**Hume and the Rotting Turnip**

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# Evidence of Pure Atheism?

In 1776, the year of his death, David Hume adds a paragraph to his unpublished manuscript of the *Dialogues Concerning Natural Religion* comparing an atheist to a theist who thinks that God’s mind is radically unlike our own.[[1]](#footnote-1) The standard reading is that Hume is making a claim about the weakness of the argument from design. I want to show that the paragraph is rather a reply to people he meets and befriends in the 1760s, people who are more vigorously and vocally committed to atheism than Hume is. Defending this rival interpretation requires two pieces of background: first, describing the friendly but mocking criticism that Hume receives from these atheists in the 1760s and, second, describing the generalizations these atheists draw from the emergence of nematodes in rotting vegetation and carrion.

Hume endorses a sort of theism in various places. In the *Natural History of Religion,* he argues that ancient polytheism isn’t a corruption of monotheism founded on the argument from design, since, if that argument had been invented before the rise of polytheism, “the same principles of reason, which at first produced and diffused over mankind, so magnificent an opinion, must be able, with greater facility, to preserve it” (*NHR* 1.7).[[2]](#footnote-2) He also argues that historical monotheism doesn’t originate in reason, since, if it did, it would posit a God who governs the world through “fixed general laws” rather than appealing to “prodigies, miracles” and religious fervor, as historical monotheism does (*NHR* 6.2-4). One of the central arguments in “Of Suicide” is that suicide can’t be against God’s will, since God’s will is expressed through the laws of nature: “The providence of the deity appears not immediately in any operation, but governs every thing by those general and immutable laws, which have been established from the beginning of time. All events, in one sense, may be pronounced the action of the almighty” (“Suicide,” ¶6, p. 581). While pressing the problem of evil, Hume has Philo make the following evaluation of the arguments presented so far in the *Dialogues*:

Here, Cleanthes, I find myself at ease in my argument. Here I triumph. Formerly, when we argued concerning the natural attributes of intelligence and design, I needed all my sceptical and metaphysical subtilty to elude your grasp. In many views of the universe, and of its parts, particularly the latter, the beauty and fitness of final causes strike us with such irresistible force, that all objections appear (what I believe they really are) mere cavils and sophisms; nor can we then imagine how it was ever possible for us to repose any weight on them. (*DNR* 10.36, pp. 201-02)

According to Philo, the argument from evil is a triumph while criticisms of the argument from design are mere sophisms. The latter claim wouldn’t make sense as an attempt to avoid religious persecution for Hume or his literary executors, since it’s right next to an endorsement of the problem of evil.[[3]](#footnote-3)

Of course, no one should suppose that Hume thinks that the source of order in the universe is very much like a human mind. After granting “That the works of Nature bear a great analogy to the productions of art is evident” Philo declares that, since we have to attribute “a much higher degree of power and energy to the supreme cause” than to any human, it’s reasonable to consider the supreme cause as only a borderline case of a “*mind* or *intelligence*” (*DNR* 12.6, p. 217).[[4]](#footnote-4) In summing up his position, Philo implies that “the analogy, imperfect as it is, can be carried no farther than to the human intelligence; and cannot be transferred, with any appearance of probability, to the other qualities of the mind” (*DNR* 12.33, p. 227).[[5]](#footnote-5) That is to say, all that the best argument for the existence of God shows is that the source of order in the universe has something like human intelligence, and not that it has anything like human wisdom, benevolence, or justice.

In a letter to Francis Hutchison, Hume doubts the application of morals to divinity, “since Morality, according to your Opinion as well as mine, is determin’d merely by Sentiment, it regards only human Nature & human Life” (*Letters* #16 1.40).[[6]](#footnote-6) Recall that in Philo’s evaluation of the state of the argument at the end of Part 10, he declares that with respect to the problem of evil, “I find myself at ease in my argument. Here I triumph” (*DNR* 10.36, p. 201). The conclusion of that argument is that hypothesis that “the first causes of the universe . . . have neither goodness nor malice . . . seems by far the most probable” (*DNR* 11.15, p. 114).[[7]](#footnote-7)

In the conclusion to the *Dialogues,* Hume seemingly assents to the claim that “the whole of Natural Theology, as some people seem to maintain, resolves itself into one simple, though somewhat ambiguous, at least undefined proposition, *That the cause or causes of order in the universe probably bear some remote analogy to human intelligence.*”[[8]](#footnote-8) J.C.A. Gaskin critically evaluates the terrain and coins the happy expression ‘attenuated deism’ to apply to Hume’s theology.[[9]](#footnote-9)

Some commentators want to attribute a pure atheism to Hume, without qualification. They often try to explain away texts that seem to commit him to theism by appealing to what I will call the ‘rotting turnip paragraph.’

In the middle of the rotting turnip paragraph, Philo imagines interrogating an atheist:

I next turn to the Atheist, who, I assert, is only nominally so, and can never possibly be in earnest; and I ask him, whether, from the coherence and apparent sympathy in all the parts of this world, there be not a certain degree of analogy among all the operations of Nature, in every situation and in every age; whether the rotting of a turnip, the generation of an animal, and the structure of human thought be not energies that probably bear some remote analogy to each other: It is impossible he can deny it: He will readily acknowledge it. Having obtained this concession, I push him still farther in his retreat; and I ask him, if it be not probable, that the principle which first arranged, and still maintains order in this universe, bears not also some remote inconceivable analogy to the other operations of Nature, and among the rest to the œconomy of human mind and thought. However reluctant, he must give his assent (*DNR* 12.7, p. 218).

Charles Echelbarger interprets the passage as follows:

The reason why Hume thinks the atheist must agree with (natural) theism is that the only conclusion warranted by natural religion is so broad and general that it is actually consistent with atheism. But, it is not only this; the *reason why* it is consistent with atheism is that the conclusion is a truism: Each thing (of whatever kind) is in *some* remote way analogous to *every* other thing. Natural religion establishes no more than what an atheist can safely admit. If the controversy is merely verbal, then to Hume it is the *theist* who is bound to suffer (31).

According to Graham Priest,

the game is over. The atheist seems to have lost, but a moment’s thought shows that, on the contrary, it is the proponent of the Argument from Design who has lost! For the conclusion of the argument is that the designer of the universe bears some analogy to human intelligence. But any two things are analogous. Hence the ordering principle of the universe can be *absolutely anything.* In other words the content of the conclusion of the Argument from Design is absolutely zero (351).

The reading is officially enshrined in the *Stanford Encyclopedia of Philosophy* entries for both ‘Hume on Religion’ and the general entry ‘Hume.’[[10]](#footnote-10) James Noxon (73), Peter Millican (38), Thomas Holden (37-8), and Gianluca Mori (336-7) offer similar readings. On standard interpretations, Hume’s point is that the tolerable arguments for theism are so thin as to let in a rotting turnip count as the source of order in the world, and thus they don’t establish anything that goes beyond atheism.

The right reading of the passage is more interesting. The rotting turnip paragraph is written right before Hume’s death and is thus one of his few philosophical texts written late enough to reflect his encounter with the French *philosophes* in the 1760s.[[11]](#footnote-11) The turnip is rotting not in order to make fun of theism, but in order to make fun of Marischal, d’Holbach, and Diderot’s extrapolation from John Needham’s microscopic observations of the growth of nematodes in decaying matter. Hume is making three points in the rotting turnip paragraph: first, that no one really thinks that the source of order in the world is very much like a human mind and thus that the divisions between the theist and the atheist are less deep than they think; second, that atheism, supported by such loose analogies, isn’t far from the kind of pious theism that refuses to attribute any definite positive attributes to God; and, finally, that the way that atheists rely on analogical reasoning in thinking about the sources of order ought to make them more sympathetic to the argument from design. So much is on the surface of the text, but by reading these claims in their biographical context, we can unveil the purpose behind these remarks. They are an amiable and conciliatory reply to the more strident atheists he meets in the 1760s.

