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## Nominalism

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**Nominalism** is the philosophical view that abstract concepts, general terms, or universals have no independent existence but exist only as names. It also claims that various individual objects labeled by the same term have nothing in common but their name. In this view, it is only actual physical particulars that can be said to be real, and universals exist only *post res*, that is, subsequent to particular things.

Nominalism is best understood in contrast to philosophical or ontological realism. Philosophical realism holds that when people use general terms such as "cat" or "green," those universals really exist in some sense of "exist," either independently of the world in an abstract realm (as was held by Plato, for instance, in his theory of forms) or as part of the real existence of individual things in some way (as in Aristotle's theory of *hylomorphism*). The Aristotelian type of realism is usually called moderate realism. As a still another alternative, there is a school called conceptualism, which holds that universals are just concepts in the mind. In the Middle Ages, there was a heated realist-nominalist controversy over universals.

History shows that after the Middle Ages, nominalism became more popularly accepted than realism. It is basically with the spirit of nominalism that empiricism, pragmatism, logical positivism, and other modern schools have been developed. But, this does not mean that any really satisfactory solution to the controversy has been found. So, even nominalism has developed more moderate versions such as "resemblance" nominalism and "trope" nominalism.

A careful observation shows that from among the various theories there seem to be two most promising ones: trope nominalism and moderate realism (especially Duns Scotus's moderate nominalism). They are most promising as genuine contenders because they both try to blur the traditional sharp distinction between universals and particulars. Any new promising solutions in the future, therefore, should probably blur this distinction in much the same way.

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## A History of the Medieval Controversy

In the Middle Ages there was a controversy over universals. It arose from a passage in Boethius's translation of Porphyry's *Isagoge sive quinque voces* ("Introduction to Aristotle's Categories"), which raised the problem of genera and species: 1) as to whether they exist in nature or only in the mind; 2) whether, if they exist in nature, they are corporeal or incorporeal; and 3) whether they exist outside sensible particular things or are realized in them. Adherents to "realism" such as Bernard of Chartres (d. c. 1130), Saint Anselm (1033-1109), and William of Champeaux (1070-1121) held, like Plato, that universals alone have substantial reality, existing *ante res* (prior to particular things). Proponents of "nominalism" such as Berengar of Tours (c. 1010-1080) and Roscellinus (1050-1125), however, objected that universals are mere names, existing *post res* (subsequent to particular things) without any reality. The controversy was prominent in the late eleventh and twelfth centuries, and the issue was not only philosophical but also theological because it was quite evident that while realism represented a more spiritual type of worldview, nominalism showed a more anti-spiritual view. Realism, which recognized the substantial reality of universals separable from this world, was favorable to the theological teachings of the Church on God, heaven, soul, afterlife, etc. Realism was also favorable to the Church's other teachings such as the Trinity, the Eucharist, and original sin, which presupposed the substantial existence of universals. By contrast, nominalism turned out to be less favorable to the teachings of the Church. For example, the nominalist Roscellinus argued that "God" is no more than a name, and that the divine reality is only found in the three different individuals called Father, Son, and Holy Spirit. In 1092, Roscellinus was condemned for being a tritheist.

In order to mediate between realism and nominalism, Peter Abelard (1079-1142) suggested a position called "conceptualism." It rejects realism in favor of nominalism, when it says that universals have no substantial reality separable from the world of sensible things. However, it disagrees with nominalism, by maintaining that universals still exist as "concepts" in our minds, more than as mere names, thus being able to express real similarities in individual things themselves. But this position of conceptualism seems to be letting us come back to the same debate over the relationship of universals and individuals—albeit at a level—instead of answering it.

In the thirteenth century, great Scholastics such as Saint Thomas Aquinas (c. 1225-1274) and Duns Scotus (c. 1265-1308) dealt with the problem of universals from the viewpoint of what is usually called "moderate realism," largely under the influence of the philosophy of Aristotle that was reintroduced to the West through Islamic philosophy. Moderate realism locates universals in the mind like conceptualism and at the same time admits of their real basis in *in rebus* (in particular things). There was some difference, however, between Thomas's moderate realism and Duns Scotus's. For whereas the former was still saying that a universal of different individual things is numerically identical, the latter advanced the notion of a "common nature" (*natura communis*), a particularized universal, which is numerically different from one individual thing to another because it is made unique to a particular thing in which it exists, because of the "thisness" (*haecceitas*) of that individual thing. In any case, moderate realism was considered to be a best solution in the thirteenth century.

In the fourteenth century, however, nominalism was revived by the English Franciscan William of Ockham (c. 1285-1347), who had an impulse towards direct observation of the world rather than toward rational abstractions. He thus rejected any systematization of theology based on abstractions. He was interested in factual plurality in the world. So, he only accepted the Catholic theological teachings in the realm of faith.

Gabriel Biel (c. 1420-1495), a follower of the nominalism of William of Ockham, theologically pursued this line of thought further, maintaining that theological dogma can properly be found in the realm of faith, not in the realm of reason. This perhaps helped to prepare the way for the Protestant Reformation in the sixteenth century.

## The Problem of Universals

The problem of universals arises from the question of how to account for the fact that some things are of the same type. For example, Fluffy and Kitzler are both cats, but what is this "catness" that both seem to have? Also, the grass, the shirt, and Kermit the Frog are green, but what is this quality of "green" that they all seem to have? There is the fact that certain properties are repeatable. Philosophers want to know in virtue of *what* are Fluffy and Kitzler both cats, and *what* makes the grass, the shirt, and Kermit green.

The answer of realism is that all the cats are cats in virtue of the existence of a universal, a single abstract thing, in this case, that is a part of all the cats. With respect to being cats, for Fluffy, Kitzler, and even the lion in the jungle, one of their parts is identical. In this respect, the three parts are literally one. "Catness" is repeatable because there is one thing that manifests itself, wherever there is a cat. This is the realism of Plato, who famously held that there is a realm of abstract forms or universals apart from the physical world, and that particular physical objects merely exemplify, instantiate, or "participate" in, the universals.

Nominalism denies the existence of universals in this sense of the term. The motivation to deny universals in this sense flows from several concerns. The first one is the question of where they exist. As Plato believed, are they located outside of space and time? Some assert that nothing is outside of space and time, though. In addition, what did Plato mean when he held that the several cows we see in the pasture, for example, all "participate" in the form of cow? What is "participation"? Didn't Plato, famously in his dialogue *Parmenides*, get tangled in confusion and unanswered questions, when he tried to specify just what or how a sensed thing (e.g., the individual cow) participates in a form (e.g., "cowness"). Plato also got into what seemed to him to be ethical and aesthetic problems, when he realized that the same arguments that would require that there be forms for noble things would also require that there be forms for ignoble things such as dirt or dung. To complicate things, what is the nature of the instantiation or exemplification of the logic of relation(s)? Also, when the realist maintains that all the instances of "catness" are held together by the exemplification relation, is this relation explained satisfactorily? Isn't it unusual that there could be a single thing (i.e., a form) that exists in multiple places simultaneously after being exemplified?

Moderate realists hold that there is no independent realm in which universals exist. They rather hold that universals are located in space and time, wherever they are manifest. Moderate realism can still recognize the laws of nature, based on the constants of human nature. Moderate realists of the twentieth century include Jacques Maritain and Etienne Gilson.

Today, however, some philosophers who delve into the workings of the human brain, such as Daniel Dennett, reject the idea that there is some "catness" in the real world. They believe that there are only circumstances that cause the brain to react with the judgment "cat." This nominalist tendency can also be seen amongst many philosophers who prefer simpler ontologies populated with only the bare minimum of types of entities, having "a taste for desert landscapes," to use the phrase of W.V. Quine.<sup>[1]</sup> They attempt to express everything that they want to explain without using universals such as "catness" or "chairness."

## Varieties of Nominalism

Nominalism maintains that only individual things exist, arguing that the problem of universals can be handled

only by properly thinking about individual things with respect to their natures and relations. Depending on how to think about individual things, there are various forms of nominalism ranging from extreme to almost-realist.

