

Theism

John Stuart Mill

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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.—The division into five Parts is Mill's; the further subdivision is not.

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Part 1: Introduction and Arguments

The contest that has gone on for ages between believers and unbelievers in natural and revealed religion has varied considerably in its character from age to age, as permanent contests always do. The way the debate is conducted these days, at least in the higher regions of controversy, makes it look very different from how it was in the 18th and early 19th centuries. One feature of this change is so obvious that everyone agrees about it, namely the gentler spirit in which the debate is conducted on the part of unbelievers. The intolerance of the believers had provoked a reaction in the other side, a violence of tone and spirit; but that has pretty much exhausted itself. Experience has lessened the non-believers' ardent hope for the regeneration of the human race by merely negative doctrine—by the destruction of superstition. [Mill is about to use 'philosophical' to mean something like 'scientific', with this understood in a broad sense.] The philosophical study of history, one of the most important creations of recent times, has enabled us to evaluate impartially the doctrines and institutions of the past, looking at them from a relative instead of an absolute point of view—seeing them as incidents of human development that it's no use grumbling about and that may deserve admiration and gratitude for their effects in the past, even if we don't think they can render similar services to the future. And among people who reject the supernatural, the better educated ones now regard Christianity (or theism) as •something that used to be of great value but can now be done without—rather than, as they did formerly, as •something that was misleading and noxious from the outset.

Along with this change in the moral attitude of thoughtful unbelievers towards the religious ideas of mankind, a corresponding difference has shown up in their intellectual attitude. The war against religious beliefs was conducted in the last century principally on the ground of common sense or of logic; in the present age it is conducted on the ground of science. The progress of the •physical sciences is thought to have established, by conclusive evidence, matters of fact that can't be squared with

the religious traditions of mankind; while the •science of human nature and history is thought to show that the creeds of the past are natural growths of the human mind at particular stages in its development, destined to be replaced by other convictions at more advanced stages. As the debate has progressed, this last class of considerations—i.e. the view of religious beliefs as matters of psychology and history—seems to have gone so far as to push aside the issue about whether such beliefs are true. Religions tend to be discussed, at least by those who reject them, less as intrinsically true or false than as products thrown up by certain states of civilization—products which, like the species of organisms produced in a given geological period, eventually die out because the conditions are no longer right for their survival.

This tendency in recent thought to look on human opinions (not only religious ones) primarily from an historical point of view, as facts obeying laws of their own and requiring, like other observed facts, an historical or scientific explanation, is a very good thing; not only because it draws attention to an important and previously neglected aspect of human opinions, but also because it has a real though indirect bearing on the question of their truth. If you have an opinion on some controversial subject, you can't be completely sure that you are right unless you can explain *why* some people hold the opposite opinion. (I am assuming here that you are a cautious thinker.) You won't be satisfied with the 'explanation' that the opposing opinion is a product of •the weakness of the human understanding, because you won't comfortably assume that you have a smaller share of •that infirmity than the rest of mankind so that •in any disagreement• your opponents are more likely to be wrong than you are. As you examine the evidence, one of the data of the case—one of the phenomena to be explained—is the fact about what other people, and perhaps even mankind in general, do in fact believe. [We are about to meet the word 'presumption', which is used often in this Essay in the sense of 'weight of evidence'.] The human intellect is weak, but it isn't essentially perverted; so when many people hold a certain opinion there is a certain presumption that it is *true*;

and someone who rejects it needs to propose some •other real or possible cause for its being so widespread—I mean, •other than its being true. This matter is specially relevant to the inquiry into the foundations of theism, because the argument for the truth of theism that is most commonly invoked and confidently relied on is *the general assent of mankind*.

But while we should give full value to this •historical treatment of the religious question, we oughtn't to let it push aside the •theoretical approach, ·i.e. the issue of religion's truth·. The most important issue about an opinion on a big subject is *whether it is true or false*; and for us that comes down to the issue of *whether it is supported by strong enough evidence*. The subject of religion must sometimes be treated as a strictly scientific topic, with the evidence for and against it being tested by the same scientific methods, and on the same ·scientific· principles, as are involved in testing any theory in physical science. So I shall take this to be granted:

The legitimate conclusions of science are entitled to prevail over any opinions that conflict with them, however widely those opinions may be held; and rules and standards of scientific evidence that have become established through two thousand years of successes and failures are applicable to all subjects on which knowledge can be had.

On that basis, let us now consider what place there is for religious beliefs on the platform of science; what scientifically respectable evidence they can appeal to, and what basis there is for the doctrines of religion considered as scientific theses.

In this inquiry I shall of course begin with natural religion, the doctrine of the existence and attributes of God.

Theism

Though I have defined the problem of natural theology as the question of the existence of God or of a god, rather than of gods, there is abundant historical evidence that the belief in •many gods is much more natural to the human mind than the belief in •one author and ruler of nature; and that the latter more elevated belief is a relatively artificial product that can't be reached without a

good deal of intellectual development, except in those who had it drummed into them by early education. For a long time it seemed forced and unnatural to suppose that the variety we see in the operations of nature could all be the work of a single will. To the untaught mind, and to all minds in pre-scientific times, the phenomena of nature seem to be the result of utterly different kinds of forces, each going its own way quite independently of the others. It was entirely natural to attribute these to conscious wills, ·but that wasn't a step towards monotheism, because· the natural tendency is to a *separate* independent will for *each* force that is important enough to have been noticed and named. Polytheism as such has no inherent tendency to transform itself spontaneously into monotheism. It's true that in most polytheistic systems the god whose special attributes inspire the most awe is usually supposed to be able to control the other gods; and even in Hinduism, which may be the most degraded [Mill's word] of all polytheistic systems, the worshipper piles monotheistic-sounding descriptions—ones customarily used by believers in a single God—onto the god who is the immediate object of his worship at that moment. But there's no real acknowledgement of one ·divine· governor. Every god normally rules his particular part or aspect of the world, though there may be a still stronger one who could, if he chose, frustrate the purposes of the inferior god. There could be no real belief in one creator and governor until mankind had begun to see the apparently confused phenomena surrounding them as a system that could be viewed as the working out of a single plan. This conception of the world may have been anticipated (though less frequently than is often supposed) by individuals of exceptional genius; but it couldn't become common until after a long-drawn-out development of scientific thought.

There's no mystery about *how* scientific study operates to put monotheism in place of the more natural polytheism. The over-all effect of science is to show, by accumulating evidence, this:

- Every event in nature is connected by laws with one or more facts that preceded it, i.e. depends for its occurrence on some antecedent; but not so strictly on *one* antecedent that it couldn't have been blocked or modified by *others*.
- These distinct chains of causation are entangled with one

another; the action of each cause, though it conforms to its own fixed law, is interfered with by other causes in such a way that every effect is truly the result of the totality of *all* the causes in existence rather than of only *one*.

(If the mention of *all* the causes in existence seems to you extravagant, consider this: Nothing takes place in the world of our experience without spreading a perceptible influence of some sort through a greater or less portion of Nature, and for all we know to the contrary it may make every part of the world slightly different from what it would have been if that event hadn't occurred. If that is so, then *each* place has events that affect what happens at *each* other place, from which it follows that what happens at *any* place is affected by events at *every* other place.) Now, when men have acquired the double conviction •that every event depends on antecedents, and •that the occurrence of any event required a working-together of many antecedents, and perhaps of all the antecedents in Nature, they are led to believe that no one event—let alone all the events of some one *kind*—could be absolutely preordained or governed except by a Being who held in his hand the reins of •all Nature and not merely of •some part or aspect of it. Or, anyway, if a plurality of gods is still supposed, they must be assumed to be so collaborative in their actions and so agreed in their wills that there is no significant difference between this kind of polytheism and monotheism.

The reason, then, why monotheism may be accepted as the representative of theism in general is not so much that •it's the theism of all the more developed portions of the human race as that •it's the only theism that can claim to have any scientific basis. Every other •religion, i.e. every other theory of the government of the universe by supernatural beings, is inconsistent with one or other of the two most general results of science—that •the world is governed through a continual series of natural antecedents according to fixed laws, and that •each of these series depends on all the others.

So if we start from the scientific view of nature as a single connected system, held together not •like a web composed of separate threads passively lying in certain relations to one another, but rather •like an animal body, an apparatus kept going by

perpetual action and reaction among all its parts—the question to which theism is an answer is at least a very natural one, and arises from an obvious lack in the human mind. So far as our means of observation permits, we are accustomed to finding for each individual event y a beginning, and where there's a beginning we find an antecedent event x that we call a 'cause', an event such that if x hadn't occurred y wouldn't have occurred either. Given this finding, the human mind was absolutely bound to ask itself a question about •the whole system of which these particular phenomena are parts:

Did •it also have a beginning? If so, did that beginning have something antecedent to it, and thus antecedent to the whole series of causes and effects that we call 'Nature'—something such that if *it* hadn't existed *Nature* itself wouldn't have existed?

