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Universals

Universals is another name for the Platonic Ideas or Forms. Plato thought these ideas pre-existed the things in the world to which they correspond. For example, a perfect circle is an idea to which any actual circle would only correspond approximately. Aristotle thought the universals were merely general versions of properties found in common in the particular things. Thus the general idea of a horse would be the bundle of common properties that are abstracted from and found in all *particular* horses.

The terminology is a bit confusing because Plato regarded these Ideas as “real” where today we regard the material things as real and the universals, which are purely abstract and immaterial, as ideal. The great problem of the universals has been “do they exist?”

Both Plato and Aristotle have anticipated the information philosophy view of universals. A universal is simply the information which is a limited subset of the common information found in all the particulars.

The great ontological and existential problem of the universals then becomes clear in information philosophy. The tangible existence of an idea depends on it being encoded somewhere, in a mind, in a physical or biological structure, etc. The information encoded might be a mathematical concept, for example a perfect circle as all the points equidistant from a reference point.

The mental abstraction of a universal away from any and all minds remains an issue with two resolutions. First, the universal idea has probably been encoded in human artifacts, books for example, now independent of any particular mind. This is our Sum of all information.

A “universal” in metaphysics is a property or attribute that is shared by many particular objects (or concepts). It has a subtle relationship to the problem of the one and the many.

Second, with Aristotle, we can imagine that many particulars pre-existed any minds and remain in the world in the absence of any mind. They “exist” for any future intelligence to discover.



It is also the question of ontology. What exists in the world? Ontology is intimately connected with epistemology, how can we know what exists in the world?

Knowledge about objects consists in describing the objects with properties and attributes, including their relations to other objects. Rarely are individual properties unique to an individual object. Although a “bundle of properties” may uniquely characterize a particular individual, most properties are shared with many individuals.

The “problem of universals” is the existential status of a given shared property. Does the one universal property exist apart from the many instances in particular objects? PLATO thought it does. ARISTOTLE thought it does not.

Consider the property having the color red. Is there an abstract concept of redness or “being red?” Granted the idea of a concept of redness, in what way and where in particular does it exist? Nominalists (sometimes called anti-realists) say that it exists only in the particular instances, and that redness is the name of this property. Conceptualists say that the concept of redness exists only in the minds of those persons who have grasped the concept of redness. They might exclude color-blind persons who cannot perceive red.

Realism is the view that a “reality” of physical objects, and possibly of abstract concepts like redness, exists in an external world independently of our minds and perceptions.

Platonic Realism is the view that abstract things like numbers, perfect geometric figures, and other things that Plato called the Forms or the Ideas, have a real and independent existence, though they are not material objects.

But for his student, Aristotle, these “universals” exist only in the concrete objects which share some property. For him, the universal idea of a perfect circle is a shared property of the many actual circles in nature.

Naive realists think that we can access concrete physical objects directly and fully with our perceptual sense data. This is sometimes called the “copy theory.” Our perceptions are fully apprehending the physical objects, so that the content of a perception is the same as the



object of perception. In information philosophy terms, naive realism mistakenly assumes that the information in the perceived sense data (or the representation in the mind) is (quantitatively) equal to (a copy of) the information in the physical object. In the case of the abstract concept of redness, it may be that the copy-theory is most tenable. The perception of a red object may in a strong sense bring the concept of redness into existence (at least in the observer's mind).

Historically, realism is a metaphysical claim about this independently existing world where redness might be found. Since Aristotle's *Metaphysics*, two kinds of metaphysical questions (ontological and epistemological) are raised, what exists, and how can we know what exists.

The ontological status of abstract concepts is a completely different question from the ontology of concrete material objects, though these questions have often been confounded in the history of philosophy.

Information philosophy provides distinct answers to these two ontological questions. Material objects exist in the world of space and time. They are information structures embodied in matter and interacting with energy. Abstract concepts (like redness) are pure information, neither matter nor energy, although they need matter for their embodiment and energy for their communication.

The contrast between physical objects and abstract concepts can be illustrated by the difference between invention and discovery.

We discover physical objects through our perceptions of them. To be sure, we invent our ideas about these objects, their descriptions, their names, theories of how they are structured and how they interact energetically, with one another and with us. But we cannot arbitrarily invent the natural world. We must test our theories with experiment. The experimental results select those theories that best fit the data, the information coming to us from the world. This makes our knowledge of an independent external world scientific knowledge.



By contrast, we humans invent abstract concepts like redness. We know that these cultural constructs exist nowhere in nature as physical structures. We create them. Cultural knowledge is relative to and dependent on the society that creates it.

However, some of our invented abstract concepts seem to clearly have an existence that is independent of us, like the numbers and the force of gravity.

Critical realists, like scientists, start with observations and sense data, but they add hypotheses and experiments to develop theories about the physical objects and the abstract concepts in the external world. Nevertheless, the abstract representation in the mind is (quantitatively) much less information than the information in the physical object represented.

Universals generally contain miniscule amounts of information when compared to material objects which instantiate the property.

The idea of an independent reality claims that the reality known exists independently of the knowledge of it. And we can say that the *Sum* of human knowledge, the world of ideas, is a miniscule amount of information compared to that in the material world.

The British empiricists JOHN LOCKE and DAVID HUME argued that what we were “given” in our perceptions of sense data is limited to so-called “secondary qualities.” These are properties that produce the sensations in the observer’s senses - color, taste, smell, sound, and touch. Knowledge that comes from secondary qualities does not provide objective facts about things “in themselves.”

IMMANUEL KANT described these secondary qualities as “phenomena” that could tell us nothing about the “noumena,” which the empiricists called the “primary qualities.” These are properties the objects have that are independent of any observer, such as solidity, extension, motion, number and figure. These qualities exist in the thing itself (Kant’s “*Ding an sich*”). Kant thought that some of these qualities can be determined with certainty, as “*synthetic a priori*” truths. Some of these qualities are analytic truths, defined by the logical meanings of linguistic terms. For example, a round circle cannot be a square.



The One and the Many

Is there just one basic category that contains everything? Some philosophers are monists, arguing that the world must be a unity, one unchanging thing, and that all the multiplicity and change that we see is mere illusion.

Some are dualists, puzzled how the *immaterial* One (usually Mind or the Ideal) can possibly interact with the *material* Many (the Body or the World). There are other kinds of dualists, but the idealism/materialism divide has a long history in philosophy under dozens of different names through the ages.¹

Monists, with their claim that “All is One,” generally reduce the physical world to the ideal world, or vice versa. “Neutral monists” argue that the ideal and physical worlds are somehow both something else. But note the underlying dualism that remains in these monistic claims.

Some philosophers prefer triads, triplicities, or trinities as their fundamental structures, and in these we may find the most sensible way to divide the world as we know it into “worlds,” realms, or orders.

Those who divide their philosophy into four usually arrange it two by two (Schopenhauer, Heidegger, Derrida - who did it in jest, and against Christian trinities). There are a few who think a pentad has explanatory power. Another handful look to the mystical seven (the number of planets and thus days of the week) for understanding.

Since the Pythagoreans drew their triangular diagram of the tetractis, ten has been a divine number for some. Aristotle found ten categories. The neo-Platonist Kabalists have ten sephiroth. In string theory, there are ten dimensions reflecting the components of Einstein’s general relativity equations.

Kant, the most important philosopher since Aristotle, structured his architectonic into twelve categories, arranged four by three.

1 See chapter 9 of *Great Problems in Philosophy and Physics*.

