the length of something, for example). Some properties are weird, or hugely complex, but fans of abundant properties don't worry about that. If we restrict the number of properties (making them 'sparse), that needs a criterion, and most discussion focuses on that.

The main sparse views say properties are 'intrinsic' to things (ignoring their relationships or memberships of classes), or they are 'natural' (found in the structure of reality, with other properties as 'derivative'), or they are 'causal' (so we can experience them, though this only works for physical objects). The intrinsic properties of a thing might be those which are preserved if a perfect duplicate is created, or those discovered from direct examination. Students of language and logic tend to prefer the abundant view of properties, but students of science and daily life find the sparse view more attractive. If properties are just seen linguistically, some account is needed of the reality that is being referred to, and the usual approach is to eliminate real properties from our ontology. The best known elimination view says that only objects and sets of objects are real, and interprets properties as sets of objects. That is, redness is understood as the set of all the things which fall under to the predicate 'red'. In this way things will fall into many sets, and occasionally two predicates may produce the same set (such as triangles which are 'fully symmetrical' and 'equilateral'). Some predicates are too paradoxical to have sets, but that is a minor problem. Sceptics say this is a neat semantic system, but hardly explains redness, or its causal powers.

If the idea of universals (one-over-many) does not appeal, because it is then unclear how properties exist, then we might want to say that the red in the tomato is different from the red of a rose, apart from resemblance. That is, each occurrence of red is a 'particular'. These are called 'tropes'. A red trope is united to exactly identical red tropes by perfect resemblance, forming an equivalence class, and the property of that shade of red is the whole class of its tropes. A red and a circular trope can be in the same location, so tropes can't be physical, and are treated as abstract particulars (though they are unusual *abstracta*, because they exist in space-time). Trope theorists treat reality as consisting entirely of bundles of tropes. Since each trope is different, the problem of two properties producing the same set of objects goes away.

Tropes need resemblance as a primitive concept (which some claim is a universal), and it is not clear how to individuate tropes (among sounds, or on a mottled surface, for example). Tropes also seem united to their objects (and could not be transferred elsewhere), which is hard to explain if they are abstract.