From as far back as we can trace the history of thought, this question has always been answered by some hypothesis or other. The only answer that has given satisfaction for long periods is theism.

Looking at the problem merely as a scientific inquiry, it breaks down into two questions. (1) Is the theory that explains the origin of all the phenomena of nature in terms of the will of a creator consistent with the established results of science? (2) If it is consistent with them, how will the case for it stand up to being tested by the principles of evidence and rules for belief that we have found, through our long experience of scientific inquiry, to be indispensable guides?

There is one version of theism that is consistent, another that is radically inconsistent, with the most general truths that we have learned through scientific investigation.

The one that is inconsistent is the conception of a god governing the world by •acts of a variable will. The one that is consistent is the conception of a god governing the world by •invariable laws.

Primitive people have thought, and common people still do think, of God as ruling the world by special decrees, tailored to individual occasions. Although he is supposed to be omniscient as well as omnipotent, they think of him as not making up his mind until the moment of an action; or at least not making it up

so conclusively that his intentions can't be altered by appropriate prayers right up to the very last moment. It will be hard to reconcile this view about how God runs the world with the foreknowledge and perfect wisdom that he is credited with having; but I shan't pursue that problem. The point I want to make here is that the view in question contradicts what experience has taught us about how things actually happen. The phenomena of Nature do take place according to general laws. They do originate from definite natural antecedents. So if their ultimate origin is derived from a will, it must be a will that established those general laws and willed those antecedents. If there is a creator, his intention must have been that events should depend on antecedents and be produced according to fixed laws. But once this is conceded, nothing in our scientific experience is inconsistent with the belief that those laws and sequences are themselves due to a divine will. And we don't have to suppose that the divine will exerted itself once for all, •putting into the system a power that enabled it to go on by itself and then •leaving it alone. Nothing in science clashes with the supposition that every actual event results from a specific act of the will of the presiding power, provided that this power conforms its particular acts of will to general laws it has laid down. It has commonly been held that •this hypothesis tends more to the glory of God than •the supposition that the universe was made so that it could go on by itself. But some very eminent thinkers (of whom Leibniz was one) have protested against downgrading God by likening him to a clock maker whose clock won't go unless he puts his hand to the machinery to keep it going. We aren't concerned here with any such issues. We are approaching the subject from the point of view not •of reverence but •of science; and with science both these suppositions as to the mode of the divine action are equally consistent.

But now we must pass to the next question. There is nothing to *disprove* the thesis that Nature was created and is governed by a sovereign will; but is there anything to *prove* it? What is the evidence for it like? and weighed in the scientific balance what is its value?

The evidence for theism

The things that have been cited as evidence of a Creator are of several different kinds, and they are *so* different that they are adapted to minds of very different descriptions; it's hardly possible that any single mind should be equally impressed by them all. The familiar division of them into •*a priori* proofs and •*a posteriori* ones indicates that when they are looked at in a purely scientific way they belong to different schools of thought. [A *priori* arguments for the existence of God wouldn't ordinarily count as parts of 'natural religion' or 'natural theology', which is how Mill labels his topic (see page 2). Those phrases are usually taken to refer to the support that theological beliefs can get from observing how things go in the natural world; Mill evidently understands them more broadly, as referring to any support other than what comes from divine revelation.] Unthinking believers whose belief really rests on authority give an equal welcome to all plausible arguments in support of the belief in which he has been brought up; but philosophers ·and scientists·, who have had to choose between the *a priori* and *a posteriori* methods in general science, nearly always speak disparagingly of the other ·method, i.e. the one they haven't chosen, when it appears in arguments for the existence of God·. What we have to do here is to maintain complete impartiality, giving a fair hearing to both. At the same time I am strongly convinced that one of the two types of argument is in its nature scientific, while the other is not only unscientific but is condemned by science. The scientific argument is the one that reasons from the facts and analogies of human experience, as a geologist does when he infers the past states of our planet, or as an astronomer does when he draws conclusions about the physical composition of other planets and stars. This is the *a posteriori* method, the principal application of which to theism is the so-called 'argument from design'. The type of reasoning that I call unscientific, though some thinkers regard it too as a legitimate mode of scientific procedure, is the one that infers external •objective factual conclusions from •ideas or convictions of our minds. In calling this unscientific I'm not relying on any opinion of mine about the origin of our ideas or convictions. ·Indeed the question of where our idea of God comes from is irrelevant to my present point·; whatever its origin, it is just an *idea*, and all you can prove from an idea is an

idea, not an objective fact. (Unless we suppose—in line with the book of Genesis—that the objective fact has been handed down by tradition from a time when there was direct personal contact with God; and in that case the argument is no longer *a priori*!) The belief that an idea or a wish or a need proves the reality of a corresponding object—something that the idea is an idea of, something that satisfies the wish or meets the need—derives all its plausibility from one's *already* believing that we were made by a benign Being who wouldn't have given us a groundless belief or a want that he didn't give us the means of satisfying. So it's an obvious *petitio principii* to present the belief or want etc. to support the very belief that this argument presupposes. [The Latin *petitio principii* used to be rendered in English as 'begging the question', until recently when that phrase came to mean 'raising the question'. However labelled, it is the fallacy of presenting an argument for the conclusion that P when some step in the argument doesn't work unless P is true.]

Still, it must be admitted that all *a priori* systems, whether in philosophy or religion, do profess to be based on experience, because although they claim to be able to arrive at truths that go beyond experience, they *start* from facts of experience—and where else *could* they start? They are entitled to consideration to the extent that experience can be shown to give any kind of support either to them or to their method of inquiry. Many arguments that are offered as *a priori* are really of a mixed nature, being to some extent *a posteriori*. Often they can be said to be *a posteriori* arguments in disguise, with the *a priori* considerations acting chiefly to make some particular *a posteriori* element in them count for more than it should. This is emphatically true of the argument for theism that I shall first examine, the ·argument from the supposed· necessity of a first cause. For this really has a wide basis in experience, our experience of the universality of the cause-effect relation among the phenomena of nature, yet theological philosophers haven't been content to let it rest on that basis but have affirmed causation—by which I mean the thesis that whatever is the case is caused to be the case—as a truth of reason, something one can see to be true just by thinking about it.

Argument for a first cause

The argument for a first cause is presented as a conclusion from the whole of human experience. Everything that we know (it is argued) had a cause, and owed its existence to that cause. So how can it *not* be the case that •the totality of everything we know, which we call •‘the world’, has a cause to which it owes its existence?

But the fact of experience is not that •everything we know gets its existence from a cause, but only that •every event or change does so. Nature has a permanent element, and also a changeable one; the changes are always the effects of previous changes, but so far as we know the permanent existences are not effects at all. Admittedly we often say not only of events but of objects that they are produced by causes—e.g. ‘Water is produced by the union of hydrogen and oxygen’. But all we mean by this is that the object's *beginning to exist* is the effect of a cause; and a thing's beginning to exist is not an •object, but an •event. You may want to object: ‘The cause of a thing's beginning to exist can properly be called the cause of the thing itself.’ I shan't quarrel with you about the form of words, ·but my point still stands·. What begins to exist in an object is what belongs to the •changeable element in nature—the outward form and the •properties depending on mechanical or chemical combinations of its component parts. Every object also has another element that is permanent, namely the specific elementary substance or substances of which it consists and their •inherent properties. [Mill is contrasting •the properties of a thing that result from how its parts are put together with •the properties a thing has as its *basic* nature, not derived from, or an upshot of, anything.] These are not known to us as beginning to exist: within the range of human knowledge they had no beginning, and therefore no cause; though they themselves are causes or collaborating causes [Mill says ‘causes or con-causes’] of everything that happens. So experience offers no evidence—not even ·suggestive· analogies—entitling us to take a generalization based only on our observation of the changeable and extend it to the apparently unchangeable.

As a fact of experience, then, causation can't legitimately be extended to the material universe itself, but only to its •changeable

phenomena; there is no exception to the generalization that •these all have causes. But what causes? The cause of every change is a previous *change*; and it has to be a change, because if there were no *new* antecedent there wouldn't be a *new* consequent. If the state of affairs that brings the phenomenon into existence had existed always or for the past year (say), the effect would also have existed always or been produced a year ago. It is thus a necessary part of the fact of causation as we experience it that the causes as well as the effects had a beginning in time, and were themselves caused. So it would seem that our experience, instead of providing an argument for a first cause, conflicts with it, and that the very essence of causation—as it exists within the limits of our knowledge—is incompatible with a first cause.

