

Enquiry Concerning Human Understanding

David Hume

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[Brackets] enclose editorial explanations. Small ·dots· enclose material that has been added, but can be read as though it were part of the original text. Occasional •bullets, and also indenting of passages that are not quotations, are meant as aids to grasping the structure of a sentence or a thought. —The ‘volume’ referred to at the outset contained the present work, the *Dissertation on the Passions* and the *Enquiry Concerning the Principles of Morals*, which were all published together.]

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Section 9: The reason of animals

All our reasonings about matters of fact are based on a sort of analogy, which leads us to expect from any cause the same outcome that we have observed to result from similar causes in the past. Where the causes are entirely alike, the analogy is perfect, and the inference drawn from it is regarded as certain and conclusive. Nobody who sees a piece of iron has the faintest doubt that it will have weight and its parts will hold together, like every other specimen of iron he has observed. But when the objects are not exactly alike, the analogy is less perfect and the inference is less conclusive, though still it has some force, in proportion to how alike the causes are. Observations about the anatomy of one species of animal are by this kind of reasoning extended to all animals: when the circulation of the blood, for instance, is clearly shown to occur in one creature (e.g. / a frog or a fish) that creates a strong presumption that blood circulates in all animals. This analogical kind of reasoning can be carried further, even into the kind of philosophy I am now presenting. Any theory by which we explain the operations of the understanding or the origin and connection of the passions *in man* will acquire additional authority if we find that the same theory is needed to explain the same phenomena in all *other animals*. I shall put this to the test with regard to the hypothesis through which I have been trying to explain all our reasonings from experience; and I hope that this new point of view - looking at the use animals make of what they learn from experience.—will serve to confirm everything I have been saying.

First, it seems evident that animals, like men, learn many things from experience, and infer that the same outcomes will always follow from the same causes. By this principle they become acquainted with the more obvious properties of

external objects, and gradually store up a lifetime's stock of knowledge of the nature of fire, water, earth, stones, heights, depths, etc., and of the effects that result from the operation of these. The ignorance and inexperience of the young are here plainly distinguishable from the cunning and cleverness of the old, who have learned by long observation to avoid what has hurt them in the past, and to pursue what gave them ease or pleasure. A horse that has been accustomed to the hunt comes to know what height he can leap, and will never attempt what exceeds his force and ability. An old greyhound will leave the more tiring part of the chase to the younger dogs, and will position himself so as to meet the hare when she doubles back; and the conjectures that he forms on this occasion are based purely on his observation and experience.

This is still more evident from the effects of discipline and education on animals, who by the proper application of rewards and punishments can be taught any course of action, even one that is contrary to their natural instincts and propensities. Isn't it experience that makes a dog fear pain when you threaten him or lift up the whip to beat him? Isn't it experience that makes him answer to his name, and infer from that arbitrary sound that you mean him rather than any of his fellows, and that when you pronounce it in a certain manner and with a certain tone and accent you intend to call him?

In all these cases we see that the animal infers some fact beyond what immediately strikes his senses, and that this inference is entirely based on past experience, with the animal expecting from the present object the same consequences that it has always found in its observation to result from similar objects.

Secondly, this inference of the animal can't possibly be based on any process of argument or reasoning through

which he concludes that similar outcomes must follow similar objects, and that the course of nature will always be regular in its operations. If there is anything in any arguments of this nature, they are surely too abstruse to be known by such imperfect understandings as those of animals, for it may well require the utmost care and attention of a philosophical genius to discover and observe them. So animals aren't guided in these inferences by reasoning; nor are children; nor are most people in their ordinary actions and conclusions; nor even are philosophers and scientists, who in all the practical aspects of life are mostly like the common people, and are governed by the same maxims. For getting men and animals from past experience to expectations for the future, nature must have provided some other means than reasoning - some more easily available and

usable device. An operation of such immense importance in life as that of inferring effects from causes couldn't be trusted to the uncertain process of reasoning and argumentation. And even if you doubt this with regard to men, it seems to be unquestionably right with regard to animals; and once the conclusion is firmly established for *them*, we have a strong presumption from all the rules of analogy that it ought to be confidently accepted as holding universally, with no exceptions. It is custom alone that gets animals when an object strikes their senses to infer its usual attendant, and carries their imagination, from the appearance of the object, to conceive the attendant in that special manner that we call *belief*. No other explanation can be given of this operation in all classes of sensitive beings—higher as well as lower—that fall under our notice and observation.⁹

⁹Since all reasonings concerning facts or causes is derived merely from custom, it may be asked how it comes about that men reason so much better than animals do, and that one man reasons so much better than another? Hasn't the same custom the same influence on all? I'll try here to explain briefly the great difference in human understandings. Then it will be easy to see the reason for the difference between men and animals. Hasn't the same custom the same influence on all? I'll try here to explain briefly the great difference in human understandings. Then it will be easy to see the reason for the difference between men and animals.

1. When we have long enough to become accustomed to the uniformity of nature, we acquire a general habit of judging the unknown by the known, and conceiving the former to resemble the latter. On the strength of this general habitual principle we are willing to draw conclusions from even one experiment, and expect a similar event with some degree of certainty, where the experiment has been made accurately and is free of special distorting circumstances. It is therefore considered as a matter of great importance to observe the consequences of things; and as one man may very much surpass another in attention and memory and observation, this will make a very great difference in their reasoning.

2. Where many causes combine to produce some effect, one mind may be much larger than another, and therefore better able to take in the whole system of objects, and therefore to draw correct conclusions from them.

3. One man can carry on a chain of consequences to a greater length than another.

4. Few men can think for long without running into a confusion of ideas, and mistaking one idea for another. Men differ in how prone they are to this trouble.

5. The circumstance on which the effect depends is often combined with other circumstances having nothing to do with that effect. The separation of the one from the others often requires great attention, accuracy, and subtlety.

6. The forming of general maxims from particular observations is a very delicate operation; and all too often people make mistakes in performing it, because they go too fast or because they come at it in a narrow-minded manner which prevents them from seeing all sides.

7. When we reason from analogies, the man who has the greater experience or is quicker in suggesting analogies will be the better reasoner.

8. Biases from prejudice, education, passion, party, etc. hang more upon one mind than another.

9. After we have acquired confidence in human testimony, the sphere of one man's experience and thought may be made larger than another's by his experience and thought may be made larger than another's by books and conversation.

But though animals get much of their knowledge from observation, many parts of it were given to them from the outset by nature. These far outstrip the abilities the animals possess on ordinary occasions, and in respect of them the animals make little or no improvement through practice and experience. We call these *instincts*, and we are apt to wonder at them as something very extraordinary, something that can't be explained by anything available to us. But our wonder will perhaps cease or diminish when we consider that the reasoning from experience which we share with the beasts, and on which the whole conduct of life depends, is itself nothing but a sort of instinct or mechanical power that acts in us without our knowing it, and in its chief operations isn't directed by any such relations or comparisons of ideas as are the proper objects of our intellectual faculties. Between flame and pain, for instance, there is no relation that the intellect can do anything with, no comparison of ideas that might enter into a logical argument. An instinct teaches a bird with great exactness how to incubate its eggs and to manage and organize its nest; an instinct teaches a man to avoid the fire; they are different instincts, but they are equally *instincts*.

Section 10: Miracles

Dr. Tillotson's writings contain an argument against the real presence of the body and blood of Christ in the bread and wine of the Eucharist. It is as concise, elegant, and strong as any argument can possibly be against a doctrine that is so far from deserving a serious refutation. The learned prelate argues as follows:

Everyone agrees that the authority of the scripture and of tradition rests wholly on the testimony of the

apostles who were eye-witnesses to those miracles of our saviour by which he proved his divine mission. So our evidence for the truth of the Christian religion is less than the evidence for the truth of our senses, because even in the first authors of our religion the evidence was no better than that, and obviously it must lose strength in passing from them to their disciples; nobody can rest as much confidence in their testimony as in the immediate object of his senses. But a weaker evidence can never destroy a stronger; and therefore, even if the doctrine of the real presence were ever so clearly revealed in scripture, it would be directly contrary to the rules of sound reasoning to give our assent to it. It contradicts our senses which tell us that the bread isn't flesh and the wine isn't blood; yet both the scripture and the tradition on which the doctrine is supposed to be built have less evidential power than the senses have—when they are considered merely as external evidences, that is, and are not brought home to everyone's breast by the immediate operation of the Holy Spirit.

Nothing is so convenient as a decisive argument of this kind, which, even if it doesn't *convince* the opposition, must at least *silence* the most arrogant bigotry and superstition, and free us from being pestered by them. I flatter myself that I have discovered a similar argument—one which, if it is sound, will serve wise and learned people as a permanent barrier to all kinds of superstitious delusion, and consequently will be useful as long as the world lasts. I presume that that is how long histories, sacred and secular, will continue to give accounts of miracles and prodigies! [In this section Hume uses 'prodigy' to mean 'something amazing, extraordinary, abnormal, or the like'; similarly 'prodigious'.]

Though experience is our only guide in reasoning concerning matters of fact, it must be admitted that this guide is not altogether infallible, but in some cases is apt to lead us into errors. If someone in our climate expects better weather in any week of June than in one of December, he reasons soundly and in conformity with experience; but he certainly *may* find in the upshot that he was mistaken. We may observe, though, that in such a case he would have no cause to complain of experience; because it commonly informs us of such uncertainty in advance, by presenting us with conflicting outcomes that we can learn about by attending carefully. Not all effects follow with the same certainty from their supposed causes. Some events are found in all countries and all ages to have been constantly conjoined together: Others are found to have been more variable, and sometimes to disappoint our expectations; so that in our reasonings about matters of fact there are all imaginable degrees of assurance, from the highest certainty to the weakest kind of probable evidence.

