

Dialogues Concerning Natural Religion

David Hume

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[Brackets] enclose editorial explanations. Small ·dots· enclose material that has been added, but can be read as though it were part of the original text. Occasional •bullets, and also indenting of passages that are not quotations, are meant as aids to grasping the structure of a sentence or a thought. Every four-point ellipsis indicates the omission of a brief passage that seems to present more difficulty than it is worth. Longer omissions are reported with square brackets in normal-sized type.

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Part 4

It seems strange to me, said **Cleanthes**, that you, Demea, who are so sincere in the cause of religion, should still maintain the mysterious, incomprehensible nature of God, and should insist so strenuously that he in no way resembles human creatures. I freely admit that God has many powers and attributes that we can't comprehend; but if our ideas of him are not, as far as they go, true and adequate and in conformity with his real nature, I don't know what remains that is worth discussing in this subject. Is the name, without any meaning, of such vast importance? And how do you *mystics*, who maintain the absolute incomprehensibility of God, differ from *sceptics* or *atheists* who assert that the first cause of everything is unknown and unintelligible? They reject the view that the world was produced by a mind, by which I mean a mind like the human one (for I don't know of any other kind). They must be •very bold if they then go on to claim to know what *other* specific intelligible cause produced the world; and •if they don't make that claim, and admit that the cause is unknown to them•, they must be •very scrupulous indeed if they refuse to call the unknown cause of everything a 'God' or 'Deity', and to bestow on him as many high-flown praises and meaningless epithets as you may ask them to.

Who could imagine, replied **Demea**, that Cleanthes—the calm philosophical Cleanthes—would attempt to refute his antagonists by sticking a label on them (•namely the label 'mystic'•) and, like the common bigots and inquisitors of our time, resort to invective and rhetoric instead of reasoning? Doesn't he realize that his kind of attack can go either way, and that 'anthropomorphite' is as damaging and threatening a label, bringing as much danger with it, as the epithet

'mystic' with which he has honoured me? ['Anthropo-morphite' comes from Greek meaning 'human-shaped'. An anthropomorphite is someone who holds that God is like a man.] In reality, Cleanthes, consider what you are saying when you represent God as similar to a human mind and understanding. What is the mind of man? It is made up of *many different* faculties, passions, sentiments and ideas; they are indeed united into one self or person, but they are still distinct from each other. When a man's mind reasons, the ideas that are the parts of its •mental• discourse arrange themselves in a certain form or order; and this is not preserved intact for a moment, but immediately makes way for a new arrangement •of ideas•. 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. How is this compatible with that perfect *unchangingness* and *simplicity*—'simplicity' in the sense of 'not having parts'—which all true theists ascribe to God? According to them, he sees past, present, and future in a single act; his love and hatred, his mercy and justice, are one individual operation; he is entirely present at every point in space, and exists completely at every instant of time. God's nature doesn't involve the slightest hint of difference or variation: there is no sequence of events in him, he doesn't change, he doesn't gain or lose anything. What he is now is what he has always been, and always will be, without any change in what he thinks, feels, or does. He stands fixed in one simple, perfect state; and it can never be correct to say that *this* act of his is different from *that*, or that this judgment or idea is one that he had only recently, and that it will in time be followed by some other judgment or idea.

I can readily allow, said **Cleanthes**, that those who maintain that *God is perfectly simple* in the sense you have given to this, and to the extent that you have just expressed, are complete mystics, and are guilty of all the consequences that I have derived from their opinion. They are, in a word, atheists without knowing it. For though we may grant that God has attributes that we cannot understand, still we ought never to ascribe to him any attributes that are absolutely incompatible with the thinking nature that is essential to him. A 'mind' whose acts and feelings and ideas are not distinct and successive, a 'mind' that is wholly simple and totally unchanging, is a 'mind' that has no thought, no reason, no will, no sentiment, no love, no hatred. In short, it isn't a *mind* at all! It is an abuse of words to call it a 'mind', on a par with speaking of a region of space that has no shape, or of number that isn't composed of smaller numbers.

Think who your targets are! said **Philo**. You confer the title 'atheist' on almost all the sound, orthodox theologians who have treated this subject; and you will end up finding that by your criteria you are the only sound theist in the world. But if idolaters are atheists (as I think they can fairly be said to be), and if Christian theologians are also atheists (as you have implied), what is left of the famous argument for theism from the *universal consent* of mankind?

But I know that names and authorities don't carry much weight with you, so I'll try to show you a little more clearly the drawbacks of that *anthropomorphism* that you have embraced; and I shall prove that there is no basis for the view that a plan of the world was formed in God's mind, consisting of distinct ideas, differently arranged, in the way an architect forms in his head the plan of a house that he intends to build.

It isn't easy to see what is gained by this supposition that God had such a plan, whether we steer by reason

or by experience. You have offered this supposed plan as a satisfactory and conclusive cause of the world. But we cannot leave it at that, for we still have to raise the further question about the *cause of this cause*. Looking for an answer, let us first consult reason, then experience.

If reason (I mean abstract reason, involving *a priori* thoughts) is not equally silent with regard to all questions concerning cause and effect, it will at least venture to say this much:

A mental world (or universe of ideas) stands in as much need of a cause as does a material world (or universe of objects); and, if the mental world is similar in its arrangement to the material one, their causes must be similar.

For there is nothing here to give rise to a different conclusion or inference regarding one world from what we can conclude regarding the other. Looked at abstractly, they are entirely alike; and any problem concerning either of them is equally a problem for the other.

If we turn to experience, compelling it to say *something* on these subjects that lie beyond its sphere, it replies that it can't see any significant difference between these two kinds of worlds, so far as causation is concerned: it finds them to be governed by similar principles, and to depend on an equal variety of causes in their operations. We have specimens in miniature of both sorts of world: our mind resembles the one, a plant or animal the other. So let experience judge from these samples, which are within its sphere. Nothing seems more intricate in its causes than thought is. Because these causes never operate in the same way in two people, we never find two people who think exactly alike. Indeed, one person doesn't think in exactly the same way at any two times. A difference of age, of the disposition of his body, of weather, of food, of company, of books, of passions—any

of these details, and others that are less conspicuous, are sufficient to alter the precise machinery of thought and cause very different movements and operations in it. As far as we can judge, plants and animal bodies are no more intricate in their motions, and don't depend on a greater variety or more precise adjustment of springs and forces.