# Hume Between the English and the French

In the rotting turnip paragraph, Philo first asks “the Theist” whether he grants that there’s a great difference between a human and a divine mind (*DNR* 12.7. p. 218). After getting enthusiastic agreement on that point, Philo continues, “I next turn to the Atheist,” as ask whether there are remote analogies between human thought and animal generation and the rotting of a turnip (*DNR* 12.7, p. 218). Philo’s invented dialogue within the *Dialogues* places himself in a middle position between the theist and the atheist, trying to show that the two parties aren’t as far apart as they think. This dialogue within a dialogue recapitulates the middle position that Hume finds himself in the 1760s.

In 1761, Hume meets his fellow Scot, George Keith, the 10th Earl Marischal. As a young man Marischal is exiled to the continent because of his participation in the Jacobite rebellion of 1715. He ends up as an ambassador for Frederick the Great and as the governor of one of his territories. As an indirect consequence of the ‘Diplomatic Revolution’ that sees England switch its alliance from Austria to Prussia and France switch its alliance from Prussia to Austria, Marischal is given back his lands in Scotland and allowed to return to England, where he befriends Hume.[[12]](#footnote-12) In 1776, when Hume is “returned from London and Bath, just a-dying,” James Boswell decides to interview Hume for posterity’s sake.[[13]](#footnote-13) In defending his claim that “men of religion are generally bad,” Hume tells Boswell a story that treats Marischal as a paradigm of honor and atheism. On Boswell’s report, “he said, ‘One of the men’ (or ‘The man’—I am not sure which) ‘of the greatest honour that I ever knew is my Lord Marischal, who is a downright atheist. I remember I once hinted something as if I believed in the being of a God, and he would not speak to me for a week’.”[[14]](#footnote-14) In letters to Hume, Marischal has a running joke of referring to Hume as ‘Fidei Defensor,’ Defender of the Faith, which must be a light-hearted allusion to some previous argument.[[15]](#footnote-15)

In 1763, Hume is appointed to the British embassy in Paris, first as acting secretary, then as secretary with the title, and finally as acting ambassador.[[16]](#footnote-16) We have three reports that state that he was treated as insufficiently atheistical by some *philosophes* there. First, we have an account of a letter from James Macdonald from Paris:

the French philosophers liked Mr. Hume (secretary to the British ambassador) in the main very well; but disapproved of certain *religious* prejudices not yet shaken off, which hindered him from aspiring to perfection. This at first seems an irony, and a pretty strong one. But Sir James explains himself by adding, that the great men in France were, most of them, deep in Materialism, and had discarded the belief of a God, which our worthy Scottish philosopher refused to do: “so that poor Hume,” says James, “who on your side of the water was thought to have to have too little religion, is here thought to have too much.”[[17]](#footnote-17)

Edward Gibbon, who like Hume spends time in Paris after the Seven Years War and who like Hume attends the salons of Helvetius and d’Holbach, disapproves of “the intolerant zeal of the philosophers and Encyclopedists, the friends of d’Olbach and Helvetius: they laughed at the scepticism of Hume, preached the tenets of atheism with the bigotry of dogmatists, and damned all believers with ridicule and contempt.”[[18]](#footnote-18) An Italian witness of Parisian salons in 1766, Alessandro Verri, likewise reports:

Atheism is so much in fashion here that they regard any one who has not such a positive opinion as they as weak-minded. For this reason David Hume is, in his principles, considered weak-minded. There’s no remedy, the existence of a Being ought not to be believed. There is, properly speaking, a spirit of conspiracy. I don’t like this. This universal attitude of the Learned makes many into infidels: they do not know why and how they are such.[[19]](#footnote-19)

Some of the French think of Hume as intellectually soft because he’s too much of a theist.

A striking anecdote from Denis Diderot about a gathering hosted by Baron d’Holbach and attended by Hume shows something of the culture shock to which the Scot is subjected in the salons of Paris. According to Diderot, “the first time Hume finds himself at the baron’s table,” he declares “he did not believe in atheists, that he never saw any.” According to Diderot, d’Holbach replies by counting the atheists among the eighteen people present, “It is not unhappy that we can count fifteen of them at the first stroke: the other three do not know what to think about it.”[[20]](#footnote-20) This is the milieu in which Hume is judged to have too much religion.

On another telling of the story, ultimately also due to Diderot, but passing through Samuel Romilly, there are seventeen people at the table, and everyone is an atheist.[[21]](#footnote-21) We also have some evidence from Paris that cuts the other way. According to André Morellet, a regular participant of d’Holbach’s salon, “we were a good number of theists there who defended ourselves vigorously, not at all ashamed.”[[22]](#footnote-22) According to Alan Kors’s recent history of d’Holbach’s circle,

Apart from the manifest atheism of d’Holbach, Diderot, and Naigeon, the perhaps temporary, perhaps enduring private atheism of Roux, Saint-Lambert, and Helvétius, and the skepticism of Grimm, there is no record of any other critique of the belief in God emanating from members of the coterie hobachique in their published works or in reported conversation (63).

On the other hand, from Hume’s subjective point of view, Paris is a hotbed of irreligion, with an “almost universal Contempt of all Religion, among both Sexes, and among all Ranks of Men” (*Letters* #272 1.497). Describing the “Men of Letters” in Paris to Hugh Blair, Hume writes, “It woud give you & [John] Jardin & [William] Robertson great Satisfaction to find that there is not a single Deist among them” (*Letters* #227 1.419). The joke reflects Hume’s view of his situation. In Edinburgh, deism is on the extreme flank of impiety, while in Paris, it’s seen as excessive religion.

I don’t want to give the wrong impression. Hume is closer in doctrine and spirit to French atheists than he is to English Christians. If Gibbon and Verri are offended at the criticism that Hume receives, Hume himself treats it as affectionate disagreement: “They now begin to banter me, and tell droll stories of me, which they have either observed themselves, or have heard from others; so that you see I am beginning to be at home” (*Letters* #225 1.417). In September of 1764, when Hume is in love with the Countess de Boufflers and the British government is dragging its feet on giving him a title and salary that reflects the work he is doing,[[23]](#footnote-23) he contrasts the treatment that he receives on the continent with the treatment he receives in England:

From Petersburg to Lisbon, & from Bergen to Naples, there is not one that ever heard my Name, who has not heard of it with Advantage, both in point of Morals & Genius. I do not believe there is one Englishman in fifty, who, if he heard that I had broke my Neck to night, woud not be rejoic’d with it. Some hate me because I am not a Tory, some because I am not a Whig, some because I am not a Christian, and all because I am a Scotsman. (*Letters* #253 1.470)

In another letter from Paris, one sent to Hugh Blair and other learned Scottish friends, he contrasts the warm welcome that men of letters receive in France with the cold reception that they receive in England, with the result that the English “are relapsing fast into the deepest Stupidity, Christianity, & Ignorance” (*Letters* #2721.498). There can’t be as much of a gap between Hume and French atheists as there is between Hume and English Christians. If we are to interpret the rotting turnip paragraph as a reply to Marischal and the French atheists, we want to interpret it as witty repartee among friends and friendly acquaintances, and not as cry of pious outrage from an offended man.

# John Needham and 18th Century Atheism

In the rotting turnip paragraph, Philo gets the atheist to concede “the rotting of a turnip, the generation of an animal, and the structure of human thought [are] energies that probably bear some remote analogy to each other” (*DNR* 12.7, p. 218). In the 18th century, the connection between rotting vegetation and atheism runs through the microscopical observations of John Needham.

