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# On the Metaphysics and Coherence of Evolution

Graham Floyd  
Adjunct Professor  
Tarrant County College Connect Campus  
Fort Worth, TX  
[graham.c.floyd@gmail.com](mailto:graham.c.floyd@gmail.com)

**Abstract:** the theory of evolution is the most popular scientific explanation for the origin of the species and humanity. It is also consistently presented as a refutation of religious claims about the origin of the species and humanity. In this paper, I wish to briefly inspect the metaphysical claims implied behind the theory of evolution: namely the sharing of traits and properties amongst organisms. This metaphysical claim implies that the theory of evolution must rely on a metaphysical theory of universals, which has implications that undermine the theory of evolution as the origin of the species and humanity. As a result, the coherence of the theory of evolution becomes questionable, paving the way for religious claims on the origins of the species and humanity to be reconsidered.

Ever since Charles Darwin published *The Origin of the Species* and *The Descent of Man*, modern science has been enthralled with the theory of evolution. Darwin offered a completely naturalistic explanation of the origin of the species and humanity. This naturalistic explanation offers the hope of a completely scientific understanding of life on this planet that does not depend on appeals to the divine and creationism. As a result, the theory of evolution is constantly presented as a refutation of and rational replacement for religious claims about the origins of the species and humanity. This claim, however, is questionable when one examines the metaphysical implications of the theory of evolution. After explicating these metaphysical implications, I argue that the theory of evolution must rely on a theory of universals, which has implications that undermine the theory of evolution. As a result, the coherence of the theory of evolution becomes questionable, paving the way for religious explanations of the origins of the species and humanity to be reconsidered.

## Defining Evolution

To begin, a definition of the concept of evolution in biological science is needed so that the concept's metaphysical implications can be determined. A general understanding of the term evolution typically refers to the changes in the proportions of biological types in a population over time. What exactly is meant, however, by the terms "changes" and "biological types" in this definition? It could refer only to changes within a species or what is commonly called microevolution. The concept of evolution in modern science, however, covers much more than changes within a species. It also covers the idea of changes from one species to another or what is commonly called macroevolution.<sup>1</sup> A more expansive definition is needed to convey this further idea.

This more expansive definition of evolution is change in the properties of groups of organisms over the course of generations. This change embraces everything from slight changes in the proportions of different forms of a gene within a species' population to the alterations that led from the earliest organism to all current organisms, including human beings. It is any net directional or cumulative change regarding the origin and spread of characteristics of organisms over many generations and populations, also known as descent with modification.<sup>2</sup> While the concept of evolution can be found in other areas of study, it is the biological one that I am most interested in here.

There are many ways that evolution is thought to occur with evolution with natural selection being just one of them, although it the most prevalent one. Evolution is also said to occur through genetic drift (where genes differ within populations of a species), genetic migration (where genes transfer from one population to another within a species), genetic mutation (where genetic material is either added or lost within an organism), or sexual selection (who is most fit with which to breed).<sup>3</sup> What is most important, however, in all of these modes of evolution is that certain characteristics and properties are possessed by multiple organisms either with the species or between species, and these characteristics and properties are passed on to other organisms either within the species or to new species.

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<sup>1</sup> Roberta L. Millstein, "Evolution", *The Stanford Encyclopedia of Philosophy* (Summer 2019 Edition), ed. Edward N. Zalta, <https://plato.stanford.edu/archives/sum2019/entries/evolution/>, accessed October 24, 2019.

<sup>2</sup> Ibid. See Douglas Futuyma, *Evolution* (Sunderland, MA: Sinauer Associates, 2005), 2, and John Endler, *Natural Selection in the Wild* (Princeton, NJ: Princeton University Press, 1986), 5.

<sup>3</sup> Millstein.

For example, many different species of organism all possess hair, and this property of *being hairy* is passed from parent to offspring as well as from one species to another, like apes to humans. Without this ontological structure of shared properties, evolution cannot occur in nature. Further, this process is completely natural it is claimed and does not involve the interference of a supernatural power, which is why the theory of evolution is constantly presented as a refutation of and rational replacement for religious claims about the origins of the species and humanity.