Now, as well as the question concerning •the cause of the being whom you suppose to be the author of nature, your system of anthropomorphism confronts us with another question, concerning the cause of •the mental world that you see as causing the material world—that is, the cause of •God's plan. How can we satisfy ourselves about *that*? Haven't we the same reason to see that mental world as caused by another mental world, or new force of thinking? But if we stop there, •refusing to raise the question about the cause of God's plan, why do we go as far as God's plan? Why not stop at the material world? How can we satisfy ourselves without going on to infinity? Not that there is any satisfaction in the infinite sequence •of causes of causes of. . . . Let us remember the story of the Indian philosopher and his elephant: •he thought that the earth needed something to hold it up, and supposed it rested on an elephant, which he then supposed rested on a tortoise. . . . The story was never more applicable than it is to the present subject, •switching from a *spatial* to a *causal* interpretation of 'rest on'. If the material world rests •causally• on a mental world that is similar to it, this mental world must rest on some other; and so on without end. It would be better, therefore, never to look beyond the present material world. By supposing it to contain within itself the causes of its order, we are really taking *it* to be God; and the sooner we arrive at that divine being, the better. When you go one step beyond the system of the familiar world, you only stir people up into asking questions that can't possibly be answered.

You may say 'The different ideas that make up God's plan fall into order of themselves, and by their own nature', but that has no precise meaning. If it *has* a meaning, I would like to know why it is not equally good sense to say 'The parts of the material world fall into order of themselves, and by their own nature'. Can one opinion be intelligible, when the other isn't?

We do indeed have experience of ideas that fall into order of themselves, and without any known cause •outside them. But I am sure we have much *more* experience of matter that does the same—for example in every case of generation and vegetation, where it is beyond our capacities to work out what the causes are [in this work 'generation' usually = the whole process through which animals have offspring, and 'vegetation' = the corresponding process for plants]. We have also experience of particular systems of thought and of matter that have no order—of thought in madness, of matter in the decay of dead organisms. So why should we think that order is more essential to one than to the other? And if order requires a cause in both, what advantage does your system give us when it takes the •material• universe of objects to be caused by a similar •mental• universe of ideas? Our first step •beyond the material world• leads us on for ever. So it would be wise of us to limit all our enquiries to the present world, without looking beyond it. We can get no satisfaction from these speculations that so far exceed the narrow limits of human understanding.

As you know, Cleanthes, when the ancient Aristotelians were asked about the cause of some phenomenon, they usually replied in terms of their concepts of *faculty* or *occult quality*. Asked why bread nourishes, for instance, they would say that bread nourishes by its •'nutritive faculty', and that senna purges by its •'purgative faculty'. But it has turned out that this device was merely a disguise for ignorance,

and that those philosophers were really saying—though less openly—the same thing as the sceptics and the plain people say when they candidly admit that they don't know what causes these phenomena. Well, now, when we ask what causes order in the ideas of God, can you anthropomorphites give any answer except that the cause is a 'rational faculty', and that such is the nature of God? If that is acceptable, then it is hard to see why it isn't equally acceptable to account for the world's order in a similar way—appealing to 'faculties' and 'natures' that material things have—without having recourse to any such thinking creator as you insist on. It is only to say that this is the 'nature' of material objects, and that they all have an inherent 'faculty' of order and proportion; which are merely more learned and elaborate ways of admitting ignorance. The comparable story about God's plan is no better than this one about the material world—except in being closer to the prejudices of common people.

You have presented this argument with great emphasis, replied **Cleanthes**, apparently not realizing how easy it is to answer it. When in everyday life I assign a cause for some event, Philo, is it any objection that I can't assign the cause of that cause, and answer every new question that may endlessly be raised? [In reading the next bit, remember that in Hume's day 'philosopher' covered scientists as well.] What philosophers could possibly submit to so rigid a rule? Philosophers admit that ultimate causes are totally unknown; and they are aware that the most refined principles which they use to explain the phenomena are as inexplicable to them as the phenomena themselves are to the common people. So there can be no question of their agreeing that it's no use

assigning a cause unless you also assign the cause of the cause. The order and arrangement of nature, the intricate adjustment of things to their purposes, the plain use and intended purpose of every part and organ of a plant or animal—all these announce in the clearest language an intelligent cause or author. The heavens and the earth join in the same testimony: the whole chorus of nature raises one hymn to the praises of its creator. You alone, or almost alone, disturb this general harmony. You start abstruse doubts, complaints, and objections; you ask me, what is the cause of this cause? I don't know, and I don't care. *I have found a God*, and with that I stop my enquiry. Let those who are wiser or more enterprising go further.

I don't claim to be wiser or more enterprising, replied **Philo**: and for that very reason I might never have tried to go so far; especially when I'm aware that I must eventually settle for the same answer that I might—saving myself all that trouble—have settled for from the beginning. If I am still to remain in utter ignorance of causes, and can't give a full explanation of anything, I shall never think it is an advantage to shove off for a moment a difficulty which (you admit) must immediately come back to me with its full force. Natural scientists indeed very properly explain particular effects by *more general* causes, even when these general causes themselves are in the end totally inexplicable; but surely they never think it satisfactory to explain a particular effect by a *particular* cause that is no more explicable than the effect itself. A 'system of ideas, arranged by itself without a prior design, is not a whit more explicable than a 'material system that attains its order in the same way; there is no more difficulty in the latter supposition than in the former.

Part 5

But to show you still more inconveniences in your anthropomorphism, continued **Philo**, please look again at your principles. *Like effects prove like causes*. This is the basis for every empirical argument, and you say that it is also the only basis for the theological argument. Now, it is certain that the more similar the observed effects, and the more similar the causes that are inferred, the stronger is the argument. Every move away from similarity, between the effects or between the causes, lowers the probability and makes the empirical argument less conclusive. You can't doubt the principle; so you oughtn't to reject its consequences.