One extreme form is "pure" nominalism, or "predicate" nominalism, which maintains that Fluffy and Kitzler are both cats simply because the predicate "cat" linguistically applies to both of them. This form of nominalism is usually criticized of ignoring the problem of universals because it does not try to explain why that predicate correctly applies to Fluffy and Kitzler and not other predicates, simply leaving it a brute fact.

"Resemblance" nominalism believes that "cat" applies to both cats because Fluffy and Kitzler resemble an exemplar cat closely enough to be classed together with it as members of its natural kind, or that they differ from each other (and other cats) quite less than they differ from other things, and this warrants classing them together. Some resemblance nominalists will concede that the resemblance relation is itself a universal, but is the only universal necessary. This, however, betrays the spirit of nominalism. Others argue that each resemblance relation is a particular, and is a resemblance relation simply in virtue of its resemblance to other resemblance relations. This generates an infinite regress, but many argue that it is not vicious.

Another form of nominalism is "trope" nominalism that attempts to build a theory of resemblance nominalism on a "theory of tropes." A trope (*tropos* in Greek, *tropus* in Latin, originally meaning "a turn") is a particular instance of a property or its name, far from a transcendent universal in the realist sense. It is the specific greenness of a shirt, for example. Therefore, it is numerically different from this green shirt to that green shirt, while being qualitatively identical beyond different green shirts. One might argue that there is a primitive objective resemblance relation that holds among tropes that are like each other. Others argue that all apparent tropes are constructed out of more primitive tropes and that the most primitive tropes are the entities of physics. Primitive trope resemblance may thus be accounted for in terms of causal indiscernibility. Two tropes are exactly resembling if substituting one for the other would make no difference to the events in which they are taking part. Varying degrees of resemblance at the macro level can be explained by varying degrees of resemblance at the micro level, and micro-level resemblance is explained in terms of something no less robustly physical than causal power. According to D.M. Armstrong, a contemporary moderate realist, such a trope-based variant of nominalism has promise, although it may be unable to account for the laws of nature in the way his own theory of universals can.<sup>[2]</sup>

## Nominalism in Islamic Philosophy

Some modern Arabic philosophers have claimed in their studies of the history of Islamic philosophy that realist universals and the metaphysics related to the realist school of philosophy are incompatible with the Islamic worldview, and by trying to solve this problem they have developed the concept of nominalist universals.

Two exponents of nominalism in Medieval philosophy were the Islamic philosophers Ibn Khaldun and Ibn Taymiya.

## Assessment

History shows that nominalism was already widespread on the eve of the Protestant Reformation. The fact that Martin Luther studied at Erfurt under nominalist professors in his earlier years is sometimes considered to have contributed theologically to the rise of the Reformation. The spirit of nominalism was also there in the scientific movement of the Renaissance. Since then, nominalism became more and more accepted, giving rise to modern nominalistic traditions such as empiricism, pragmatism, instrumentalism, and logical positivism. Well-known nominalists include Francis Bacon, David Hume, John Stuart Mill, Herbert Spencer, and Nelson Goodman. Also, according to the philosopher of science Ian Hacking, much of what is called social constructionism of

science in contemporary times is actually motivated by an unstated nominalist metaphysical view.

In spite of the widespread popularity of nominalism, however, the debate between realism and nominalism seems to be far from been settled. For in the twentieth century there still were many realists in the Catholic tradition such as German philosopher Dietrich von Hildebrand and British writer J.R.R. Tolkien. Also, there emerged influential moderate realists in the Neo-Thomist school such as Jacques Maritain and Etienne Gilson. Another well-known moderate realist is the Australian philosopher D.M. Armstrong. The question, therefore, is: Where can we find the solution to the debate?

Mary C. MacLeod and Eric M. Rubenstein admit of "our failure to find one [adequate solution]" to the problem of universals, but they present their useful observation that a consensus seems to be emerging that from among the diverse theories in the wide spectrum regarding universals, "two genuine contenders" are left: trope nominalism and moderate realism.<sup>[3]</sup> It is understandable that trope nominalism is a "genuine contender," because when it posits "tropes" as particularized properties, which are not universals in the realist sense, it can explain the resemblance as well as difference of particular individual things through them. Trope nominalism looks promising, although it may still be a little too nominalist to be able to retain the laws of nature, according to D.B. Armstrong.

How about the other "genuine contender": moderate realism? As far as Duns Scotus' moderate realism is concerned, it ingeniously talks about universals in terms of "common natures" (*naturae communis*). According to this, common natures really exist in particular individual things, although when they exist in particular individual things, they are made individual by each particular individual thing's own principle of individuation, called "thisness" (*haecceitas*). This way, the difference as well as resemblance of individual things can be explained.

The "two genuine contenders" originally come from the two different traditions of nominalism and realism. So, "tropes" in trope nominalism are still within the nominalist tradition, while "common natures" in Scotus' moderate nominalism are broadly within the realist tradition. Interestingly, however, "tropes" and "common natures" are very similar because both of them are both universal and particular in character at once. This shows that any other promising solutions to the problem of universals in the future should probably blur the traditional sharp distinction between universals and particulars in much the same way.

## Notes

- ↑ W.V. Quine, *From a Logical Point of View: Nine Logico-Philosophical Essays*, 2nd ed. (Harvard University Press, 2006), 4.
- ↑ D.M. Armstrong, "Properties," in *Properties*, ed. D. H. Mellor and Alex Oliver. (Oxford University Press, 1997), 160-72.
- ↑ Mary C. MacLeod and Eric M. Rubenstein, "Universals," (<http://www.iep.utm.edu/u/universa.htm>) *The Internet Encyclopedia of Philosophy*.

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# Nominalism

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**Nominalism** refers to either of two philosophical positions regarding what exists. Nominalism may refer to a position that denies the existence of universal entities or objects, but accepts that particular objects or entities exist. It may refer to denial of the existence of abstract objects or entities, while accepting the existence of concrete objects or entities. Each position is contrasted with nihilism, which denies the existence of everything. So nominalism is either the assertion that everything that exists is a particular thing, or that everything that exists is concrete.<sup>[1]</sup>

**Nominalism** is a metaphysical view in philosophy according to which general or abstract terms and predicates exist, while universals or abstract objects, which are sometimes thought to correspond to these terms, do not exist.<sup>[2]</sup> There are at least two main versions of nominalism. One version denies the existence of universals – things that can be instantiated or exemplified by many particular things (e.g., strength, humanity). The other version specifically denies the existence of abstract objects – objects that do not exist in space and time.<sup>[3]</sup>

Most nominalists have held that only physical particulars in space and time are real, and that universals exist only *post res*, that is, subsequent to particular things.<sup>[4]</sup> However, some versions of nominalism hold that some particulars are abstract entities (e.g., numbers), while others are concrete entities – entities that do exist in space and time (e.g., tables, chairs).

Nominalism is primarily a position on the problem of universals, which dates back at least to Plato, and is opposed to realism – the view that universals do exist over and above particulars. However, the name "nominalism" emerged from debates in medieval philosophy with Roscellinus.

The term 'nominalism' stems from the Latin, 'nomen' (name). For example, John Stuart Mill once wrote, that "there is nothing general except names". In the philosophy of law nominalism finds its application in what is called **Constitutional Nominalism**.<sup>[5]</sup>

## The problem of universals

Nominalism arose in reaction to the problem of universals, specifically accounting for the fact that some things are of the same type. For example, Fluffy and Kitzler are both cats, or, the fact that certain properties are repeatable, such as: the grass, the shirt, and Kermit the Frog are green. One wants to know in virtue of *what* are Fluffy and Kitzler both cats, and *what* makes the grass, the shirt, and Kermit green.

The realist answer is that all the green things are green in virtue of the existence of a universal; a single abstract thing that, in this case, is a part of all the green things. With respect to the color of the grass, the shirt and Kermit, one of their parts is identical. In this respect, the three parts are literally one. Greenness is repeatable because there is one thing that manifests itself wherever there are green things.