Needham is born in London, educated in Douai in Flanders, and ordained in Cambrai in 1738.[[24]](#footnote-24) (It isn’t legal in the middle of the 18th century to be ordained as a Catholic priest in the United Kingdom.) In 1744 and 1745 he observes tiny ‘eels’ emerging from a rotting grain of wheat and from sourdough made from wheat flour.[[25]](#footnote-25) In 1747, He becomes the first English Catholic priest elected to the Royal Society.[[26]](#footnote-26) The Comte de Buffon asks him to collaborate in 1748, and Buffon and Needham together investigate various infusions of vegetation.[[27]](#footnote-27) Soon after their collaboration, Needham carries out an investigation of his own in which he heats mutton broth in a sealed flask in order to kill any microscopic organisms. He waits a few days and then observes microscopic organisms swimming in the broth.[[28]](#footnote-28) Needham concludes that “every microscopical point” of the matter of living things contains a “vegetative Force,” out of which living things arise.[[29]](#footnote-29)

Needham probably comes to Hume’s attention by 1754. In that year, in his role as Secretary to the Edinburgh Philosophy Society, Hume coedits a volume titled ‘Essays and Observations’ which includes a paper by John Stewart. Stewart argues that since matter is passive, we have to appeal to God in order to explain activity in nature. In the course of defending this thesis, Stewart attacks Buffon and Needham for “carrying the activity of matter to the highest pitch.”[[30]](#footnote-30) Stewart also attacks Hume for arguing in the *Treatise* that anything can cause anything and for arguing in the first *Enquiry* that Newton didn’t mean to assert the passivity of matter.[[31]](#footnote-31) Stewart argues for the religious significance of the passivity of matter (“let the machine be as grand and perfect as possible; it must stand in need of a first mover, not only to begin the motion, but to preserve it”)[[32]](#footnote-32) and presents Needham and Hume as his opponents.

Though Needham himself is Catholic in his religion and Leibnizian in his metaphysics, his experiments are taken up as supporting evidence by atheists in the 18th century. In 1764, during Hume’s first year in Paris, Marischal writes him a letter from Potsdam, in which he reports one of Needham’s experiments to Hume and suggests that it’s evidence for atheism. Marischal writes,

Needham took a leg of mutton, roasted it almost to burning, in order to destroy the animalcules or their eggs which could be there: he took the juice, put it in a tightly stoppered bottle, cooked it for hours in water. boiling, in order to destroy any animalcule or egg which might have been introduced by the air in putting the juice into the bottle: after some time the juice fermented, and produced animalcules. Needham claims that all generation comes only from fermentation. . . .This discovery seems to me worth examining; it could be something to hunt, as Montagne says, for M. Diderot. If fermentation in a small bottle produces a very small animal: that of all the elements of our globe, could it not produce, an oak tree, an elephant. I protest that I speak with all submission to David Hume Defender of the Faith, and to the Holy Inquisition, if he finds anything wrong with this system, which I am only reporting.[[33]](#footnote-33)

If microorganisms can arise from the vegetative matter in boiled mutton, then, in principle, a similar procedure could explain the generation of oaks and elephants. Marischal writes as if Hume is more of a theist than he is and as if Hume will disapprove of Marischal’s atheistical suggestion.

Voltaire is a deist who enjoys attacking Catholics on one side of the theological spectrum and atheists on the other. In 1765, the last year of Hume’s diplomatic posting in Paris, Needham anonymously publishes a pamphlet defending miracles against some of Voltaire’s attacks on them.[[34]](#footnote-34) Voltaire first criticizes the pamphlet on its own terms but then, after he discovers the name of the author, attacks Needham as an accomplice to atheism.[[35]](#footnote-35) Because Needham describes the nematodes as looking like eels, Voltaire derides Needham as “l’anguillard,” the eelman.[[36]](#footnote-36) According to him, “Needham’s microscope was thought to be the laboratory of the atheists.”[[37]](#footnote-37)

Diderot is the most famous of the atheists Hume meets in the 1760s. He lists Diderot as one of the *philosophes* he likes most along with Jean D’Alembert, Buffon, Claude Helvétius, and two others (*Letters* #227 1.419-20). When Hume returns to England, Diderot asks him to help get one of his wife’s relations a job as a French teacher. In his letter of recommendation, Hume says that the tutor, “appears to me a young man who has Conduct and Discretion; but what I chiefly rely upon is the Recommendation of the Celebrated M. Diderot, whose Morals and Goodness, no less than his Genius and Learning, are known all over Europe” (*New Letters* #94 181). (The tutor turns out to be something of a ne’er-do-well, borrowing ten pounds from Hume without paying him back and then trying to borrow another ten pounds, *New Letters* #100187.)

Aram Vartanian gives a probable interpretation of the development of Diderot’s thought from his being a deist in the *Philosophical Thoughts,* published in 1746, to his being an atheist in the *Letter on the Blind,* published in 1749.[[38]](#footnote-38) Between these two publications, the discoveries of Needham and Buffon suggest to Diderot that life can arise from matter on its own, and this leads him to reject divine creation as superfluous. In the *Philosophical Thoughts,* Diderot argues that the empirical work of Isaac Newton, Pieter van Musschenbroek, Nicolaas Hartsoeker, and Bernard Nieuwentyt has proven the existence of God from argument from design: “Thanks to the works of these great men, the world is no longer a God; it is a machine with its wheels, its cords, its pulleys, its springs, and its weights.”[[39]](#footnote-39) After reciting this argument, however, Diderot qualifies his endorsement by asserting that if there were spontaneous generation, the atheist would have a good reply to this argument. Humans are admirable and complicated, and it’s hard to imagine that this complexity can arise by chance, but so are insects. According to Diderot, “I can admit that the mechanism of the vilest insect is not less marvelous that that of a human.”[[40]](#footnote-40) If an insect can be generated by chemical process, then so could a human being: “and I am not afraid of the inference that if intestinal agitation is capable of producing the one, it probably has produced the other.”[[41]](#footnote-41)If an atheist had offered this argument before the discovery of microscopes and microscopic eggs, Diderot doesn’t know how the theist would have replied: “If an atheists had maintained, two hundred years ago, that perhaps someday people would see humans spring fully formed from the bowels of the earth, as just as we see a crowd of insects hatch from a mass of overheated flesh, I would like to know how the metaphysician would have replied.”[[42]](#footnote-42) If insects can be generated spontaneously, then so can humans, and the theist would be in a tough spot.

At the time that he writes the *Philosophical Thoughts,* however, Diderot believes that the empirical evidence is against spontaneous generation: “all experiments agree in proving to me that putrefaction alone has never produced any organism.”[[43]](#footnote-43) Nicolaas Hartsoeker, whom Diderot lists as one of the heroes of the argument from design, improved the microscope, used it to make observations of spermatozoa subjected to various conditions, and speculated that if our instruments were better, we might be able to see the rudiments of human limbs within the sperm cell.[[44]](#footnote-44) According to Diderot, “The sublime meditations of Malebranche and Descartes were less likely to shake materialism than an observation by Malpighi.”[[45]](#footnote-45) Among many other microscopical observations, Malpighi carefully observed the development of chicken embryos, and some of these observations suggest to others that a preformed chick exists latently in the unfertilized egg.[[46]](#footnote-46) Besides the figures Diderot mentions, other natural philosophers at the end of the seventeenth century make discoveries with newly improved microscopes that suggest that all life comes from the seed, egg, or sperm of another member of the same species.[[47]](#footnote-47) Since he rejects spontaneous generation at the time that he writes the *Philosophical Thoughts,* he concludes, “the discovery of germs alone has dissipated one of the most powerful arguments for atheism.”[[48]](#footnote-48)

“As a result,” Vartanian concludes,

it was an intellectual event of dramatic novelty when Needham reopened the entire issue of spontaneous generation by a series of experiments tending to show positively that Infusoria were engendered from putrefaction without benefit of *germes*. The impact of this empirical evidence, as presented both by Needham and by Buffon, not only worked a radical change in the scientific status of abiogenesis, but was felt in France in exactly the brief interim between the *Pensées philosophiques* and the *Lettre sur les aveugles*. It apparently was sufficient to destroy the deistic argument based on the unqualified rejection of abiogenesis in the former work, and to authorize the atheist of 1749 to conjecture that “dans le commencement . . . la matière en fermentation faisait éclore l’universe,[[49]](#footnote-49)

that is to say, “in the beginning . . . matter in fermentation made the universe hatch.” Once Diderot changes his mind about whether putrefaction can give rise to life, he changes his mind about whether God exists.