According to the true system of theism, all the new discoveries in astronomy, which prove the immense grandeur and magnificence of the works of nature, are further arguments for the existence of a God; according to your hypothesis of empirical theism they become objections, by moving the universe still further from all resemblance to the effects of human skill and contrivance. If the argument for genuine theism had force in earlier times, how much more force it must have now, when the bounds of nature are so infinitely enlarged and such a magnificent scene is opened to us? [As evidence of its support in ancient times, Philo quotes (in Latin) from Lucretius and Cicero. Then:] It is still more unreasonable to form our idea of the cause of such an unlimited effect on the basis of our experience of the causes of the narrow products of human design and invention.

The discoveries by microscopes, as they open a new universe in miniature, are arguments for theism according to me, whereas to you they are objections to it. The further we push our researches of this kind, the more we are led to infer that the universal cause of it all is vastly different from

mankind, and from anything of which we have empirical knowledge.

And what do you have to say about the discoveries in anatomy, chemistry, botany? . . .

Those surely are not objections, interrupted **Cleanthes**; they only reveal new instances of skill and contrivance. It is still the image of *mind* reflected on us from innumerable objects. Add, a mind *like the human*, said **Philo**. That's the only kind I know, replied **Cleanthes**. And *the more like the better*, insisted **Philo**. To be sure, said **Cleanthes**.

Now, Cleanthes, said **Philo**, pouncing with an air of triumph, note the consequences! First, by this method of reasoning, you give up all claim to *infinity* in any of the attributes of God. For, as the cause ought to be proportioned to the effect, and the effect—so far as we know—is not infinite, what right have we (on your theory) to ascribe infinity to God? You will still have to say that when we remove him so far from similarity to human creatures, we give in to the most arbitrary hypothesis and at the same time weaken all proofs of his existence.

Secondly, your theory gives you no reason to ascribe *perfection* to God even in his capacity as a finite being, or to suppose him to be free from every error, mistake, or incoherence in his activities. Consider the many inexplicable difficulties in the works of nature—illnesses, earthquakes, floods, volcanoes, and so on. If we think we can prove *a priori* that the world has a perfect creator, all these calamities become unproblematic: we can say that they only *seem to us* to be difficulties because we with our limited intellects can't follow all the infinitely complex details of which they are a part. But according to your line of argument these difficulties

are *real*; indeed they might be emphasized as new instances of the world's likeness to the products of human skill and contrivance! You must, at least, admit that we with our limited knowledge can't possibly tell whether this system contains any great faults, or deserves any considerable praise, when compared to other possible systems and perhaps even when compared to real ones. If the *Aeneid* were read to a peasant, could he judge it to absolutely faultless? Could he even give it proper place in a ranking of the products of human intelligence—he who had never seen any of the others?

Even if this world were a perfect product, we still couldn't be sure whether all the excellences of the work could justly be ascribed to the workman. When we survey a ship, we may get an exalted idea of the ingenuity of the carpenter who built such a complicated, useful, and beautiful machine. But then we shall be surprised to find that the carpenter is a stupid tradesman who imitated others, and followed a trade which has gradually improved down the centuries, after multiplied trials, mistakes, corrections, deliberations, and controversies. Perhaps our world is like that ship. It may be that many worlds were botched and bungled, throughout an eternity, before our present system was built; much labour lost, many useless trials made, and a slow but continued improvement carried on during infinite ages in the world-making trade. In such subjects as this, who can determine what is true—who indeed can even guess what is *probable*—when so many hypotheses can be put forward, and even more can be imagined?

And what shadow of an argument, continued **Philo**, can you produce, from your hypothesis, to prove that God is *one* being? A great many men join together to build a house or ship, to found and develop a city, to create a commonwealth; why couldn't several gods combine in designing and making

a world? This would only serve to make divine activities more like human ones. By sharing the work among several gods we can reduce still further the attributes of each one of them; we can get rid of the extensive power and knowledge that we have to suppose the one God to possess (if there is only one)—the extent of power and knowledge which, according to you, serves merely to *weaken* the argument for God's existence. And if such foolish, vicious creatures as men can often unite in forming and carrying out one plan, think how much more could be done by those gods or semi-gods whom we may suppose to be quite a lot more perfect than we are!

To *multiply causes without necessity* is indeed contrary to true philosophy; but that principle doesn't apply to our present case. If your theory had already established that there is one God who had every attribute needed for the production of the universe, then, I admit, it would be needless (though not absurd) to suppose that any other god existed. But while we are still confronting the question:

Are all these attributes united in one thing that has them all, or are they shared out among several independent beings?

what phenomena in nature can we point to as supplying the answer? When we see a body raised in a scale, we are sure that in the opposite scale—even if we can't see it—there is some counterbalancing weight equal to it; but we can still question whether that weight is a heap of many distinct bodies, or rather one uniform united mass; for example, whether it is a handful of pebbles or a single lump of lead. And if the weight needed for the counterbalancing is very much greater than we have ever seen any single body to possess, the former supposition becomes still more probable and natural than the latter. As with weights, so with creators. An intelligent being of such vast power and ability as is necessary to produce the universe—or, to

speak in the language of ancient philosophy, *so prodigious an animal*—goes beyond any analogy with ourselves, and indeed goes beyond what we can understand.

Furthermore, Cleanthes: men are mortal, and renew their species by generation, and so do all living creatures. The two great sexes of male and female, says Milton, animate the world. Why shouldn't this universal and essential feature of our condition also apply to those numerous and limited gods that I am saying you should argue for? And *that* brings us back to the ancient tales about the birth of the gods.

Indeed, why not become a perfect anthropomorphite? Why not assert that God is—or that each god is—corporeal, having eyes, a nose, mouth, ears, etc.? Epicurus maintained that *no man has ever seen reason except in someone of human shape, and that therefore the gods must have that shape*. This inference was deservedly ridiculed by Cicero, but by your standards it is solid and philosophical.

In a word, Cleanthes, someone who follows your hypothesis can perhaps assert or conjecture that

The universe at some time arose from something like design.

