

The Scientific Prescience of Epicureanism

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In contradistinction to Platonism, Aristotelianism, Stoicism, and Christianity, Epicureanism sought to explain the world solely through naturalistic phenomena in lieu of appealing to the intervention of supernatural agents. While the Epicureans did not subject their hypotheses regarding the natural world to empirical testability and experimentation (thus rendering their claims as scientifically nugatory with respect to our current understanding of the scientific method),¹ many of the claims that they posited about the natural world have stood the test of time as they have been corroborated by the modern sciences. The aforementioned are intrinsic vis-à-vis documenting the legacy that this ancient Greek school of thought has established as well as identifying instances where proto-scientific claims have been vindicated by the modern sciences. The primary objective of this essay is to delineate which proto-scientific ideas espoused by the Epicureans, specifically the proto-scientific ideas of Epicurus (341-271 BCE) and Titus Lucretius Carus (c. 94-55 BCE), have stood the test of time with the advent of the modern sciences.

According to A. E. Stallings,

In the past two hundred years or so, Lucretius has gone from being scientifically prescient to outdated in the realm of atomic theory - we no longer read him for science (though, for instance, in his proto-Darwinian discussion of the evolution of life and his arguments against 'intelligent design' (IV.823 ff.), not to mention his warning against the potential evils of religion (I.80-101), he remains strangely topical).²

While Epicurean ideas such as 'the swerve' (Latin. 'clinamen'; literally "the turning aside of a thing"), their views of the sun (e.g. their naïve realism), geocentrism, and their conception of the atom have been falsified,³ Epicurean proto-scientific claims have been corroborated by the

¹ Epicurus, *The Art of Happiness*, trans. George K. Strodach (London: Penguin Classics, 2013), 131.

² Lucretius, *The Nature of Things*, trans. A. E. Stallings (London: Penguin, 2007), xxv.

³ Epicurus, *The Art of Happiness*, 7, 18, 122, 151.

findings of interdisciplinary work between religion and neuroscience, cognitive science, and psychology. Additionally, Epicurean proto-scientific claims have been vindicated by meteorology, paleontology, and geomythology. Lastly, the metaphysical position of Epicureanism (i.e., materialism) is the dominant position in 21st century Western philosophy. By identifying which Epicurean proto-scientific claims about the natural world have been corroborated by the modern sciences, we can demonstrate that the Epicureans remain scientifically prescient in many respects beyond just their criticism of superstitious belief systems and their proto-Darwinian ratiocination for the evolution of life.

For the Epicureans, knowledge of the gods is acquired via dream-states.⁴ However, it is acknowledged that all dream-states have a physical antecedent (as opposed to being the result of a supernatural agent causally interpolating itself into one's dream-states).⁵ Neuroscientist Patrick McNamara and psychologist Kelly Bulkeley identify the importance of dreams in traditional societies and cultures throughout the world and the role dreams play in transmitting religious ideas and supernatural concepts.⁶ McNamara and Bulkeley argue that "Because the prefrontal cortex is deactivated during rapid eye movements (REM), sleep agentic impulses and internally generated ideas are not reliably attributed to Self or dreamer. Instead, an exaggerated degree of agency is attributed to these supernatural dream characters who are then embedded in stories in dreams and in myths of waking life which explain their supernatural abilities."⁷ In Book I of *De Rerum Natura*, Lucretius mentions the appearance of apparitions of dead people in dream-states as well as the hallucinations of those in a delirious state:

What do we meet when we're awake, delirious with fever,
That terrifies the mind, or when we're sepulchred in slumber,
So that we think we see and hear such persons, face to face,
Who have encountered death, and whose bones lie in Earth's embrace?⁸

⁴ Epicurus, *The Art of Happiness*, 30.

⁵ Epicurus, *The Art of Happiness*, 116.

⁶ Patrick McNamara and Kelly Bulkeley, "Dreams as a Source of Supernatural Agent Concepts," *Frontiers in Psychology* 6 (2015), <https://doi.org/10.3389/fpsyg.2015.00283>, 3.