But we must look into this matter in more detail, and analyse more closely the nature of the causes that mankind have experience of. For it might turn out that although all causes have a beginning, there is in all of them a permanent element that had no beginning. In that case, this permanent element might fairly be called a 'first cause' or 'the universal cause'—the cause of *everything*—because without being able to be the whole cause of anything, it enters as a collaborating cause into all causation, ·i.e. as a partial cause of everything·. Now it happens that the latest conclusion that the scientists have reached, on the basis of converging evidence from all branches of physical science, does point to a conclusion of this sort so far as the material world is concerned. Whenever a physical phenomenon is traced to its cause, that cause turns out under analysis to be a certain quantity of *force* combined with certain collocations—·i.e. combined with certain facts about how particles of matter are spatially inter-related·. And the last great generalization of science, the ·principle of· conservation of force, teaches us that •the variety in the effects depends partly on •the amount of the force and partly on the •variety of the collocations. [By 'the last great generalization', Mill may mean that there will never again be any new physical doctrines with such scope; but may instead mean merely that the conservation-of-force thesis is the *latest* such doctrine.] The force itself is essentially one and the same, and nature contains a fixed quantum of it, which (if the theory is true) is never increased or lessened. So we find here, even in the

changes of material nature, a *permanent* element that seems to be just the thing that we were looking for. If we have to award the role of *first cause* (or *cause of the material universe*) to anything, we'll apparently have to award it to this quantity of force. For all effects can be traced back to it, whereas so far as our experience can tell us *it* can't be traced back to anything. We can trace back its transformations, and the cause of any transformation of a force always includes the force itself—the very same quantity of force—in some previous form. [This use of 'quantity' requires care. The statement 'I poured into the flask the very same quantity of water that I had taken out' could mean (1) that I poured in the same *amount*—a pint, or gallon or what-not—that I had taken out or (2) that I poured into the flask the very same water—the same aggregate of water-molecules—that I had taken out. Mill is here using 'very same quantity' with meaning (2). Since force doesn't consist in anything like molecules, there may be a problem about how to distinguish (2)-same-force from (1)-same force; but right now the point is that (2) is what Mill means. He earlier called it not a 'quantity' but a 'quantum', and he will soon speak of a 'portion' of force.] So it would seem that if we are to look to experience for support for the doctrine of a first cause—i.e. of a primeval and universal element in all causes—the first cause will have to be force.

But that doesn't bring us to the end of the question—far from it. The crucial part of the argument is the one we have just reached. For it is maintained that *mind* is the only possible cause of *force*, or rather perhaps that *mind* is a force, and that all other force must be derived from •*mind* because •*it* is the only thing capable of originating change. This is said to be the lesson of human experience. In the phenomena of inanimate nature, the force at work is always a pre-existing one—a force that isn't *originated* ·in the event in question·, but only *transferred*. One physical object x moves another y by giving to y the force by which x itself has first been moved. The wind passes on to the waves, or a windmill, or a ship, part of the motion that it has received from some other agent. Only in the voluntary action ·of a thinking being· do we see a *start* of motion, an *origination* of motion; all other causes appear incapable of thus originating motion. So experience is in favour of the conclusion that every episode of motion that ever occurred owed its beginning to this one ·kind of· cause, voluntary agency—if not the agency of man then the agency of some more

powerful being.

This is a very old argument. It occurs in Plato; not (as might have been expected) in the *Phaedo*, where the arguments are ones that would now be dismissed as having no weight, but in his last work, the *Laws*. And metaphysicians who defend natural theology still regard it as one of the most telling arguments they have.

The first point to be made is this: if there is truth in the doctrine of the conservation of force—i.e. the constancy of the total amount of force in existence—this doctrine doesn't change from true to false when it reaches the field of voluntary agency! The will doesn't create force, any more than other causes do. It does originate motion, but its only way of doing that is to •take a portion of force that already exists in some other form and •convert it into motion. [(1) In the next sentence, the words 'evolved' and 'liberated' are Mill's. (2) What he says about a 'fund' of force on which bodily processes write 'drafts' is a banking metaphor. The portion of force liberated by nutrition is put into a bank account, and bodily processes write cheques on it.] We know that the main and perhaps only source from which this portion of force is derived is the force evolved in the processes of chemical composition and decomposition that constitute nutrition; the force so liberated becomes a fund upon which every action of the muscles (and even every action of the nerves, such as what happens in the brain when a person thinks) is a draft. According to the best lights of science, it is only in this sense that volition is an 'originating cause'. So volition doesn't qualify as a first cause, because force must in every instance be assumed as prior to any volition; and our experience doesn't convey the slightest hint that force itself is ever created by a volition. As far as we can tell from our experience, force has all the attributes of something that is eternal and uncreated.

But this still doesn't close the discussion. Our experience leads us to judge that •will never originates •force, but what about the thesis that •force never originates •will? If we become sure that that is true, we'll have to regard will as an agency that is eternal along with force. Furthermore, if these two things are true:

- will can originate (not force itself, but) the transformation of force from some other of its forms into mechanical motion, and
- human experience doesn't show us any other agency that can transform force in this way,

then we still have an unrefuted argument for the conclusion that a *will* was the originator (not of •the universe, but) of •the cosmos, i.e. the order of the universe.

But the basis laid out for that argument doesn't fit the facts, ·because the second of the two displayed propositions is false. Anything volition can do in the way of creating motion out of other forms of force, and generally of evolving hidden force into something visible, can be done by many other causes as well. For example:

chemical action, electricity, heat, the presence of a gravitating body

—all these cause mechanical motion on a much larger scale than any volitions that we know about from our own experience. (·I repeat, for emphasis: when any of these things causes motion, it is hardly ever a mere passing on of motion from one body to another, but rather a transforming into motion of some force that existed in some form other than motion.) This means that volition's privilege of originating motion is shared with many other things. It's true that when any of those other agents •give out force in the form of motion, they must first have •received that force from elsewhere—but that is equally true of the force that volition transforms into motion. We know that this force comes from an external source, namely the chemical action of the food and air. The force by which the events of the material world are produced circulates through all physical agencies in a never-ending though sometimes interrupted stream. Our topic here, of course, is *how volition affects the material world*; we aren't concerned with the will itself as a mental phenomenon, as in the much-debated question: 'Does the will determine itself (which would mean that it is "free" or is it determined by causes ·other than itself·)' Our present question concerns only the •effects of volition, not its •origin. ·There is, however, one way in which a proponent of freedom of the will might try to make his view about that relevant to the issue we are now discussing, as I shall now explain. We are confronting the assertion that physical nature must have been produced by a will, because will is the only thing we know that has the power of originating the production of phenomena. I have pointed out that on the contrary any power over phenomena that

will has is shared—as far as we can tell—by other and much more powerful agents, which therefore also ‘originate’ in the only sense in which will originates. Thus, our experience gives us no basis for claiming that volition has a special role, not shared by other natural agents, as a producing cause of phenomena. Someone who strongly believes in the freedom of the will might try to get into the act at this point: he might say that volitions are themselves uncaused, which makes them—or a special one of them—uniquely fit to be the first cause, the cause of everything. But even if we grant that volitions are not caused, the properties of matter are also uncaused (so far as our experience discloses), and have an advantage over any particular volition, namely that they are eternal (so far as our experience can show). I conclude that theism, in so far as it rests on the necessity of a first cause, has no support from experience.

Some people, lacking support from experience, will say that the necessity of a first cause is known by intuition—meaning that when you think about it accurately you’ll find it self-evident that there must have been a first cause. Well, I say that in this discussion there is no need to challenge their premises; because even if we grant that there must have been a first cause, I have shown that several agencies other than will can lay equal claim to that title. Of the things that might be said at this point by someone wanting to defend the unique claim of *will* to be the first cause, there is just one that I ought to discuss. It is the claim that among the facts of the universe that need to be explained there is the fact of *mind*; and it is self-evident that the only thing that could have produced mind is mind. This is an attempt to put the spotlight back on volition, sidelining its rivals such as chemical action, electricity and so on.

What are the special features of mind that indicate that it must have arisen from intelligent planning? That question belongs to a different part of this inquiry [starting at page 11], and needn’t be gone into here. Our present topic simply isn’t advanced by the thesis that the mere existence of mind requires, as a necessary antecedent, another greater and more powerful mind; this merely pushes us one step back, because the creating mind needs another mind to be the source of its existence just as much as

the created mind does. Bear in mind that we have no direct knowledge (at least apart from divine revelation) of a mind that is even *apparently* eternal, in the way that force and matter are eternal; as far as the present argument is concerned, an eternal mind is simply an hypothesis to account for the minds that we know to exist. Now, an hypothesis shouldn’t be accepted unless it at least removes the difficulty and accounts for the facts. But one doesn’t account for mind when one says that it arose from a prior mind. The problem remains unsolved, the difficulty not lessened but increased.