But beyond that he can't make a case for any further details, and is left to fill in his theology by wildly imagining or guessing the rest. For all he knows, the world is very faulty and imperfect by certain higher standards, which opens

the doors to all sorts of 'theologies', no one of which he can refute. Here are just three of them. This world was only the first rough attempt of some infant god, who afterwards abandoned it, ashamed of his poor performance; it is the work of some dependent, inferior god, whose superiors hold it up for ridicule; it was produced by some god in his old age and near-senility, and ever since his death the world has continued without further guidance, activated by the first shove he gave to it and the active force that he built into it. You rightly give signs of horror, Demea, at these strange suppositions; but these—and a thousand more like them—are Cleanthes' suppositions, not mine. As soon as the attributes of God are supposed to be finite, all these suppositions get a foot-hold. Speaking for myself, I can't see that having such a wild and unsettled a system of theology is in any way preferable to having none at all—that is, being an atheist.

I absolutely disown these suppositions! exclaimed **Cleanthes**; but they don't fill me with horror, especially when put forward in the casual way in which you throw them off. On the contrary, they give me pleasure when I see that even when giving your imagination completely free rein, you don't get rid of the hypothesis of *design in the universe*, but are obliged to rely on it at every turn. That concession is what I stick to, and I regard it as a sufficient foundation for religion.

Part 6

It must be a flimsy building, said **Demea**, that can be erected on such a shaky foundation! While we are uncertain whether there is one god or many, whether God or the gods to whom we owe our existence are perfect or imperfect, subordinate or supreme, dead or alive, what trust or confidence can we put in them? What devotion or worship can we offer them? What veneration or obedience give to them? This theory of religion becomes altogether useless for all the *practical* purposes of life, and even when it is considered merely as a *speculative* theological theory, the uncertainty you attribute to it must render it totally precarious and unsatisfactory,

To make it still more unsatisfactory, said **Philo**, I've thought of another hypothesis that must seem probable when evaluated in terms of the method of reasoning that Cleanthes insists on so much. He takes the basis for all religion to be this:

Similar effects arise from similar causes.

But there is another principle of the same kind, equally certain and supported in the same way by experience. namely:

Where several known circumstances are observed to be similar, the unknown will also be found similar.

Example: if we see the limbs of a human body, we conclude that it is accompanied by a human head, even if we can't see it. Second example: if we see a small part of the sun through a crack in a wall, we conclude that if the wall were removed we would see the whole sun, In short, this type of inference is so obvious and familiar that there can be no doubts as to its soundness.

Now, if we survey the universe far as we know it, it bears a great resemblance to an animal or organic body, and seems

to be driven by a source of life and motion like the one that drives organisms. •A continual circulation of matter in it produces no disorder; •a continual waste in every part is incessantly repaired; •the different parts of the whole system are seen to act in harmony with one another; and •each part of the world or member of an organism, in doing its proper job, operates both for its own preservation and for that of the whole. From all this I infer the *the world is an animal*, and that God is the MIND of the world, driving it and being affected by it.

You have too much learning, Cleanthes, to be at all surprised by this opinion, which as you know was maintained by almost all the theists of antiquity, and is the main theology that one finds in their discourses and reasonings. For though the ancient philosophers sometimes reason from final causes, pointing to evidence of purpose in the world, as if they thought the world to be *something God made*, yet their favourite idea seems to have been that the world is *God's body*, which is organized in such a way that it obeys his commands (just as your body is so organized that—for example—when you decide to raise your arm it rises). The universe is more like a human body than like the works of human skill and planning; so if it is ever appropriate to liken the whole of nature to any facts about us, with all our limits, it seems that the ancient analogy between the universe and our body is sounder than the modern one between the universe and the things we make.

The former theory also has many other advantages that recommended it to the ancient theologians. Here is one important one. Nothing clashed more with all their notions, because nothing clashes more with common experience, than

mind without body—the idea of a purely mental substance, which they didn't understand and of which they hadn't observed a single instance throughout all of nature. They knew *mind and body* because they felt both; they also knew *an order, arrangement, organization, or internal machinery in both mind and body*, again because they felt both; so it was bound to seem reasonable to transfer this experience of themselves to the universe. That is to suppose that neither the divine mind nor the divine body came first, and that *each* of them has an order and arrangement that is naturally inherent in it and inseparable from it.

So here is a new sort of anthropomorphism, Cleanthes, for you to think about; and it's a theory that doesn't seem to be open to any great difficulties. I'm sure you are above such theoretical prejudices as to find any more difficulty in supposing an animal body to be ordered and organized *originally, of itself, or from unknown causes* than in supposing a mind to be ordered in that way. So you might think that likening the universe to an animal body doesn't require supposing that is driven by a mind, a divine mind. But the common prejudice that body and mind ought always to accompany each other ought not to be entirely neglected, for it is based on common experience, which is the only guide you claim to follow in all these theological enquiries. If you say that our limited experience is an inadequate standard by which to form opinions about the unlimited extent of nature, then you will be entirely abandoning your own hypothesis, and will have to adopt our mysticism (as you call it), and admit that God's nature is absolutely incomprehensible.

I admit, replied **Cleanthes**, that this theory had never before occurred to me, though it is a pretty natural one. I can't give an opinion about it until I have had more time to think it over. You are very scrupulous indeed, said **Philo**—more scrupulous than I am: if you had presented

me with a system of *yours*, I wouldn't have been half as cautious and reserved in starting objections and difficulties to it. However, if anything does occur to you, please tell us.

Why then, replied **Cleanthes**, it seems to me that though the world does in many ways resemble an animal body, this analogy is also defective in many important respects: •no organs of sense; •no seat of thought or reason; •no one precise origin of motion and action. In short, it seems to be more like a *plant* than an *animal*, and that weakens your inference to the mind of the world.