⁷ McNamara and Bulkeley, "Dreams as a Source of Supernatural Agent Concepts," 1.

⁸ Lucretius, *The Nature of Things*, 7.

McNamara and Bulkeley reference cases in certain forms of schizophrenia where “Rapid eye movements physiology can intrude into daytime consciousness” and may give rise to delusions not dissimilar to the presence of supernatural agents in dream states.⁹ McNamara and Bulkeley’s theory of how dream-states give rise to what are perceived by the dreamer to be supernatural agents validates the Epicurean claim that there exists a physical explanation for the presence of divine concepts in dream-states.

Lucretius was prescriptively against prayer in moments of despondency or imminent danger as a form of psychological mitigation (as the gods of the Epicureans were non-anthropomorphic and existed in a state of tranquility that ultimately made them unconcerned with human affairs).¹⁰ To support this claim, Lucretius references the plague in Athens in 430 BCE towards the end of Book VI of *De Rerum Natura*¹¹ as evidence that appealing to the gods for deliverance in dire situations is inutile.¹² Lucretius’s prescriptive repudiation of prayer in such moments would seem to be an antecedent to the psychological phenomenon of Third Man Factor (or ‘Third Man Syndrome’). In cases where Third Man Factor is reported, individuals undergoing a traumatic experience feel a ‘benign’ and ‘unseen’ presence as a form of psychological mitigation.¹³ Similarly, social and evolutionary psychologists cite the role of religion in Terror Management Theory. According to Terror Management Theory, individuals in mortality salient situations (i.e., situations where one becomes cognizant of their inevitable death)¹⁴ appeal to religion (e.g., the belief in literal immortality) as a psychological bulwark against thanatophobia.¹⁵ Third Man Factor and Terror Management Theory provide a psychologically grounded account of Lucretius’ concern that existential anxieties are exacerbated in the presence of death, and such anxieties may consequently lead one to feeling the presence of an unseeable agent such as a divine being (in cases of Third Man Factor) or

⁹ McNamara and Bulkeley, “Dreams as a Source of Supernatural Agent Concepts,” 1, 3.

¹⁰ Catherine Wilson, *Epicureanism: A Very Short Introduction* (Oxford: Oxford University Press, 2015), 72.

¹¹ Lucretius, *The Nature of Things*, 233.

¹² Wilson, *Epicureanism: a Very Short Introduction*, 72.

¹³ Sarah Chalmers, “The Third Man Factor: How Those in Dire Peril Have Felt a Sudden Presence at Their Side, Inspiring Them to Survive,” Daily Mail Online (Associated Newspapers, July 3, 2009), <https://www.dailymail.co.uk/news/article-1197394/The-Third-Man-Factor-How-dire-peril-felt-sudden-presence-inspiring-survive.html>.

¹⁴ “Mortality Salience,” APA Dictionary of Psychology (American Psychological Association), accessed February 24, 2023, <https://dictionary.apa.org/mortality-salience>.

¹⁵ Ara Norenzayan and Ian G. Hansen, “Belief in Supernatural Agents in the Face of Death,” *Personality and Social Psychology Bulletin* 32, no. 2 (2006): pp. 174-187, <https://doi.org/10.1177/0146167205280251>, 175.

experience an increased sense of religiosity in mortality salient situations (in Terror Management Theory). Additionally, Third Man Factor and Terror Management Theory provide a psychological explanation for such phenomena without appealing to the supernatural, further identifying a nexus between Epicurean materialism and the parsimonious explanations of the modern sciences.