Here is something that might be said in objection to this:

It is a matter of *fact* that every human mind is caused to come into existence, because we know that such minds have beginnings in time. We even know—or have the strongest grounds for believing—that the human species itself had a beginning in time; for there is a vast amount of evidence that our planet was once a place where animal life was impossible, and that human life began much more recently than animal life. So we should face the fact that there must have been a cause for the start of the first human mind, indeed a cause for the very first germ of organic life. No such difficulty exists in the supposition of an eternal mind. If we didn’t know that mind on our earth began to exist, we might suppose it to be uncaused; and it is still open to us to suppose this of the mind that we invoke to explain the existence of mind on earth.

Someone who argues in this way is shifting back into the territory of human experience, which makes him subject to its rules; so we are entitled to ask him ‘Where is your proof that nothing can have caused a mind except another mind?’ It’s only from *experience* that we can know what can produce what—what causes are adequate to what effects. That nothing but mind can *consciously* produce mind is self-evident, because it’s involved in the very meaning of the words; but we aren’t entitled to assume that there can’t be *unconscious* production, for that is the very point to be proved. [Mill is talking about what might be done by a being that isn’t conscious, not about what might be done unconsciously by a being who is conscious.] Apart from experience, and arguing on the basis of what is called ‘reason’,

that is on supposed *self-evidence*, the idea seems to be that

- no causes can give rise to products of a more precious or elevated kind than themselves.

But this conflicts with the known analogies of nature. How vastly nobler and more precious, for instance, are the higher plants and animals than the soil and manure out of which, and through the properties of which, they are raised up! All recent ·scientific· theorising tends towards the opinion that the general rule of nature involves the •development of inferior kinds of being into superior ones, the •substitution of greater elaboration and higher organization for lower. Whether or not this is right, there are in nature ever so many facts that look that way, and this is sufficient for the argument.

Now ·at last· this part of the discussion *can stop!* What emerges from it is that the 'first cause' argument does no work towards establishing theism; because •no cause is needed for the existence of anything that has no beginning; •both *matter* and *force*, whatever metaphysical theory we may give of either of them, have had no beginning (so far as our experience can teach us), and •this can't be said of *mind*. [This is first time Mill has brought in *matter* in this way, though he did remark a page back that *the properties of matter* seem to be eternal.] The phenomena or *changes* in the universe have indeed each of them a beginning and a cause, but their cause is always a previous *change*; and the analogies of experience don't give us any reason to expect, from the mere occurrence of changes, that if we could trace the series back far enough we would arrive at a primeval volition—a volition that was the start of all the other changes.. The world's mere existence doesn't testify to the existence of a god; if the world gives indications of a god, they must come ·not from its mere existence but· from relatively detailed facts about what goes on in the world—the details that resemble things done for a purpose—which I'll discuss later. If, in the absence of evidence from experience, the evidence of intuition ·or self-evidence· is relied on, we can answer that if it is intuitively evident that

- mind, as mind, must have been created,
then it must also be intuitively evident that
- the Creative Mind, as mind, must have been created;

and so we are no nearer to the first cause than we were before. But if nothing in the nature of mind as such implies a creator, the minds that have a beginning in time—including all minds that are known to us through our experience—must indeed have been caused, but their cause needn't have been a prior intelligence.

Argument from the general consent of mankind

Before proceeding to the argument from marks of design, which I think must always be the main strength of natural theism, we can quickly deal with some other arguments that don't have much scientific weight but have greater influence on the human mind than much better arguments. Why? Because they're appeals to authority; and it is by authority that the opinions of most people are principally and not unnaturally governed. The authority invoked is that of *mankind generally*, especially of some of its wisest men—and most especially ones who in *other* respects conspicuously broke away from commonly accepted prejudices. Socrates and Plato, Bacon, Locke, and Newton, Descartes and Leibniz, are examples commonly cited.

For someone who in matters of knowledge and cultivation isn't entitled to regard himself as a competent judge of difficult questions, it's good advice to content himself with regarding as true •anything that mankind generally believe, and believing it for as long as they do; or •anything that was believed by the people who are regarded as the most eminent among the minds of the past. But to a *thinker* the argument from other people's opinions has little weight. It is merely second-hand evidence; all it does is to tell us to look out for the reasons on which this conviction of mankind or of wise men was based—to look out for them and then to evaluate them for ourselves. Accordingly, those who make any claim to philosophical treatment of the subject bring in this general consent mainly as evidence that the mind of man has an intuitive perception, or an instinctive sense, of deity. From the premise that

(1) the belief ·in God· is very widespread
they infer that

(2) the belief is built into our nature;

and from this they draw the further conclusion that

(3) the belief must be true.

This inference of (3) from (2) is very shaky, though it's of a kind often used by those who philosophize in terms of what is 'intuitive' or self-evident. Anyway, as applied to theism this argument begs the question [see note on page 5], because the only support it has for the move from (2) to (3) is the belief that the human mind was made by a god who wouldn't deceive his creatures.

But before that there is the inference of (2) from (1). What ground does the general prevalence of the belief in God give us for inferring that this belief is something we are born with, something built into us and not depending on evidence? Is there so little evidence—even *seeming* evidence—for the proposition that God exists? Is this belief so far from seeming to be based on facts that the only way we can explain it is by supposing it to be innate? We wouldn't have expected theists to hold that the appearances of designing intelligence in nature are not only insufficient but are not even *plausible*, and can't be supposed to have convinced either people in general or the wiser minds among them! If there are external evidences of theism, even if they aren't perfectly conclusive, why do we need to suppose that the belief in theism was the result of anything else? The superior minds to whom theists appeal, from Socrates onwards, when they professed to give the grounds of their belief in God, didn't say that they found the belief in themselves without knowing where it came from; rather, they ascribed it either to revelation or to some metaphysical argument or to those very external evidences that are the basis of the argument from the marks of design.

This may be said by way of objection: 'The belief in a god or gods is universal among (a) barbarous tribes, and among (b) the ignorant portion of civilized populations; and none of these people can be supposed to have been impressed by the marvellous adaptations of nature—the apparent marks of design—most of which are unknown to them.' I answer that (b) ignorant people in civilized countries take their opinions from the educated, and that (a) in the case of savages, if the evidence is insufficient so is the belief! Savages don't believe in the God of natural theology; their theism is merely a version of the crude generalization that ascribes

life, consciousness and will to all natural powers of which they can't perceive the source or control the operation. And the gods believed in are as numerous as those powers. Each river, fountain or tree has a divinity of its own. This is a blunder of primitive ignorance! To see it as the work of the supreme being, implanting in his creatures an instinctive knowledge of his existence, is a poor compliment to God! The religion of savages is fetishism [= 'the worship of trivial idols'] of the grossest kind, ascribing life and will to individual inanimate objects, and trying to win their favour by prayer and sacrifice. We won't be surprised by this when we bear in mind that there's no sharp boundary line separating conscious human beings from inanimate objects. Between such objects and man there is an intermediate class of objects. . . . that do have life and will, namely the lower animals. In primitive societies these play a very big part in human life, which makes it unsurprising that men should at first be unclear about the line separating the animate part of nature from its inanimate part. When they have observed more of nature, they come to see that the majority of outward objects have all their important qualities in common with entire classes or groups of objects that behave exactly alike in the same circumstances; and in these cases the worship of visible objects is replaced by worship of an invisible Being who is supposed to preside over the whole class. This move from the particular to the more general is made slowly, with hesitation and even with terror. We see this even today, in the case of ignorant populations—how hard it is for their experience to clear them of the belief in the supernatural powers and terrible resentment of a particular idol! It is chiefly through these terrors that the religious thoughts and feelings of barbarians are kept alive. . . until the theism of cultivated minds is ready to take their place. And the theism of cultivated minds, if we take their own word for it, is always a conclusion reached either through arguments they regard as reasonable or from appearances in Nature.

There's no need for me to emphasize the problems of the hypothesis of a belief that is natural to human beings though they don't all have it, or of an instinct that isn't universal. Of course it is conceivable that some men might be born without a particular natural faculty, as some are born without a particular sense—it

might be that some men lack the natural instinct for religion just as some men are born blind. But when this is thought to be the case, we ought to be very careful about the evidence that it really is a *natural* faculty. Don't think that it must always be easy to know whether some ability is natural or not, as it is indeed easy to know that our eyesight is natural. If the thesis that *men can see* were not a matter of observation but of theorizing; if they had no apparent organ of sight, and no perceptions or knowledge except what they could conceivably have acquired in some round-about way through their other senses, the fact that some men don't even think they can see would be a considerable argument against the theory of a natural visual sense. . . . Anyway, not even the strongest believer in innate, natural ideas and knowledge will claim an *instinctive* status for any belief that could—this being uncontroversial—be explained by real or apparent *evidence* for it. In our present case of the belief in a god or gods, we have in addition to the

- force of evidence,

these other factors tending to cause men to have and retain the belief:

- various emotional or moral causes that incline men to the belief;
- the way the belief seems to answer the questions about the past that men persist in tormenting themselves with;
- the hopes that the belief opens up for the future; and also
- the fears that it causes,

because fear as well as hope encourages belief. And for people with very active minds, the belief must have been supported by their perception of

- the power that belief in the supernatural provides for governing mankind, whether for their own good or for the selfish purposes of the governors.