Secondly, your theory seems to imply the eternity of the world; and that thesis, I believe, can be refuted by the strongest reasons and probabilities. I shall suggest an argument against it—one that I think hasn't been insisted on by any writer. First, though, we should look at a different and less strong argument for the world's having had a beginning. It is argued that the arts and sciences came into existence only recently, and so the world's past is fairly short. This inference has some force, but perhaps it can be refuted—or, rather, its premise can be undercut—by a point concerning the nature of human society. We continually revolve between ignorance and knowledge, between liberty and slavery, between riches and poverty; so our limited experience doesn't enable us to foretell with confidence what outcomes may or may not be expected. Ancient learning and history seem to have been in great danger of entirely perishing after the influx of the barbarous nations into the Roman empire; and if these convulsions had continued a little longer, or been a little more violent, we would probably not have known now what happened in the world a few centuries ago. Indeed, the Latin language would have been utterly lost if it weren't for the superstition of the Popes, who preserved a little Latin jargon so as to keep their church looking ancient and universal. With Latin lost, the western world would have

been totally barbarous, and so wouldn't have been in a fit state to receive the Greek language and learning that came to them after the sacking of Constantinople. When learning and books had been extinguished, even the practical arts, skills, and trades would have fallen into considerable decay; and it is easy to imagine that in that case fable or tradition might ascribe to those arts a much later origin than they actually had. And so, by parity of argument, we are not entitled to confidence that *we* aren't doing the same thing, because the records of vastly earlier arts and sciences have been wiped out. This common argument against the eternity of the world, therefore, seems a little precarious.

But here is what seems to be the basis for a better argument. Lucullus was the first person who brought cherry-trees from Asia to Europe; yet that tree thrives so well in many European climates that it grows in the woods without being cultivated. Is it possible that *throughout a whole eternity* no European ever visited Asia and thought of transplanting such a delicious fruit into his own country? If it was once transplanted and propagated before the time of Lucullus, how could it ever afterwards perish? Empires may rise and fall, liberty and slavery succeed alternately, ignorance and knowledge give place to each other—but the cherry-tree will still remain in the woods of Greece, Spain, and Italy, and will never be affected by the revolutions of human society.

It is less than two thousand years since vines were transplanted into France, though there is no climate in the world more favourable to them. It is less than three centuries since horses, cows, sheep, pigs, dogs, and corn were first known in America. Is it possible that during the revolutions of *a whole eternity* there never arose a Columbus who could put Europe into communication with that continent? We may as well imagine that all men would wear stockings for

ten thousand years, and never have the sense to think of garters to tie them. All these seem convincing proofs that the world is young, indeed a mere infant; because the argument involving them is based on principles that are more constant and steady than those by which human society is governed and directed. It would take a total convulsion of the elements to destroy all the European animals and vegetables that are now to be found on the American continent.

Well, what argument have you against such convulsions? replied **Philo**. Strong and almost incontestable evidence can be found over the whole earth that every part of this planet has for centuries been entirely covered with water. And even if order is inseparable from matter and inherent in it, still matter may be susceptible of many and great revolutions through the endless periods of eternal duration. We can see that in the changes and collapses *of which we have had experience* the world has merely passed from one state of order to another; and matter can't ever stay in a totally disordered and confused state. Still, the constant changes that occur in every part of the material world seem to suggest that some such *general* transformations sometimes occur. What we see in the parts we may infer in the whole—at any rate that's the pattern of argument on which you rest your whole theory. And if I *had* to defend some particular system of this type (which I would never do willingly!), I find none of them more plausible than the theory that ascribes to the world an eternal inherent ordering force, though accompanied by great and continual revolutions and alterations. This at once solves all the difficulties; and if the solution is too lacking in detail to be entirely complete and satisfactory, it is at least a theory that we *must* eventually accept, whatever more detailed system we embrace. How could things have been as they are if there were not an original inherent principle of order *somewhere*—in thought or in matter? It doesn't matter

in the slightest which of these—thought or matter—we prefer. No hypothesis, whether sceptical or religious, should make room for *chance*; everything is surely governed by steady, inviolable laws. And if the inmost essence of things were laid open to us, we would then discover a scene of which at present we can have no idea. Instead of wondering at the order of natural things, we would see clearly that it was absolutely impossible for their ordering to be different—even in some tiny detail—from what it is in actuality.

If anyone wanted to revive the ancient pagan theology which maintained, as we learn from Hesiod, that this planet was governed by 30,000 gods who arose from the unknown

powers of nature, you would naturally object, Cleanthes, that nothing is gained by this hypothesis, and that it's as easy to suppose all men and animals—more numerous, but less perfect—to have sprung immediately from a source of that kind. Push the same inference a step further and you will find that a large *society of gods* is no harder to explain than *one universal God* who contains within himself the powers and perfections of the whole society. So you must allow that all these systems—scepticism, polytheism, and theism—are on an equal footing when judged by your principles. That shows you that your principles are wrong.

Part 7

In thinking about the ancient system of God as the mind of the world, **Philo** continued, I have just been struck by a new idea. If it is right, it comes close to subverting all your reasoning, and destroying even the first inferences in which you place such confidence. If the universe resembles animal bodies and plants more than it does the works of human skill, it is more probable that its cause resembles the cause of the former than the cause of the latter; so its origin ought to be ascribed to generation or vegetation rather than to reason or design. So your conclusion is lame and defective, even according to your own principles.

Please expand this argument a little, said **Demea**, for I haven't properly grasped it in the concise form in which you have expressed it.

Our friend Cleanthes, replied **Philo**, as you have heard, asserts that since no question of fact can be answered except through experience, the existence of a God cannot be proved in any other way. The world, he says, resembles things made by human skill; so its cause must also resemble the cause of human artifacts. I note in passing that the operation of one very small part of nature, namely man, on another very small part, namely the inanimate matter lying within his reach, is the basis on which Cleanthes judges of the origin of the whole of nature; he measures the vast whole by the same individual standard as he does the tiny parts. But I shan't press that point. If we are going to argue from parts to the whole, let us at least be careful about what parts we select for this special treatment. I affirm that some parts of the universe other than the machines of human invention

are still more like the fabric of the world than machines are, and therefore point to a better conjecture about the origin of this whole system of the universe. These parts are *animals* and *plants*. The world plainly resembles an animal or a plant more than it does a watch or a knitting-loom. Its cause is therefore more likely to resemble the cause of the former than to resemble the cause of the latter. The cause of the former is generation or vegetation. So we can conclude that the cause of the world is something similar or analogous to generation or vegetation.

