

Nominalism

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3.3 GNU Lesser General Public License	33

1 Nominalism

Philosophical view with two varieties



Figure 1 William of Ockham

In metaphysics¹, **nominalism** is the view that universals² and abstract objects³ do not actually exist other than being merely names or labels.^{[1][2]} 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.^[3]

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.^[4] However, some versions of nominalism hold that some particulars are abstract entities (e.g., numbers⁴), while others are concrete entities – entities that do exist in space and time (e.g., pillars, snakes, bananas).

Nominalism is primarily a position on the problem of universals⁵, which dates back at least to Plato⁶, and is opposed to realist⁷ philosophies, such as Platonic realism⁸, which assert that universals do exist over and above particulars. However, the name "nominalism" emerged from debates in medieval philosophy with Roscellinus⁹.

The term 'nominalism' stems from the Latin¹⁰ *nomen*, "name". John Stuart Mill¹¹ summarised nominalism in the apothegm "there is nothing general except names".^[5]

In philosophy of law¹², nominalism finds its application in what is called **constitutional nominalism**.^[6]

1.1 History

See also: Anti-realism¹³

1.1.1 Ancient Greek philosophy

The opposite of nominalism is realism¹⁴. Plato¹⁵ was perhaps the first writer in Western philosophy¹⁶ to clearly state a realist, i.e. non-nominalist, position:

... 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. ...

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- 1 <https://en.wikipedia.org/wiki/Metaphysics>
 - 2 [https://en.wikipedia.org/wiki/Universal_\(metaphysics\)](https://en.wikipedia.org/wiki/Universal_(metaphysics))
 - 3 https://en.wikipedia.org/wiki/Abstract_object
 - 4 <https://en.wikipedia.org/wiki/Number>
 - 5 https://en.wikipedia.org/wiki/Problem_of_universals
 - 6 <https://en.wikipedia.org/wiki/Plato>
 - 7 https://en.wikipedia.org/wiki/Philosophical_realism
 - 8 https://en.wikipedia.org/wiki/Platonic_realism
 - 9 <https://en.wikipedia.org/wiki/Roscellinus>
 - 10 <https://en.wikipedia.org/wiki/Latin>
 - 11 https://en.wikipedia.org/wiki/John_Stuart_Mill
 - 12 https://en.wikipedia.org/wiki/Philosophy_of_law
 - 13 <https://en.wikipedia.org/wiki/Anti-realism>
 - 14 [https://en.wikipedia.org/wiki/Realism_\(philosophy\)](https://en.wikipedia.org/wiki/Realism_(philosophy))
 - 15 <https://en.wikipedia.org/wiki/Plato>
 - 16 https://en.wikipedia.org/wiki/Western_philosophy

But there are only two forms of such furniture, one of the bed and one of the table. (*Republic*¹⁷ 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 Form¹⁸ 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.^[7]

Our term "universal" is due to the English translation of Aristotle¹⁹'s technical term *katholou* which he coined specially for the purpose of discussing the problem of universals.^[8] *Katholou* is a contraction of the phrase *kata holou*, meaning "on the whole".^[9]

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*²⁰ xxii, 178b37, trans. Pickard-Cambridge)

The first philosophers to explicitly describe nominalist arguments were the Stoics²¹, especially Chrysippus²².^{[10][11]}

1.1.2 Medieval philosophy

In medieval philosophy²³, the French philosopher and theologian²⁴ Roscellinus²⁵ (c. 1050 – c. 1125) was an early, prominent proponent of nominalism. Nominalist ideas can be found in the work of Peter Abelard²⁶ and reached their flowering in William of Ockham²⁷, who was the most influential and thorough nominalist. Abelard's and Ockham's version of nominalism is sometimes called conceptualism²⁸, 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

17 [https://en.wikipedia.org/wiki/The_Republic_\(Plato\)](https://en.wikipedia.org/wiki/The_Republic_(Plato))