So the general consent of mankind doesn't provide a basis for accepting, even just as an hypothesis, the status of something inherent and natural and instinctive for a belief that is so very easy to explain otherwise.

The argument from consciousness

There have been many arguments, indeed almost every religious metaphysician has one of his own, to prove •the existence and attributes of God from so-called •truths of reason that are supposed to be independent of experience. Descartes, who is the real founder of intuitional metaphysics [= 'metaphysics based on propositions claimed to be known by intuition, i.e. known as self-evident'; that's not what 'intuitional metaphysics' means these days], draws the •theistic conclusion immediately from the first premise of his philosophy, the celebrated assumption [Mill's word] •that whatever he could very clearly and distinctly apprehend must be true. The idea of a god who is perfect in power, wisdom, and goodness, is a clear and distinct idea, so by •this principle it must correspond to a real object. This thesis:

- Any conception of the human mind proves the existence of the thing it is an idea of'

is a bold generalization! •In fact, it is too bold•, and Descartes is obliged to make it safer by cutting it back to

- Any conception of the human mind, if it includes existence, proves the existence of the thing it is an idea of,

•but this still leaves Descartes with his theistic conclusion•. The idea of God implies the combination in one thing of all perfections, and existence being a perfection, the •idea of God proves his •existence. This very simple argument. . . . is not likely to satisfy anyone these days. Many of Descartes's successors have made more elaborate though scarcely more successful efforts, trying to derive knowledge of God from an inward light, making it out to be a truth that doesn't depend on external evidence, something known by *direct perception* or (as they usually say) by *consciousness*. . . . It would be a waste of time to examine any of these theories in detail. While each has its own particular logical fallacies, they have one weakness in common, namely that one man can't convince other people that *they* see an object by proclaiming with great confidence that *he* perceives it! If he claimed to have a god-given faculty of vision that no-one else has been given, enabling him to know things that can't be seen by people who don't have his gift, the case might be different. Men have made such claims, and have led people to believe them; all that other people can do in such a case is to demand to see the credentials •of the claim or

the person who makes it. [In the next sentence, the phrase 'the prophet' is a joking reference to the person who offers the argument to God's existence from facts about the idea of God. Actually, Mill's point here is that the person in question does *not* set up as a prophet—i.e. someone with special knowledge of God that others can't have—but maintains that the basis for his argument is available to everyone.] But in our present case no claim is made to any special gift; we are told that we are all as capable as the prophet of seeing what he sees, feeling what he feels; indeed we are told that we actually *do* see and feel what he does—and yet our utmost efforts don't make us aware in our own minds of what he says we perceive. This supposed universal faculty of intuition is merely

The dark lantern of the Spirit

Which none see by but those who bear it;

and 'those who bear it' may fairly be asked: 'Isn't it more likely that •you are mistaken about the *origin* of an impression in your mind than that •the rest of us are ignorant of the very *existence* of an impression in theirs?' [The 'dark lantern' lines are from Samuel Butler's *Hudibras*.] The logical weakness of all arguments from •the subjective notion of God to •the objective reality of God was well seen by Kant, the most discriminating of the *a priori* metaphysicians, who always kept questions about •the origin and composition of our ideas sharply separated from questions about •the reality of the corresponding objects. According to Kant,

the idea of God is 'native to' the mind in the sense that it is constructed by the mind's own laws and not derived from anything outside the mind; but this idea...can't be shown by •any logical process, or perceived by •direct apprehension, to have a corresponding reality outside the human mind.

To Kant, God is neither an •object of direct consciousness nor a •conclusion of reasoning, but a *necessary assumption*—not logically necessary, but practically necessary because imposed by the reality of the moral law. Duty is a fact of consciousness: 'Thou shalt' is a command issuing from the depths of our being, and can't be explained through any impressions derived from experience; and this command requires a *commander*, though it isn't perfectly clear whether Kant means (1) that accepting a law involves believing in a lawgiver, or only that (2) it is very desirable

that there should be a being whose will is expressed by the law. If (1) is right, the argument is based on an ambiguity in the word 'law', which may refer to •a rule to which we feel it a duty to conform or to •a law as commonly so-called, a law of the state. The two kinds of 'law' have something in common, namely that they both claim our obedience; but it doesn't follow that the rule must originate, as the laws of the land do, in the will of a legislator or legislators external to the mind. We may even say that *a feeling of obligation that is merely the result of a command* is not what is meant by 'moral obligation'. On the contrary, 'moral obligation' presupposes something that the *internal* conscience bears witness to as binding *in its own nature*. If God also commands it, he is conforming to it and perhaps declaring it, but he isn't *creating* it. Well, then, let us for purposes of argument concede that the moral sentiment is •purely of the mind's own growth, the obligation of duty •entirely independent of experience and impressions acquired from outside ourselves—as •purely and •entirely as Kant or any other metaphysician ever contended. This doesn't require us to believe in a divine legislator merely as the source of the obligation. Indeed this feeling of obligation seems to conflict with that belief rather than implying it; and as a matter of fact many people who have no positive belief in God (though they may have a habit of referring to him as an ideal conception) fully •accept the obligation of duty as a matter of moral truth and also •strongly feel it in their practical lives. (2) But if the existence of God as a wise and just lawgiver is not a necessary part of the feelings of morality, it may still be maintained that those feelings make his existence highly desirable. No doubt they do, and that is the main reason why we find that good men and women cling to the belief in God, and are pained by its being questioned. But surely it isn't legitimate to assume that the universe is organized in such a way that whatever is desirable is true! [The 'optimism' that Mill is about to mention is not a cheerful look-on-the-bright-side •attitude to the future; it is a •theory about how good the universe is.] Optimism is a thorny doctrine to maintain, even for someone who already believes in God. Leibniz had to take it in the limited sense that the universe, being made by a good Being, is

•the best universe *possible*
 —not that it is, absolutely and without qualification,
 •the best universe.

His view, in short, was that God's power isn't up to making the universe more free from imperfections than it is. But optimism *prior* to a belief in a god, and as a *reason* for that belief, seems one of the oddest of all theoretical delusions! And yet I think it is one of the main contributors to keeping up humanity's belief in God—this *feeling* of its desirableness, ·this *wanting* it to be the case that God exists·. It is often produced in the form of an argument, but its argumentative value is nil. It's merely a naive expression of the human mind's tendency to believe what is agreeable to it.

Without spending longer on these or on any of the other *a priori* arguments for theism, I shall now turn to the far more important argument ·that makes use· of the appearances of design in nature.

The argument from marks of design in nature

We now at last we reach an argument of a really scientific character—one that doesn't shrink from scientific tests, and claims to be judged by the established rules of induction. The argument from design is based entirely on experience. It goes like this:

Certain qualities are found to be typical of things that are made by an intelligent mind for a purpose. The order of nature, or some considerable parts of it, exhibit these qualities in a remarkable degree. From this great similarity in the effects we are entitled to infer similarity in the cause, and to believe that things that it's beyond the power of man to make but that resemble the works of man in everything except the power ·needed to make them· must also have been made by intelligence, armed with a greater power than human beings have.

I have stated this argument in its fullest strength, as it is stated by the most thoroughgoing of its supporters. But it doesn't take much thought to show that although the argument has *some* force, its force is very generally overrated. Paley's 'watch' example puts the case much too strongly. If I found a watch on an apparently

deserted island, I would indeed—as Paley says—infer that it had been left there by a human being; but I wouldn't be inferring this from marks of design ·in the watch·; rather, I would be going by my knowledge—based on direct experience—that watches are made by men. I would just as confidently infer 'That was left there by a human being' if I saw a foot-print, or anything else, however insignificant, that experience has taught me to attribute to man. In the same way, geologists infer the past existence of animals from coprolites [= 'pieces of fossilised dung'], though no- one sees marks of design in a coprolite. The evidence of design in creation can never reach the height of direct induction; it amounts only to the inferior kind of inductive evidence called *analogy*. Analogy agrees with induction in this: they both argue that a thing known to resemble another in certain respects A and B will resemble it in another respect C. But the difference is that in induction A and B are known, by a previous comparison of many instances, to be the very features that C depends on or is somehow connected with. When this has not been established, the argument amounts only to this:

- Since we don't know which features C is connected with in the known case, they may as well be A and B as any others. Therefore there is a greater probability of C in cases where we know that A and B exist than in cases of which we know nothing at all.