But how is it conceivable, said **Demea**, that the world can arise from anything similar to vegetation or generation?

Very easily, replied **Philo**. Here is one way it could happen. Just as a tree sheds its seeds into the neighbouring fields and produces other trees, so the great plant, the world or this planetary system, produces within itself certain seeds which it scatters into the surrounding chaos in which they grow into new worlds. A comet, for instance, is the seed of a world; and after it has been fully ripened by passing from sun to sun and star to star, it is at last tossed into the unformed elements which everywhere surround this universe, and immediately sprouts up into a new system.

Or we might suppose this world to be an animal. (There is no advantage in this, but let's try it just for variety.) So: a comet is the egg of this animal; and just as an ostrich lays its egg in the sand, where the egg hatches without any further care, and produces a new animal, so . . .

I understand you, interrupted **Demea**, but what wild, arbitrary suppositions are these? What data have you for such extraordinary conclusions? Is the slight, imaginary resemblance of the world to a plant or an animal sufficient to support conclusions about the world based on what happens with plants or animals? Ought objects that are in general so widely different be taken as a standard for each other?

Right! exclaimed **Philo**: that is what I have been insisting on all along. I have gone on asserting that we have no data to establish any system of cosmogony [= 'theory, system, or story about the origin of the world']. Our experience, which is so imperfect in itself and which covers such small stretches of space and time, can't give us any probable conjecture concerning the whole of things. But if we *have to settle* for some hypothesis, tell me what rule we can use to make our choice. Is there any rule except the one that bases the greater acceptability of an hypothesis on the greater similarity of the objects compared? And doesn't a plant or an animal that arises from vegetation or generation resemble the world more closely than does any artificial machine that arises from reason and design?

But what is this vegetation and generation of which you talk? said **Demea**. Can you explain how they work, and lay out the details of that fine internal structure on which they depend?

I can do that, replied **Philo**, at least as well as Cleanthes can explain how *reason* works, or lay out in detail the internal structure on which *it* depends! But I don't need to go into all that: it is enough that *when I see an animal, I infer that it arose from generation*, and am as sure of this as you are when you infer that a house arose from design. The words 'generation' and 'reason' serve merely to label certain powers and energies in nature. We know the effects of these powers, but have no grasp of their essence; and neither of them has a better claim than the other to be made a standard for the whole of nature.

In fact, Demea, we can reasonably expect that the wider the range of facts that we take in, the better they will guide us in our conclusions about such extraordinary and magnificent subjects. In this little corner of the world alone, there are four principles [here = 'driving forces' or 'sources of energy']:

reason, instinct, generation, vegetation, that are similar to each other and are the causes of similar effects. How many other principles can we naturally suppose to be at work in the immense extent and variety of the universe—principles that we might discover if we could travel from planet to planet, and from system to system, so to examine each part of this mighty structure? Any one of the above four principles (and a hundred others which lie open if not to our *senses*, then at least to our *conjecture*) can give us a theory about the origin of the world; and to confine our view entirely to the one of the four that governs how our own minds operate—namely, *reason*—is to be guilty of gross bias. If reason were more intelligible to us than the other three principles because it governs *our* minds, there would be some excuse for our bias in its favour; but that isn't how things stand, because the internal structure of reason is really as little known to us as are the structures of instinct and vegetation. Even that vague, indeterminate word 'nature', which common people drag in to explain everything, stands for something that is basically no more inexplicable than reason. Our experience shows us the effects of these principles; but the principles themselves, and their ways of working, are totally unknown to us. To say:

The world arose by vegetation from a seed shed by another world

is not less intelligible, or less in harmony with experience, than to say:

The world arose from a divine reason or plan, taking this in the sense in which Cleanthes understands it.

But if the world did have a vegetative quality, said **Demea**, and could sow the seeds of new worlds into the infinite chaos, I would see this power as a further argument for design in its author. For where could such a wonderful power come from if not from design? How can order spring from anything

which doesn't perceive the order which it gives?

You need only look around you, replied **Philo**, to get the answer to this question. A tree gives order and organization to the tree that arises from it, without knowing that order; similarly with an animal and its offspring, a bird and its nest. There are in the world more examples of this kind than there are instances of order arising from reason and planning. To say that *all this order in animals and plants proceeds ultimately from design* is to assume the very point that is at issue. The only way to settle the point in favour of design would be to prove *a priori* both that order is from its own nature inseparably attached to thought, and that order is prevented from belonging to matter, either by its own nature or by some unknown basic principle.

Furthermore, Demea, the objection you have just brought can't be made by Cleanthes unless he gives up a defence that he used against one of my objections. When I asked about the cause of that supreme reason and intelligence from which he derives everything else, Cleanthes said this:

The impossibility of answering such questions is never a legitimate objection in any kind of philosophy. We must stop somewhere; and wherever we stop, more questions can be raised, because humans will never be able to explain ultimate causes, or to show the absolutely basic connections between things. All that should be demanded is that whatever steps we do take be supported by experience and observation.

Now it can't be denied that order in nature is found by experience to come from vegetation and generation, as well as from reason. It is for me to choose whether to base my system of cosmogony on the former rather than on the latter. The choice seems entirely arbitrary. And when Cleanthes asks me what the cause is of my vegetative or generative faculty, I am equally entitled to ask him what

causes his reasoning principle. We have agreed to pass up these questions on both sides, and in our present context it is in his interests to stick to this agreement. Judging by our limited and imperfect experience, generation has some privileges over reason: for we see every day reason arise from generation—for example, *my* reason, which has in its causal ancestry my parent's begetting of me—but never see generation arise from reason.