In *D’Alembert’s Dream*, written in 1769, Diderot replaces the question of the origin of life with the problem of the emergence of one life from another.[[50]](#footnote-50) It’s enough to explain the changing phenomena within the world, and one doesn’t need to appeal to an eternal changeless being in addition.[[51]](#footnote-51) The main mechanisms that he posits to explain the functioning of nature are “the transition from a state of inertia to one of sensitivity and spontaneous generation.”[[52]](#footnote-52) We may separate two kinds of spontaneous generation: abiogenesis, the emergence of life from what was never alive, and heterogenesis, the emergence of one sort of life from another.

Diderot appeals to heterogenesis and says that in Needham’s work one can see “different races of animals . . . coming into being and perishing one after the other.”[[53]](#footnote-53) According to Diderot, Voltaire’s criticisms of Needham are mere witticisms, but the empirical facts are clear: “That Voltaire can joke as much as he likes, but the Eelman is right; I believe my own eyes, and I can see them, and what a lot of them there are darting to and fro and wriggling about!”[[54]](#footnote-54) Diderot also appeals to Needham’s work as evidence of the rapidity of change in the microscopic world, which is where he thinks the development of genuinely new forms of life occurs: “In Needham’s drop of water everything begins and ends in the twinkling of an eye. In the real world, the same phenomenon lasts somewhat longer, but what is the duration of our time compared with eternity?” The process of one kind of life emerging from a different sort of vegetative matter that Needham describes might, with enough time, explain the various phenomena of life on earth.[[55]](#footnote-55)

The middle part of *D’Alembert’s Dream* is presented as Julie Lespissasse’s report of D’Alembert’s fever dream. A rather extraordinary passage with dirty jokes and personal innuendo begins with D’Alembert ejaculating in bed. For our purposes, the important thing about the passage is the end, where D’Alembert tells Lespinasse: “nothing must be lost if it might be useful. Mademoiselle, if that stuff could be collected in a phial and sent first thing in the morning to Needham.”[[56]](#footnote-56) This implies some kind of similarity between spermatozoa and Needham’s eels. I surmise that Diderot’s point is that both are sources of heterogenesis, and both illustrate a mechanism that can be used to explain the diversity of life.[[57]](#footnote-57)

In 1770, d’Holbach publishes his *System of Nature* in which he attempts to show that matter can accomplish various tasks that had formerly been attributed to God. To Needham’s chagrin, d’Holbach appeals to Needham’s experiments with flour and wheat to show that inanimate matter can pass into life. D’Holbach reports Needham’s experiment as follows: “By moistening flour with water and by enclosing this mixture, one finds after a little time, with the aid of a microscope, that it has produced organized beings which enjoy a life which one believed flour and water incapable.”[[58]](#footnote-58) In a footnote, he follows up with a citation to Needham and draws some implications for the creation of humanity, “For a man who reflects, would the production of a man independently from the ordinary means be more marvelous than that of an insect from flour and water? Fermentation & putrefaction visibly produce living animals.”[[59]](#footnote-59)

Needham’s work does not survive the test of time. In 1765, Lazzaro Spallanzani argues that the animalcules that Needham observes don’t come from plantlike filaments in the infusions of broth but rather from microscopic eggs. He also argues that had Needham boiled the broth longer, then no life would have emerged.[[60]](#footnote-60) In 1770, Maurice Roffredi clarifies the life cycle of the nematode and shows that it doesn’t arise from the decay of vegetation. Needham concedes that Roffredi is right, but he rebuts Spallanzani’s criticisms at length, and Spallanzani replies to Needham at length in turn.[[61]](#footnote-61)

Even though Needham’s opponents win in the long run, his work is important and well-known in the middle of 18th century, and he’s an inspiration to contemporary atheists. So, I say, when you visualize the rotting turnip in the turnip paragraph you shouldn’t imagine a kohlrabi being slowly reduced to brown goo, which then somehow gives rise to the order of the universe. Instead, you should imagine worms, that is to say, nematodes, emerging from the turnip and keep in mind that Diderot, Marischal, and d’Holbach argue by extension and generalization that a similar process might give rise to the diverse forms of life on earth.

# Theism and Atheism in the Rotting Turnip Paragraph

The theist in the rotting turnip paragraph is someone who thinks that piety requires denying that God resembles a human mind:

I ask the Theist, if he does not allow, that there is a great and immeasurable, because incomprehensible, difference between the human and the divine mind: The more pious he is, the more readily will he assent to the affirmative, and the more will he be disposed to magnify the difference: He will even assert, that the difference is of a nature which cannot be too much magnified (*DNR* 12.7, p. 218)

In thinking about Philo’s claim that the ordinary pious theist thinks that God is radically unlike a human mind, it’s good to revisit an exchange between Demea and Cleanthes. Demea begins with an account of the human mind:

What is the soul of man? A composition of various faculties, passions, sentiments, ideas; united, indeed, into one self or person, but still distinct from each other. When it reasons, the ideas, which are the parts of its discourse, arrange themselves in a certain form or order; which is not preserved entire for a moment, but immediately gives place to another arrangement. New opinions, new passions, new affections, new feelings arise, which continually diversify the mental scene, and produce in it the greatest variety, and most rapid succession imaginable (*DNR* 4.2, p. 159).

As commentators have observed, this is quite similar to the bundle theory of mind that Hume offers in the *Treatise,* so Demea seems to be speaking for Hume on this occasion.[[62]](#footnote-62)

Demea then observes that this account of mind is incompatible with the simplicity and changelessness standardly attributed to God:

How is this compatible, with that perfect immutability and simplicity, which all true Theists ascribe to the Deity? By the same act, say they, he sees past, present, and future: His love and his hatred, his mercy and his justice, are one individual operation: He is entire in every point of space; and complete in every instant of duration. No succession, no change, no acquisition, no diminution. What he is implies not in it any shadow of distinction or diversity. And what he is, this moment, he ever has been, and ever will be, without any new judgement, sentiment, or operation. He stands fixed in one simple, perfect state; nor can you ever say, with any propriety, that this act of his is different from that other, or that this judgement or idea has been lately formed, and will give place, by succession, to any different judgement or idea (*DNR* 4.2, p. 159).

For Demea and for Hume, the human soul is a composition of faculties, passions, sentiments, and ideas. In reasoning, certain ideas arrange themselves in new orders. New opinions and feelings are continually generated. None of this is compatible with the traditional conception of God as immutable and simple.