It's hard to make *any* estimate of the force of this argument, and a *precise* estimate is impossible. It may be very strong, when the known points of agreement—A and B etc.—are numerous and the known points of difference are few. . . .but it can never be equal in validity to a real induction. There are considerable resemblances between some of the arrangements in nature and some of those made by man, and even as mere resemblances they provide a certain presumption [see note on page 1] of similarity of cause; but it's hard to say how great that presumption is. All we can say for sure is that these likenesses make creation by intelligence considerably more probable than it would have been if there had been fewer likenesses or none at all.

This way of stating the argument, however, doesn't do full justice to the evidence for theism. The premise of the argument

from design is not merely

- the fact that some things in nature resemble *somewhat* the works of human intelligence,

but rather

- a proposition about *how* things in nature resemble things designed by man.

The respects in which the ‘natural’ world is said to resemble the works of man are not taken at random; they are instances of something that experience shows to have a real connection with an intelligent origin, namely the fact of working together towards an end. So the argument is not one of mere analogy. As mere analogy it has some weight, but it is more than analogy. It surpasses •analogy exactly as induction surpasses •it. What we have here is an inductive argument.

This can’t be denied, I think; so we have now to test the argument by the logical principles that are appropriate to induction. I can do this best by tackling not the argument as a whole but just some one of the most impressive cases of it. I’ll take the structure of the eye (I could as well have taken the structure of the ear). It is claimed that the structure of the eye proves a designing mind. What *kind* of inductive argument is this? and how much force does it have? [The inductive methods that Mill is about to mention have been famous as ‘Mill’s Methods of Induction’: he presented and discussed them in his *System of Logic*, which appeared about forty years before the present Essay.] The species of inductive arguments are four in number, corresponding to the four inductive methods—the methods of

- agreement,
- difference,
- residues, and
- concomitant variations.

The argument we are considering now involves the first of these, the method of agreement. This is the weakest kind of the four (inductive logicians know why), but our particular argument is a strong one of that kind. It can be logically analysed as follows:

The parts of the eye have something very remarkable in common, and so do their various positions that add up to their arrangement. The common property is this: *they all contribute to enabling the animal to see*. Because the

parts are as they are, the animal sees: if any one of them were different from what it is—different in its nature or in its placing in relation to the others—in most cases the animal either wouldn’t see or wouldn’t see as well as it does. And this is the only notable resemblance that we can find among the different parts of this structure, apart from the very general features of make-up and structure that they share with all other parts of the animal—i.e. the features of the eye that mark it off as *animal*. Now, every particular array of organic elements of the sort we call ‘an eye’ had a beginning in time, and must therefore have been brought together by a cause or causes. The principles of inductive logic require a large number of instances for an argument of this form, so as to •rule out the possibility that what we have is a merely *chance* co-occurrence of features that are not causally connected with one another. But in our present case the number of instances is immeasurably greater than anything inductive logic can insist on. So we are justified by the rules of induction in concluding that what brought all these elements together was some cause common to them all; and because the elements agree in the single feature of *working together to produce sight*, there must be some causal connection between •the cause that brought those elements together and •the fact of sight.

I regard this as a legitimate inductive inference; it’s the sum and substance of what induction can do for theism. The natural way to go on with it would be this:

We are explaining •the putting together of the organic structure of the eye in term of •sight. But sight comes after the structuring of the eye, not before it; so we can’t say that sight causally produces the structuring of the eye; so we’ll have to say that the *idea of sight*, the *plan to create sight*, is what caused the structuring of the eye. [Mill expresses this by saying that sight can’t be the ‘efficient cause’ of the structuring of the eye, and can only be its ‘final cause’.] And that means that an intelligent will was involved in the structuring of the eye.

I’m sorry to say that this second half of the argument is more vulnerable than the first half. The origin of the wonderful mech-

anism of the eye *may* be connected with the fact of sight in the way claimed here, i.e. through the mechanism's being caused by creative forethought; but this is not the only possibility. [What comes next is presumably a reference to Darwin's *The Origin of Species*, which was published in 1859, about ten years before Mill wrote this Essay.] Recent scientific theorizing has called attention to another connecting link; there's no room for doubt that it is real, though there is (and probably will long continue to be) questions about whether this link is adequate to account for such truly admirable combinations as some of those in nature, e.g. the structure of the animal eye. The 'link' I am talking about comes from the principle of 'the survival of the fittest'.

This principle doesn't claim to account for the origins of sensation or of animal or vegetable life. We start by assuming the existence of one or more very low forms of organic life, in which there are no complex adaptations and no notable appearances of design. Now, experience justifies us in thinking that many small variations from those simple types of organism would be thrown out in all directions and would be passed on to the variant organism's offspring. Some of these variations would help the creature in its struggle for existence while others would hinder it; the forms with helpful variants would always tend to survive, and those with disadvantageous ones would tend to perish. And thus the type of organism in question would constantly though slowly *improve* as it branched out into many different varieties, adapting it to different environments and ways of life, until—perhaps—it eventually reached the level of the most advanced examples that now exist.

Admittedly there's something very startling and *prima facie* improbable in this hypothetical history of nature. For one thing, it requires us to suppose that the primeval animal—whatever sort of organism it was—couldn't see, and was only very slightly prepared to become able to see, perhaps by having cells that were structurally affected by some chemical action of light. One of the accidental variations that are liable to take place in all organisms would at some time or other produce a variety that could see, in some imperfect manner; this feature would be passed on by inheritance, while other variations continued to take place in

other directions; so that eventually a number of races [Mill's word] with eyesight would be produced, whose power of sight (even if imperfect) would have a great advantage over all other creatures that couldn't see, and would in time wipe them out everywhere except perhaps in a few very special locations underground. Fresh variations adding themselves to the previous ones would give rise to races with better and better seeing powers, until we might at last reach a combination of structures and functions as impressive are found in the eyes of men and of the more important animals. When theory is pushed to that extreme point, the most we can say in its favour at present is that •it isn't as absurd as it looks, and that the •analogies that have been empirically discovered and are favourable to its being possible far exceed what anyone could have supposed beforehand. Whether it will ever be possible to say more than this is at present uncertain. If the theory is accepted, that would be in no way whatever inconsistent with •divine• creation, but there's no denying that it would greatly weaken the evidence for it.

Leaving this remarkable theory to whatever fate the progress of science may have in store for it, I think it must be accepted that in the present state of our knowledge the adaptations in nature provide a large balance of probability in favour of creation by intelligence. It is equally certain that this is no more than a probability; and that the various other arguments of natural theology that I have discussed •throughout Part 1 of this Essay• add nothing to its force. Apart from •divine• revelation, any reason there is to believe in an author of nature is derived from the appearances in the universe. Their mere resemblance to the works of man, or to what man could do if he had the same power over the materials of organisms as he has over the materials of a watch, has *some* value as an argument by analogy; but the case is greatly strengthened by the properly inductive considerations which establish that there is some *connection through causation* between •the origin of the arrangements of nature and •the ends they fulfill. This line of thought carries little weight in many cases, but in others, and chiefly in the precise and intricate structures involved in plant and animal life, it has considerable strength.

Part 2: Attributes

Having shown in Part 1 where we have come to on the question—looked at in a purely scientific way—of the existence of a god, I now turn to the question: given the indications of a god, what *sort* of god do they point to? This is a question about the evidence that nature gives us of a creative mind: what attributes does that evidence entitle us to ascribe to that mind?

Omnipotence

It doesn't need to be *argued* that the power if not the intelligence of God must be greater than man's—so *much* greater that we have no measure for the difference. But there is a big gap between this and God's being omnipotent and omniscient, ·i.e. his being able to do anything and his knowing everything·. And the gap has immense practical importance.

It's not too much to say that every indication of *design* in the universe is evidence against the omnipotence of the designer. For what do we mean by 'design'? *Contrivance*—the devising of means to an end. But the need for contrivance—the need to use means—is a consequence of the limitation of power. Who would use *means* to an end that he could achieve just by saying the word? The very idea of *means* implies that the means have an effectiveness that the direct action of the being who employs them doesn't have. Otherwise they aren't means, but merely clutter [Mill's word is 'encumbrance']. A man doesn't use machinery to move his arms! If he did, it would be because paralysis had deprived him of the power of moving them by volition. And if ·the use of contrivances is in itself a sign of limited power, ·the careful and skillful choice of contrivances is even more so. Can any wisdom be shown in the *selection* of means if the means owe all their effectiveness to the will of him who employs them, and when his will could have made any other means equally effective? ·Wisdom and ·contrivance are shown in overcoming difficulties, so there is no place for them in a Being for whom no difficulties exist. So the evidence of natural theology distinctly implies that the author of the cosmos worked

under limitations—that he had to adapt himself to conditions that were independent of his will, and to attain his ends by whatever arrangements—whatever *contrivances*—were possible in those conditions.