Nominalism denies the existence of universals. The motivation for this flows from several concerns, the first one being where they might exist. Plato famously held, on one interpretation, that there is a realm of abstract forms or universals apart from the physical world (see theory of the forms). Particular physical objects merely exemplify or instantiate the universal. But this raises the question: Where is this universal realm? One possibility is that it is outside space and time. A view sympathetic with this possibility holds that, precisely because some form is immanent in several physical objects, it must also transcend each of those physical objects; in this way, the forms are "transcendent" only insofar as they are "immanent" in many physical objects. In other words, immanence implies transcendence; they are not opposed to one another. (Nor, on this view, would there be a separate "world" or "realm" of forms that is distinct from the physical world, thus shirking much of the worry about where to locate a "universal realm".) However, naturalists assert that nothing is outside of space and time. Some Neoplatonists, such as the pagan philosopher Plotinus and the Christian philosopher Augustine, imply (anticipating conceptualism) that universals are contained within the *mind* of God. To complicate things, what is the nature of the instantiation or exemplification relation?

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Conceptualists hold a position intermediate between nominalism and realism, saying that universals exist only within the mind and have no external or substantial reality.

Moderate realists hold that there is no realm in which universals exist, but rather universals are located in space and time wherever they are manifest. Now, recall that a universal, like greenness, is supposed to be a single thing. Nominalists consider it unusual that there could be a single thing that exists in multiple places simultaneously. The realist maintains that all the instances of greenness are held together by the exemplification relation, but this relation cannot be explained.

Finally, many philosophers prefer simpler ontologies populated with only the bare minimum of types of entities, or as W. V. Quine said "They have a taste for 'desert landscapes.'" They try to express everything that they want to explain without using universals such as "catness" or "chairness."

## Varieties of nominalism

There are various forms of nominalism ranging from extreme to almost-realist. One extreme is *predicate nominalism*, which states that Fluffy and Kitzler, for example, are both cats simply because the predicate 'is a cat' applies to both of them. And this is the case for all similarity of attribute among objects. The main criticism of this view is that it does not provide a sufficient solution to the problem of universals. It fails to provide an account of what makes it the case that a group of things warrant having the same predicate applied to them.<sup>[6]</sup>

*Resemblance nominalists* believe that 'cat' applies to both cats because Fluffy and Kitzler resemble an exemplar cat closely enough to be classed together with it as members of its kind, or that they differ from each other (and other cats) quite less than they differ from other things, and this warrants classing them together.<sup>[7]</sup> Some resemblance nominalists will concede that the resemblance relation is itself a universal, but is the only universal necessary. Others argue that each resemblance relation is a particular, and is a resemblance relation simply in virtue of its resemblance to other resemblance relations. This generates an infinite regress, but many argue that it is not vicious.<sup>[8]</sup>

*Conceptualism* is a philosophical theory that explains universality of particulars as conceptualized frameworks situated within the thinking mind.<sup>[9]</sup> The conceptualist view approaches the metaphysical concept of universals from a perspective that denies their presence in particulars outside of the mind's perception of them.<sup>[10]</sup>

Another form of nominalism is *trope theory*. A trope is a particular instance of a property, like the specific greenness of a shirt. One might argue that there is a primitive, objective resemblance relation that holds among like tropes. Another route is to argue that all apparent tropes are constructed out of more primitive tropes and that the most primitive tropes are the entities of complete physics. Primitive trope resemblance may thus be accounted for in terms of causal indiscernibility. Two tropes are exactly resembling if substituting one for the other would make no difference to the events in which they are taking part. Varying degrees of resemblance at the macro level can be explained by varying degrees of resemblance at the micro level, and micro-level resemblance is explained in terms of something no less robustly physical than causal power. David Armstrong, perhaps the most prominent contemporary realist, argues that such a trope-based variant of nominalism has promise, but holds that it is unable to account for the laws of nature in the way his theory of universals can.<sup>[citation needed]</sup>

Ian Hacking has also argued that much of what is called social constructionism of science in contemporary times is actually motivated by an unstated nominalist metaphysical view. For this reason, he claims, scientists and constructionists tend to "shout past each other".<sup>[11]</sup>

## Analytic philosophy and mathematics

A notion that philosophy, especially ontology and the philosophy of mathematics should abstain from set theory owes much to the writings of Nelson Goodman (see especially Goodman 1977), who argued that concrete and abstract entities having no parts, called *individuals* exist. Collections of individuals likewise exist, but two collections having the same individuals are the same collection.

The principle of extensionality in set theory assures us that any matching pair of curly braces enclosing one or more instances of the same individuals denote the same set. Hence  $\{a,b\}$ ,  $\{b,a\}$ ,  $\{a,b,a,b\}$  are all the same set. For Goodman and other nominalists,  $\{a,b\}$  is also identical to  $\{a,\{b\}\}$ ,  $\{b,\{a,b\}\}$ , and any combination of matching curly braces and one or more instances of  $a$  and  $b$ , as long as  $a$  and  $b$  are names of individuals and not of collections of individuals. Goodman, Richard Milton Martin, and Willard Quine all advocated reasoning about collectivities by means of a theory of *virtual sets* (see especially Quine 1969), one making possible all elementary operations on sets except that the universe of a quantified variable cannot contain any virtual sets.

In the foundation of mathematics, nominalism has come to mean doing mathematics without assuming that sets in the mathematical sense exist. In practice, this means that quantified variables may range over universes of numbers, points, primitive ordered pairs, and other abstract ontological primitives, but not over sets whose members are such individuals. To date, only a small fraction of the corpus of modern mathematics can be rederived in a nominalistic fashion.

## History

Plato was perhaps the first<sup>[12]</sup> writer in Western philosophy to clearly state a non-Nominalist position, which he plainly endorsed:

...We customarily hypothesize a single form in connection with each of the many things to which we apply the same name. ... For example, there are many beds and tables. ... But there are only two forms of such furniture, one of the bed and one of the table. (*Republic* 596a-b, trans. Grube)

What about someone who believes in beautiful things, but doesn't believe in the beautiful itself...? Don't you think he is living in a dream rather than a wakened state? (*Republic* 476c)

The Platonic universals corresponding to the names "bed" and "beautiful" were the Form of the Bed and the Form of the Beautiful, or the *Bed Itself* and the *Beautiful Itself*. Platonic Forms were the first universals posited as such in philosophy.

Our term "universal" is due to the English translation of Aristotle's technical term *katholou* which he coined specially for the purpose of discussing the problem of universals.<sup>[13]</sup> *Katholou* is a contraction of the phrase *kata holou*, meaning "on the whole".<sup>[14]</sup>

Aristotle famously rejected certain aspects of Plato's Theory of Forms, but he clearly rejected Nominalism as well:

...'Man', and indeed every general predicate, signifies not an individual, but some quality, or quantity or relation, or something of that sort. (*Sophistical Refutations* xxii, 178b37, trans. Pickard-Cambridge)

Applied Nominalism redirects the thesis of nominalism to the highest level of self actualism whereby all individuals are equal and collectively creates community actualism where everyone is without hierarchy. Nominalism is thus categorical but without hierarchy and leads us in directing thought towards the general idea of the community rather than the individual (Porter, 2006).

In *Alice in Wonderland*, the problem of nominalism is presented in an anecdotal example:

"When I use a word," Humpty Dumpty said, in rather a scornful tone, "it means just what I choose it to mean – neither more nor less."

"The question is," said Alice, "whether you *can* make words mean so many different things."