In response, Cleanthes bites the bullet and says that those who believe in divine simplicity and immutability are atheists: “a mind, whose acts and sentiments and ideas are not distinct and successive; one, that is wholly simple, and totally immutable; is a mind which has not thought, no reason, no will, no sentiment, no love, no hatred; or in a word, is no mind at all” (*DNR* 4.3 p. 159).[[63]](#footnote-63) Philo replies that if you don’t count people who believe that the source of order in the world is simple and immutable as theists, then there will be no theists besides Cleanthes himself: “You are honouring with the appellation of atheist all the sound, orthodox, divines almost, who have treated of this subject; and you will, at last, be, yourself, found, according to your reckoning, as the only sound theist in the world” (*DNR* 4.4, pp. 161-2). Philo’s remark is a reasonable one. The Fourth Lateran Council canons of 1215 command Christians to believe that God is “eternal, immeasurable, omnipotent, unchangeable, incomprehensible, and ineffable,” and “one entirely simple essence, substance, or nature.”[[64]](#footnote-64) The first article of the Thirty-Nine Articles governing the Church of England is “there is but one lyvyng and true God, everlastyng, without body, partes, or passions, of infinite power, wysdome, and goodnesse, the maker and preserver of al things both visible and invisible.”[[65]](#footnote-65) Aquinas, Malebranche, Locke, and Clarke all assert that God is simple and unchanging.[[66]](#footnote-66) Some thinkers remain silent on the topic, but, so far as I know, no philosopher or theologian in the medieval or early modern theistic traditions positively asserts that God changes or has parts.[[67]](#footnote-67) Philo is right when he says that the ordinarily pious theologian thinks that the divine mind is radically unlike the human mind.

Let’s turn to Philo’s characterization of the atheist. He prods him to concede that there is “a certain degree of analogy among all the operations of Nature, in every situation and in every age; whether the rotting of a turnip, the generation of an animal, and the structure of human thought be not energies that probably bear some remote analogy to each other” (*DNR* 12.7, p. 218). From this premise, he forces the atheist to draw the consequence that there’s a distant resemblance between the source of order in the universe and a human mind:

Having obtained this concession, I push him still farther in his retreat; and I ask him, if it be not probable, that the principle which first arranged, and still maintains order in this universe, bears not also some remote inconceivable analogy to the other operations of Nature, and among the rest to the œconomy of human mind and thought. However reluctant, he must give his assent (*DNR* 12.7, p. 218).

The conclusion follows from the premise on the assumption that the source of order in the universe is something like a rotting turnip or animal generation, which is something that Marischal, Diderot, and d’Holbach believe. So, I say, the atheists that Hume has in mind include Marischal, Diderot, and d’Holbach. (Philo’s implication that the atheist thinks that “the generation of an animal” is also illuminating in this context may be a reference to Diderot’s thought that the production of life from a spermatozoan is a useful example of heterogenesis.) I think Hume picks a rotting turnip rather than rotting wheat or rotting beef, because a turnip is a comedic vegetable, and it’s more ridiculous to imagine the order in the world emerging from a turnip.[[68]](#footnote-68)

The rotting turnip paragraph ends with an exhortation to the disputants to “Consider then, where the real point of controversy lies, and if you cannot lay aside your disputes, endeavour, at least, to cure yourselves of your animosity” (*NHR* 12.7). Hume’s attempted cures for animosity are two comparisons. The first is between the theist and the atheist as they have been described. The second is between the two positions that they would end up occupying, if they allowed the motivating principles behind their positions free rein.

Hume’s first cure for animosity between the theist and the atheist is an application of remarks on intractable disputes that Philo makes in the beginning of the paragraph. Disputes that turn on qualitative differences that aren’t “susceptible of any exact mensuration, which may be the standard in the controversy” are thus “incurably ambiguous” (*DNR* 12.7, pp. 217-8). After getting the theist to eagerly agree that there’s a radical difference between human and divine minds and getting the atheist to reluctantly concede that there’s a remote analogy between the source of order in the world and a human mind, Philo concludes that the dispute is merely verbal:

Where then, cry I to both these antagonists, is the subject of your dispute? The Theist allows, that the original intelligence is very different from human reason: The Atheist allows, that the original principle of order bears some remote analogy to it. Will you quarrel, Gentlemen, about the degrees, and enter into a controversy, which admits not of any precise meaning, nor consequently of any determination? (*DNR* 12.7, p. 218)

Hume implicitly takes the question of theism to be the question of how similar the source of order in the universe is to a human intellect, and he’s assuming that the answer to that question depends on a quality that’s not susceptible to measurement. Given Philo’s earlier claims, it follows that the dispute is irresolvable. Whether the source of order is enough like a human mind to count as God is a question of qualitative degree and not one that allows for measurement.

It may seem incredible to say that the difference between theism and atheism is merely verbal. Keith Yandell, arguing against the plausibility of Hume’s claim that there’s merely a verbal distinction between the theist and the atheist, asserts “a monotheist of Jewish, Christian, or Islamic sort believes in an omnicompetent Creator and Providence” where, “‘omnicompetent’ means ‘omnipotent, omniscient, and morally perfect.’”[[69]](#footnote-69) If Hume’s claim is to have any plausibility, we should think of him as appealing to the generally agreed upon radical differences between the metaphysical attributes of God and those of his creatures, in particular with respect to simplicity, immutability, impassivity, and timelessness. To be fair to Hume, once we assert that the source of order in the world is radically unlike a human mind, we might lose grip on whether we understand what it is for such a thing to know something, to be morally good, or even for such a thing to be able to do something.

Philo attributes a guiding principle to the theist and the atheist, has them follow those principles, and compares them when they reach natural destinations. If they don’t admit that their dispute is merely verbal, then they may well change places:

I should not be surprised to find you insensibly change sides; while the theist on the one hand exaggerates the dissimilarity between the supreme Being, and frail, imperfect, variable, fleeting, and mortal creatures; and the atheist on the other magnifies the analogy among all the operations of nature, in every period, every situation, and every position (*DNR* 12.7, p. 218).

The metric that determines which side the figure is on is how much the source of the universe resembles a human mind. The theist starts out thinking that the source of order in the universe is more like a human mind than the atheist does. The theist is motivated by the principle that the more pious someone is, “the more will he be disposed to magnify the difference” between human and divine minds (*DNR* 12.7, p. 218). The atheist is driven by his love of analogies to grant some degree of similarity. In the end, the so-called atheist ends up saying that the source of order in the world is more like a human mind than the devout theist does.

The principle that Philo attributes to the theist is that the more pious you are, the more you’ll deny the similarity between God and humans. If so, then the most pious person will deny that God is anything like his creatures. This doctrine is old and traditional. In defense of his opinion that piety requires not inquiring into the attributes of God, Demea says he “might cite all the divines almost, from the foundation of Christianity, who have ever treated of this or any other theological subject,” (*DNR* 2.2, p. 141). Demea translates and quotes a passage from *The* *Search after Truth,* in which Malebranche says that we ought not

imagine, that the Spirit of God has human ideas, or bears *any* resemblance to our spirit; under colour that we know nothing more perfect than a human mind. We ought rather to believe, that as he comprehends the perfections of matter without being material. . . . he comprehends also the perfections of created spirits, without being spirit, in the manner we conceive spirit(*DNR* 2.3, p. 142).[[70]](#footnote-70)

The purest version of this view, apophatic or negative theology, denies that we can properly make positive assertions about God. Instead, we have to settle for a series of denials. We can’t say that God is wise, because that would make him like some of us, but we can say that he is not foolish.