This hypothesis agrees with what we have seen to be the tendency of the evidence in another respect. We found that the appearances in nature •point indeed to an origin of the cosmos, i.e. of order in nature, and •indicate that the origin involves design, but they *don't* point to any beginning—still less any *creation*—of the two great elements of the universe, the passive element *matter* and the active element *force*. Nature gives us no reason whatever to suppose that either matter or force or any of their properties were *made* by the Being who was the author of the physical layout by which the world is made suitable for what we think to be its purposes, or that he has the power to alter any of those properties. It is only in the light of •this negative supposition—i.e. •the supposition that God did *not* create matter or force or any of their properties—that we see any need for wisdom and contrivance in the order of the universe. On •this hypothesis, God had to work out his ends by combining materials of a given nature and properties. Out of these materials he had to construct a world in which his designs would be carried out through given properties of matter and force, working together and fitting into one another. [The two uses of 'given' are Mill's. Matter etc. are 'given' in the sense of being something that God finds or confronts, not something he makes.] This did require skill and contrivance, and the means by which it is brought about often arouse our wonder and admiration; but just because it requires wisdom, it implies limitation of power, or rather 'wisdom' and 'limitation of power' express different sides of the same fact.

You might want to say: 'An omnipotent creator, though he didn't *need* contrivances such as man must use, thought fit to use them in order to leave traces that would enable man to recognize his creative hand.' I answer that this equally implies a limit to his omnipotence. For if he wanted men to know that •they and •the world are made by him, he in his omnipotence had only to *will* that

they should be aware of it. Ingenious men have looked for reasons why God might choose to leave his existence to some extent a matter of doubt—so that men wouldn't be absolutely compelled to know it, as they are compelled to know that three and two make five. These imagined reasons are very unfortunate specimens of special pleading; but even if we admit their validity, they don't help the case for God's omnipotence. If an omnipotent God didn't want man to have a complete conviction of his (God's) existence, nothing hindered him from making the conviction fall short of completeness by any margin he chose to leave, ·doing this by a simple act of will rather than through any contrivance·. Arguments of the present kind are usually brushed aside by giving the easy answer that 'we don't know what wise reasons the omniscient ·God· may have had for leaving undone things that he had the power to do'. Someone who says this doesn't see that this reply itself implies a limit to omnipotence! When a thing is obviously good, and obviously in accordance with what all the evidence of creation implies to have been the creator's design, and we say we don't know what good reason he may have had for not doing it, we mean that we don't know to what other still better objective—to what objective still more completely in line with his purposes—he may have seen fit to postpone it. But the need to postpone one thing in order to do another belongs only to limited power. An omnipotent Being could have made the objectives compatible. Omnipotence doesn't need to weigh one consideration against another. If the creator, like a human ruler, had to cope with a set of conditions that weren't of his making, it would be unphilosophical and out of line for us to •challenge him regarding any imperfections in his work, to •complain that he left anything in it contrary to what (judging by all the indications of design) he must have intended. He must at least know more than we know, and we can't judge what greater good would have had to be sacrificed, or what greater evil allowed, if he had decided to remove this or that particular blot. [Throughout this Essay, the noun 'evil' is used to mean merely 'something bad'. On page ?? Mill contrasts •the evils of life' with •its meannesses and basenesses', where the latter phrase refers to bad behaviour by people while the former does not.] But this doesn't hold if he is omnipotent. If he is *that*, he must himself have willed that the two desirable objectives should be incompatible; he

must himself have willed that the obstacle to his supposed design should be insuperable. So it can't be what he wanted, after all. It won't do to say that it is what he wanted but that he had other designs that interfered with it; for no one purpose puts necessary limitations on another in the case of a Being who ·is omnipotent and who therefore· isn't restricted by conditions of possibility.

Omniscience

So the creator can't be said to be omnipotent on the strength of natural theology. The basic principles of natural religion, as inferred from the facts of the universe, negate his omnipotence. They don't in the same way •exclude omniscience: God's having only limited power doesn't contradict his having perfect knowledge and absolute wisdom. But there is nothing to •prove omniscience either. Someone who plans and carries out the arrangements of the cosmos certainly needs much more •knowledge than humans have, just as he needs much more •power. And the skill, the subtlety of contrivance, the ingenuity (as it would be called if this were a human work) is often marvellous. But nothing obliges us to suppose that either the knowledge or the skill is *infinite*. We don't even have to suppose that the contrivances were always the best possible. If we venture to judge them as we judge the works of human skill, we find plenty of defects. The human body, for example, is a striking example of artful and ingenious contrivance, but we may well ask whether a complicated machine like this couldn't have been made to last longer, and not to get out of order so easily and so often. We may ask why the human race should have been so constituted as to grovel in wretchedness and degradation for countless ages before a small portion of it was enabled to lift itself to the state of intelligence, goodness and happiness that we enjoy—still a very imperfect one. Perhaps God hadn't the power to do better; the obstacles to a better arrangement of things may have been insuperable. But it is possible that they were not. We can't tell whether the skill. . . .that produced the world as we see it reached the extreme limit of perfection compatible with the material it employed and the forces it had to work with. I don't know how we can even satisfy ourselves, on natural-theology

grounds, that God foresees all the future, knowing in advance all the effects that his contrivances will have. There may be great •wisdom without the power of •foreseeing and calculating everything; and human workmanship teaches us that the following can happen:

A workman's knowledge of the properties of the things he works on enables him to make arrangements that are admirably fitted to produce a given result, yet he has very little power to foresee how forces of some other kind may modify or counteract the operation of the machinery he has made.

It may be that if we had the same power over the materials and the forces involved in organisms as we have over some inanimate things, we wouldn't need a vastly increased knowledge of the laws of nature on which organic life depends—not much greater than the knowledge we do have of some other natural laws—to be able to create organisms that were as wonderful and as well adapted to their conditions of existence as those in nature.

What limits god's power?

Assuming then that while we confine ourselves to natural religion we must settle for a creator who is less than omnipotent, the question arises—*what* limits are there to his power? Does the obstacle at which God's power stops, the obstacle that says 'You may go this far, but no further', lie in •the power of other intelligent beings, or in •the inadequacy and stubbornness of the materials of the universe? Or must we resign ourselves to accepting that the wise and knowing author of the cosmos was not *all-wise* and *all-knowing*, and may not always have done the best that was possible under the conditions of the problem? The first of these suppositions has until quite recently been the prevalent theory even of Christianity, and in many quarters it still is. People who accept it say—and in a certain sense they say it sincerely—that God is omnipotent, but they also hold that for some inscrutable reason he tolerates the perpetual thwarting of his purposes by the will of another Being of opposite character and of great though inferior power, namely the Devil. The only difference on this matter

between •the plain person's form of Christianity and •the religion of Ormuzd and Ahriman—the good and evil spirits of ancient Persian religion—is that Christianity pays its good creator the bad 'compliment' of having *made* the Devil and of being at all times able to crush and annihilate him and his evil deeds and counsels, and yet not doing so. But, as I have already remarked, all forms of polytheism—this one included—are hard to reconcile with a universe governed by general laws. Obedience to law is a mark of a settled government, and not of a conflict always going on. When powers are at war with one another for the rule of the world, the boundary between them is not fixed but constantly fluctuating. This may seem to be the case on our planet—a conflict between the powers of good and evil—when we look only at the •results; but when we consider the •inner springs we find that both the good and evil take place in the common course of nature, by virtue of the same general laws—the same machinery turning out now good, now evil things, and oftener still the two combined. The division of power may appear to be variable, but really it is so regular that if we were speaking of human rulers we would be quite sure that the share of each must have been fixed by previous consent. . . .

But when we come to consider not •what hypothesis can be conceived and possibly *reconciled with* known facts, but •what supposition is *pointed to* by the evidence of natural religion, the case is different. The indications of design point strongly in one direction, the preservation of the creatures in whose structure the indications are found. Along with the preserving agencies there are destroying agencies, which we might be tempted to ascribe to the will of a different creator; but there is little evidence of intricately contrived means of destruction (except when the destruction of one creature is the means to the preservation of others). And it can't be supposed that the preserving agencies are wielded by •one Being and the destroying agencies by •another. The destroying agencies are a necessary part of the preserving agencies; the chemical compositions by which life is carried on couldn't take place without a parallel series of decompositions. The great agent of decay in both organic and inorganic substances is oxidation, yet it is only by oxidation that anything stays alive for even a minute. When there is evidence of a purpose that hasn't been

fully achieved, the imperfections don't look as though they were designed. They are like •the unintended results of casual events that weren't sufficiently guarded against, or •a bit too much or too little of some of the agencies by which the good purpose is carried on, or •consequences of the wearing out of a machine that wasn't made to last for ever. They point either to shortcomings in the workmanship as regards its intended purpose, or to external forces not under the control of the workman, but not to forces that show any sign of being wielded and aimed by some other rival intelligence.