"The question is," said Humpty Dumpty, "which is to be master – that's all."<sup>[15]</sup>

## Criticisms

**Critique of the historical origins of the term:** As a category of late medieval thought, the concept of 'nominalism' has been increasingly queried. Traditionally, the fourteenth century has been regarded as the heyday of nominalism, with figures such as John Buridan and William of Ockham viewed as founding figures. However, it must be remembered that the concept of 'nominalism' as a movement (generally contrasted with 'realism'), first emerged only in the late fourteenth century,<sup>[16]</sup> and only gradually became widespread during the fifteenth century.<sup>[17]</sup> The notion of two distinct ways, a *via antiqua*, associated with realism, and a *via moderna*, associated with nominalism, became widespread only in the later fifteenth century – a dispute which eventually simply dried up in the sixteenth century.<sup>[18]</sup>

Aware of that explicit thinking in terms of a divide between 'nominalism' and 'realism' only emerged in the fifteenth century, scholars have increasingly questioned whether a fourteenth-century school of nominalism can really be said to have existed. While one might speak of family resemblances between Ockham, Buridan, Marsilius and others, there are also striking differences. More fundamentally, Robert Pasnau has questioned whether any kind of coherent body of thought that could be called 'nominalism' can be discerned in fourteenth century writing.<sup>[19]</sup> This makes it difficult, it has been argued, to follow the twentieth century narrative which portrayed late scholastic philosophy as a dispute which emerged in the fourteenth century between the *via moderna*, nominalism, and the *via antiqua*, realism, with the nominalist ideas of William of Ockham foreshadowing the eventual rejection of scholasticism in the seventeenth century.

**Critique of nominalist reconstructions in mathematics:** A critique of nominalist reconstructions in mathematics was undertaken by Burgess (1983) and Burgess and Rosen (1997). Burgess distinguished two types of nominalist reconstructions. Thus, *hermeneutic nominalism* is the hypothesis that science, properly interpreted, already dispenses with mathematical objects (entities) such as numbers and sets. Meanwhile, *revolutionary nominalism* is the project of replacing current scientific theories by alternatives dispensing with mathematical objects, see (Burgess, 1983, p. 96). A recent study extends the Burgessian critique to three nominalistic reconstructions: the reconstruction of analysis by Georg Cantor, Richard Dedekind, and Karl Weierstrass that dispensed with infinitesimals; the constructivist re-reconstruction of Weierstrassian analysis by Errett Bishop that dispensed with the law of excluded middle; and the hermeneutic reconstruction, by Carl Boyer, Judith Grabiner, and others, of Cauchy's foundational contribution to analysis that dispensed with Cauchy's infinitesimals.<sup>[20]</sup>

## Notes

[1] Nominalism, Stanford Encyclopedia of Philosophy (<http://plato.stanford.edu/entries/nominalism-metaphysics/>)

[2] Mill (1872); Bigelow (1998).

[3] Rodriguez-Pereyra (2008) writes: "The word 'Nominalism', as used by contemporary philosophers in the Anglo-American tradition, is ambiguous. In one sense, its most traditional sense deriving from the Middle Ages, it implies the rejection of universals. In another, more modern but equally entrenched sense, it implies the rejection of abstract objects" (§1).

[4] Feibleman (1962), p. 211.

[5] An overview of the philosophical problems and an application of the concept to a case of the Supreme Court of the State of California, gives Thomas Kupka, 'Verfassungsnominalismus', in: *Archives for Philosophy of Law and Social Philosophy* 97 (2011), 44-77, pdf also on SSRN ([http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2343741](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2343741))

[6] MacLeod & Rubenstein (2006), §3a.

[7] MacLeod & Rubenstein (2006), §3b.

[8] See, for example, H. H. Price (1953).

[9] Strawson, P. F. "Conceptualism." *Universals, concepts and qualities: new essays on the meaning of predicates*. Ashgate Publishing, 2006.

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[11] Hacking (1999), pp.80-84.

[12] Penner (1987), p. 24.

[13] Peters (1967), p. 100.

[14] "katholou" (<http://archimedes.fas.harvard.edu/cgi-bin/dict?name=lsj&lang=el&word=kaqo/lou&filter=GreekXlit>) in Harvard's Archimedes Project online version of Liddell & Scott's *A Greek-English Lexicon*.

- [15] Carroll, Lewis. (2000). *The Annotated Alice: Alice's Adventures in Wonderland & Through the Looking Glass*, p. 213 (<http://books.google.com/books?id=-blJhrfvouUC&pg=PA213&dq=>); Young, Laurence Chisholm. (1980). *Lecture on the Calculus of Variations and Optimal Control Theory*, p. 160 (<http://books.google.com/books?id=F3mZ0Y-FUi4C&pg=PA160&dq=>).
- [16] The classic starting point of nominalism has been the edict issued by Louis XI in 1474 commanding that realism alone (as contained in scholars such as Averroes, Albert the Great, Aquinas, Duns Scotus and Bonaventure) be taught at the University of Paris, and ordering that the books of various 'renovating scholars', including Ockham, Gregory of Rimini, Buridan and Peter of Ailly be removed. The edict used the word 'nominalist' to describe those students at Paris who 'are not afraid to imitate' the renovators. These students then made a reply to Louis XI, defending nominalism as a movement going back to Ockham, which had been persecuted repeatedly, but which in fact represents the truer philosophy. See Robert Pasnau, *Metaphysical Themes, 1274-1671*, (New York: OUP, 2011), p85.
- [17] For example, in the course of the visit by Jerome of Prague to the University of Heidelberg in 1406, he described the nominalists as those who deny the reality of universals outside the human mind, and realists as those who affirm that reality. Also, for instance, in a 1425 document from the University of Cologne which draws a distinction between the via of Thomas Aquinas, Albert the Great, and the via of the 'modern masters' John Buridan and Marsilius of Inghen. See Robert Pasnau, *Metaphysical Themes, 1274-1671*, (New York: OUP, 2011), p84.
- [18] See Robert Pasnau, *Metaphysical Themes, 1274-1671*, (New York: OUP, 2011), p84.
- [19] See Robert Pasnau, *Metaphysical Themes, 1274-1671*, (New York: OUP, 2011), p86.
- [20] Karin Usadi Katz and Mikhail G. Katz (2011) A Burgessian Critique of Nominalistic Tendencies in Contemporary Mathematics and its Historiography. *Foundations of Science*. (<http://www.springerlink.com/content/tj7j2810n8223p43/>) See arxiv (<http://arxiv.org/abs/1104.0375>)

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## External links

- Nominalism, Realism, Conceptualism (<http://www.newadvent.org/cathen/11090c.htm>), from *The Catholic Encyclopedia*.
- Rose, Burgess: Nominalism Reconsidered ([http://books.google.co.uk/books?id=GU3IV1xoWC8C&printsec=frontcover&source=gbs\\_summary\\_r&cad=0#PPA515,M1](http://books.google.co.uk/books?id=GU3IV1xoWC8C&printsec=frontcover&source=gbs_summary_r&cad=0#PPA515,M1)) in *The Oxford handbook of philosophy of mathematics and logic*
- Nominalism in Metaphysics (<http://plato.stanford.edu/entries/nominalism-metaphysics/>) from *The Stanford Encyclopedia of Philosophy*
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# Conceptualism

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**Conceptualism** is a philosophical theory that explains universality of particulars as conceptualized frameworks situated within the thinking mind. Intermediate between Nominalism and Realism, the conceptualist view approaches the metaphysical concept of universals from a perspective that denies their presence in particulars outside of the mind's perception of them.

## Conceptualism in scholasticism

The evolution of late scholastic terminology has led to the emergence of Conceptualism, which stemmed from doctrines that were previously considered to be nominalistic. The terminological distinction was made in order to stress the difference between the claim that universal mental acts correspond with universal intentional objects and the perspective that dismissed the existence of universals outside of the mind. The latter perspective of rejection of objective universality was distinctly defined as Conceptualism.

Peter Abélard was a medieval thinker whose work is currently classified as having the most potential in representing the roots of conceptualism. Abélard's view denied the existence of determinate universals within things, proposing the claim that meaning is constructed solely by the virtue of conception. William of Ockham was another famous late medieval thinker who had a strictly conceptualist solution to the metaphysical problem of universals. He argued that abstract concepts have no fundamentum outside the mind, and that the purpose they serve is the construction of meaning in an otherwise meaningless world.

In the 17th century conceptualism gained favour for some decades especially among the Jesuits: Hurtado de Mendoza, Rodrigo de Arriaga and Francisco Oviedo are the main figures. Although the order soon returned to the more realist philosophy of Francisco Suárez, the ideas of these Jesuits had a great impact on the contemporary early modern thinkers.