[In Hume's day, an 'experiment' didn't have to be something deliberately contrived to test some hypothesis. An 'experiment' that you have observed may be merely an experience that you have had and attended to.] A wise man, therefore, proportions his belief to the evidence. In conclusions that are based on an infallible experience, he expects the outcome with the highest degree of assurance, and regards his past experience as a full *proof* of the future existence of that outcome. In other cases he proceeds with more caution: he weighs the opposite experiments; he considers which side is supported by the greater number of experiments; he leans to that side, with doubt and hesitation; and when at last he fixes his judgment, his support for it doesn't exceed what we properly call *probability*. All probability, then, presupposes an opposition of experiments and observations, where one side is found to overbalance

the other and to produce a degree of evidence proportioned to the superiority. We can have only a doubtful expectation of an outcome that is supported by a hundred instances or experiments and contradicted by fifty; though a hundred uniform experiments with only one that is contradictory reasonably generate a pretty strong degree of assurance. In all cases where there are opposing experiments, we must balance them against one another and subtract the smaller number from the greater in order to know the exact force of the superior evidence.

Let us apply these principles to a particular instance. No kind of reasoning is more common or more useful—even necessary—to human life than the kind derived from the testimony of men and the reports of eye-witnesses and spectators. Perhaps you will deny that this kind of reasoning is based on the relation of cause and effect. Well, I shan't argue about a word. All that I need for my line of thought is that our confidence in any argument of this kind is derived wholly from our observation of •the truthfulness of human testimony and of •the truthfulness of human testimony and of •how facts usually conform to the reports witnesses give of them. It is a general maxim that no objects have any discoverable •necessary• connection with one another, and that all the inferences we can draw from one to another are based merely on our experience of their constant and regular conjunction; so we clearly oughtn't to make an exception to this maxim in favour of human testimony, because there is as little necessary connection between testimony and fact as between any pair of items. •If memories were not tenacious to a certain degree; •if men didn't commonly have an inclination to truth and a drive towards honesty; •If memories were not tenacious to a certain degree; •if men didn't commonly have an inclination to truth and a drive towards honesty; •if they were not given to shame when detected in

a falsehood—if all these were not found by experience to be qualities inherent in human nature, •we would never have the least confidence in human testimony. The word of a man who is delirious, or is known for his falsehood and villainy, carries no weight with us.

Because the evidence derived from witnesses and human testimony is based on past experience, it varies with the experience, and is regarded either as a *proof* or as a *probability*, depending on whether the association between the kind of report in question and the kind of fact it reports has been found to be constant or variable. There are several circumstances to be taken into account in all judgments of this kind; and the final standard by which we settle any disputes that may arise concerning them is always based on experience and observation. In cases where this experience doesn't all favour one side, there's bound to be contrariety in our judgments, with the same opposition and mutual destruction of argument as occurs with every other kind of evidence. We often hesitate to accept the reports of others. We balance the opposing circumstances that cause any doubt or uncertainty, and when we find a superiority on one side we lean that way, but still with a lessened assurance in proportion to the force of its antagonist.

When human testimony is in question, the contrariety of evidence may come from several different causes: from the opposition of contrary testimony, from the character or number of the witnesses, from their manner of delivering their testimony, or from all of these together. We entertain a suspicion concerning any matter of fact when the witnesses contradict each other, when there are few of them or they are of a doubtful character, when they have something to gain by their testimony, when they deliver their testimony with hes-

itation or with over-violent confidence. Many other factors like these can reduce or destroy the force of an argument derived from human testimony.

Consider, for instance, testimony that tries to establish the truth of something extraordinary and astonishing. The value of this testimony as evidence will be greater or less in proportion as the fact that is attested to is less or more unusual. We believe witnesses and historians not because we of any *connection* that we perceive *a priori* between testimony and reality, but because we are accustomed to find a conformity between them. But when the fact attested is of a sort that we have seldom observed, we have a contest between two opposite experiences; one of these uses up some of its force in destroying the other, and can then operate on the mind only with the force that then remains to it. In a case like this, the very same principle of experience that gives us a certain degree of assurance in the testimony of witnesses also gives us another degree of assurance against the claim which the witnesses are trying to establish; and from that contradiction there necessarily arises a balanced stand-off, and mutual destruction of belief and authority.

'I wouldn't believe such a story were it told me by Cato' was a proverbial saying in Rome, even during the lifetime of that philosophical patriot. The incredibility of a claim, it was allowed, might invalidate even such a great authority as Cato.

The Indian prince who refused to believe the first accounts he heard of frost reasoned soundly, and it naturally required very strong testimony to get him to accept facts arising from a state of nature which he had never encountered and which bore so little analogy to events of which he had had constant and uniform experience. Though they

¹⁰[The in-text key to this footnote is high on the next page.] Obviously, the Indian couldn't have had experience of water's not freezing in cold climates. This is placing nature in a situation quite unknown to him; and it is impossible for him to tell *a priori* what will result from it. It is making a new experiment,

were not contrary to his experience, these facts—involving freezing cold—didn't conform to it either.¹⁰ But in order to increase the probability against the testimony of witnesses, let's take a case where •the fact which they affirm, instead of being only extraordinary, is really miraculous; and where •the testimony, considered apart and in itself, amounts to an entire proof •because the witnesses have been found to be reliable, there is nothing suspicious about the manner of their testimony, they have nothing to gain by it, and so on. In this case, there is •proof against •proof against •proof, of which the stronger must prevail, but still with a lessening of its force in proportion to the force of the opposing side.

A miracle is a violation of the laws of nature; and because firm and unalterable experience has established these laws, the case against a miracle is—just because it is a miracle—as complete as any argument from experience can possibly be imagined to be. Why is it more than merely probable that *all men must die*, that *lead cannot when not supported remain suspended in the air*, that *fire consumes wood and*

is extinguished by water, unless it is that these events are found agreeable to the laws of nature, and for things to go differently there would have to be a violation of those laws, or in other words a miracle? Nothing is counted as a miracle if it ever happens in the common course of nature. When a man who seems to be in good health suddenly dies, this isn't a miracle; because such a kind of death, though more unusual than any other, has yet often been observed to happen. But *a dead man's coming to life* would be a miracle, because that has never been observed in any age or country. So there must be a uniform experience against every miraculous event, because otherwise the event wouldn't count as a 'miracle'. And as a uniform experience amounts to a proof, we have here a direct and full proof against the existence of any miracle, just because it's a miracle; and such a proof can't be destroyed or the miracle made credible except by an opposite proof that is even stronger.¹¹

This clearly leads us to a general maxim that deserves of our attention:

the outcome of which is always uncertain. One may sometimes conjecture from analogy what will follow, but still this is *only* conjecture. And it must be confessed that in the present case of freezing, the outcome •of making water very cold• runs contrary to the rules of analogy, and is not something that a rational Indian would expect. The operations of cold upon water are not gradual, according to the degrees of cold; but whenever water reaches the freezing point it passes in a moment from the utmost liquidity to perfect hardness. An event like this can be called *extraordinary*, therefore, and requires a pretty strong testimony if people in a warm climate are to believe it. But still it is not *miraculous*, or contrary to uniform experience of the course of nature in cases where all the circumstances are the same. The inhabitants of Sumatra have always seen water fluid in their own climate, and the freezing of their rivers ought to be deemed to be something extraordinary; but they never saw water in Russia during the winter; and therefore they cannot reasonably be positive about what the upshot of that would be.

¹¹Sometimes an event may not *in itself* seem to be contrary to the laws of nature, and yet if it really occurred it might be called a miracle because *in those circumstances* it is in fact contrary to these laws. For example, if a person who claimed to have a divine authority were to command a sick person to be well, a healthy man to fall down dead, the clouds to pour rain, the winds to blow—in short, if he were to order many natural events which did then occur immediately after his command—these might reasonably be thought to be miracles, because they really are *in this case* contrary to the laws of nature. If there is any suspicion that the event followed the command by accident, there is no miracle and no breaking of the laws of nature. If that suspicion is removed, then clearly there is a miracle and a breaking of those laws; because nothing can be more contrary to nature than that the voice or command of a man should have such an influence. A 'miracle' may be accurately defined as *a breaking of a law of nature by a particular act of God's will or by the interposition of some invisible agent*. A miracle may be discoverable by men or not—that makes no difference to its nature and essence. The raising of a house or ship into the air is a visible miracle. The raising of a feather, when the wind is ever so slightly less strong than is needed to raise it •naturally•, is just as real a miracle, though we can't see it as such.

No testimony is sufficient to establish a miracle unless it is of such a kind that its falsehood would be more miraculous than the fact that it tries to establish. And even in that case there is a mutual destruction of arguments, and the stronger one only gives us an assurance suitable to the force that remains to it after the force needed to cancel the other has been subtracted.

When anyone tells me that he saw a dead man restored to life, I immediately ask myself whether it is more probable that •this person either deceives or has been deceived or that •this person either deceives or has been deceived or that •what he reports really has happened. I weigh one miracle against the other, and according to the superiority which I discover I pronounce my decision and always reject the greater miracle. If the falsehood of his testimony would be more miraculous than the event that he relates, then he can claim to command my belief or opinion, but not otherwise.

Part 2

In the foregoing reasoning I have supposed that the testimony on which a miracle is founded may possibly amount to an entire proof, and that the falsehood of that testimony would be a real prodigy. But it's easy to show that this was conceding far too much, and that there never was a miraculous event established on evidence as good as that.

For, *first*, never in all of history has a miracle been attested by •a sufficient number of men, of such unquestioned good sense, education, and learning as to guarantee that they aren't deluded; •of such undoubted integrity as to place them beyond all suspicion of wanting to deceive others; •of such undoubted integrity as to place them beyond all suspicion of wanting to deceive others; •of such credit and reputation

in the eyes of mankind as to have much to lose if they were found to have told a falsehood; •and at the same time testifying to events—the reported miracle—that occurred in such a public manner and in such a famous part of the world as to make the detection of any falsehood unavoidable. All these conditions must be satisfied if we are to be completely confident of the testimony of men.