18 https://en.wikipedia.org/wiki/Theory_of_Forms

19 <https://en.wikipedia.org/wiki/Aristotle>

20 https://en.wikipedia.org/wiki/Sophistical_Refutations

21 <https://en.wikipedia.org/wiki/Stoics>

22 <https://en.wikipedia.org/wiki/Chrysippus>

23 https://en.wikipedia.org/wiki/Medieval_philosophy

24 <https://en.wikipedia.org/wiki/Theology>

25 <https://en.wikipedia.org/wiki/Roscellinus>

26 https://en.wikipedia.org/wiki/Peter_Abelard

27 https://en.wikipedia.org/wiki/William_of_Ockham

28 <https://en.wikipedia.org/wiki/Conceptualism>

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 that has since come to be called Ockham's razor²⁹, the principle that the explanation of any phenomenon should make as few assumptions as possible. Critics argue that conceptualist approaches answer only 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.

1.1.3 Modern and contemporary philosophy

In modern philosophy³⁰, nominalism was revived by Thomas Hobbes^{31[12]} and Pierre Gassendi^{32[13]}.

In contemporary³³ analytic philosophy³⁴, it has been defended by Rudolf Carnap^{35[14]} Nelson Goodman^{36[15]} H. H. Price^{37[14]} and D. C. Williams^{38[16]}.

1.1.4 Indian philosophy

See also: Difference (philosophy)³⁹ Indian philosophy⁴⁰ encompasses various realist and nominalist traditions. Certain orthodox Hindu schools defend the realist position, notably Purva Mimamsa⁴¹, Nyaya⁴² and Vaisheshika⁴³, maintaining that the referent of the word is both the individual thing perceived by the subject of knowledge and the class to which the thing belongs. According to Indian realism, both the individual and the class have objective existence, with the second underlying the former.

Buddhists take the nominalist position, especially those of the Yogacara⁴⁴ school; they were of the opinion that words have as referent not true objects, but only concepts produced in the intellect. These concepts are not real since they do not have efficient existence, that is, causal powers. Words, as linguistic conventions, are useful to thought and discourse, but even so, it should not be accepted that words apprehend reality as it is.

29 https://en.wikipedia.org/wiki/Ockham%27s_razor

30 https://en.wikipedia.org/wiki/Modern_philosophy

31 https://en.wikipedia.org/wiki/Thomas_Hobbes

32 https://en.wikipedia.org/wiki/Pierre_Gassendi

33 https://en.wikipedia.org/wiki/Contemporary_philosophy

34 https://en.wikipedia.org/wiki/Analytic_philosophy

35 https://en.wikipedia.org/wiki/Rudolf_Carnap

36 https://en.wikipedia.org/wiki/Nelson_Goodman

37 https://en.wikipedia.org/wiki/H._H._Price

38 https://en.wikipedia.org/wiki/D._C._Williams

39 [https://en.wikipedia.org/wiki/Difference_\(philosophy\)](https://en.wikipedia.org/wiki/Difference_(philosophy))

40 https://en.wikipedia.org/wiki/Indian_philosophy

41 https://en.wikipedia.org/wiki/Purva_Mimamsa

42 <https://en.wikipedia.org/wiki/Nyaya>

43 <https://en.wikipedia.org/wiki/Vaisheshika>

44 <https://en.wikipedia.org/wiki/Yogacara>

Dignaga⁴⁵ formulated a nominalist theory of meaning called *apoha*, or *theory of exclusions*. The theory seeks to explain how it is possible for words to refer to classes of objects even if no such class has an objective existence. Dignaga's thesis is that classes do not refer to positive qualities that their members share in common. On the contrary, classes are exclusions (*apoha*). As such, the "cow" class, for example, is composed of all exclusions common to individual cows: they are all non-horse, non-elephant, etc.

Among Hindu realists, this thesis was criticized for being negative.

1.2 The problem of universals

Nominalism arose in reaction to the problem of universals⁴⁶, 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 by virtue of *what* are Fluffy and Kitzler both cats, and *what* makes the grass, the shirt, and Kermit green.