## Modern conceptualism

Conceptualism was either explicitly or implicitly embraced by most of the early modern thinkers like René Descartes, John Locke or Gottfried Leibniz – often in a quite simplified form if compared with the elaborate Scholastic theories. Sometimes the term is applied even to the radically different philosophy of Kant, who holds that universals have no connection with external things because they are exclusively produced by our *a priori* mental structures and functions. However, this application of the term "conceptualism" is not very usual, since the problem of universals can, strictly speaking, be meaningfully raised only within the framework of the traditional, pre-Kantian epistemology<sup>[citation needed]</sup>.

## Conceptualism and perceptual experience

Though separate from the historical debate regarding the status of universals, there has been significant debate regarding the conceptual character of experience since the release of *Mind and World* by John McDowell in 1994. McDowell's touchstone is the famous refutation that Wilfrid Sellars provided for what he called the "Myth of the Given"—the notion that all empirical knowledge is based on certain assumed or 'given' items, such as sense data. Thus, in rejecting the Myth of the Given, McDowell argues that perceptual content is conceptual "from the ground up", that is, all perceptual experience is a form of conceptual experience. Put differently, there are no "bare" or "naked" sense data that serve as a foundation for all empirical knowledge—McDowell is not a foundationalist about perceptual knowledge.

A clear motivation of conceptualism, in this sense, is that the kind of perception that rational creatures like humans enjoy is unique in the fact that it has conceptual character. McDowell explains his position in a recent paper as:

I have urged that our perceptual relation to the world is conceptual all the way out to the world's impacts on our receptive capacities. The idea of the conceptual that I mean to be invoking is to be understood in close connection with the idea of rationality, in the sense that is in play in the traditional separation of mature human beings, as rational animals, from the rest of the animal kingdom. Conceptual capacities are capacities that belong to their subject's rationality. So another way of putting my claim is to say that our perceptual experience is permeated with rationality. I have also suggested, in passing, that something parallel should be said about our agency.

McDowell's conceptualism, though rather distinct (philosophically and historically) from conceptualism's genesis, shares the view that universals are not "given" in perception from outside of the sphere of reason. Particular objects are perceived, as it were, already infused with conceptuality stemming the spontaneity of the rational subject herself.

## References

# Psychological nominalism

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**Psychological nominalism** is the view advanced in Wilfrid Sellars' paper "Empiricism and Philosophy of Mind" (EPM) that explains psychological concepts in terms of public language use. Sellars describes psychological nominalism as the view that "'all awareness of sorts, resemblances, facts, etc., in short, all awareness...is a linguistic affair."

Judging solely from the mention in EPM, Psychological Nominalism would seem to be a form of Verbal Behaviorism, which holds that ascriptions of psychological states are definitionally equivalent to predictions about behavior. For example, the Verbal Behaviorist holds that a statement like "John is scared of thunderstorms" is meaningful only insofar as it can be parsed into predictions concerning the sorts of things John is likely to say and/or do in the event of a thunderstorm (i.e. "John will say, or have a propensity to say, "I am scared" when he hears thunder" or "John will hide, or have a propensity to hide, his face when he sees lightning").

Psychological Nominalism extends the Verbal Behaviorist's explanation of psychological states (like fear, love, desire, thinking etc.) to cognitive states (being aware, knowing, etc.) while denying the premise that falsifiability criteria can give statements their meaning. The Psychological Nominalist concedes that survival of mental terminology in natural language can be explained in terms of the practical utility of mental-state ascriptions, but denies that this constitutes an analysis of the meaning of any particular mental-state ascription because the Psychological Nominalist contends that the meaning of any term, mental or otherwise, is irreducibly bound with its usage. Thus, the Verbal Behaviorist fails to give a completely philosophically satisfying account of psychological statements because he fails to recognize that the linguistic statements are themselves meaningful in light of the kinds of behavior associated with them.

# Trope (philosophy)

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The term "**trope**" is both a term which denotes figurative and metaphorical language and one which has been used in various technical senses. The term *trope* derives from the Greek τροπος (*tropos*), "a turn, a change",<sup>[1]</sup> related to the root of the verb τρέπειν (*trepein*), "to turn, to direct, to alter, to change"; this means that the term is used metaphorically to denote, among other things, metaphorical language. Perhaps the term can be explained as meaning the same thing as *a turn of phrase* in its original sense.

The term is also used in technical senses, which do not always correspond to its linguistic origin. Its meaning has to be judged from the context, some of which are given below.

## Basic meaning as metaphor

Here a trope is a figurative and metaphorical use of a word or a phrase. The verb *to trope* means then to make a trope.

## Greek philosophy

A trope or mode is one of the ten skeptical arguments or "ways of refuting dogmatism",<sup>[2]</sup> also called the The Ten Modes of Pyrrhonism, described by the Greek physician and philosopher Sextus Empiricus.

## In philosophy of history

The use of tropes has been extended from a linguistic usage to the field of philosophy of history by, among other theorists, Hayden White in his *Metahistory* (1973). Tropes are generally understood to be styles of discourse — rather than figures of style — underlying the historian's writing of history. They are historically determined in as much as the historiography of every period is defined by a specific type of trope.

For Hayden White, tropes historically unfolded in this sequence: metaphor, metonymy, synecdoche, and finally, irony.

## Trope theory in philosophy (metaphysics)

Trope theory in metaphysics is a version of nominalism. Here, a trope is a particular instance of a property, like the specific redness of a rose, or the specific nuance of green of a leaf. Trope theories assume that universals are unnecessary. This use of the term goes back to D. C. Williams (1953). The basic problem has been discussed previously in philosophy without using the term "trope". The following is a brief background:

The basic problem is the problem of universals. One part of the problem of universals is determining what it is for two tokens (or separate instances of something) to be of the same type. How can different things be the same? The arguments are complex, and involve semantics, metaphysics and epistemology. Part of the problem would be determining what it is for six different green objects to all be the same in respect to their color.

One classical solution is that of realism as found in the middle period of Plato's philosophy, with the *Republic* as a crowning work. According to this solution there are ideas or forms for any property. These forms exist timelessly as singular, perfect individuals in a metaphysical (timeless, supra-sensible) world of their own. They correspond to what is later called universals. Somehow the form of a specific color creates many secondary images of itself, as when a prototype is used to make copies or an object casts several shadows. Expressed more abstractly the individual colour-instances (the green of this leaf, the similar green of this frog) all partake in the same idea of green. In Plato the theory of forms is related to his theses about innate knowledge. In *Phaedo* the turn of the argument is that we cannot learn from experience what similarity is through abstraction, but must possess it in an innate form before we have any experience (*Phaedo* 74a-75d).

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Nevertheless Plato in the *Parmenides* dialogue himself formulated several problems for his view. One is: How can the idea, being single, nevertheless be present in a multitude of separate instances without being split apart.

The other solution is that of nominalism. Here the thesis is that universals such as the ideas or forms of Plato are unnecessary in an explanation of language, thought and the world. Only single individuals are real, but they can be grouped together by a human observer through their similarities. Nominalists are usually empiricists. Berkeley, for example, argued against universals or abstract objects using nominalistic arguments. He used the term idea to denote specific perceptions of an atomistic nature. They could be grouped through similarities or one could take a specific instance, for example the green hue of this frog one is looking at now, as a kind of paradigm case or prototype, and regard everything that was similar to it as belonging to the same type or category. One attraction of the nominalistic program is that if it can be carried out it solves Plato's problem in *Parmenides*, since the need for a single idea or form or universal *green* then vanishes and it can be expunged through Occam's razor, i.e. the rule that one should always prefer the simplest theory or account of anything.

Bertrand Russell (1912, chapter IX) argued against Berkeley and took the same basic position as Plato. His argument was basically one against any form of nominalism. It says, briefly, that if we introduce several instances of green as separate individuals, we nevertheless have to accept that the reason that we group them together is because they are similar. Therefore we must presume at least one true universal, that of similarity.