So we can conclude that there is no basis in natural theology for attributing intelligence or personality to the obstacles that partially thwart what seem to be God's purposes. Two other possible sources of the limitation of his power are more probable. (1) They result from the qualities of the material: the substances and forces of which the universe is composed don't admit of any arrangements by which his purposes could be more completely fulfilled. (2) God's purposes could have been more fully attained, but he didn't know how to do it: his creative skill, wonderful as it is, wasn't perfect enough to accomplish his purposes more thoroughly.

God's moral qualities

I pass now to the moral attributes of God, so far as they are indicated in his creation. Stating the problem in the broadest manner: *What indications does nature give of the purposes of its author?* This question looks very different to •us from how it looks to •the teachers of natural theology who carry the burden of having to accept the omnipotence of the creator. We don't have to tackle the impossible problem of reconciling •infinite benevolence and justice with •infinite power in the creator of such a world as ours! The attempt to do so •is doubly disgusting: it involves absolute contradiction in an intellectual point of view, and presents the revolting spectacle of a jesuitical [here = 'slippery, tricky'] defence of moral atrocities.

On this topic I needn't add to the illustrations I gave in my essay on *Nature*. At the present stage of the present argument

there is none of this moral perplexity. Grant that creative power was *limited*, by •conditions of whose nature and extent we know nothing at all, and the goodness and justice of the creator may be all that the most pious believe; everything in the work that conflicts with those moral attributes may be the fault of the •conditions that left God with only a choice of evils.

But a conclusion's being consistent with known facts is not the same as there being evidence to support it; and if our only basis for judging the design is the work actually produced, it's rather risky to speculate that the work designed was of a different quality from the result achieved. Still, though the ground is unsafe we may cautiously journey a certain distance on it. Some parts of the order of nature indicate contrivance much more than others do; and it isn't going too far to say that many parts show no sign of it at all. The signs of contrivance are most conspicuous in the structure and processes of plant and animal life. If it weren't for these it would probably never have seemed to thoughtful people that the appearances in nature provide any evidence of the existence of a god. But when a god had been inferred from the organization of living things, other parts of nature (such as the structure of the solar system) seemed to provide more or less strong evidence in confirmation of the belief. Thus, granting that there is design in nature, we can best hope to be enlightened as to *what* that design was by examining it in the parts of nature where its traces are the most conspicuous.

Well, then, what about those the devices in the construction of animals and plants that arouse the admiration of naturalists? •What purpose do they appear to have? Or, to put the same question in another way: to what end do they seem to tend? We have to face the fact that they tend principally to a rather lowly objective—merely to make the structure remain alive and in working order for a certain time, the individual for a few years, the species or race for a longer but still limited period. And the same is true for most of the similar though less conspicuous marks of creation that are recognized in inorganic nature. For example, the adaptations that appear in the solar system consist in placing it under conditions that enable it to maintain a stable system of causal inter-relations rather than flying apart. And even that

•modest state of affairs• holds for only for a period of time; it's a vast period if measured against *our* short span of life, but even we can see that it is nevertheless limited; for even our feeble means of exploring the past provide—according to those who have examined the subject by the most recent lights—to yield evidence that the solar system was once a vast sphere. . . . of vapour, and is going through a process which in the long run will reduce it to a single not very large mass of solid matter, frozen up with more-than-arctic cold. If the machinery of the system is adapted to keep itself at work only for a time, still less perfect is the adaptation of it as a place where living beings can exist; because it is adapted to them, for each planet, only during the relatively short period between the planet's being too hot to permit life and its being too cold for that (judging by our experience of the conditions under which life is possible). . . .

Thus, most of the design of which there are indications in nature, however wonderful its mechanism, is not evidence of any moral attributes because the end to which it tends—this being our only evidence that it is *directed* to any end at all—is not a moral end. It isn't •the good of any sentient creature, but merely •the qualified permanence for a limited period of the work itself, whether living or not. If we want to infer the character of the creator from *that*, all we get is that he doesn't want his works to perish as soon as he creates them; he wants them to have a certain duration. Nothing follows from this about his feelings or attitudes towards his animate or rational creatures.

After we set aside all the many adaptations that have no apparent purpose but •to keep the machine going, there remain some provisions •for giving pleasure to living beings, and some •for giving them pain. Perhaps all these should be included among the contrivances for keeping the creature or its species in existence; for both the pleasures and the pains have a conserving tendency, the pleasures being generally disposed to attract the creature to the things that will maintain the existence of itself or its species, the pains to deter from things that would destroy it.

When all these things are considered, it's clear that ever so many bits of evidences of a creator *are not* evidence of a benevolent purpose in him—so many, indeed, that you may wonder whether

there are any that *are*. But trying to look at the question without partiality or prejudice, and not letting our wishes influence our judgment, it does seem that on the assumption that there is design at work in the universe, the balance of evidence indicates that the creator wanted his creatures to have pleasure. This is indicated by the fact that pleasure of one sort or another is provided by almost everything. •The play of the faculties, physical and mental, is a never-ending source of pleasure; •even painful things give pleasure by the satisfaction of curiosity and the agreeable sense that one is acquiring knowledge. There is also the fact that when we experience pleasure, it seems to result from the normal working of the machinery, whereas pain usually arises from some external interference with it. . . . Even in cases where pain results, like pleasure, from the machinery itself, it doesn't seem that the pain-causing contrivance was brought into play *so as* to produce pain; the pain points rather to a clumsiness in a contrivance that is employed for some other purpose. The maker of the machinery is no doubt responsible for having made it capable of pain; but this may have been a necessary condition for it to be capable of pleasure—a supposition that won't work •if the creator is omnipotent, but is extremely probable •if the creator works under the limitation of unbreakable laws and unchangeable properties of matter. Given that the susceptibility •to pain• was part of the design, actual pain itself usually seems undesigned—a casual result of the organism's collision with some external force to which it wasn't intended to be exposed. . . . So there is much evidence that pleasure is agreeable to the creator, and very little (if any) evidence that pain is so. There is, then, a certain amount of justification for inferring, purely on grounds of natural theology, that benevolence is one of the creator's attributes. But to jump from this to the conclusion that •his sole or chief purposes are those of benevolence, and that •what the creation was *for* was the happiness of his creatures and nothing else, is not only not justified by any evidence but conflicts with such evidence as we have. If God's motive for creating sentient beings was the happiness of the beings he created, we have to judge, taking past ages and all countries and races into account, that on this planet at least he failed utterly; and if he had no purpose but our happiness

and that of other living creatures, it's not credible that he would have brought them into existence with the prospect of being so completely thwarted. If man wasn't able through the exercise of his own energies to improve both himself and his outward circumstances, doing for himself and other creatures vastly more than God did at the outset, he would owe God something very different from *thanks* for bringing him into existence! Of course it may be said that •the sufferings and wasted lives of entire geological periods are not too high a price to pay for the changes that man will eventually be able to bring about in human existence, and that •man's ability to improve himself and the world was given to him by God. This may be so; but the supposition that God couldn't have given man these blessings at a less frightful cost—isn't that a very strange thing to suppose concerning God? It amounts to supposing that God couldn't at the outset create anything better than a Bushman or an Andaman islander or something still lower, and yet was able to give the Bushman or Andaman islander the power to raise himself into a Newton or a Fénelon. We certainly don't *know* what the barriers are that prevent God from being omnipotent; but it is a very odd notion of them to suppose that they enable God to give to an almost bestial creature the power of producing by a succession of efforts something that God himself had no other means of creating!

Such are the indications of natural religion regarding God's benevolence. If we look for any other of the moral attributes that philosophers of a certain type distinguish from benevolence—justice, for example—we find a total blank. Nature offers no

evidence whatever of divine justice, whatever standard of justice our ethical opinions may lead us to recognize. There is no shadow of justice in the general arrangements of Nature; and the imperfect instances of justice that there are in any human society (*very* imperfect so far) are the work of man himself, struggling upwards into civilization. He does this against immense natural difficulties, making for himself a second nature that is far better and less selfish than the one he was created with. But I have said enough about this in my essay *Nature*.

So here are the net results of natural theology on the question of God's attributes. A Being

- of great but limited power, and we can't even guess at how or by what he is limited;
- of great intelligence, perhaps unlimited but perhaps more narrowly limited than his power;
- who desires, and pays some regard to, the happiness of his creatures, but who seems to have other motives of action that he cares about more, and who can hardly be supposed to have created the universe for that purpose alone.

Such is the god indicated by Natural Religion; any idea of God more charming than this comes only from human wishes, or from the teaching of either real or imaginary revelation.

I shall next examine whether the light of nature gives any indications concerning the immortality of the soul, and a future life. [In Mill's time and for centuries before that, the word 'soul' could be used with no religious overtones to it, as meaning 'mind' or 'whatever it is in a man that does his thinking and feeling'.]