Please compare the consequences on both sides. •The world, I say, resembles an animal, so it is an animal, so it arose from generation. The steps in that argument are jumps, I admit, but each of them involves some small appearance of analogy ·between world and animal·. •The world, says Cleanthes, resembles a machine, so it is a machine, so it arose from design. These steps are jumps too, and here the analogy—·between world and machine·—is less striking. And if he claims to push one step further than my hypothesis, by inferring that design or reason caused the great principle of generation which I have emphasized, I have a better right to push one step further than *his* hypothesis, by inferring that a divine generation or god-birth caused his principle of reason. I have empirical evidence on my side, because reason is observed in countless cases to arise from generation, and never to arise from any other source. This is ·admittedly only· a faint shadow of evidence for my hypothesis, but on this topic faint shadows are the best we can do.

The ancient mythologists were so struck with this analogy that they all explained the origin of nature in terms of birth and copulation. Plato too, so far as he is intelligible, seems to have adopted some such notion in his *Timaeus*.

The Brahmins assert that the world arose from an infinitely large spider who spun this whole complicated mass from his bowels, and then annihilates all or some of it by absorbing it again and taking it into his own essence. Here is a kind of cosmogony that strikes us as ridiculous because a spider is a negligible little animal whose doings we are never likely to take for a model of the whole universe. Still, even for us on our planet, this is a new kind of analogy ·for us to think about·. If there were (as there well might be) a planet wholly inhabited by spiders, this inference would seem *there* as natural and secure against criticism as the one that *here* ascribes the origin of all things to design and intelligence, as explained by Cleanthes. He will find it hard to give a satisfactory reason why an orderly system might not be spun from the belly as well as from the brain,

I must say, Philo, replied **Cleanthes**, that the task you have undertaken, of raising doubts and objections, suits you better than it does anyone else alive; it seems in a way natural and unavoidable to you. You are so fertile in your inventions that I am not ashamed to admit that I can't, straight off, solve in a disciplined way such out-of-the-way difficulties as you keep launching at me, though I can clearly see in a general way that they are wrong. I have no doubt that you are at present in the same position as I am, not having any solution as ready to hand as the objection. And you must be aware that common sense and reason are entirely against you, and that whimsical hypotheses like the ones you have produced may puzzle us but can never convince us.

Part 8

What you ascribe to the fertility of my invention, replied **Philo**, comes purely from the nature of the subject. In topics that are suited to our limited human reason there is often only *one* view that carries probability or conviction with it; and to a man of sound judgment all *other* suppositions appear entirely absurd and fanciful. But in questions like our present one, a hundred mutually contradictory views can get some kind of support, because each preserves a kind of imperfect analogy; so here, with all those contenders and no clear winner, invention has full scope to exert itself. I believe that I could, in an instant and with no great effort of thought, propose still further systems of cosmogony that would have some faint appearance of truth, though the odds are a thousand—indeed a million—to one against any of them, *or yours*, being the true system.

For instance, what if I should revive the old Epicurean hypothesis? This is commonly and I think rightly regarded as the most absurd system ever yet proposed; but I suspect that with a few alterations it might be given a faint appearance of probability. Instead of supposing matter to be infinite, as Epicurus did, let us suppose it to be finite and also suppose space to be finite, while still supposing time to be infinite. A finite number of particles in a finite space can have only a finite number of transpositions; and in an infinitely long period of time every possible order or position of particles must occur an infinite number of times. So this world, with all its events right down to the tiniest details, has already been produced and destroyed and will again be produced and destroyed an unlimited number of times. No-one who properly grasps the difference between infinite and finite will have any trouble with this conclusion.

But this presupposes, said **Demea**, that matter can come to move without any voluntary agent or first mover [= 'without any agent that causes the motion by willing or deciding that it shall occur'].

And where's the difficulty in that? replied **Philo**. •In advance of experience every outcome is as hard to credit and as incomprehensible as every other; and •after experience every outcome is as easy to believe and as intelligible as every other. Matter often starts to move through gravity, through elasticity, through electricity, without any *known* voluntary agent; and to suppose that in all these cases there is an *unknown* voluntary agent is merely to put forward an hypothesis—and one that has no advantages. That unaided matter should put itself into motion is as conceivable *a priori* as that it should be put into motion by mind and intelligence.

Besides, why can't motion have been passed from object to object by impact, and the same (or nearly the same) stock of it go on being maintained in the universe? The motion lost in one process is gained in the opposite process. [Hume wrote: 'As much is lost by the composition of motion, as much is gained by its resolution.'] And whatever the causes of it are, the *fact* is certain that matter is and always has been in continual agitation, as far as human experience or tradition reaches. In the whole universe right now there is probably not one particle of matter at absolute rest.

Philo went on: And this very consideration that we have stumbled on in the course of the argument suggests yet another hypothesis of cosmogony that isn't entirely absurd and improbable. Is there a system, an order, an arrangement of things, through which matter can •preserve the perpetual agitation that seems essential to it and yet •maintain a

constancy in the forms it produces? [Philo may be using 'form' to refer to any regularly ordered part of the physical world, but he is evidently thinking mainly of organisms, especially animals.] Yes, there certainly is such an arrangement, for this is actually the case with the present world ·in which •matter is constantly moving, and yet •many forms and structures remain the same·. If matter moves continually and has only a finite number of orderings into which it can fall ·assuming that matter and space are both finite·, it *must* ·eventually· produce this arrangement or order that the world actually has; and by its very nature this order once it is established supports *itself* for many ages, if not to eternity. But wherever matter is poised, arranged, and adjusted in such a way as to continue in perpetual motion and yet preserve a constancy in the forms, the state of affairs is bound to have the very same appearance of planning and skill that we observe at present. •Every part of each form must be related to each other part of it and to the whole form; and the whole form itself must be related to the other parts of the universe—•to the element in which the form subsists, •to the materials with which it repairs its waste and decay, •and to every other form which is hostile or friendly towards it. A defect in any of those respects—·as when •arteries fail to carry blood to the brain, or •a trout becomes unable to get oxygen out of the water it swims in, or •a heron becomes unable to escape hawks or to capture fish·—destroys the form; and the matter of which it is composed is again set loose, and is thrown into irregular motions and fermentations until it unites itself to some other regular form, ·for example by being eaten·. If no such form is prepared to receive it, and if there is a great quantity of this corrupted matter in the universe, the universe itself comes to be entirely disordered; and this holds true whether what is destroyed is •the feeble embryo of a world in its first beginnings or •the rotten carcass of a world

drifting into old age and infirmity. In either case a chaos ensues, until through countless (though not infinitely) many re-arrangements there come to be, yet again, some forms whose parts and organs are so adjusted that they enable the forms to stay in existence while the matter in them continually changes.