Secondly. We may observe in human nature a principle which, if strictly examined, will be found to reduce greatly the confidence that human testimony can give us in the occurrence of any kind of prodigy. In our reasonings we commonly conduct ourselves in accordance with the maxim:

The objects of which we have no experience resemble those of which we have; what we have found to be most usual is always most probable; and where there is an opposition of arguments, we ought to give the preference to such as are founded on the greatest number of past observations.

This rule leads us to reject at once any testimony whose truth would be unusual and incredible in an ordinary degree; but higher up the scale the mind doesn't always stick to the same rule, for when something is affirmed that is utterly absurd and miraculous, the mind the more readily accepts it on account of the very feature of it that ought to destroy all its authority! The surprise and wonder that arise from miracles is an agreeable emotion, and that makes us tend to believe in events from which it is derived. And this goes so far that even those who can't enjoy this pleasure immediately, because they don't believe in those miraculous events of which they are informed, still love to partake in the satisfaction at second-hand or by rebound, and take pride and delight in arousing the wonder of others.

How greedily the miraculous accounts of travellers are received—their descriptions of sea and land monsters, their

tales of wonderful adventures, strange men, and crude customs! But when the spirit of religion is joined to the love of wonder, there is an end of common sense; and human testimony in these circumstances loses all claims to authority. A religionist •may be a wild fanatic, and imagine he sees something that isn't there; •may be a wild fanatic, and imagine he sees something that isn't there; •he may know his narrative to be false, and yet persevere in it with the best intentions in the world for the sake of promoting so holy a cause; and even where this delusion ·about promoting a cause· isn't at work, •his vanity - encouraged by such a strong temptation—operates on him more powerfully than on other people in other circumstances; and •his self-interest operates with equal force. His hearers may not have, and commonly *do* not have, sufficient judgment to examine his evidence critically; and what judgment they do have they automatically give up in these lofty and mysterious subjects; or if they are willing—even very willing—to employ their judgment, its workings are upset by emotions and a heated imagination. Their credulity increases the impudence ·of the person relating the miracle·, and his impudence overpowers their credulity.

Eloquence, when at its highest pitch, leaves little room for reason or reflection; it speaks only to the imagination or to feelings, captivates the willing hearers, and subdues their understanding. Fortunately, it seldom gets as far as that. But what a Tully or a Demosthenes could scarcely do to a Roman or Athenian audience, every itinerant or stationary teacher can do to the generality of mankind, and in a higher degree, by touching such crude and common emotions.

The many instances of forged miracles and prophecies and supernatural events which, in all ages, either have been exposed by contrary evidence or have exposed themselves by their absurdity show well enough mankind's great liking for the extraordinary and the marvellous, and ought make

us suspicious of all such tales. This is our natural way of thinking, even with regard to the most common and most credible events. For instance, there is no kind of report that rises so easily and spreads so quickly - especially in country places and provincial towns—as those concerning marriages; to such an extent that two young persons from the same level of society have only to see each other twice for the whole neighbourhood immediately to join them together! The story is spread through the pleasure people get from telling such an interesting piece of news, of propagating it, and of being the first to tell it. And this is so well known that no sensible person pays any attention to these reports until he finds them confirmed by some better evidence. Well, now, don't the same passions—and others still stronger—incline most people to believe and report, forcefully and with confidence, all religious miracles?

Thirdly. It counts strongly against all reports of supernatural and miraculous events that they chiefly occur among ignorant and barbarous nations; and if a civilized people has ever accepted any of them, that people will be found to have received them from ignorant and barbarous ancestors who transmitted them with the 'you-had-better-believe-this' sort of authority that always accompanies received opinions. When we read the earliest history of any nation, we are apt to imagine ourselves transported into some new world where the whole frame of nature is disjointed, and every element works differently from how it does at present. Battles, revolutions, pestilence, famine, and death, are never—in such a history—the effect of those natural causes that we experience. Prodigies, omens, oracles, and judgments push into the shadows the few natural events that are intermingled with them. But as the prodigies etc. grow thinner page by page as we advance towards the enlightened ages, we soon learn that nothing mysterious or supernatural was going on,

that it all came from mankind's usual liking for the marvelous, and that although this inclination may occasionally be held back by good sense and learning, it can never be thoroughly erased from human nature.

A judicious reader of these wonderful historians may think: 'It is strange that such prodigious events never happen in our days.' But you don't find it strange, I hope, that *men lie* in all ages. You must surely have seen instances enough of that frailty. You have yourself heard many such marvellous stories started and then, having been treated with scorn by all the wise and judicious, finally abandoned even by the common people. You can be sure that the famous lies that have spread and grown to such a monstrous height arose from similar beginnings; but being sown in better soil, *they* shot up at last into prodigies almost equal to the ones they tell of.

It was a wise policy in that false prophet Alexander of Abonoteichos—now forgotten, once famous—to begin his impostures in Paphlagonia, where the people were extremely ignorant and stupid, and ready to swallow even the crudest delusion. People at a distance who are weak-minded enough to think the matter worth looking into have no access to better information. The stories reach them magnified by a hundred circumstances. Fools are busy propagating the imposture, while the wise and learned are mostly content to laugh at its absurdity without informing themselves of the particular facts that could be used to refute it clearly. That's what enabled Alexander to move on from his ignorant Paphlagonians to enlist believers even among the Greek philosophers and men of the most eminent rank and distinction in Rome - indeed, to engage the attention of that wise emperor Marcus Aurelius to the point where he entrusted the success of a military expedition to Alexander's delusive prophecies.

The advantages of starting an imposture among an ignorant populace are so great that, even if the delusion is too crude to impose on most of them (which it sometimes is, though not often), it has a much better chance of success in remote countries than it would if it had first been launched in a city renowned for arts and knowledge. In the former case, the most ignorant and barbarous of the barbarians carry the report abroad. None of their countrymen have a large correspondence, or sufficient credit and authority to contradict the delusion and beat it down. Men's liking for the marvellous has full opportunity to display itself. And thus a story that is universally exploded in the place where it began is regarded as certainly true a thousand miles away. But if Alexander had lived in Athens, the philosophers in that renowned market of learning would immediately have spread their sense of the matter throughout the whole Roman empire; and this, being supported by so great an authority and displayed by all the force of reason and eloquence, would have entirely opened the eyes of mankind. It is true that Lucian, happening to pass through Paphlagonia, had an opportunity of doing this good service to mankind. But desirable though it is, it doesn't always happen that every Alexander meets with a Lucian who is ready to expose and detect his impostures.

Here is a *fourth* reason that lessens the authority of reports of prodigies. There is no testimony for any prodigy, even among those that haven't been outright shown to be false, that isn't opposed by an infinite number of witnesses; so that not only does the miracle destroy the credit of testimony, but the testimony destroys itself. To understand why this is so, bear in mind that in matters of religion whatever is *different* is *contrary*, and the religions of ancient Rome, of Turkey, of Siam, and of China can't possibly *all* rest on solid foundations. Every miracle that is claimed to have been

performed in any of these religions (and all of them abound in miracles) is directly aimed at establishing the particular system to which it is attributed; so has it the same force, though more indirectly, to overthrow every other system. In destroying a rival system, it likewise destroys the credit of those miracles on which that system was established; so that all the prodigies of different religions are to be regarded as contrary facts, and the evidences of these prodigies, whether weak or strong, as opposite to each other. When we believe any miracle of Mahomet or his successors, we rely on the testimony of a few barbarous Arabs; and on the other side there is the authority of Livy, Plutarch, Tacitus, and all the authors and witnesses - Greek, Chinese, and Roman Catholic—who have told of any miracle in their particular religion. According to the line of thought I have been presenting, we should regard the testimony of all these in the same way as if they had mentioned that Mahometan miracle and had explicitly contradicted it with the same certainty as they have for the miracle they tell of. This argument may appear over subtle and refined, but really it's just the same as the reasoning of a judge who supposes that the credit of two witnesses alleging a crime against someone is destroyed by the testimony of two others who affirm that when the crime was committed the accused person was two hundred leagues away.

One of the best attested miracles in all non-religious history is the one that Tacitus reports of the Emperor Vespasian, who cured a blind man in Alexandria by means of his spittle and a lame man by the mere touch of his foot, in obedience to a vision of the god Serapis who had told these men to go to the emperor for these miraculous cures. The story may be seen in the work of that fine historian, where every detail seems to add weight to the testimony. The story could be presented at length, with all the force of argument and eloquence, if anyone now wanted to strengthen the case for that

exploded and idolatrous superstition. We can hardly imagine stronger evidence for so crude and obvious a falsehood. Its strength comes from four factors. •The gravity, solidity, age, and probity of so great an emperor, who through the whole course of his life conversed in a familiar manner with his friends and courtiers and never put on those extraordinary airs of divinity assumed by Alexander [the Great] and Demetrius. •The historian, a contemporary writer known for his candour and truthfulness, as well as having perhaps the greatest and most penetrating intellect of all antiquity; and free from any tendency to credulity—so much so that he has been subjected to the opposite charge of atheism and irreligion. •The persons from whose authority Tacitus reported the miracle, who were presumably of established character for good judgment and truthfulness; they were eye-witnesses of the fact, and continued to attest to it after Vespasian's family lost the empire and could no longer give any reward in return for a lie. •The public nature of the facts, as related.