As we’ve seen, Cleanthes asserts that the standard view that the source of order in the universe is unlike a human mind in being simple and immutable is tantamount to atheism. *A fortiori*, he criticizes apophatic theology by claiming that it’s equivalent to atheism: “how do you mystics, who maintain the absolute incomprehensibility of the Deity, differ from Sceptics or Atheists, who assert, that the first cause of All is unknown and unintelligible?” (*DNR* 4.1, p. 158). This is a recapitulation of an argument that Anthony Collins makes against William King earlier in the century. All that King means by God, according to Collins, “is *a general Cause of Effects.*”[[71]](#footnote-71) “But,” Collins continues, “if that be all that is meant by the term, I see not why Atheists should not come into the Belief of such a Deity.”[[72]](#footnote-72) In the turnip passage, Philo turns the equivalence in the other direction and teases the French atheists for holding a position that’s so close to apophatic theology.

No matter how radical the atheist thinks he is, he’ll never outflank the apophatic theologian with respect to how little the source of order in the world resembles a human mind. Such theists don’t demand that the cause of order in the universe be very much like a human mind, and, indeed, they insist on the ineffability and indescribability of the divine attributes.

In the other direction, Philo says that the atheist tends to exaggerate the strength of analogies in nature: he “magnifies the analogy among all the operations of nature, in every period, every situation, and every position” (*DNR* 12.7, p. 218). The real-life atheist of Hume’s acquaintance with a famous affinity for analogies is Diderot, whose writings on the sources of order in the universe are filled with metaphors and similes. In replies to criticism, Pierre Maupertuis replies that Diderot’s form of reasoning, “which M. Diderot calls the act of generalization, and which he regards as the touchstone of systems, is only a kind of analogy, which one is entitled to stop where one wishes; unable to prove either the falsity or the truth of a system”[[73]](#footnote-73) According to Annie Ibrahim, “Diderot elaborates the harmonic nature of the organicity of sentiments, ideas, and memory so deeply that he carries metaphor, like science, up to the *limits of experience.*”[[74]](#footnote-74) If Diderot is willing to compare the world to a hive of bees or the brain and the nervous system to a spider and its web[[75]](#footnote-75) what stands in the way of comparing the works of nature to the works of artifice?

According to Philo, the atheist’s fondness for analogies should make him more sympathetic to the argument from design. This is a difficult passage to understand on the standard reading. More than once Hume says that those who consider the argument from design find it persuasive. At the beginning of the *Natural History,* he writes, “The whole frame of nature bespeaks an intelligent author; and no rational enquirer can, after serious reflection, suspend his belief a moment with regard to the primary principles of genuine Theism and Religion” (*NHR* Intro 1). He has Cleanthes present especially polished versions of the argument and declare,

The declared profession of every reasonable sceptic is only to reject abstruse, remote and refined arguments; to adhere to common sense and the plain instincts of nature; and to assent, where-ever any reasons strike him with so full a force, that he cannot, without the greatest violence, prevent it. Now the arguments for Natural Religion are plainly of this kind; and nothing but the most perverse, obstinate metaphysics can reject them (*DNR* 3.7, p. 154).

In response to these remarks and similar ones, “Philo was a little embarrassed and confounded” (*DNR* 3.10, p. 155). At the beginning of Part 12, Philo says that no one is so stupid and careless as to permanently reject the appearance of design: “A purpose, an intention, a design strikes every where the most careless, the most stupid thinker; and no man can be so hardened in absurd systems, as at all times to reject it” (*DNR* 12.2, p. 214).[[76]](#footnote-76) Hume thinks that the analogy between natural objects and artifacts is at least as good as any rival analogies and that someone looking at analogies with an open mind will realize that eventually.

According to Emilio Mazza and Gianluca Mori, “the ‘verbal dispute’ of 1776 (based on the ‘remote analogy’ between ‘the original principle of order’ and human reason) is entirely in atheist territory.”[[77]](#footnote-77) I would say rather that the first comparison is partly on the atheist’s territory and partly on the theist’s. Because there’s no way of drawing a boundary between the two, Hume claims that the dispute is merely verbal. In the second comparison, the theist and the atheist have switched territory, the atheist out of a consistent pursuit of analogy, and the theist out of a pious denial that there’s any similarity between God and creatures.

Mazza and Mori raise a useful question: why does Hume tell d’Holbach that he never met an atheist even though he has already met Marischal?[[78]](#footnote-78) Here’s a related puzzle, why is Marischal so angry? Marischal is an 18th century European diplomat. He can hardly lose his temper any time anyone hinted that he believes in the being of a God, which is what Hume says provokes Marischal to not speak to him for a week. Marischal shelters and supports Rousseau in both Switzerland and Scotland after Rousseau is persecuted for publishing deistic sentiments in the ‘Profession of Faith of a Savoyard Vicar.’[[79]](#footnote-79) Marischal would hardly do that if he had a reflex hatred of the least expression of belief in God.

My best conjecture is that when Hume and Marischal first meet, Marischal says that he’s an atheist, and Hume tries to argue that there aren’t any atheists, perhaps offering ancestral versions of the considerations in the rotting turnip paragraph. Perhaps Hume tells Marischal that everyone has to grant that there’s at some resemblance between the source of order in the universe and the human mind and that since no one really thinks that God is very much like a human mind, that counts as enough for theism. That would explain how he can tell d’Holbach that he had never met an atheist. It would also explain why Marischal was annoyed with him, since it’s annoying to be told that you don’t believe what you say you do. Even in the rotting turnip paragraph, written at the end of Hume’s life, when he really should know better, he has Philo assert that the so-called atheist “is only nominally so, and can never possibly be in earnest” (*DNR* 12.7, p. 218).

My conjecture about what angers Marischal is only an educated guess. What we know is that Diderot says that Hume says that he never met an atheist and Boswell says that Hume calls Marischal a downright atheist who is offended after Hume hints at a belief in the existence of God.

I hope to have shown that the rotting turnip paragraph is Hume’s reply to atheists who accuse him of being excessively cautious on matters of religion. The members of d’Holbach’s coterie appeal to Needham’s experiments to show the generative powers of matter as a rival to divine creation and they think that Hume concedes too much to theism. Hume replies, first, that it’s not obvious how to draw the line between atheists and the pious theists; second, that atheists will never be able to be more radical than an apophatic theologian on how little the source of order in the universe resembles a human mind; and, third, that a thoroughgoing commitment to cosmological arguments from analogy will pull any consistent thinker away from pure atheism.