The parsimonious Epicurean explanation for meteorological phenomena which explicitly absolves the gods from responsibility for the weather and natural disasters has stood the test of time as well.¹⁶ This view, explicated upon in Epicurus' "Letter to Pythocles" and in Book VI: The Weather and the Earth of *De Rerum Natura* by Lucretius, repudiates any supernatural explanation for the weather and natural disasters. In "Letter to Pythocles," Epicurus vehemently castigates anyone who might suggest that divine portents manifest themselves in nature.¹⁷ This intramundane explanation for meteorological phenomena is probably the most obvious apropos the scientific prescience of Epicureanism; meteorologists do not appeal to the supernatural in order to describe the weather, nor is the supernatural required to describe meteorological phenomena. However, this has not prevented proponents of what Epicurus would consider to be exemplifications of 'popular' and 'superstitious' religion to attribute responsibility for natural disasters to divine agents in the 21st century. The day after an earthquake struck Haiti on 12 January 2010, American televangelist Pat Robertson erroneously claimed that the earthquake occurred as the result of a "curse"; one that resulted from an alleged pact the Haitian people collectively made with the Devil in order to gain their independence from France in 1804.¹⁸ This neo-evangelical interpretation re-imagined the practice of African ancestral worship by the Haitians at the Bois Caïman ceremony as devil-worship.¹⁹ In the neo-evangelical view, "[Dutty] Boukman's vow to the "invisible powers" to be free, and the sacrifice of the pig, therefore, made up the components of a pact with Satan."²⁰ Despite such appeals to the supernatural by Pat

¹⁶ Epicurus, *The Art of Happiness*, 141.

¹⁷ Epicurus, *The Art of Happiness*, 149.

¹⁸ Leslie Alexander, "A Pact with the Devil? The United States and the Fate of Modern Haiti," *Origins: Current Events in Historical Perspective*, February 2011,

https://origins.osu.edu/article/pact-devil-united-states-and-fate-modern-haiti?language_c.

¹⁹ Elizabeth McAlister, "From Slave Revolt to a Blood Pact with Satan: The Evangelical Rewriting of Haitian History," *Studies in Religion/Sciences Religieuses* 41, no. 2 (2012): pp. 187-215,

<https://doi.org/10.1177/0008429812441310>, 189.

²⁰ McAlister, "From Slave Revolt to a Blood Pact with Satan: The Evangelical Rewriting of Haitian History," 189-190.

Robertson, evangelist Reverend Florian Ganthier, and many followers of Haitian voodoo²¹ to describe what was intrinsically a natural phenomenon, the magnitude 7.0 earthquake in Haiti in 2010 was described by scientists as having been the result of “tectonic forces along a seismic fault line that runs through the island of Hispaniola which Haiti shares with the Dominican Republic.”²² The Epicureans would find solace in the scientific explanations for the earthquake, while looking upon Robertson’s supernatural explanation for the earthquake as anathema. Additionally, Epicurus himself would concur with White House Press Secretary Robert Gibbs’ remark that Robertson’s comments were “utterly stupid.”²³ Concerning those who might attribute divine causation to the weather, Epicurus states “Not even an insignificant creature would be guilty of such stupidity (though trifles give more pleasure, they say), not to mention a being that has attained to perfect happiness.”²⁴

Catherine Wilson mentions how the Epicureans were prescient in regard to paleontology:

They [the Epicureans] supposed, however, that the power of the earth to produce very large animals was greater in earlier times than in their own time, which, if we go back 2.5 billion years to the origins of life on our planet, is obviously untrue. If we go back only some hundreds of millions of years ago to the Jurassic era, however, they were right; earlier climactic conditions favoured the emergence, first of the dinosaurs, but later of gigantic insects, birds, and mammals, including dragonflies, snakes, birds, bears, and sloths of a size unknown today. It would be interesting to learn whether ancient naturalists had in fact come across the bones or imprints of such monsters, and drawn the correct conclusion from them.²⁵

²¹ Sandie Blaise, “Bois Caïman as a ‘Curse,’” *The Black Atlantic* (Duke University, May 2, 2014), <https://sites.duke.edu/blackatlantic/sample-page/storytelling-and-representation-of-bois-caiman/music-and-bois-caiman/bois-caiman-as-a-curse/>.

²² Frank James, “Pat Robertson Blames Haitian Devil Pact for Earthquake,” NPR (NPR, January 13, 2010), https://www.npr.org/sections/thetwo-way/2010/01/pat_robertson_blames_haitian_d.html.

²³ Dave Cook, “For Comments on Haiti, Pat Robertson Blasted by White House,” *The Christian Science Monitor* (The Christian Science Monitor, January 14, 2010), <https://www.csmonitor.com/USA/Politics/The-Vote/2010/0114/For-comments-on-Haiti-Pat-Robertson-blasted-by-White-House>.