There is also a memorable story told by Cardinal de Retz, which may well deserve our consideration. When that devious politician fled into Spain to avoid the persecution of his enemies, he passed through Saragossa, the capital of Aragon, where he was shown in the cathedral a man who had served seven years as a door-keeper, and was well known to everybody in town who had ever attended that church. He had been seen for a long time lacking a leg, but he recovered that limb by rubbing holy oil on the stump; and the cardinal assures us that he saw him with two legs. This miracle was vouched for by all the canons of the church; all the people in the town were appealed to for a confirmation of the fact; and their zealous devotion showed the cardinal that they were thorough believers in the miracle. Here the person who reported the supposed prodigy was contemporary with it, and was of an incredulous and libertine character, as well as

having a great intellect so that he isn't open to suspicion of religious fraud or of stupidity. And the supposed miracle was of a special sort that could hardly be counterfeited, and the witnesses were very numerous, and all of them were in a way spectators of the fact to which they gave their testimony. And what adds enormously to the force of the evidence, and may double our surprise on this occasion, is that the cardinal himself (who relates the story) seems not to believe it, and consequently can't be suspected of going along with a holy fraud. He rightly thought that in order to reject a factual claim of this nature it wasn't necessary to be able to disprove the testimony and to trace its falsehood through all the circumstances of knavery and credulity that produced it. He knew that just as this was commonly altogether impossible at any small distance of time and place, so was it extremely difficult even when one was immediately present, because of the bigotry, ignorance, cunning, and roguery of a great part of mankind. He therefore drew the sensible conclusion that evidence for such an event carried falsehood on the very face of it, and that a miracle supported by human testimony was something to laugh at rather than to dispute.

There surely never was a greater number of miracles ascribed to one person than those that were recently said to have been performed in France on the tomb of Abbé Paris, the famous Jansenist whose sanctity for so long used to delude the people. The curing of the sick, giving hearing to the deaf and sight to the blind, were everywhere talked of as the usual effects of that holy tomb. But what is more extraordinary is this: many of the miracles were immediately proved [= 'critically examined'] on the spot, before judges of unquestioned integrity, attested by witnesses of credit and distinction, at a time when learning flourished and on the most eminent platform in the world. Nor is this all. An account of them was published and dispersed everywhere;

and the Jesuits, though a learned body supported by the civil magistrate, and determined enemies to the opinions in whose favour the miracles were said to have been performed, were never able clearly to refute or expose them.

START OF A VAST FOOTNOTE

This book was written by Monsieur Montgeron, counsellor or judge of the parliament of Paris, a man of good standing and character, who also suffered in the cause of Jansenism and is now said to be somewhere in a dungeon on account of his book.

Another book in three volumes, called *Compendium of the Miracles of the Abbé Paris*, gives an account of many of these miracles, along with well-written discussions of them. But through all of these there runs a ridiculous comparison between the miracles of our Saviour and those of the Abbé, with the assertion that the evidence for the latter is equal to the evidence for the former—as if the testimony of *men* could ever be put in the balance with that of *God himself* who directed the pen of the inspired writers of the Bible. If the Biblical writers were to be considered merely as human testimony, the French author would count as very moderate in his comparison of the two sets of miracles; for he could make a case for claiming that the Jansenist miracles are supported by much stronger evidence and authority than the Biblical ones. Here are some examples, taken from authentic documents included in the above-mentioned book.

Many of the miracles of Abbé Paris were testified to immediately by witnesses before the bishop's court at Paris, under the eye of Cardinal Noailles, whose reputation for integrity and ability was never challenged even by his enemies.

His successor in the archbishopric was an enemy to the Jansenists, which is why he was promoted to the archbishopric by the court. Yet twenty-two Parisian priests earnestly urged him to look into those miracles which they said were

known to the whole world and were indisputably certain; but he wisely forbore to do so.

The Molinist party had tried to discredit these miracles in the case of Mademoiselle Le Franc. But their proceedings were highly irregular in many ways, especially in citing only a few of the Jansenist witnesses, and in tampering with them. Besides all this, they soon found themselves overwhelmed by a cloud of new witnesses, one hundred and twenty in number, most of them persons of credit and substance in Paris, who swore to the reality of the miracle. This was accompanied by a solemn and earnest appeal to the parliament. But the parliament was forbidden by authority to meddle in the affair. It was eventually seen that when men are heated by zeal and enthusiasm, any degree of human testimony—as strong as you like—can be procured for the greatest absurdity; and those who will be so silly as to examine the affair in that way, looking for particular flaws in the testimony, are almost sure to be confounded. It would be a miserable fraud indeed that could not win in *that* contest!

Anyone who was in France at about that time will have heard of the reputation of Monsieur Heraut, a police lieutenant whose vigilance, penetration, activeness and extensive intelligence have been much talked of. This law officer, whose position gave him almost absolute power, was given complete power to suppress or discredit these miracles, and he frequently questioned people who saw them or were the subjects of them; but he could never find anything satisfactory against them.

In the case of Mademoiselle Thibaut he sent the famous De Sylva to examine her. His evidence is very interesting. The physician declares that she cannot have been as ill as the witnesses testify she was, because she could not in so short a time have recovered and become as healthy as he found her to be. He reasoned in a sensible way from natural

causes; but the opposite party told him that the whole event was a miracle, and that his evidence was the very best proof of that.

The Molinists were in a sad dilemma. They dared not assert that human testimony could never suffice to prove a miracle. They were obliged to say that these miracles were brought about by witchcraft and the devil. But they were told that this is the plea that the Jews of old used to resort to.

No Jansenist ever had trouble explaining why the miracles stopped when the church-yard was closed on the king's orders. It was the touch of the tomb that produced these extraordinary effects, the Jansenists maintained; and when no-one could approach the tomb no effects could be expected. God, indeed, could have thrown down the walls in a moment; but the things he does and the favours he grants are his business, and it is not for us to explain them. He did not throw down the walls of every city like those of Jericho when the rams' horns sounded, or break up the prison of every apostle as he did that of St. Paul.

No less a man than the Duc de Chatillon, a French peer of the highest rank and family, testifies to a miraculous cure, performed upon a servant of his who had lived for several years in his house with an obvious infirmity.

I have only to add that no clergy are more celebrated for strictness of life and manners than the clergy of France, particularly the rectors or curés of Paris, who testify to these impostures.

The learning, intelligence, and honesty of these gentlemen, and the austerity of the nuns of Port-Royal, have been much celebrated all over Europe. Yet they all testify to a miracle performed on the niece of the famous Pascal, who is well known for his purity of life as well as for his extraordinary abilities. The famous Racine gives an account of this miracle

in his famous history of Port-Royal, and strengthens it with all the support that a multitude of nuns, priests, physicians, and men of the world—all people of undoubted credit—could give to it. Several literary men, particularly the bishop of Tournay, were so sure of this miracle that they used it in arguing against atheists and free-thinkers. The queen-regent of France, who was extremely prejudiced against the Port-Royal, sent her own physician to examine the miracle; and he returned an absolute convert to belief in the miracle. In short, the supernatural cure was so incontestable that for a while it saved that famous monastery from the ruin with which it was threatened by the Jesuits. If it had been a cheat, it would certainly have been detected by such sagacious and powerful enemies, and would have hastened the ruin of those who contrived it. Our divines, who can build up a formidable castle from such lowly materials—what an enormous structure they could have erected from these and many other circumstances that I have not mentioned! How often the great names of Pascal, Racine, Arnauld, Nicole would have resounded in our ears! But it would be wise of them to adopt the miracle as being worth a thousand times more than all the rest of their collection. Besides, it may serve their purpose very well. For that miracle was really performed by the touch of an authentic holy prickle of the holy thorn, which composed the holy crown, which, etc.

END OF THE VAST FOOTNOTE

Where shall we find such a number of circumstances converging in the corroboration of one fact? And what have we to oppose to such a cloud of witnesses but the absolute impossibility or miraculous nature of the events that they relate? And in the eyes of all reasonable people this will surely be regarded as all by itself a sufficient refutation.

Some human testimony has the utmost force and authority in some cases, for instance when it relates the battle of

Philippi or Pharsalia, but is it sound to infer from this that all kinds of testimony must in all cases have equal force and authority? Suppose that the Caesarean and Pompeian factions had each claimed the victory in these battles, and that the historians of each party had uniformly ascribed the advantage to their own side; how could mankind, at this distance in time, have decided between them? The contrariety is equally strong between the miracles related by Herodotus or Plutarch and those delivered by Mariana, Bede, or any monkish historian.

The wise adopt a very sceptical attitude towards every report that favours the passion of the person making it, whether it glorifies his country, his family, or himself, or in any other way goes with his natural inclinations and propensities. But what greater temptation than to appear a missionary, a prophet, an ambassador from heaven? Who would not encounter many dangers and difficulties in order to achieve *that*? Or if through vanity and a heated imagination a man has first made a convert of himself and entered seriously into the delusion, who ever hesitates to make use of pious frauds in support of so holy and meritorious a cause?

The smallest spark may here kindle into the greatest flame, because the materials are always prepared for it. The gazing populace—hungry for gossip—accept greedily and uncritically whatever supports superstition and promotes wonder.

How many stories of this nature have, in all ages, been exposed and exploded in their infancy? How many more have been celebrated for a time and then sunk into neglect and oblivion? So when such reports fly about, the explanation of them is obvious: we judge in conformity with regular experience and observation when we account for the stories by the known and natural principles of credulity and delusion. Rather having a recourse to so natural an explanation,

shall we rather allow of a miraculous violation of the most established laws of nature?

I needn't mention the difficulty of detecting a falsehood in any private or even public history at the place where it is said to happen, let alone when one is at a distance, however small, from it. Even a judicial court, with all the authority, accuracy, and judgment it can employ, *often* finds itself at a loss to distinguish truth from falsehood concerning very recent actions. But the matter is *never* settled if it is left to the common method of squabbling and debate and flying rumours; especially when men's passions have taken part on either side.