The Platonist⁴⁷ answer is that all the green things are green in virtue of the existence⁴⁸ of a universal: a single abstract⁴⁹ thing that, in this case, is a part⁵⁰ 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 manifests⁵¹ 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. Plato⁵² famously held, on one interpretation, that there is a realm of abstract forms or universals apart from the physical world (see theory of the forms⁵³). 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, in 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, naturalists⁵⁴ assert that nothing is outside of space and time. Some Neoplatonists⁵⁵, such as the pagan philosopher

45 <https://en.wikipedia.org/wiki/Dignaga>

46 https://en.wikipedia.org/wiki/Problem_of_universals

47 https://en.wikipedia.org/wiki/Platonic_realism

48 <https://en.wikipedia.org/wiki/Existence>

49 <https://en.wikipedia.org/wiki/Abstraction>

50 [https://en.wikipedia.org/wiki/Part_\(mathematics\)](https://en.wikipedia.org/wiki/Part_(mathematics))

51 <https://en.wikipedia.org/wiki/Exemplification>

52 <https://en.wikipedia.org/wiki/Plato>

53 https://en.wikipedia.org/wiki/Theory_of_the_forms

54 https://en.wikipedia.org/wiki/Metaphysical_naturalism

55 <https://en.wikipedia.org/wiki/Neoplatonists>

Plotinus⁵⁶ and the Christian philosopher Augustine⁵⁷, imply (anticipating conceptualism⁵⁸) that universals are contained within the *mind* of God⁵⁹. To complicate things, what is the nature of the instantiation⁶⁰ or exemplification⁶¹ relation⁶²?

Conceptualists⁶³ hold a position intermediate between nominalism and realism⁶⁴, saying that universals exist only within the mind⁶⁵ and have no external or substantial reality.

Moderate realists⁶⁶ 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 ontologies⁶⁷ populated with only the bare minimum of types of entities, or as W. V. O. Quine⁶⁸ 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 "greenness."

1.3 Varieties

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.^[17]

Proponents of **resemblance nominalism** believe that 'cat' applies to both cats because Fluffy and Kitzler resemble⁶⁹ an exemplar⁷⁰ cat closely enough to be classed together with it as members of its kind⁷¹, or that they differ from each other (and other cats) quite less than they differ from other things, and this warrants classing them together.^[18] Some resemblance nominalists will concede that the resemblance relation is itself a universal, but is the only

56 <https://en.wikipedia.org/wiki/Plotinus>

57 https://en.wikipedia.org/wiki/Augustine_of_Hippo

58 <https://en.wikipedia.org/wiki/Conceptualism>

59 https://en.wikipedia.org/wiki/Preformation_theory

60 https://en.wikipedia.org/wiki/Instantiation_principle

61 <https://en.wikipedia.org/wiki/Exemplification>

62 https://en.wikipedia.org/wiki/Logic_of_relatives

63 <https://en.wikipedia.org/wiki/Conceptualism>

64 https://en.wikipedia.org/wiki/Philosophical_realism

65 <https://en.wikipedia.org/wiki/Mind>

66 https://en.wikipedia.org/wiki/Moderate_realism

67 <https://en.wikipedia.org/wiki/Ontology>

68 https://en.wikipedia.org/wiki/W._V._O._Quine

69 [https://en.wikipedia.org/wiki/Similarity_\(philosophy\)](https://en.wikipedia.org/wiki/Similarity_(philosophy))

70 <https://en.wiktionary.org/wiki/exemplar>

71 https://en.wikipedia.org/wiki/Natural_kind

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 vicious⁷².^[19]

Class nominalism argues that class membership forms the metaphysical backing for property relationships: two particular red balls share a property in that they are both members of classes corresponding to their properties—that of being red and being balls. A version of class nominalism that sees some classes as "natural classes" is held by Anthony Quinton⁷³.^[20]

Conceptualism⁷⁴ is a philosophical theory that explains universality of particulars as conceptualized frameworks situated within the thinking mind.^[21] 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.^[22]

Another form of nominalism is trope nominalism⁷⁵. A trope is a particular instance of a property, like the specific greenness of a shirt. One might argue that there is a primitive, objective⁷⁶ 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 physics⁷⁷. Primitive trope resemblance may thus be accounted for in terms of causal indiscernibility⁷⁸. 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 Armstrong⁷⁹, 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.^[citation needed⁸⁰]

Ian Hacking⁸¹ has also argued that much of what is called social constructionism⁸² 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".^[23]