## The Metaphysics of Evolution

This claim about evolution and properties has major implications on the metaphysics of the theory. If the theory of evolution is to be rational, then it relies on a metaphysic of shared properties and natures across objects. As a result, the concept of evolution implies the concept of universals. Universals are transcendent, abstract entities that have been suggested as a way of explaining the existence and sharing of properties and natures (i.e., essences) among objects. Objects are said to exemplify these abstract entities in various ways so as to give the object structure. As a result, these entities are exemplified amongst multiple objects and organisms such that these objects and organisms all express the same properties and natures. The existence of such entities is supported by their ability to explain the predication of one property among two objects, the empirical resemblance of properties between objects, and abstract reference to certain properties that appear necessary but might not be physical material in nature. Thus, universals are a philosophically powerful tool metaphysically and epistemologically. They help explain the way that reality is structured as well as our perception and knowledge of it.<sup>4</sup>

Many philosophers, however, find the notion of universals to be unappealing particularly because of the ontological commitments of the notion and lean towards nominalism: the rejection of universals. As Michael Loux explains, the central motivation behind nominalism is theoretical simplicity. According to this notion, if given two explanations, the explanation with the least amount of theoretical entities is to be preferred. Nominalists believe that they can give an account of attribute agreement, subject-predicate discourse, and abstract reference without abstract entities like universals making for a simpler theory.<sup>5</sup>

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<sup>4</sup> J. P. Moreland, *Universals* (Chesham, UK: Acumen Publishing Limited, 2001), 1, 4-6.

<sup>5</sup> Michael Loux, *Metaphysics: A Contemporary Introduction*, 3<sup>rd</sup> ed. (New York: Routledge, 2006), 46.

This claim does not mean that there are no other reasons nominalist point to in order to support their position, but simplicity seems to be the driving force behind their position.<sup>6</sup> This simplicity leads nominalists to conclude that reality consists only of unique particulars. There are no universals to be exemplified in multiple places, and there are no shared properties or essences across particulars due to the claimed incoherence of shared identity. Particulars, whether concrete or mental, are merely similar to each other. They do not share any common identity.

This claim, however, has implications that are contrary to the claims of the theory of evolution. Baruch (Benedict) Spinoza recognizes that a nominalist worldview implies that particulars and properties cannot be the causal source of one another. Since all particulars and properties are individual and unique in the nominalist worldview, there can be no causal connection between them since nothing is similar enough between them to causally interact. As a result, all particulars and properties must exist infinitely in themselves.<sup>7</sup> This implication is inimical to the theory of evolution which claims that all kinds of properties and organisms are causally brought into existence throughout history. Since the theory of evolution implies the sharing of properties and essences among particulars as well as causal connections between those particulars, then the theory of evolution depends on the concept of universals in order to be rational. As a result, the theory of evolution must reject nominalism if it is to be coherent.

## The Coherence of Evolution

This dependence on the metaphysics of universals, however, leads to two major coherence problems with the concept of evolution. First, evolution is presented as being a purely naturalistic explanation of the origin of the species and humanity. This claim is false since the theory of evolution depends upon transcendent, abstract, and non-natural universals. Organisms must be able to pass on properties and essences in order for the theory to work; otherwise, there can be no microevolution or macroevolution. Dogs must be able to produce more dogs with the same essential (and sometimes accidental) properties of dogs. Apes must be able to pass on certain properties to human beings that link the two species together. If the theory of evolution takes the nominalist path, then the theory fails as an explanation of the origin of the species and humanity.

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<sup>6</sup> Ibid., 47-51.

<sup>7</sup> Benedict Spinoza, *Ethics*, trans. W. H. White (London: Wordsworth, 2001), 1. prop. 1, 4-15.

There can be no biological links within and between species if every organism is a unique particular with unique properties (if particulars even have properties at all). As a result, the theory of evolution depends on the transcendent in order to function so it cannot be a purely naturalist theory. The evolutionist, however, might be willing to concede this point as long as the process of evolution occurs naturally. The transcendent undergirds the theory of evolution meaning that the theory is not purely naturalistic, but the process by which evolution occurs is still a purely natural one. As a result, this coherence problem could be sidestepped.