In the infancy of new religions, the wise and learned commonly judge the matter too inconsiderable to deserve their attention or regard. And when later on they would like to expose the cheat in order to undeceive the deluded multitude, it is now too late: the records and witnesses that might have cleared up the matter have perished beyond recovery.

The only means of exposure that are left to us are whatever we can extract from the very testimony itself of the reporters—for example, internal inconsistencies in the reports. And these means, though always sufficient with the judicious and knowing, are usually too subtle and delicate for the common people to grasp them.

Upon the whole, then, it appears that no testimony for any kind of miracle has ever amounted to a probability, much less to a proof; and that even if it did amount to a proof it would be opposed by another proof derived from the very nature of the fact it is trying to establish. It is experience that gives authority to human testimony, and it is the same experience that assures us of the laws of nature. So when these two kinds of experience are contrary, we can only subtract the one from the other, and adopt an opinion on one side or the other with the level of assurance that arises

from the remainder. But according to the principle I have been presenting, when popular religions are in question this subtraction amounts to an entire annihilation; and so we may accept it as a maxim that no human testimony can have such force as to prove a miracle, and make it a legitimate foundation for any such system of religion.

Please notice the restriction I put on my claim, when I say that a miracle can never be proved *so as to be the foundation of a system of religion*. Outside that restriction, I admit, there may possibly be miracles, or violations of the usual course of nature, of such a kind as to admit of proof from human testimony; though it may be impossible to find any such in all the records of history. Thus, suppose that all authors in all languages agree that from 1 January 1600 there was total darkness over the whole earth for eight days; suppose that the tradition of this extraordinary event is still strong and lively among the people, and that all travellers returning from foreign countries bring us accounts of the same tradition, without the least variation or contradiction. It is evident that our present scientists, instead of doubting the fact, ought to accept it as certain and to search for the causes for it. The decay, corruption and dissolution of nature is an event rendered probable by so many analogies that any phenomenon which seems to have a tendency towards that catastrophe comes within the reach of human testimony, if that testimony be very extensive and uniform. [That last sentence is verbatim Hume.]

But suppose that all the historians who write about England were to agree that on 1 January 1600 Queen Elizabeth died; that both before and after her death she was seen by her physicians and the whole court, as is usual with persons of her rank; that her successor was acknowledged and proclaimed by the parliament; and that after being buried for a month she re-appeared, resumed the throne, and governed

England for three more years. I must confess that I would be surprised at the concurrence of so many odd circumstances, but I wouldn't have the least inclination to believe in so miraculous an event. I wouldn't doubt her *claimed death* or those other public circumstances that followed it; but I would assert it to have been merely *claimed*, and that it wasn't and couldn't possibly be *real*. It would be no use for you to point out, against this, •the difficulty and almost the impossibility of deceiving the world in an affair of such importance, •the wisdom and solid judgment of that famous queen, •the wisdom and solid judgment of that famous queen, •the lack of any advantage that she might get from so poor a trick. All this might astonish me, but I would still reply that the knavery and folly of men are such common phenomena that I would rather believe the most extraordinary events to arise from their concurrence than admit such a striking violation of the laws of nature.

But if this supposed miracle were ascribed to a new system of religion, men in all ages have been so much imposed on by ridiculous stories of that kind that the mere claim of religious significance would be a full proof of a cheat, and would be enough to get all sensible people not merely to reject the 'miracle' but to do so without further examination. Though the being who is (in this supposed case) credited with performing the miracle is God, that doesn't make it a whit more probable; for it's impossible for us to know God's attributes or actions except from our experience of his productions in the usual course of nature. This still has us relying on past observation, and obliges us to compare •instances of the violation of truth in the testimony of men with •instances of the violation of truth in the testimony of men with •instances of the violation of the laws of nature by miracles, in order to judge which of the two is more probable. As the violations of truth are more common in the testimony

about religious miracles than in testimony about any other matter of fact, this must diminish very much the authority of the former testimony, and make us form a general resolution never to attend to it, whatever glittering pretence it may be covered with.

Lord Bacon seems to have embraced the same principles of reasoning. He says:

We ought to make a collection or particular history of all monsters and prodigious births or productions, and in a word of everything new, rare, and extraordinary in nature. But this must be done with the most severe scrutiny, lest we depart from truth. Above all, we must consider as suspicious any report that depends in any degree on religion, as do the prodigies of Livy; and equally everything that is to be found in the writers of natural magic or alchemy or the like, who all seem to have an unconquerable appetite for falsehood and fable. (*Novum Organum* II.29)

I am the better pleased with this line of thought because I think it may serve to confound those dangerous friends or disguised enemies to the Christian religion who have undertaken to defend it by the principles of human reason. Our most holy religion is founded on *faith*, not on reason; and a sure method of exposing it is to put it to a test that it is in no way fitted to pass. To make this more evident, let us examine the miracles reported in scripture; and so as not to lose ourselves in too wide a field, let us confine ourselves to miracles we find in the Pentateuch [= the first five books of the Old Testament]. I shall examine this according to the principles of those self-proclaimed Christians—the ones who defend Christianity not through faith but through reason—not as the word or testimony of God himself but as the work of a mere human historian. Here, then, we are first to consider a book that has been presented to us by a barbarous and

ignorant people, written at a time when they were even more barbarous than they are now, probably written long after the events that it relates, not corroborated by any concurring testimony, and resembling those fabulous accounts that every nation gives of its origin. Upon reading this book, we find it full of prodigies and miracles. It gives an account of

- a state of the world and of human nature entirely different from the present,
- our fall from that state,
- the age of man extended to nearly a thousand years,
- the destruction of the world by a flood,
- the arbitrary choice of one people as the favourites of heaven - people who are the countrymen of the author, and
- their deliverance from slavery by the most astonishing prodigies one could imagine.

I invite you to lay your hand on your heart and, after serious thought, say whether you think that the falsehood of such a book, supported by such a testimony, would be more extraordinary and miraculous than all the miracles it tells of! That is what is necessary for the Pentateuch to be accepted according to the measures of probability I have laid down. (What I have said of miracles can be applied, unchanged, to prophecies. Indeed, all prophecies *are* real miracles, and that is the only reason why they can be admitted as evidence for any revelation. If it did not exceed the capacity of human nature to foretell future events, it would be absurd to regard any prophecy as an argument for a divine mission or authority from heaven.)

So our over-all conclusion should be that the Christian religion not only was at first accompanied by miracles, but even now cannot be believed by any reasonable person without a miracle. Mere *reason* is insufficient to convince us of its truth; and anyone who is moved by *faith* to assent to it

is conscious of a continued miracle in his own person—one that subverts all the principles of his understanding and gives him a determination to believe what is most contrary to custom and experience.

Section 11: A particular providence and a future state

I was recently engaged in conversation with a friend who loves sceptical paradoxes. In this he advanced many principles which, though I can by no means accept them, seem to be interesting, and to bear some relation to the chain of reasoning carried on throughout this enquiry. So I shall here copy them from my memory as accurately as I can, in order to submit them to the judgment of the reader.

Our conversation began with my admiring the special good fortune of philosophy: it requires entire liberty above all other privileges, and chiefly flourishes from the free opposition of opinions and arguments; and it came into existence in an age and country of freedom and toleration, and was never cramped, even in its most extravagant principles, by any creeds, confessions, or penal statutes. Apart from the banishment of Protagoras and the death of Socrates (and that came partly from other motives), there are scarcely any instances to be met with in ancient history of the kind of bigoted zeal with which the present age is so much infested. Epicurus lived at Athens to an advanced age, in peace and tranquillity; Epicureans were even allowed to be priests and to officiate at the altar in the most sacred rites of the established religion; and the wisest of all the Roman emperors, Marcus Aurelius, even-handedly gave the public encouragement of pensions and salaries to the supporters of every sect of philosophy. To grasp how much philosophy needed

this kind of treatment in her early youth, reflect that even at present, when she may be supposed to be more hardy and robust, she finds it hard to bear the inclemency of the seasons, and the harsh winds of slander and persecution that blow on her.

'You admire as the special good fortune of philosophy', says my friend, 'something that seems to result from the natural course of things, and to be unavoidable in every age and nation. This stubborn bigotry that you complain of as so fatal to philosophy is really her offspring—a child who allies himself with superstition and then separates himself entirely from the interests of his parent and becomes her most persistent enemy and persecutor. The dogmas of theoretical theology, which now cause such furious dispute, couldn't possibly have been conceived or accepted in the early ages of the world when mankind, being wholly illiterate, formed an idea of religion more suitable to their weak understanding, and composed their sacred doctrines not out of learned theories but mainly out of tales that were the objects of traditional belief more than of theories but mainly out of tales that were the objects of traditional belief more than of argument or disputation. So after the first alarm was over—an alarm arising from the new paradoxes and principles of the philosophers—these teachers seem throughout the rest of antiquity to have lived in great harmony with the established superstition, and to have made a fair partition of mankind between themselves and the supporters of religion; the former claimed all the learned and wise, the latter possessed all the common and illiterate.'

'It seems then', I said, 'that you leave politics entirely out of the question, and don't suppose that a wise ruler could ever reasonably oppose certain tenets of philosophy, such as those of Epicurus. They denied the existence of any God, and consequently denied a providence and a future state; and

those denials seem to loosen considerably the ties of morality, and might be supposed for that reason to be pernicious to the peace of civil society.'

'I know', he replied, 'that in fact these persecutions never ever came from calm reason or from experience of the pernicious consequences of philosophy; but arose entirely from passion and prejudice. But what if I should go further, and assert that if Epicurus had been accused before the people by any of the sycophants or informers of those days, he could easily have defended his position and shown his principles of philosophy to be as salutary as those of his adversaries, who tried with such zeal to expose him to the public hatred and jealousy?'