Two popular recent solutions to the problem of universals, as it relates to the possibility of entities existing in multiple locations at the same time, are as follows.

David Armstrong, a prominent Australian philosopher, argues, that there are instantiated universals, like Russell and the middle Plato. Briefly, an instantiated universal is a property (such as being green) that can exist in multiple locations at the same time. Going back to the problem of universals, for six different objects to all be green would be for each object to instantiate the universal green. The very same, identical universal green would be wholly located at each green object. To be even more specific, if a frog and a leaf are the same shade of green, the green of the frog and the green of the leaf are one and the same entity, which happens to be multiply located.

D.C. Williams and Keith Campbell, among others, reject instantiated universals in favor of tropes. Briefly, a trope is a property (such as being green) that can only exist in one location at one time. Trope theorists explain what it is for two tokens (individual instances) to be of the same type in terms of resemblance. As an example, for six different objects to all be green would be for each object to have its own distinct green trope. Each green trope would be a different entity from the other green tropes, but they would resemble each other and would all be taken to be green because of their resemblance.

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## Problem of universals

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In metaphysics, the **problem of universals** refers to the question of whether properties exist, and if so, what they are. Properties are qualities or relations that two or more entities have in common. The various kinds of properties, such as qualities and relations are referred to as universals. For instance, one can imagine three cup holders on a table that have in common the quality of *being circular* or *exemplifying circularity*,<sup>[1]</sup> or two daughters that have in common *being the daughter of Frank*. There are many such properties, such as being human, red, male or female, liquid, big and small, taller than, father of, etc.<sup>[2]</sup>

While philosophers agree that human beings talk and think about properties, they disagree on whether these universals exist in reality or merely in thought and speech.

### Positions

The main positions on the issue are generally considered to be: realism, nominalism, and idealism (sometimes simply called "anti-realism" with regard to universals).<sup>[3]</sup>

#### Realism

The realist school claims that universals are real — they exist and are distinct from the particulars that instantiate them. There are various forms of realism. Two major forms are Platonic realism (*universalia ante res*) and Aristotelian realism (*universalia in rebus*).<sup>[4]</sup> *Platonic realism* is the view that universals are real entities and they exist independent of particulars. *Aristotelian realism*, on the other hand, is the view that universals are real entities, but their existence is dependent on the particulars that exemplify them.

Realists tend to argue that universals must be posited as distinct entities in order to account for various phenomena. For example, a common realist argument, arguably found in Plato, is that universals are required for certain general words to have meaning and for the sentences in which they occur to be true or false. Take the sentence "Djivan Gasparyan is a musician". The realist may claim that this sentence is only meaningful and expresses a truth because there is an individual, Djivan Gasparyan, who possesses a certain quality, musicianship. Thus it is assumed that the property is a universal which is distinct from the particular individual who has the property.<sup>[5]</sup>

#### Nominalism

Nominalists assert that only individuals or particulars exist and deny that universals are real (i.e. that they exist as entities or beings). The term "nominalism" comes from the Latin *nomen* ("name"), since the nominalist philosopher agrees that we predicate the same property of multiple entities but argues that the entities only share a name, not a real quality, in common. There are various forms of nominalism (which is sometimes also referred to as "terminism"), three major forms are resemblance nominalism, conceptualism, and trope nominalism. Nominalism has been endorsed or defended by many, including William of Ockham, Peter Abelard, D. C. Williams (1953), David Lewis (1983), and arguably H. H. Price (1953) and W. V. O. Quine (1961).

Nominalists often argue for their view by claiming that nominalism can account for all the relevant phenomena, and therefore—by Ockham's razor or some sort of principle of simplicity—nominalism is preferable, since it posits fewer entities. Whether nominalism can truly account for all of the relevant phenomena is debated.

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## Idealism

Idealists, such as Kant and Hegel, posit that universals are not real, but are ideas in the mind of rational beings. Idealists do not reject universals as arbitrary names; rather, they treat universals as fundamental categories of pure reason (or as secondary concepts derived from those fundamental categories). Universals, in idealism, are intrinsically tied to the rationality of the subject making the judgment.

For instance, when someone judges that two cup holders are both circular they are not noticing a mind-independent thing ("circularity") that is in both objects, nor are they simply applying a name ("circular") to both. Rather, they partially constitute the very concept of cup holder by supplying it with the concept of circularity, which already exists as an idea in their rational mind.

Thus, for idealists, the problem of universals is only tangentially a metaphysical problem; it is more of a problem of psychology and epistemology.

## Ancient thought

### Plato

Plato believed there to be a sharp distinction between the world of perceivable objects and the world of universals or forms: one can only have mere opinions about the former, but one can have knowledge about the latter. For Plato it was not possible to have knowledge of anything that could change or was particular, since knowledge had to be forever unfailing and general.<sup>[6]</sup> For that reason, the world of the forms is the real world, like sunlight, the sensible world is only imperfectly or partially real, like shadows. This Platonic realism, however, in denying that the eternal Forms are mental artifacts, differs sharply with modern forms of idealism.

One of the first nominalist critiques of Plato's realism was that of Diogenes of Sinope, who said "I've seen Plato's cups and table, but not his cupness and tableness."

### Aristotle

Plato's student Aristotle disagreed with his tutor. Aristotle transformed Plato's forms into "formal causes", the blueprints or essences of individual things. Whereas Plato idealized geometry, Aristotle emphasized nature and related disciplines and therefore much of his thinking concerns living beings and their properties. The nature of universals in Aristotle's philosophy therefore hinges on his view of natural kinds.

Consider for example a particular oak tree. This is a member of a species and it has much in common with other oak trees, past, present and future. Its universal, its oakness, is a part of it. A biologist can study oak trees and learn about oakness and more generally the intelligible order within the sensible world. Accordingly, Aristotle was more confident than Plato about coming to know the sensible world; he was a prototypical empiricist and a founder of induction. Aristotle was a new, moderate sort of realist about universals.

## Medieval thought

### Boethius

The problem was introduced to the medieval world by Boethius, by his translation of Porphyry's *Isagoge*. It begins:

"I shall omit to speak about genera and species, as to whether they subsist (in the nature of things) or in mere conceptions only; whether also if subsistent, they are bodies or incorporeal, and whether they are separate from, or in, sensibles, and subsist about these, for such a treatise is most profound, and requires another more extensive investigation".<sup>[7]</sup>

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## Duns Scotus

Duns Scotus argued strongly against both nominalism and conceptualism, arguing instead for Scotist realism, a medieval response to the conceptualism of Abelard. The problem of universals may be thought of as the question of what, if anything, is the metaphysical basis of our using the same predicate for more than one distinct individual. Socrates is human and Plato is human. Does this mean that there must be some one universal reality—humanity—that is somehow *repeatable*, in which Socrates and Plato both share? Or is there nothing metaphysically common to them at all? Those who think there is some actual universal existing outside the mind are called realists; those who deny extra-mental universals are called nominalists. Scotus was a realist about universals, and like all realists he had to give an account of what exactly those universals are: what their status is, what sort of existence they have outside the mind. So, in the case of Socrates and Plato, the question is “What sort of item is this humanity that both Socrates and Plato exemplify?” A related question that realists have to face is the problem of individuation. Given that there is some extra-mental reality common to Socrates and Plato, we also need to know what it is in each of them that makes them *distinct* exemplifications of that extra-mental reality.

Scotus calls the extra-mental universal the “common nature” (*natura communis*) and the principle of individuation the “haecceity” (*haecceitas*). The common nature is common in that it is “indifferent” to existing in any number of individuals. But it has extra-mental existence only in the particular things in which it exists, and in them it is always “contracted” by the *haecceity*. So the common nature humanity exists in both Socrates and Plato, although in Socrates it is made individual by Socrates's *haecceitas* and in Plato by Plato's *haecceitas*. The humanity-of-Socrates is individual and non-repeatable, as is the humanity-of-Plato; yet humanity itself is common and repeatable, and it is ontologically prior to any particular exemplification of it.<sup>[8]</sup>

## Ockham

William of Ockham argued strongly that universals are a product of abstract human thought. According to Ockham, universals are just words/names that only exist in the mind and have no real place in the external world. In the case of universal entities, Ockham's nominalism is not based on his Razor, his principle of parsimony. That is, Ockham does not hold merely that there is no good reason for affirming universals, so that we should refrain from doing so in the absence of further evidence. No, he holds that theories of universals, or at least the theories he considers, are outright incoherent; they either are self-contradictory or at least violate certain other things we know are true in virtue of the three sources just cited. For Ockham, the only universal entities it makes sense to talk about are universal concepts, and derivative on them, universal terms in spoken and written language. Metaphysically, these “universal” concepts are singular entities like all others; they are “universal” only in the sense of being “predicable of many.”