There is, however, a second problem for the theory of evolution when it comes to universals and the evolution of the species. Since evolution is supposed to occur via natural processes and forces, the question arises as to how these natural processes and forces interact with transcendent, abstract universals causing these universals to become exemplified in the world. For example, the properties *being hairy*, *having lungs*, and *being four-footed* were not exemplified in the natural world at some point in the distant past according to the theory of evolution and neither were essences, such as *being a cat*, *being a bird*, and *being a fish*. How did the natural world or the forces within it cause these universals to become exemplified given that universals are beyond the realm of nature and cannot be affected by nature? It does not seem possible especially since the natural world and its objects would themselves be exemplifications of various universals. The natural world cannot cause itself to become exemplified so that it may cause other exemplifications of universals. How can the theory be rational if nature has no ability to connect with the transcendent?

The problem, however, is more pressing for macroevolution than it is for microevolution. It seems possible that nature brings about further exemplification of an already exemplified property or essence (i.e., a bear exemplifying *being hairy* leads to the exemplification of *being hairy* in another bear; an organism exemplifying *being a reptile* leads to the exemplification of *being a reptile* in another organism) given modern biological science. It does not seem possible, however, for nature to bring about the exemplification of a completely new property or essence that had not previously been exemplified (i.e., an organism that exemplifies *being a fish* generates an organism exemplifying *being an amphibian* with the new property *having lungs*). Nature and its forces cannot reach outside of time and space to interact with non-natural universals and cause them to become exemplified. Without this exemplification process, however, macroevolution fails to occur. As a result, the theory of evolution is irrational because it has no means by which to operate.

This issue with the exemplification of universals leads proponents of the concept to appeal to the divine as the means for universals becoming exemplified in the world.

Plato, the founder of the concept of universals, appeals to a divine craftsman to explain how the Forms (i.e., universals) become exemplified in the world.<sup>8</sup> The divine craftsman is responsible for copying the Form using pre-existent matter in the same way an architect uses a blueprint to build a house. The house is a copy (i.e., exemplification) of the blueprint (i.e., universal). The Christian Church would later modify Plato's theory to align with Christian doctrine. The Church identified universals with the divine ideas making universals part of the divine nature and making their exemplifications subject to the divine creative power.<sup>9</sup> The idea of craftsman and blueprint remains, but universals are not entities separate from God. Some modern Christians, however, argue that God necessarily created universals as separate entities from himself and then used them to create (i.e., exemplify) the natural world and what it contains.<sup>10</sup>

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<sup>8</sup> Plato, *Timaeus*, in *Timaeus and Critias*, trans. Desmond Lee (New York: Penguin Books, 1977), 27d-30b

<sup>9</sup> For classical examples, see Augustine *Eighty-three Questions*, in *The Fathers of the Church*, vol. 70, trans. David Mosher (Washington, DC: Catholic University of America Press, 1982), 79-81; Anselm, *The Monologion*, in *St. Anselm: Basic Writings*, trans. S. N. Deane (LaSalle, IL: Open Court Publishing, 1968), IX-X, XII-XIV; Thomas Aquinas, *Summa Theologica*, trans. Blackfriars (New York: McGraw-Hill Book Company, 1964), 1a.15.1-2, 1a.16.1-8; Thomas Aquinas, *Summa contra Gentiles*, ed. and trans. Anton Pegis (South Bend: University of Notre Dame Press, 1975), 1.60-62; Thomas Aquinas, *Truth*, vol. 1, trans. Robert Mulligan (Chicago: Henry Regnery Company, 1952), 1.2-8, 3.1-2; Pseudo-Dionysius, *Divine Names*, trans. C. E. Holt (New York: Macmillan Company, 1940), 5.1-10; Nathan A. Jacobs, "On the Metaphysics of God and Creatures in the Eastern Pro-Nicenes," *Philosophy & Theology* 28:1 (2016): 3-42; Richard Cross, "Gregory of Nyssa on Universals," *Vigiliae Christianae* 56 (2002): 372-410. For modern examples of this theory, see Alvin Plantinga, "How to be an Anti-Realist," *Proceedings and Addresses of the American Philosophical Association* 56:1 1982: 68-70, and "Augustinian Christian Philosophy," *The Monist* 75:3 (1992): 291-320; Greg Welty, "Truth as Divine Ideas: A Theistic Theory of the Property 'Truth'," *Southwestern Journal of Theology* 47:1 (2004): 55-69; and Greg Welty, "Theistic Conceptual Realism," in *Beyond the Control of God?: Six Views on the Problem of God and Abstract Objects*, ed. Paul Gould (New York: Bloomsbury, 2014), 81-96; Stephen Parrish, "Defending Theistic Conceptualism," *Philosophia Christi* 20:1 (2018): 101-118.