'I wish', I said, 'you would try *your* eloquence on this extraordinary topic, and make a speech for Epicurus that might satisfy, not the mob of Athens (if you will allow that ancient and civilized city to have contained any mob), but the more philosophical part of his audience, such as might be supposed capable of understanding his arguments.'

'It will not be hard to do *that*,' he said, 'and if you like I shall suppose myself to be Epicurus for a moment and make you stand for the Athenian people; and I shall give you a speech that will fill the urn with Yes votes and leave not a single No to gratify the malice of my adversaries.'

'Very well. Please go ahead.' [The speech runs to page 74]

* * *

'I come here, Athenians, to justify in your assembly what I maintained in my school, and I find that instead of reasoning with calm and dispassionate enquirers as I have done in my school I am impeached by furious antagonists. Your deliberations, which ought to be directed to questions of public good and the interests of the commonwealth, are diverted

to the issues of speculative philosophy; and these magnificent but perhaps fruitless enquiries have taken the place of your more ordinary but more useful occupations. I shall do what I can to head off this abuse. We shall not here discuss philosophical issues about the origin and government of worlds. We shall merely enquire into philosophical issues about the origin and government of worlds. We shall merely enquire into how far such issues concern the public interest. And if I can persuade you that they have no bearing at all on the peace of society and security of government, I hope you will immediately send us back to our schools, where we can examine at leisure the philosophical question that is the most sublime of all but also the one that has least bearing on conduct.

The religious philosophers, not satisfied with the tradition of your forefathers and doctrine of your priests (with which I willingly go along), allow themselves a rash curiosity in exploring how far they can establish religion on the principles of *reason*; and in this way they stir up—rather than allaying—the doubts that naturally arise from a careful and probing enquiry. They paint in the most magnificent colours the order, beauty, and wise arrangement of the universe, and then ask if such a glorious display of intelligence could come from a random coming together of atoms, or if such a glorious display of intelligence could come from a random coming together of atoms, or if chance could produce something that the greatest genius can never sufficiently admire. I shan't examine the soundness of this argument. I shall grant that it is as solid as my antagonists and accusers can desire. All I need is to prove, *from this very reasoning*, that the question of the existence of a god is entirely theoretical, having no practical import, and that when in my philosophical lectures I deny a providence and a future state, I am not undermining the foundations of society but rather am

advancing solid and satisfactory principles—ones that my accusers and antagonists are themselves committed to by their own lines of thought.

You then, who are my accusers, have acknowledged that the main or only sole argument for the existence of a god (which I never questioned) is derived from the order of nature, which bears such marks of intelligence and design that you think it would be crazy to believe it was caused either by chance or by the blind and unguided force of matter. You agree that this is an argument from effects to causes. From the order of the work you infer that effects to causes. From the order of the work you infer that there must have been planning and forethought in the mind of the workman. If you can't sustain this point, you concede, you can't get your conclusion; and you don't claim to establish the conclusion in any version that goes beyond what the phenomena of nature will justify. These are your concessions. Now observe their consequences.

When we infer any particular cause from an effect, we must proportion the one to the other, and should never ascribe to the cause any qualities beyond what are exactly sufficient to produce the effect. When a body weighing ten ounces rises in a scale, this shows that the counter-balancing weight exceeds ten ounces; but it can't be a reason that the other exceeds a hundred ounces. If the cause assigned for any effect isn't sufficient to produce that effect, we must either reject that cause or else add to it such qualities as will make it adequate for the effect. But if we ascribe to it more qualities than are needed for that effect, or affirm it to be capable of producing other effects that we haven't witnessed, that can only be because we are taking the liberty of *conjecturing*, and are arbitrarily supposing the existence of certain qualities and energies without having any reason to do so.

The same rule about proportioning the inferred cause to

the known effect· holds not only when the cause assigned is brute unconscious matter but also when it is a rational intelligent being. If the cause is known only by the effect, we ought never to ascribe to it any qualities beyond what are needed to produce the effect; and there are no sound rules of just reasoning that will let us argue back *from* the cause and infer from it other effects than the ones that led us to it in the first place. The sight of one of Zeuxis's pictures couldn't tell anyone that he was also a sculptor and an architect, an artist as skillful with stone and marble as with colours. We may safely conclude that the workman has the talents and taste displayed in the particular work we are looking at. The ·inferred· cause must be proportioned to the ·known· effect; and if we exactly and precisely proportion it we shall never find in it any qualities that point further or support conclusions concerning any other work by this artist, because those would take us somewhat beyond what is merely needed for producing the effect that we are now examining.

'So if we grant that the gods are the authors of the existence or the order of the universe, it follows that they have exactly the degree of power, intelligence, and benevolence that appears in their workmanship; but nothing further can ever be proved about them unless we resort to exaggeration and flattery to make up for the defects of argument and reasoning. We can attribute to the gods any attributes of which we now find traces, but the supposition of further attributes is mere guesswork. Even more of a guess is the supposition that in distant regions of space or periods of time there has been or will be a more magnificent display of these attributes, and a system of administration more suitable to such imaginary virtues ·as those attributed to the gods·. We can never be allowed to rise from the universe (the effect) up to Jupiter (the cause) and then descend again to infer some

new effect from that cause—as though it wouldn't be doing full justice to the glorious attributes that we ascribe to that deity if we attributed to him only the effects we already know about. The knowledge of the cause is derived solely from the effect, so they must be exactly adjusted to each other; and one of them can never point to anything further, or be the foundation of any new inference and conclusion.

'You find certain phenomena in nature. You seek a cause or author. You imagine that you have found him. You afterwards become so enamoured of this offspring of your brain that you think he *must* have produced something greater and more perfect than the present scene of things, which is so full of badness and disorder. You forget that this superlative intelligence and benevolence are entirely imaginary, or at least without any foundation in reason, and that you have no basis for ascribing to him any qualities other than those you see he has actually exerted and displayed in his productions. I say to the philosophers: let your gods be suited to the present appearances of nature, and don't take it on yourselves to alter ·your account of· these appearances by arbitrary suppositions, so as to make them appropriate to the attributes that you so foolishly ascribe to your deities.

'When priests and poets—supported by your authority, O Athenians! - talk of a golden or silver age that preceded the present state of vice and misery, I hear them with attention and with reverence. But when philosophers—who claim that they are ignoring authority and cultivating reason—say the same things, I admit that I don't give them the same obsequious submission and pious deference ·that I give to the priests and poets·. When they rashly affirm that their gods did or will carry out plans beyond what has actually appeared, I ask: who carried *them* into the heavenly regions, who admitted *them* into the councils of the gods, who opened to *them* the book of fate? If they reply that they have

mounted on the steps or upward ramp of reason, drawing inferences from effects to causes, I still insist that they have aided the ascent of *reason* by the wings of *imagination*; otherwise they couldn't thus change their direction of inference and argue from causes to effects, presuming that a *more* perfect product than the present world would be more suitable to such perfect beings as the gods, and forgetting that they have no reason to ascribe to the gods any perfection or any attribute that can't be found in the present world.

That is how there comes to be so much fruitless labour to account for things that appear bad in nature, to save the honour of the gods; while we have to admit the reality of the evil and disorder of which the world contains so much. What controlled the power and benevolence of Jupiter and obliged him to make mankind and every sentient creature so imperfect and so unhappy—we are told—is the obstinate and intractable nature of matter, or the observance of general laws, or some such reason. His power and benevolence seem to be taken for granted, in their most extreme form. And on that supposition, I admit, such conjectures may be accepted as plausible explanations of the bad phenomena. But still I ask: •why take these attributes for granted, why ascribe to the cause any qualities that don't actually appear in the effect? •Why torture your brain to justify the course of nature on suppositions which, for all you know to the contrary, may be entirely imaginary—suppositions for which no traces are to be found in the course of nature?

The religious hypothesis, therefore, must be considered merely as one way of accounting for the visible phenomena of the universe. But no sound reasoner will ever presume to infer from it any single fact, or to alter or add to the phenomena in any particular case. If you think that the appearances of things prove that they had causes of a certain kind, it's legitimate for you to draw an inference concerning the existence

of such causes. In such complicated and high-flown subjects, everyone should be granted the freedom of conjecture and argument. But you ought to stop at that. If you come back down, and argue from your inferred cause that some other fact did or will exist in the course of nature, which may serve as a fuller display of the god's particular attributes, I must tell you severely that you are no longer reasoning in a way that is appropriate for the present subject, and have certainly added to the attributes of the cause something that goes beyond what appears in the effect; otherwise you could never with tolerable sense or propriety add anything to the effect in order to make it more worthy of the cause.

Where, then, is the odiousness of that doctrine which I teach in my school, or rather, which I examine in my gardens? What do you find in this whole question that has the least relevance to the security of good morals or to the peace and order of society?

I deny that there is a providence, you say, and a supreme governor of the world who guides the course of events and punishes the vicious with infamy and disappointment in all their undertakings and equally rewards the virtuous with honour and success. But surely I don't deny the course of events that lies open to everyone's inspection. I agree that in the present order of things virtue is accompanied by more peace of mind than is vice, and meets with a more favourable reception from the world. I am aware that according to the past experience of mankind, friendship is the chief joy of human life, and moderation is the only source of tranquillity and happiness. Whenever I balance the virtuous course of life against the vicious one, I am aware that to a well disposed mind every advantage is on the side of the former. And what more can you say, on the basis of all your suppositions and reasonings? You tell me that this disposition of things—with all the advantages on the side of virtue—is a

product of intelligence and design ·on the part of the gods·. But wherever it comes from, the disposition itself, on which depends our happiness or misery and consequently our conduct, is still the same. It is still open to me to •regulate my behaviour by my experience of past events, as you can •regulate my behaviour by my experience of past events, as you can •regulate yours by your experience. And if you tell me that

If I accept that there is a divine providence and a supreme distributive justice in the universe, I ought to expect some more particular reward of the good and punishment of the bad, beyond the ordinary course of events,

I find here the same fallacy that I tried to expose earlier. You persist in imagining that if we grant that divine existence for which you so earnestly contend, you can safely infer consequences from it and add something to the experienced order of nature by arguing from the attributes that you ascribe to your gods. You seem to forget that all your reasonings on this subject can only run from effects to causes, and that every argument from causes to effects must of necessity be grossly fallacious, because it's impossible for you to know anything about the cause except what you have antecedently (not inferred *from*, but) discovered *in* the effect.