72 https://en.wikipedia.org/wiki/Virtuous_circle_and_vicious_circle

73 https://en.wikipedia.org/wiki/Anthony_Quinton,_Baron_Quinton

74 <https://en.wikipedia.org/wiki/Conceptualism>

75 https://en.wikipedia.org/wiki/Trope_nominalism

76 [https://en.wikipedia.org/wiki/Objectivity_\(science\)](https://en.wikipedia.org/wiki/Objectivity_(science))

77 <https://en.wikipedia.org/wiki/Physics>

78 <https://en.wikipedia.org/wiki/Indiscernibility>

79 https://en.wikipedia.org/wiki/David_Malet_Armstrong

81 https://en.wikipedia.org/wiki/Ian_Hacking

82 https://en.wikipedia.org/wiki/Social_constructionism

1.3.1 Mathematical nominalism

A notion that philosophy, especially ontology⁸³ and the philosophy of mathematics⁸⁴, should abstain from set theory⁸⁵ owes much to the writings of Nelson Goodman⁸⁶ (see especially Goodman 1940 and 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. Goodman was himself drawing heavily on the work of Stanisław Leśniewski⁸⁷, especially his mereology⁸⁸, which was itself a reaction to the paradoxes associated with Cantorian set theory. Leśniewski denied the existence of the empty set⁸⁹ and held that any singleton⁹⁰ was identical to the individual inside it. Classes corresponding to what are held to be species or genera are concrete sums of their concrete constituting individuals. For example, the class of philosophers is nothing but the sum of all concrete, individual philosophers.

The principle of extensionality⁹¹ 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 proponents of **mathematical nominalism**,^[24] $\{a, b\}$ 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 Martin⁹², and Willard Quine⁹³ 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 universe⁹⁴ of a quantified variable cannot contain any virtual sets.

In the foundations of mathematics⁹⁵, nominalism has come to mean doing mathematics without assuming that sets⁹⁶ in the mathematical sense exist. In practice, this means that quantified variables⁹⁷ may range over universes⁹⁸ of numbers⁹⁹, points¹⁰⁰, primitive ordered pairs¹⁰¹, 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.

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- 83 <https://en.wikipedia.org/wiki/Ontology>
 - 84 https://en.wikipedia.org/wiki/Philosophy_of_mathematics
 - 85 https://en.wikipedia.org/wiki/Set_theory
 - 86 https://en.wikipedia.org/wiki/Nelson_Goodman
 - 87 https://en.wikipedia.org/wiki/Stanis%C5%82aw_Le%C5%9Bniewski
 - 88 <https://en.wikipedia.org/wiki/Mereology>
 - 89 https://en.wikipedia.org/wiki/Empty_set
 - 90 [https://en.wikipedia.org/wiki/Singleton_\(mathematics\)](https://en.wikipedia.org/wiki/Singleton_(mathematics))
 - 91 <https://en.wikipedia.org/wiki/Extensionality>
 - 92 https://en.wikipedia.org/wiki/Richard_Milton_Martin
 - 93 https://en.wikipedia.org/wiki/Willard_Quine
 - 94 <https://en.wikipedia.org/wiki/Universe>
 - 95 https://en.wikipedia.org/wiki/Foundations_of_mathematics
 - 96 [https://en.wikipedia.org/wiki/Set_\(mathematics\)](https://en.wikipedia.org/wiki/Set_(mathematics))
 - 97 [https://en.wikipedia.org/wiki/Quantifier_\(logic\)](https://en.wikipedia.org/wiki/Quantifier_(logic))
 - 98 <https://en.wikipedia.org/wiki/Universe>
 - 99 <https://en.wikipedia.org/wiki/Number>
 - 100 [https://en.wikipedia.org/wiki/Point_\(geometry\)](https://en.wikipedia.org/wiki/Point_(geometry))
 - 101 https://en.wikipedia.org/wiki/Ordered_pair

1.4 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 Buridan¹⁰² and William of Ockham¹⁰³ viewed as founding figures. However, the concept of 'nominalism' as a movement (generally contrasted with 'realism'), first emerged only in the late fourteenth century,^[25] and only gradually became widespread during the fifteenth century.^[26] 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 dried up in the sixteenth century.^[27]