<sup>10</sup> See Paul Gould and Richard Davis. See Paul Gould, "The Problem of God and Abstract Objects," *Philosophia Christi* 13:2 (2011): 255-274, "Theistic Activism: A New Problem and a New Solution," *Philosophia Christi* 13:1 (2011): 127-39, "Can God Create Abstract Objects? A Reply to Van Inwagen," *Sophia* 53:1 (2014): 99-112, and "Theistic Activism and the Doctrine of Creation," *Philosophia Christi* 16:2 (2014): 283-96; Richard Davis, "God and the Platonic Horde: a Defense of Limited Conceptualism," *Philosophia Christi* 13:2 (2011): 289-303; Richard Davis, *The Metaphysics of Theism and Modality*. NY: Peter Land, 2001; Paul Gould and Richard Davis, "Modified Theistic Activism." In *Beyond the Control of God?: Six Views on the Problem of God and Abstract Objects*, ed. Paul Gould, p. 51-64. New York: Bloomsbury, 2014; Paul Gould and Richard Davis, "Where the Bootstrapping Problem Really Lies: A Neo-Aristotelian Reply to Panchuk," *International Philosophical Quarterly* 57:4 (2017): 415-28.

Either way, God and his supernatural action are seen as a necessary part of the theory of universals. How else are these transcendent, inert entities to become exemplified?

This link between the exemplification of universals and the divine, however, implies a major coherence problem for the theory of evolution. If the divine is necessary to explain how universals are exemplified, then the exemplification of all properties and essences requires the direct action of God. In other words, God must supernaturally create (i.e., exemplify) the essences of all organisms and the properties that they possess first so that they can be passed on within the species later. Without his supernatural action, universals simply remain inert and unable to be exemplified. No new properties or new species can arise. If God, however, is required to exemplify all properties and essences, then the purely natural process of evolution is no longer purely natural. It requires the supernatural. In fact, evolution is no longer the explanation for the origin of the species (at least from a macroevolution standpoint). Creationism is the explanation instead for how different properties and species came into existence. As a result, the theory of evolution undermines itself. The theory claims that there is no supernatural involvement in the origin of biological properties and species, only natural processes. The theory's own metaphysical implications, however, indicate that this claim is false. There must be supernatural involvement for biological properties and species to exist. They must be created, not naturally evolved. Consequently, the theory of evolution (particularly macroevolution) is incoherent.

## Conclusion

As a result of these issues, the theory of evolution faces major metaphysical hurdles that undermine the theory's coherence. At least part of the theory, however, appears to be true. Microevolution within a species seems both rational and scientific. A complete abandonment of the concept appears unwarranted. Macroevolution, on the other hand, appears incoherent. Without some way of explaining shared properties and essences from a purely naturalistic standpoint without the interference of the supernatural, the theory of evolution as it is currently conceived cannot hope to remain a valid theory regarding the origins of the species and their characteristics. This issue of coherence, however, opens the door once again to religious explanations regarding the origins of the species and their characteristics.

***Graham Floyd is Adjunct Professor at Tarrant County College Connect Campus in Fort Worth, TX.***