With respect to the exact ontological status of such conceptual entities, however, Ockham changed his view over the course of his career. To begin with, he adopted what is known as the *fictum*-theory, a theory according to which universals have no “real” existence at all in the Aristotelian categories, but instead are purely “intentional objects” with a special mode of existence; they have only a kind of “thought”-reality. Eventually, however, Ockham came to think this intentional realm of “fictive” entities was not needed, and by the time of his *Summa of Logic* and the *Quodlibets* adopts instead a so-called *intellectio*-theory, according to which a universal concept is just the act of thinking about several objects at once; metaphysically such an “act” is a singular quality of an individual mind, and is “universal” only in the sense of being a mental sign of several things at once and being predicable of them in mental propositions.<sup>[9]</sup>

## Medieval realism

Realism was argued for by both Thomas Aquinas and John Duns Scotus. Aquinas argued that both the essence of a thing and its existence were clearly distinct,<sup>[10]</sup> in this regard he is close to the teaching of Aristotle. Scotist realism argues that in a thing there is no real distinction between the essence and the existence, instead there is only a Formal distinction.<sup>[11]</sup> Both these opinions were denied by Scotus' pupil William of Ockham.

## Medieval nominalism

Nominalism was first formulated as a philosophical theory in the Middle Ages. The French philosopher and theologian Roscellinus (c. 1050-c. 1125) was an early, prominent proponent of this view. It can be found in the work of Peter Abelard and reached its flowering in William of Ockham, who was the most influential and thorough nominalist. Abelard's and Ockham's version of nominalism is sometimes called conceptualism, which presents itself as a middle way between nominalism and realism, asserting that there *is* something in common among like individuals, but that it is a concept in the mind, rather than a real entity existing independently of the mind. Ockham argued that only individuals existed and that universals were only mental ways of referring to sets of individuals. "I maintain", he wrote, "that a universal is not something real that exists in a subject... but that it has a being only as a thought-object in the mind [objectivum in anima]". As a general rule, Ockham argued against assuming any entities that were not necessary for explanations. Accordingly, he wrote, there is no reason to believe that there is an entity called "humanity" that resides inside, say, Socrates, and nothing further is explained by making this claim. This is in accord with the analytical method which has since come to be called Ockham's razor, the principle that the explanation of any phenomenon should make as few assumptions as possible.

Critics argue that conceptualist approaches only answer the psychological question of universals. If the same concept is *correctly* and non-arbitrarily applied to two individuals, there must be some resemblance or shared property between the two individuals that justifies their falling under the same concept and that is just the metaphysical problem that universals were brought in to address, the starting-point of the whole problem (MacLeod & Rubenstein, 2006, §3d). If resemblances between individuals are asserted, conceptualism becomes moderate realism; if they are denied, it collapses into nominalism.<sup>[12]</sup>

## Modern and contemporary views

### Berkeley

George Berkeley, best known for his empiricism, was also an advocate of an extreme nominalism. Indeed, he disbelieved even in the possibility of a general thought as a psychological fact. It is impossible to imagine a man, the argument goes, unless one has in mind a very specific picture of one who is either tall or short, European, African or Asian, blue-eyed or brown-eyed, et cetera. When one thinks of a triangle, likewise, it is always obtuse, right-angled or acute. There is no mental image of a triangle in general. Not only then do general terms fail to correspond to extra-mental realities, they don't correspond to thoughts either.

Berkeleyan nominalism contributed to the same thinker's critique of the possibility of matter. In the climate of English thought in the period following Isaac Newton's major contributions to physics, there was much discussion of a distinction between primary qualities and secondary qualities. The primary qualities were supposed to be true of material objects in themselves (size, position, momentum) whereas the secondary qualities were supposed to be more subjective (color and sound). But on Berkeley's view, just as it is meaningless to speak of triangularity in general aside from specific figures, so it is meaningless to speak of mass in motion without knowing the color. If the color is in the eye of the beholder, so is the mass.

Berkeley's great contribution (picked up on later by Kant) was to suggest the preposterousness of referencing absolute knowledge, given that all knowledge is gained through contingent sensory experience. In fact, the very notion of finding coherence and permanence within sensory experience was so preposterous to him, that he had to

postulate the notion of a God who holds all reality in HIS mind, in order to explain why the world doesn't just vanish when we stop perceiving it. He was forced, by his extreme empiricism, to posit the existence of God in order to explain our experience of coherence, even though on an empirical understanding of raw sense data, such a conclusion did not follow. In this, he demonstrates the importance and brilliance of Kant's "Copernican revolution" in epistemology that was to follow. For without Kant, Berkeley was not able to give an account of the coherence of our experience that squared with his empiricism. David Hume tried to give such an account when he proposed that concepts are merely the faded memories of sensory experiences had over and over again, like writing on a page which eventually sinks through to the underlying pages. But this account seemed to threaten the very possibility of science as an objective endeavor and made Kant, himself a scientist, very uneasy. It forced Kant to come up with his theory of noumenal objects as unverifiable but understandable extensions of our immediate sensory experience constructed according to the inherent schemata of our understanding. Thus, in place of God's role as guarantor of the coherence of the world, Kant posits a faculty of reason structured by the forms of our intuition (our sense of time and space) and the categories of our understanding (like the notion of cause and effect).

## **Kant**

Idealism is a broad category that includes several diverse themes, from Kant's radical doubt about what can truly be perceived externally to Hegel's Absolute Ideal as the verification of the sum of potential manifestations of matter and concepts. This position argues that the nature of reality is based only in our minds or ideas, and represents one of several divergent interpretations of Kant's legacy. On Hegel's view, the external world is inseparable from the mind, consciousness or perceptions. Universals are real and exist independently of that on which they might be predicated.

But to conflate Kant's and Hegel's versions of idealism is to seriously miss the point of Kant's radical doubt, which was stimulated in turn by David Hume's. Kant claimed it was Hume's skepticism about the nature of inductive reasoning and the conclusions of rationalist metaphysicians (Descartes, Spinoza, Leibniz) that "roused him from his dogmatic (i.e. rationalist) slumbers" and spurred him on to one of the most far reaching re-evaluations of human reason since Aristotle. Following Aristotle's lead, Kant considered that knowledge can only be had through experience of particulars. Given that premise, the notion of absolute knowledge (as described by Plato and the rationalists) is seen as mere illusion, and this is what he set out to demonstrate in the first part of his magnum opus "The Critique of Pure Reason" (1781). He claims to demonstrate that because knowledge can only be had through contingent (imperfect) experience, the notion of absolute, uncontingent knowledge must not actually be obtainable, but must function merely as a "regulative principle" or heuristic device for problem solving. Thus we can conceive of a "noumenal" world (noumenal meaning "object of thought") which exists only as a heuristic for our cognitive capacities and not as something directly accessible to experience. The noumenal world for Kant is the way "things in themselves" might appear to a being of uncontroverted reason (i.e. "God").