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1. I presented this material to a virtual session of George Mason University’s philosophy colloquium series. I also presented it at the Hume Society Meeting in Provo in 2023 with helpful comments from Stanley Tweyman, who was not persuaded. I’m grateful for all the feedback that I received on those occasions. Emilio Mazza and I had a useful conversation on this topic in Prague at the Hume Society meeting in 2022, and he’s subsequently given me helpful comments and papers. Chris Lorkowski also gave me useful comments. I’m grateful to Kenny Pearce who gave me comments and let me look at some of his unpublished material on apophatic theology. Dana Tulodzicki and I had a useful conversation on the topic, and she gave me a book. Katy McNamee gave me advice on French. [↑](#footnote-ref-1)
2. References to the *Natural History of Religion* are given with a ‘*NHR’* followed by part and paragraph, in *A Dissertation on the Passions and The Natural History of Religion,* edited by Tom L. Beauchamp. Oxford: Clarendon Press. 2007. Citations to the *Dialogues Concerning Natural Religion* are given with a ‘*DNR’* followed by part, paragraph, and page number, edited and with an introduction by Norman Kemp Smith, 2nd edition. London: Thomas Nelson and Sons, 1947. My references to *Letters* are to J. Y. T. Greig edition of *The Letters of David Hume*. Oxford Univ. Press, 2011, cited by letter number, volume, and page. References to *New Letters* are *New Letters of David Hume,* edited by Raymond Klibansky and Ernest C. Mossner. Oxford University Press, 1954, cited by letter number and page. My reference to “Of Suicide,” is to the essay in *Essays: Moral, Political, and Literary,* edited by Eugene F. Miller. Indianapolis: Liberty Fund, 1985, cited by paragraph and page. My reference to the *Enquiry Concerning the Principles of Morals* is given with EPM, section and paragraph, with a page number to the editorial apparatus in Tom L. Beauchamp’s critical edition. Oxford: Clarendon Press. 1999. [↑](#footnote-ref-2)
3. For elaboration on these examples, see my “Hume and the Laws of Nature.” For more discussion and further examples, see Gaskin, 124-6, 219-21. [↑](#footnote-ref-3)
4. For discussion see Morére, 144-5 and Foley, 90-1. [↑](#footnote-ref-4)
5. For discussion, see Yandell, 43-4 and Lemmens, 295-6 [↑](#footnote-ref-5)
6. Thomas Holden argues ably and at length in his *Spectres of False Divinity* that Hume denies that there’s a God with moral attributes, mostly for reasons connected to the ones raised in Hume’s letter to Hutcheson (on this see also Lorkowski 38-9). [↑](#footnote-ref-6)
7. See Gaskin, 56-8, Tweyman, “Hume’s Dialogues on Evil.” Somewhat perversely, Holden denies that Philo is speaking for Hume in advancing this argument, partially because he thinks the argument violates Hume’s skeptical strictures and partially because Holden doesn’t think that the argument is any good (168-78). I think that Hume is never so skeptical that he’s unwilling to make tentative causal inferences from observable phenomena and that his presentation of the problem of evil is a great contribution to the philosophy of religion. [↑](#footnote-ref-7)
8. Gianluca Mori (“Hume, Bolingbroke, and Voltaire”) has persuasively argued that Hume has the Viscount Bolingbroke in mind in this passage. Besides Mori, see also Gaskin 125-6, 217-8, Garrett, 216-19 for discussions of the intended strength of the remote analogy. [↑](#footnote-ref-8)
9. See Gaskin, esp. 219-29. [↑](#footnote-ref-9)
10. Russell and Kraal, §4, Morris and Brown, §8.4 [↑](#footnote-ref-10)
11. Kemp Smith, Appendix C 93-5, M.A. Stewart, 303. The other salient text is “Of the Origin of Government,” which Hume completes in 1774. He also changes some lines on method in Section 1 of the *Enquiry Concerning the Principles of Morals* in the 1764 edition (*EPM* 1.10, pp. 215-6) and he rearranges some of the text; ; here I’m indebted to Jacqueline Taylor. [↑](#footnote-ref-11)
12. Cuthell, 2.68-72, 2.100-02, 2.107 [↑](#footnote-ref-12)
13. Boswell,11 [↑](#footnote-ref-13)
14. Boswell, 14; Gaskin, 221 [↑](#footnote-ref-14)
15. More precisely, Marischal refers to Hume as ‘F—I D---r’ or ‘F---I D—r—m’ which Andrew Lang fills in as ‘Fidei Defensor’ (45, 49, 52). It is an expression which has been used in an abbreviated form on British currency since the reign of George I. [↑](#footnote-ref-15)
16. Mossner*,* 423-506 [↑](#footnote-ref-16)
17. Horne, 688 [↑](#footnote-ref-17)
18. Gibbon 14; see Pocock, 1.248 [↑](#footnote-ref-18)
19. Quoted and translated in Mazza, “Hume’s Meek Philosophy,” 230. [↑](#footnote-ref-19)
20. *Correspondance* 5.133-4. Translated and quoted in Mazza and Mori, “How Many Atheists?,” 175. Mazza, “Hume’s Meek Philosophy,” 215n8 gives a list of commentators who have discussed the anecdote. Mazza and Mori give four reasons for thinking that the anecdote about Hume at d’Holbach’s table is “Diderot’s creation; at least, his literary reworking of something else” (“How Many Atheists?” 181). I wouldn’t go that far, but two of the considerations that they offer show suggest that Diderot is telling the story in his own words. They observe that the phrase that Hume purportedly uses to justify the claim that there aren’t atheists “he never saw any” (“il n’en avait jamais vu*”*) is one that Diderot had previously put in the mouth of an invented philosopher who denies the existence of Christians (“How Many,”181). Similarly, the phrase that d’Holbach uses for those who aren’t clean examples of atheists “they don’t know what to think” (“ne savent qu’en penser”) is one that Diderot uses to refer to skeptical atheists in an earlier work (“How Many,” 182). The other considerations that they give just show that sometimes Diderot recycles material in his letters and that philosophers sometimes argue through ostensive demonstration. My considered opinion is that Diderot’s story has the ring of truth, and it fits with other stories that we have from Hume’s time in Paris as a diplomat. [↑](#footnote-ref-20)
21. Romilly, 1.179; “How Many Atheists?,” 177-8; [↑](#footnote-ref-21)
22. Morellet, 1.135; Kors, 43, Mazza and Mori, “How Many Atheists?,” 178. [↑](#footnote-ref-22)
23. Mossner, 456-74. [↑](#footnote-ref-23)
24. Roger, *Life Sciences* 399=*Sciences de la vie* 495, Roe, “Needham and Organisms,” 160 [↑](#footnote-ref-24)
25. Needham*, New Microscopical Discoveries* 85-9; Roger, *Life Sciences,* 400-01=*Sciences de la vie* 496-7 [↑](#footnote-ref-25)
26. Roger, *Life Sciences,* 401=*Sciences de la vie* 497-8, Roe, “Needham and Organisms,” 160, Gregory, 82 [↑](#footnote-ref-26)
27. Roger *Life Sciences* 401-02=*Sciences de la vie* 497-8, Roe “Needham and Organisms,” 160-1 [↑](#footnote-ref-27)
28. Needham, “Late Observations*,*”§§21-22, Roger *Life Sciences,* 403-04=*Sciences de la vie* 499-500, Roe “Needham and Organisms” 162 [↑](#footnote-ref-28)
29. Needham, “Late Observations,” §29, Roger *Life Sciences* 404-12=*Sciences de la vie* 500-511, Roe “Needham and Organisms” 162-3 and Farley, *Spontaneous Generation* 24-5. [↑](#footnote-ref-29)