'But what must a philosopher think of those futile reasoners who, instead of regarding the present scene of things as the only thing for them to think about, so far reverse the whole course of nature as to render this life merely a passage to something further, a porch that leads to a greater and vastly different building, a prologue that serves only to introduce the play and give it more grace and propriety? From where do you think such philosophers can have acquired their idea of the gods? From their own inventive imaginations, surely! For if they derived it from the present

phenomena, it would have to be exactly adjusted to them, never pointing to anything further. We can freely allow that the divinity *may* have attributes that we have never seen exercised, and *may* be governed by principles of action that we can't see being satisfied. But all this is mere possibility and guess-work. We never can have reason to infer any attributes or any principles of action in the divinity other than those we know to have been exercised and satisfied.

'Are there any signs of a distributive justice in the world? If you answer Yes, I conclude that since justice is here exercised, it is satisfied. If you reply No, I conclude that you then have no reason to ascribe justice (in our sense of it) to the gods. If you take a middle position and say that the justice of the gods is at present exercised in part but not in its full extent, I answer that you have no reason to credit it with any extent beyond what you see at present exercised.

Thus, O Athenians, my dispute with my antagonists boils down to just this. The course of nature lies open to my view as well as to theirs. The experienced sequence of events is the great standard by which we all regulate our conduct. Nothing else can be appealed to in battle or in the senate. Nothing else ought ever to be heard of in the school or in the study. It would be pointless to let our limited intellects break through those boundaries that are too narrow for our foolish imaginations. While we argue from the course of nature, and infer a particular intelligent cause that first bestowed and still preserves order in the universe, we accept a principle that is both uncertain and useless. It is uncertain because the subject lies entirely beyond the reach of human experience. It is useless because, given that our knowledge of this cause is derived entirely from the course of nature, we can never legitimately return back from the cause with any new inference, or by adding to the common and experienced course of nature establish any new principles of conduct and

behaviour.’

* * *

‘I observe’ (I said, finding that he had finished his speech) ‘that you are willing to employ the tricks of the demagogues of ancient times: having chosen me to stand in for the Athenians, you insinuate yourself into my favour by proclaiming principles to which, as you know, I have always expressed a particular attachment. But allowing you to make experience (as indeed I think you ought) the only standard of our judgment about this and all other questions of fact, I am sure that by appealing to the very same experience as you did I can refute the reasoning that you’ve put into the mouth of Epicurus. Suppose you saw a half-finished building, surrounded with heaps of brick and stone and mortar and all the tools of masonry, couldn’t you infer from this effect that it was a work of design and contrivance? And couldn’t you argue back down from this inferred cause, to infer new additions to the effect, and to conclude that the building would soon be finished, and receive all the further improvements that art could give it? If you saw on the seashore the print of one human foot, you would conclude that a man had passed that way, and that he had also left the traces of the other foot though they had been erased by the rolling of the sands or wash of the waves. So why do you refuse to admit the same method of reasoning regarding the order of nature? Consider the world and our present life merely as an imperfect building from which you can infer a superior intelligence; then why can’t you argue from that superior intelligence that can leave nothing imperfect, and infer a more finished scheme or plan that will be completed at some distant point of space or time? Aren’t these lines of reasoning exactly similar? How can you justify accepting one and rejecting the other?’

‘The infinite difference of the subjects’, he replied, ‘is a sufficient basis for this difference in my conclusions. In works involving *human* skill and planning it’s permissible to argue from the effect to the cause and then to argue back from the cause to new conclusions about the effect, and to look into the alterations that it probably has undergone or may undergo in the future. But what is the basis for this method of reasoning? Plainly this: that man is a being whom we know by experience, whose motives and plans we are acquainted with, and whose projects and inclinations have a certain connection and coherence according to the laws that nature has established for the workings of such a creature. So when we find that some work has come from the skill and industry of man, as we know about the nature of the ·human· animal *from other sources* we can draw a hundred inferences about what may be expected from him; and these inferences will all be based on experience and observation. But if we knew man only from the single work or product that we are examining, we couldn’t argue in this way. Because our knowledge of all the qualities we ascribed to him would in that case be derived from the one product, they couldn’t possibly point to anything further or be the basis for any new inference. The print of a foot in the sand, when considered alone, can only prove that there was something with that shape by which it was produced. But the print of a human foot shows also, *from our other experience*, that there was probably another foot that also left its print, though erased by time or other accidents. Here we rise from the effect to the cause and then, descending again from the cause, infer new things about the effect; but this isn’t a ·downward· continuation of the same simple chain of reasoning ·that we used in arguing up to the cause·. In this case we take in a hundred *other* experiences and observations concerning the usual shape and limbs of that species of animal; without them this

method of argument must be considered as fallacious.

The case is not the same with our reasonings from the works of nature. God is known to us only by his productions, and is a single being in the universe, not belonging to any species or genus from whose experienced attributes or qualities we could by analogy infer any attribute or quality in him. As the universe shows wisdom and goodness, we infer wisdom and goodness ·in him·. As it shows a particular degree of these perfections, we infer a particular degree of them ·in him·, exactly proportioned to the effect that we examine. But no rules of sound reasoning will authorise us to infer or suppose any further attributes or further degrees of the same attributes. Now, without some such “licence to suppose”, we can’t argue from the cause, or infer anything in the effect beyond what has immediately fallen under our observation. Greater good produced by this being must still prove a greater degree of goodness; a more impartial distribution of rewards and punishments must come from a greater regard to justice and equity. Every supposed addition to the works of nature makes an addition to the attributes of the author of nature, and consequently—being entirely unsupported by any reason or argument—can never be admitted as anything but mere conjecture and guess-work.¹²

The great source of our mistake in this subject, and of the unbounded “licence to suppose” that we allow ourselves,

is that we silently think of ourselves as in the place of the supreme being, and conclude that he will always behave in the way that *we* would find reasonable and acceptable if we were in his situation. But the ordinary course of nature may convince us that almost everything ·in it· is regulated by principles and maxims very different from ours. And even aside from that, it must evidently appear contrary to all rules of analogy to reason from the intentions and projects of men to those of a being who is so different and so much superior. In human nature, there is a certain experienced coherence of designs and inclinations; so that when from some fact we discover one intention of a man, it may often be reasonable in the light of experience to infer another, and draw a long chain of conclusions about his past or future conduct. But this method of reasoning can never have place with regard to a being who •is so remote and incomprehensible, who •is so remote and incomprehensible, who •is less like any other being in the universe than the sun is like a wax candle, and who •reveals himself only by some faint traces or outlines, beyond which we have no basis for ascribing to him any attribute or perfection. What we imagine to be a superior perfection may really be a defect. And even if it is utterly a perfection, the ascribing of it ·in full strength· to the supreme being, when it doesn’t seem to have been exercised to the full in his works, smacks more of flattery and

¹²In general, I think, it may be established as a maxim that where some cause is known only through its particular effects, one cannot infer any new effects from that cause; because the qualities needed to produce these new effects along with the old ones must either be different, or superior, or of more extensive operation, than those which produced the effects which (we are supposing) has given us our only knowledge of the cause. So we can never have any reason to suppose the existence of these qualities. It will not remove the difficulty to say that the new effects come purely from a continuation of the same energy that is already known from the first effects. For even granting this to be the case (which we are seldom entitled to), the very continuation and exertion of a similar energy in a different period of space and time is a very arbitrary supposition; there can’t possibly be any traces of it in the effects from which all our knowledge of the cause is originally derived. (I write of ‘a similar energy’ because it is impossible that it should be absolutely the same.) Let the inferred cause be exactly proportioned (as it should be) to the *known* effect, and it can’t possibly have any qualities from which new or different effects ‘a similar energy’ because it is impossible that it should be absolutely the same.) Let the inferred cause be exactly proportioned (as it should be) to the *known* effect, and it can’t possibly have any qualities from which new or different effects can be inferred.

praise-singing than of valid reasoning and sound philosophy. Thus, all the philosophy in the world, and all the religion (which is nothing but one kind of philosophy), will never be able to carry us beyond the usual course of experience, or give us standards of conduct and behaviour different from those that are provided by reflections on common life. No new fact can ever be inferred from the religious hypothesis; no event foreseen or foretold; no reward or punishment expected or dreaded beyond what is already known by practice and observation. So my speech on behalf of Epicurus will still appear solid and satisfactory—the political interests of society have no connection with the philosophical disputes about metaphysics and religion.’

‘There is still one point’, I replied, ‘that you seem to have overlooked. Even if I allow your premises, I must deny your conclusion. You conclude that religious doctrines and reasonings can have no influence on life, because they *ought* to have no influence. This ignores the fact that men don’t reason in the same manner as you do, but draw many consequences from the belief in a divine being, and suppose that God will inflict punishments on vice and bestow rewards on virtue beyond what appear in the ordinary course of nature. It makes no difference whether this reasoning of theirs is sound. Its influence on their life and conduct will be the same either way. And those who try to cure them of such prejudices may, for all I know, be good reasoners, but I can’t judge them to be good citizens and participants in politics, because they free men from one restraint on their passions and make it in one way easier and more comfortable for them to infringe the laws of society.’