²⁴ Epicurus, *The Art of Happiness*, 149.

²⁵ Wilson, *Epicureanism: A Very Short Introduction*, 47.

Findings in the discipline of geomythology (“the science of recovering ancient folk traditions about complex natural processes or extraordinary events”) would seem to suggest that ancient naturalists were cognizant of the fact that very large animals inhabited their lands in earlier times.²⁶ Research in geomythology theorizes that the ancient Greeks and Romans subjected the enormous bones of the extinct species they came across to a process of “mythologization” where such fossils became depicted as griffins, cyclopes, monsters, and giants in Græco-Roman mythology.²⁷

Lastly, while modern-day materialists differ from the atomic materialism of Epicureanism,²⁸ the materialistic perspective of Epicureanism in its modern form (‘Physicalism’) would appear to be the dominant metaphysical position held by philosophers in a survey conducted in 2009.²⁹ This is significant because it would appear that in this regard, Epicureanism has prevailed over Platonism, Aristotelianism, Stoicism, and Christianity (i.e., the schools of thought that competed with Epicureanism in the Græco-Roman world and endorsed some variant of mind-body dualism and posited the existence of immaterial souls) in respect to metaphysical viewpoints. This further attests to the prescience of the Epicureans as the majority of philosophers in the 21st century have conceded to a metaphysical position that does not violate a scientifically grounded worldview.

It would seem that A. E. Stallings underestimated the scientific prescience of the Epicureans. While the Epicureans are, scientifically speaking, not as antiquated as Stallings would *prima facie* presume, we should not indubitably accept all of their pre-scientific hypotheses. It should be noted that this paper does not intend to be a comprehensive enumeration of every proto-scientific claim that the Epicureans posited. Despite such, historians of science and ancient philosophy should be encouraged to use the contents of this paper as a starting point towards bifurcating which Epicurean pre-scientific claims have been

²⁶ Adrienne Mayor, *The First Fossil Hunters: Dinosaurs, Mammoths, and Myth in Greek and Roman Times* (Princeton: Princeton University Press, 2011).

²⁷ Mayor, *The First Fossil Hunters: Dinosaurs, Mammoths, and Myth in Greek and Roman Times*.

²⁸ Wilson, *Epicureanism: A Very Short Introduction*, 65.

²⁹ David Bourget and David J. Chalmers, “What Do Philosophers Believe?,” *Philosophical Studies* 170, no. 3 (2013): pp. 465-500, <https://doi.org/10.1007/s11098-013-0259-7>.

vindicated by the modern sciences and which Epicurean pre-scientific claims have been falsified by the modern sciences.

Epicurean pre-scientific claims regarding the appearance of supernatural agents in dream-states and how humans appeal to supernatural agents in moments of despondency in a solely physical world have been vindicated by the findings of neuroscience, cognitive science, psychology, and observable phenomena such as Third Man Factor, Terror Management Theory, and mortality salience. Epicureanism's prescience in respect to parsimonious explanations for meteorological phenomena cannot be taken for granted. Echoing the earlier quotation from A. E. Stallings concerning the continued relevance of Epicureanism vis-à-vis religious superstition, one can deduce from the continued presence of individuals in the 21st century who ascribe supernatural responsibility towards phenomena that is intrinsically intramundane (e.g. earthquakes and other natural disasters), it would appear the Epicurean 'ignoramachy' (i.e., "war against ignorance") has yet to reach a denouement. The claim by the Epicureans that very large animals greater in size to humans once roamed the earth before humanity has been vindicated by paleontology. Furthermore, geomythology helps us understand how the ancient Græco-Roman world apprehended the fossils of these very large animals and depicted them in myth. The Epicureans would likely appreciate that their metaphysical position of materialism has been adopted by the majority of philosophers in the 21st century. This has brought the field of philosophy closer to the "hard sciences" as the majority of philosophers in the 21st century concede to the scientifically grounded view that only the intramundane is confirmable.

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