30. J. Stewart, 72; see Knox-Shaw, 213-4. [↑](#footnote-ref-30)
31. J. Stewart, 116-17, 130 [↑](#footnote-ref-31)
32. J. Stewart, 133 [↑](#footnote-ref-32)
33. Translation from French mine, with ‘F-i D—i’ reconstructed as ‘Fidei Defensori’ (Lang,63) [↑](#footnote-ref-33)
34. Roe, “Voltaire vs. Needham,” 74 [↑](#footnote-ref-34)
35. Roger, *Life Sciences*, 522-24=*Sciences de la vie* 741-3, Roe, “Voltaire vs. Needham,” 74-5. [↑](#footnote-ref-35)
36. Voltaire, *Sur les miracles* 336; Roe “Needham and Organisms,” 180-1, Roe, “Voltaire vs. Needham,” 75 [↑](#footnote-ref-36)
37. Voltaire, *Sur les miracles,* 234, translation mine; Roe “Needham and Organisms,” 180, Roe “Voltaire vs. Needham” 75, Gregory, 89-90. [↑](#footnote-ref-37)
38. Vartanian, “From Deist to Atheist,” and “Pensée XIX: II”; see also Gregory, 79-87. [↑](#footnote-ref-38)
39. Diderot, *Philosophic Thoughts* 34-5= *Œuvres Complètes* 2.24-5; Vartainian, “From Deist to Atheist,” 47-8, Roger, *Sciences de la vie* 587 (Robert Ellrich doesn’t translate Jacques Roger’s chapter on Diderot) [↑](#footnote-ref-39)
40. Diderot, *Philosophic Thoughts* 35= *Œuvres Complètes* 2.25-6 [↑](#footnote-ref-40)
41. Diderot, *Philosophic Thoughts* 35= *Œuvres Complètes* 2.26; Vartanian, “Pensée XIX: II,” 284 [↑](#footnote-ref-41)
42. Diderot, *Philosophic Thoughts* 35= *Œuvres Complètes* 2.26 [↑](#footnote-ref-42)
43. Diderot, *Philosophic Thoughts* 35= *Œuvres Complètes* 2.25; Vartanian, “Pensée XIX: II,” 283, Roger, *Sciences de la vie* 587. [↑](#footnote-ref-43)
44. Pinto-Correia, 72-9 [↑](#footnote-ref-44)
45. Diderot, *Philosophic Thoughts* 35= *Œuvres Complètes* 2.24 [↑](#footnote-ref-45)
46. Pinto-Correia, 23-5 [↑](#footnote-ref-46)
47. Farley, *Spontaneous Generation,* 14-18 [↑](#footnote-ref-47)
48. Diderot, *Philosophic Thoughts* 35= *Œuvres Complètes* 2.25 [↑](#footnote-ref-48)
49. Vartanian, “Pensée XIX: II,” 285. The quotation is from the *Letter on the Blind* 113= *Œuvres Complètes* 4.51 [↑](#footnote-ref-49)
50. Diderot, *D’Alembert’s Dream* 153-4= *Œuvres Complètes* 17.97-8. [↑](#footnote-ref-50)
51. Diderot, *D’Alembert’s Dream* 174= *Œuvres Complètes* 17.128; for discussion, see Roger, *Sciences de la vie* 661-3, Gregory, 127-8. [↑](#footnote-ref-51)
52. Diderot, *D’Alembert’s Dream* 177= *Œuvres Complètes* 17.132. [↑](#footnote-ref-52)
53. Diderot, *D’Alembert’s Dream* 173*= Œuvres Complètes* 17.127, Roger, *Sciences de la vie* 662. [↑](#footnote-ref-53)
54. Diderot, *D’Alembert’s Dream* 173*= Œuvres Complètes* 17.127; Roger, *Sciences de la vie* 664-5, Gregory, 90-1. [↑](#footnote-ref-54)
55. Gregory*,* 91-3 [↑](#footnote-ref-55)
56. Diderot, *D’Alembert’s Dream*, 175*= Œuvres Complètes* 17.129. [↑](#footnote-ref-56)
57. Diderot, *D’Alembert’s Dream* isn’t published during either Hume’s or Diderot’s lifetimes. It’s circulated after its composition in 1769. D’Alembert and Lespinasse, who are presented as characters who do and say embarrassing things, find out about it and ask for it to be destroyed (Tancock, 135). Hume is friends with d’Alembert and Lespinasse and might have heard reports of its contents, but I only cite it as evidence for the kind of thing that Diderot is saying in the 1760s. [↑](#footnote-ref-57)
58. D’Holbach, 23. [↑](#footnote-ref-58)
59. D’Holbach, 23n5, I’ve used Roe’s translation; Roe, “Voltaire vs. Needham” 80, see also Roger *Life Sciences* 417=*Sciences de la vie* 679. In the context of discussing the rotting turnip paragraph, Mazza and Mori observe that d’Holbach refers to the movements “that produce the dissolution of the dead carcass, the dispersion of its parts, and the formation of new combinations, from which new beings result” as “the immutable order of ever-active nature” (d’Holbach 63, Mazza and Mori “Hume’s Palimpsest,” 189, 193n36, their translation). [↑](#footnote-ref-59)
60. Roe, “Needham and Organisms” 165, Farley, *Spontaneous* 25. Voltaire mentions Spallanzani’s work in passing in one of his attacks on Needham (Voltaire *Sur les Miracles* 233; Roger *Life Sciences,* 522-3=*Sciences de la vie* 741, Roe, “Voltaire vs. Needham,” 181). [↑](#footnote-ref-60)
61. Roe, “Needham and Organisms” 165-8, 176, 179-80, Farley, *Spontaneous* 25-6, Correia-Pinto 63-4, 189-91. [↑](#footnote-ref-61)
62. E.g., Baskin, 105-06 and Immerwahr, 170. [↑](#footnote-ref-62)
63. Chris Lorkowski argues that we should attribute Cleanthes’ view to Hume (“Mysticism and Cleanthes”) [↑](#footnote-ref-63)
64. Denzinger and Schönmetzer, #800. [↑](#footnote-ref-64)
65. Schaff, 3.487. I’m indebted to Kenny Pearce here. [↑](#footnote-ref-65)
66. Aquinas, 1.3.7, 1.9.1, Malebranche, *Recherche de la vérité* 1.455-6=*Search after Truth* 231-2, *Recherche de la vérité* 3.119-30=*Search after Truth* 617-21, Locke *Essay* 2.23.35, 2.27.2, and Clarke 34-5. I thank Jeff Brower, Jan Cover, and Dan Frank for discussion and confirming that I'm not missing anyone obvious. [↑](#footnote-ref-66)
67. Berkeley says that God is simple and impassive (*Alciphron* 4.21), but he thinks there’s a puzzle about attributing immutability to him (*Dialogues* 254). [↑](#footnote-ref-67)
68. Other people don’t seem to find turnips as funny as I do. I grant that there may be some other stylistic or biographical reason for Hume’s choice of vegetable. [↑](#footnote-ref-68)
69. Yandell, 41 [↑](#footnote-ref-69)
70. Malebranche, *Recherche* 1.485-6=*Search* 251 [↑](#footnote-ref-70)
71. Collins, 13 [↑](#footnote-ref-71)
72. Collins*,* 13-14; see Pearce, 15-18. [↑](#footnote-ref-72)
73. Maupertuis 2.174, translation mine; for discussion see Terrall 354, Wolfe 62, Ibrahim 125-6.). Hume owns Maupertuis’s complete works--at least, they end up in his nephew’s library (Norton and Norton, #840, p. 113)--including the reply to Diderot. He expresses his admiration for Maupertuis in a letter to the Abbé Le Blanc: “I have long been a great Admirer of Monsr Maupertuis. He is the only great Geometer in the World, who ever was a man of Eloquence and fine Imagination. Not to mention his Talents of a profound Metaphysician, and as I hear, an accomplish’d Gentleman & a man of Worth” (*Letters* #113 1.227). [↑](#footnote-ref-73)
74. Ibrahim, 133, translation mine. [↑](#footnote-ref-74)
75. Diderot*, D’Alembert’s Dream* 168-9, 183-4= *Œuvres Complètes* 17.120-1, 141-2. [↑](#footnote-ref-75)
76. Norman Kemp Smith conjectures that in 1776 Hume altersPhilo’s evaluation of the argument from design at the end of Part 10 from, “all objections appear (what perhaps they really are) mere cavils and sophisms” to “all objections appear (what I believe they really are) mere cavils and sophisms” (Appendix C, 95, *DNR* 10.36 p.202). If this conjecture is right, then Hume digs his heels in on the question of obviousness of design in nature after being mocked for his religiosity in the 1760s. [↑](#footnote-ref-76)
77. “Hume’s Palimpsest,” 189. [↑](#footnote-ref-77)
78. Mazza and Mori, “How Many Atheists?,” p. 194n134 [↑](#footnote-ref-78)
79. Zaretsky and Scott, 33, 92, 94, 98-103 [↑](#footnote-ref-79)