Aware that explicit thinking in terms of a divide between 'nominalism' and 'realism' emerged only 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.^[28] 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 Ockham¹⁰⁴ foreshadowing the eventual rejection of scholasticism in the seventeenth century.^[27]

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 Cantor¹⁰⁵, Richard Dedekind¹⁰⁶, and Karl Weierstrass¹⁰⁷ that dispensed with infinitesimals¹⁰⁸; the constructivist¹⁰⁹ re-reconstruction of Weierstrassian analysis by Errett Bishop¹¹⁰ that dispensed with the law of excluded middle¹¹¹; and the hermeneutic reconstruction, by Carl Boyer¹¹², Judith Grabiner¹¹³, and others, of Cauchy¹¹⁴'s foundational contribution to analysis that dispensed with Cauchy's infinitesimals.^[29]

102 https://en.wikipedia.org/wiki/John_Buridan

103 https://en.wikipedia.org/wiki/William_of_Ockham

104 https://en.wikipedia.org/wiki/William_of_Ockham

105 https://en.wikipedia.org/wiki/Georg_Cantor

106 https://en.wikipedia.org/wiki/Richard_Dedekind

107 https://en.wikipedia.org/wiki/Karl_Weierstrass

108 <https://en.wikipedia.org/wiki/Infinitesimal>

109 [https://en.wikipedia.org/wiki/Constructivism_\(mathematics\)](https://en.wikipedia.org/wiki/Constructivism_(mathematics))

110 https://en.wikipedia.org/wiki/Errett_Bishop

111 https://en.wikipedia.org/wiki/Law_of_excluded_middle

112 https://en.wikipedia.org/wiki/Carl_Boyer

113 https://en.wikipedia.org/wiki/Judith_Grabiner

114 <https://en.wikipedia.org/wiki/Cauchy>

1.5 See also

- Abstraction¹¹⁵
- Abstract object¹¹⁶
- Conceptualism¹¹⁷
- Concrete (philosophy)¹¹⁸
- Idea¹¹⁹
- *Ideas Have Consequences*¹²⁰
- Linguistic relativity¹²¹
- Literary nominalism¹²²
- Object¹²³
- Problem of universals¹²⁴
- Psychological nominalism¹²⁵
- Realism (philosophy)¹²⁶
- School of Names¹²⁷
- Substantial form¹²⁸
- Universal (metaphysics)¹²⁹
- William of Ockham¹³⁰

1.6 Notes

1. "NOMINALISM"¹³¹. *Lexico*¹³² UK English Dictionary. Oxford University Press¹³³. n.d.
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.

115 <https://en.wikipedia.org/wiki/Abstraction>

116 https://en.wikipedia.org/wiki/Abstract_object

117 <https://en.wikipedia.org/wiki/Conceptualism>

118 [https://en.wikipedia.org/wiki/Concrete_\(philosophy\)](https://en.wikipedia.org/wiki/Concrete_(philosophy))

119 <https://en.wikipedia.org/wiki/Idea>

120 https://en.wikipedia.org/wiki/Ideas_Have_Consequences

121 https://en.wikipedia.org/wiki/Linguistic_relativity

122 https://en.wikipedia.org/wiki/Literary_nominalism

123 [https://en.wikipedia.org/wiki/Object_\(philosophy\)](https://en.wikipedia.org/wiki/Object_(philosophy))

124 https://en.wikipedia.org/wiki/Problem_of_universals

125 https://en.wikipedia.org/wiki/Psychological_nominalism

126 [https://en.wikipedia.org/wiki/Realism_\(philosophy\)](https://en.wikipedia.org/wiki/Realism_(philosophy))

127 https://en.wikipedia.org/wiki/School_of_Names

128 https://en.wikipedia.org/wiki/Substantial_form

129 [https://en.wikipedia.org/wiki/Universal_\(metaphysics\)](https://en.wikipedia.org/wiki/Universal_(metaphysics))

130 https://en.wikipedia.org/wiki/William_of_Ockham

131 <https://www.lexico.com/definition/nominalism>

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