I shall try to put all this differently. Suppose that matter is thrown into some position by a blind, unguided force. It is obvious that this first position must in all probability be utterly confused and disorderly, with no resemblance to the human artifacts which display, along with a symmetry of parts, an adjustment of means to ends, and a tendency to self-preservation. If the ·original· actuating force ceases after this first operation ·and stops imparting motion to matter·, matter will have to remain for ever in disorder, and continue to be an immense chaos without any proportion or activity. But suppose that the actuating force (whatever it may be) still continues to drive matter along, this first position will immediately give place to a second, which will likewise in all probability be as disorderly as the first, and so on through many series of changes and revolutions. No particular order or position ever stays unaltered for a moment. The original force, still at work, gives a perpetual restlessness to matter. Every possible state of affairs is produced, and instantly destroyed. If a glimpse or dawn of order appears for a moment, it is instantly hurried away, reduced to a confusion, by that never-ceasing force which drives every part of the material world.

Thus the universe goes on for many ages in a continuous series of states of chaos and disorder. But couldn't it happen that it eventually settles down, not so as to lose its motion and active force (for we are assuming that that is inherent in it), but so as to preserve a uniformity of appearance through all the hubbub of its moving parts? This is what we find

to be the actual state of the universe at present. Every individual is perpetually changing, and so is every part of every individual; and yet the whole appears to be the same. ·A tiny example: a rabbit takes in pure air and breathes out foul air, it drinks water and emits urine, it eats grass and extrudes faeces; and yet through all this change in its constituent matter it appears to us as *the very same rabbit*·. Isn't this state of affairs one that might be hoped for—indeed, one that would be sure to arise—out of the eternal revolutions of *unguided* matter; and couldn't this account for all the appearances of wisdom and planning that the universe contains? Think about this a little and you'll find that if matter did arrive at this set-up, in which forms seem to be stable while their parts are really moving and changing with them, that would provide a plausible and perhaps a true solution of the problem ·of explaining the appearance of design in the universe·.

So it's pointless to stress the uses of the parts in animals or plants, and their intricate interplay between the parts. I'd like to know how an animal could survive if its parts were *not* so inter-related! When an animal's parts lose those inter-relations, don't we find that it immediately dies and that its decaying flesh and blood try some new form? It happens indeed that the parts of the world are so well adjusted to one another that some regular form immediately lays claim to this decaying matter; if that didn't happen, could the ·biological· world continue to exist? Wouldn't it die along with the ·individual· animal, and ·its constituent matter· go through new positions and relationships, until—after a vast but finite series of changes—it falls at last into an order such as the one we actually have?

It is just as well, replied **Cleanthes**, that you told us that this hypothesis came to you suddenly in the course of the argument. If you had taken the time to examine it, you

would soon have seen the insuperable objections that it is open to. You say that no form can survive unless it has the powers and organs needed for survival; some new order or arrangement must be tried, ·and another, and another·, and so on without interruption until at last some order that can support and maintain itself *happens* to come into existence. But according to this hypothesis, what brings about the many *conveniences and advantages* that men and all animals have? •Two eyes, two ears, aren't absolutely necessary for the survival of the species. •The human race could have existed and continued without there being any horses, dogs, cows, sheep, and those innumerable fruits and products which bring us satisfaction and enjoyment. •If no camels had been created for the use of man in the sandy deserts of Africa and Arabia, would the world have been dissolved? •If no magnet had been formed so as to give that wonderful and useful direction to the compass-needle, would human society and the human species have been immediately extinguished? The rules by which nature works are in general far from lavish, but still instances of this kind are far from being rare; and any one of them is a sufficient proof that a design—a *benevolent* design—gave rise to the order and arrangement of the universe.

At least you can safely conclude, said **Philo**, that the hypothesis I put forward is not yet complete and perfect; and I readily admit that. But can we ever reasonably expect greater success in any attempts of this nature? Can we ever hope to construct a system of cosmogony that will be free of exceptions and in no way conflict with our limited and imperfect experience of the analogy of nature? Your own theory surely can't claim to be as good as that, even though you have embraced anthropomorphism so as to improve the theory's conformity to common experience. Let us try it out yet again. •In all instances that we have ever encountered,

ideas are copied from real objects. You reverse this order, and make thought come first. •In all instances that we have ever encountered, *thought has no influence on matter except where that matter is so conjoined with thought as to have an equal reciprocal influence on it.* All that an animal can move immediately are parts of its own body ·and the condition of those can in return affect the animal's mental states·; and indeed, the equality of action and reaction seems to be a universal law of nature. Your theory implies a contradiction to this experience. It would be easy to assemble plenty more such difficulties, especially in the supposition of a mind or system of thought that is eternal, in other words an animal that was never born and will never die. These instances can teach us all to be moderate in our criticisms of each other, and let us see that just as •no system of this kind ought ever to be accepted on the basis of a slight analogy, so •none should be rejected on account of a small incongruity. For that is a drawback from which, we can reasonably hold, no

system of cosmogony is exempt.

Every religious system is held ·by many people· to be subject to great and insuperable difficulties. Each disputant has his period of triumph while he carries on an offensive war, and exposes the absurdities, barbarities, and pernicious doctrines of his antagonist. But religious systems taken all together provide the sceptic with a complete ·and permanent· triumph; for he tells the disputants that •no system of cosmogony ought ever to be accepted, for the simple reason that •no system of *anything* ought ever to be accepted if it is absurd. A total suspension of judgment is here our only reasonable resource. And given that we commonly see that among theologians every attack succeeds and every defence fails, how complete a victory must come to someone who remains always on the offensive against all mankind, and has himself no fixed position or abiding city that he is ever obliged to defend?