The "phenomenal" world, on the other hand is the world of experience, in which we live and in which objects are given to reason in experience. Our understanding of the phenomenal world is inevitably "colored" by the imperfections, or restrictions, of the knowing apparatus, and this is what he set out to describe in the first part of the 1st Critique. Following Aristotle's lead, he describes categories of the understanding, such as the notion of cause and effect, which inevitably mediate our experience of the world and give us the objects of our experience. The objects "in themselves" as they might appear in their "universal" or "absolute" nature are forever hidden from us, and thus Kant effectively rules out the type of access to the world of the forms that had been formulated by Plato. The notion of the noumenal can only function as a heuristic of reason, not as an actual something to be experienced by contingent beings. Thus Kant effects his "Copernican" revolution of knowledge by changing our perspective on knowledge from a question of "what can truly be known" (i.e. how can we actually come to know universals), to a question of "how does the knowing mind operate." As with Copernicus, the data remains the same but the model used to encounter the data shifts tremendously.

After Kant, the problem of universals becomes a problem of human psychology and questions about conceptual models we use to understand universals, rather than the same old metaphysical arguments about what universals “really” are. The second part of the 1st Critique is Kant’s examination of the rationalist claims to absolute knowledge, taking on the most famous of these, the ontological proof of God’s existence, and showing that he can, through pure, non-experiential logic, both prove the affirmative and the negative of a proposition about a “noumenal object” (i.e. an object like “God” which can never be an object of direct experience for a contingent being). Given that both A and not-A are seen to be “true,” Kant concludes that it’s not that “God doesn’t exist” but that there is something wrong with how we are asking questions about God and how we have been using our rational faculties to talk about universals ever since Plato got us started on this track! He goes on, in subsequent Critiques and other works, to demonstrate his model for the proper use of concepts like “God” “the Good,” and “the beautiful,” effecting the most radical re-evaluation of these ideas since Plato, and changing forever the course of western philosophy. It is perhaps no small exaggeration to claim that most western philosophers since Kant, even if they disagree with him, have had to find some way to respond to his revolutionary ideas.

## Mill

John Stuart Mill discussed the problem of universals in the course of a book that eviscerated the philosophy of Sir William Hamilton. Mill wrote, "The formation of a concept does not consist in separating the attributes which are said to compose it from all other attributes of the same object and enabling us to conceive those attributes, disjoined from any others. We neither conceive them, nor think them, nor cognize them in any way, as a thing apart, but solely as forming, in combination with numerous other attributes, the idea of an individual object".

However, he then proceeds to state that Berkeley's position is factually wrong by stating the following:

But, though meaning them only as part of a larger agglomeration, we have the power of fixing our attention on them, to the neglect of the other attributes with which we think them combined. While the concentration of attention lasts, if it is sufficiently intense, we may be temporarily unconscious of any of the other attributes and may really, for a brief interval, have nothing present to our mind but the attributes constituent of the concept.<sup>[citation needed]</sup>

In other words, we may be "temporarily unconscious" of whether an image is white, black or yellow and concentrate our attention on the fact that it is a man and on just those attributes necessary to identify it as a man (but not as any particular one). It may then have the significance of a universal of manhood.

## Peirce

The 19th-century American logician Charles Sanders Peirce, known as the father of pragmatism, developed his own views on the problem of universals in the course of a review of an edition of the writings of George Berkeley. Peirce begins with the observation that "Berkeley's metaphysical theories have at first sight an air of paradox and levity very unbecoming to a bishop".<sup>[13]</sup> He includes among these paradoxical doctrines Berkeley's denial of "the possibility of forming the simplest general conception". He wrote that if there is some mental fact that works *in practice* the way that a universal would, that fact is a universal. "If I have learned a formula in gibberish which in any way jogs my memory so as to enable me in each single case to act as though I had a general idea, what possible utility is there in distinguishing between such a gibberish... and an idea?" Peirce also held as a matter of ontology that what he called "thirdness", the more general facts about the world, are extra-mental realities.

## James

William James learned pragmatism, this way of understanding an idea by its practical effects, from his friend Peirce, but he gave it new significance. (Which was not to Peirce's taste - he came to complain that James had "kidnapped" the term and eventually to call himself a "pragmaticist" instead). Although James certainly agreed with Peirce and against Berkeley that general ideas exist as a psychological fact, he was a nominalist in his ontology:

From every point of view, the overwhelming and portentous character ascribed to universal conceptions is surprising. Why, from Plato and Aristotle, philosophers should have vied with each other in scorn of the knowledge of the particular and in adoration of that of the general, is hard to understand, seeing that the more adorable knowledge ought to be that of the more adorable things and that the things of worth are all concretes and singulars. The only value of universal characters is that they help us, by reasoning, to know new truths about individual things.

— William James, *The Principles of Psychology*

There are at least three ways in which a realist might try to answer James' challenge of explaining the reason why universal conceptions are more lofty than those of particulars - there is the moral/political answer, the mathematical/scientific answer and the anti-paradoxical answer. Each has contemporary or near contemporary advocates.

The moral or political response is given by the conservative philosopher Richard M. Weaver in *Ideas Have Consequences*, where he describes how the acceptance of "the fateful doctrine of nominalism" was "the crucial event in the history of Western culture; from this flowed those acts which issue now in modern decadence".

Roger Penrose contends that the foundations of mathematics can't be understood absent the Platonic view that "mathematical truth is absolute, external and eternal, and not based on man-made criteria ... mathematical objects have a timeless existence of their own..."

Nino Cocchiarella (1975), professor emeritus of philosophy at Indiana University, has maintained that conceptual realism is the best response to certain logical paradoxes to which nominalism leads. It is noted that in a sense Cocchiarella has adopted Platonism for anti-Platonic reasons. Plato, as seen in the dialogue *Parmenides*, was willing to accept a certain amount of paradox with his forms. Cocchiarella adopts the forms to avoid paradox.

## Armstrong

The Australian philosopher David Malet Armstrong has been one of the leading realists in the twentieth century, and has used a concept of universals to build a naturalistic and scientifically realist ontology upon. In both *Universals and Scientific Realism* and *Universals: An Opinionated Introduction*, Armstrong describes the relative merits of a number of nominalist theories which appeal either to "natural classes" (a view he ascribes to Anthony Quinton), concepts, resemblance relations or predicates, and also discusses non-realist "trope" accounts (which he describes in the *Universals and Scientific Realism* volumes as "particularism"). He gives a number of reasons to reject all of these, but also dismisses a number of realist accounts.

## Notes

- [1] Loux (1998), p.20; (2001), p.3
- [2] Loux (2001), p.4
- [3] MacLeod & Rubenstein (2006), §3.
- [4] Price (1953), among others, sometimes uses such Latin terms
- [5] (MacLeod & Rubenstein, 2006, §1b)
- [6] MacLeod & Rubenstein (2006), §1b.
- [7] [http://www.tertullian.org/fathers/porphyry\\_isagogue\\_02\\_translation.htm](http://www.tertullian.org/fathers/porphyry_isagogue_02_translation.htm)
- [8] <http://plato.stanford.edu/entries/duns-scotus/>
- [9] <http://plato.stanford.edu/entries/ockham/>
- [10] On Being and Essence, Ch I.
- [11] Opus Oxoniense I iii 1-2
- [12] The Friesian School (<http://www.friesian.com/universl.htm>)
- [13] Peirce, C.S. (1871), Review: Fraser's Edition of the *Works of George Berkeley* in *North American Review* 113(October):449-72, reprinted in *Collected Papers of Charles Sanders Peirce* v. 8, paragraphs 7-38 and in *Writings of Charles S. Peirce* v. 2, pp. 462-486. *Peirce Edition Project* Eprint ([http://www.iupui.edu/~peirce/writings/v2/w2/w2\\_48/v2\\_48.htm](http://www.iupui.edu/~peirce/writings/v2/w2/w2_48/v2_48.htm)).

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## External links

- The Medieval Problem of Universals (<http://plato.stanford.edu/entries/universal-medieval>) entry by Gyula Klima in the *Stanford Encyclopedia of Philosophy*
  - Internet Encyclopedia of Philosophy on Universals (<http://www.iep.utm.edu/u/universa.htm>)
  - The Problem of Universals in Antiquity and the Middle Ages (<http://www.ontology.co/universals-history.htm>) with an annotated bibliography
  - The Catholic Encyclopedia on *Nominalism, Realism, and Conceptualism* (<http://www.newadvent.org/cathen/11090c.htm>)
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