‘After all, I may agree to your general conclusion in favour of liberty (though I would argue from different premises from those on which you try to base it), and I think that the state ought to tolerate every principle of philosophy; and no gov-

ernment has ever suffered in its political interests through such indulgence. There is no fanaticism among philosophers; their doctrines aren’t very attractive to the people; and their reasonings can’t be restrained except by means that must be dangerous to the sciences, and even to the state, by paving the way for persecution and oppression on matters where people in general are more deeply involved and concerned.

‘But with regard to your main line of thought’ (I continued) ‘there occurs to me a difficulty that I shall just propose to you without insisting on it, lest it lead into reasonings of too subtle and delicate a nature. Briefly, then, I very much doubt that it’s possible for a cause to be known only by its effect (as you have supposed all through) or to be so singular and particular that it has no parallel or similarity with any other cause or object we have ever observed. It is only when two kinds of objects are found to be constantly conjoined that we can infer one from the other; and if we encountered an effect that was entirely singular, and couldn’t be placed in any known kind, I don’t see that we could conjecture or infer *anything at all* concerning its cause. If experience and observation and analogy really are the only guides we can reasonably follow in inferences of this sort, both the effect and the cause must have some similarity to other effects and causes that we already know and have found often to be conjoined with each other. I leave it to you to think through the consequences of this principle. I shall merely remark that, as the antagonists of Epicurus always suppose that the universe, an effect that is quite singular and unparalleled, is proof of a god, a cause no less singular and unparalleled, your reasonings about this seem at least to merit our attention. There is, I admit, some difficulty in grasping how we can ever return from the cause to the effect, and by reasoning from our ideas of the cause infer anything new about the effect.’

Section 12: The sceptical philosophy

Philosophical arguments proving the existence of a god and refuting the fallacies of atheists outnumber the arguments on any other topic. Yet most religious philosophers still disagree about whether any man *can* be so blinded as to be an atheist. How shall we reconcile these contradictions? The knights-errant who wandered about to clear the world of dragons and giants never had the least doubt that these monsters existed!

The sceptic is another enemy of religion who naturally arouses the indignation of all religious authorities and of the more solemn philosophers; yet it's certain that nobody ever met such an absurd creature ·as a sceptic·, or talked with a man who had no opinion on any subject, practical or theoretical. So the question naturally arises: What is meant by 'sceptic'? And how far it is possible to push these philosophical principles of doubt and uncertainty?

Descartes and others have strongly recommended one kind of scepticism, to be practised in advance of philosophy or any other studies. It preserves us, they say, against error and rash judgment. It recommends that we should doubt not only all our former opinions and principles but also our very faculties. The reliability of our faculties, these philosophers say, is something we must be assured of by a chain of reasoning, deduced from some first principle that cannot possibly be fallacious or deceitful. But there is no such first principle that has an authority above others that are self-evident and convincing. And even if there were one, we couldn't advance a step beyond it except by using those very faculties that we are supposed to be calling into question. Cartesian doubt, therefore, if someone could attain to it (as plainly nobody could), would be entirely incurable, and no reasoning could ever bring us to confident beliefs about

anything.

However, a more moderate degree of such scepticism can be quite reasonable, and is a necessary preparation for the study of philosophy: it makes us impartial in our judgments and weans our minds from prejudices that we may have arrived at thoughtlessly or taken in through education. If we

- begin with clear and self-evident principles,
- move forward cautiously, getting a secure footing at each step,
- check our conclusions frequently, and
- carefully examine *their* consequences,

we shall move slowly, and not get far; but these are the only methods by which we can hope ever to establish conclusions which we are sure are true and which will last.

Another kind of scepticism has arisen out of scientific enquiries that are supposed to have shown that human mental faculties are either absolutely deceitful or not capable of reaching fixed conclusions about any of the puzzling topics on which they are commonly employed. Even our senses are questioned by a certain kind of philosopher; and the maxims of everyday life are subjected to the same doubt as are the deepest principles of metaphysics and theology. Some philosophers accept these paradoxical tenets (if they may be called tenets), while many others try to refute them; so it's natural for us to wonder about them, and to look for the arguments on which they may be based.

I needn't dwell on the well-worn arguments that sceptics have used down the ages to discredit the senses, such as the arguments drawn from the untrustworthy nature of our sense organs, which very often lead us astray: the crooked appearance of an oar half in water, the different ways an object can look depending on how far away it is, the double images that arise from pressing one eye, and many other such phenomena. These sceptical points serve only to prove

that the senses, taken on their own, shouldn't *automatically* be trusted, and that if they are to serve as criteria of truth and falsehood we must adjust the answers they give us by bringing reason to bear on facts about •the nature of the medium—e.g./ the water through which we see the lower half of the oar—•the distance of the object, and •the nature of the medium—e.g./ the water through which we see the lower half of the oar—•the distance of the object, and •the condition of the sense organ. But other arguments against the senses go deeper, and are harder to meet.

It seems clear that •we humans are naturally, instinctively inclined to trust our senses, and that •we humans are naturally, instinctively inclined to trust our senses, and that •without any reasoning - indeed, almost before the use of reason—we take it that there is an external universe that doesn't depend on our perceiving it and would have existed if there had never been any perceiving creatures or if we had all been annihilated. Even the animals are governed by a similar opinion, and maintain this belief in external objects in all their thoughts, plans and actions.

It also seems clear that when men follow this blind and powerful instinct of nature they always suppose that •the very images that their senses present to them *are* •the external objects that they perceive; it never crosses their minds that •sensory images are merely *representations* of •the very images that their senses present to them *are* •the external objects that they perceive; it never crosses their minds that •sensory images are merely *representations* of •external objects. This very table that we see as white and feel as hard is believed to exist independently of our perception, and to be something external to our mind, which perceives it. Our presence doesn't bring it into existence, and our absence doesn't annihilate it. It stays in existence (we think), complete and unchanging, independent of any facts about

intelligent beings who perceive it or think about it.

But the slightest philosophy is enough to destroy this basic belief that all men have. For philosophy teaches us that images (or perceptions) are the only things that can ever be present to the mind, and that the senses serve only to bring these images before the mind and cannot put our minds into any immediate relation with external objects. The table that we see seems to shrink as we move away from it; but the real table that exists independently of us doesn't alter; so what was present to the mind wasn't the real table but only an image of it. These are the obvious dictates of reason; and no-one who thinks about it has ever doubted that when we say 'this house' and 'that tree' the things we are referring to are nothing but perceptions in the mind—fleeting copies or representations of other things that are independent of us and don't change.

To that extent, then, reason compels us to contradict or depart from the basic instincts of nature, and to adopt a new set of views about the evidence of our senses. These views amount to a philosophical system according to which **(1)** we perceive only images, not external objects, but **(2)** there are external objects, and images represent them. But when philosophy tries to justify this new system, and put to rest the carping objections of the sceptics, it finds itself in an awkward position regarding the claim **(2)** that there are external objects that our images represent. Philosophy can no longer rely on the idea that natural instincts are infallible and irresistible, for those instincts led us to a quite different system that is admitted to be fallible and even wrong. And to justify the external-object part of this purported philosophical system by a chain of clear and convincing argument—or even by any *appearance of* argument—is more than anyone can do.

By what argument can it be proved that the perceptions

of the mind must be caused by •external objects that are perfectly distinct from them and yet similar to them (if that were possible), rather than arising from •the energy of the mind itself, or from •the activities of some invisible and unknown spirit, or from •the energy of the mind itself, or from •the activities of some invisible and unknown spirit, or from •some other cause still more unknown to us? It is admitted that many of these perceptions—e.g./ in dreams, madness, and other diseases—don't in fact arise from anything external, •so how could we prove that others *do* arise from something external? In any case, we are utterly unable to explain *how* a body could so act on a mind as to convey an image of itself to a mental substance whose nature is supposed to be so different from—even contrary to—its own nature.

Are the perceptions of the senses produced by external objects that resemble them? This is a question of fact. Where shall we look for an answer to it? To experience, surely, as we do with all other questions of that kind. But here experience is and must be entirely silent. The mind never has anything present to it except the perceptions, and can't possibly experience their connection with objects. The belief in such a connection, therefore, has no foundation in reasoning •because the reasoning would have to start from something known through experience.

We might try to prove that our senses are truthful by appealing to the truthfulness of God, but that would be a strange direction for the argument to take, •for two reasons. **(1)** If the fallibility of our senses implied that God is untruthful, then our senses would never mislead us; because it isn't possible that God should ever deceive. **(2)** Anyway, once the external world has been called in question we are left with no arguments to prove that God exists or to show what his attributes are.

The deeper and more philosophical sceptics, trying to cast

doubt on all subjects of human knowledge and enquiry, will always triumph when it comes to the question of external bodies. 'Do you follow your natural instincts and inclinations', they may say, 'when you affirm the truthfulness of your senses? But those instincts lead you to believe that the perception or image that you experience is itself the external object. Do you reject that view, in order to accept the more reasonable opinion that perceptions are only representations of something external? In that case you are departing from your natural inclinations and more obvious opinions; and yet you still can't satisfy your reason, which can never find any convincing argument from experience to prove that your perceptions are connected with external objects.'

Another sceptical line of thought—somewhat like that one—has deep philosophical roots, and might be worth attending to if there were any point in digging that far down in order to discover arguments that can be of so little serious use. All modern enquirers agree that all the sensible qualities of objects—such as hard, soft, hot, cold, white, black, etc.—are merely secondary; they don't exist in the objects themselves (it is believed), and are perceptions of the mind with no external pattern or model that they represent. If this is granted regarding secondary qualities, it also holds for the supposed primary qualities of extension and solidity, which are no more entitled to be called 'primary' than the others are. The idea of extension comes purely from the senses of sight and touch; and if all the qualities that are perceived by the senses are in the mind rather than in the object, that must hold also for the idea of extension, which wholly depends on sensible ideas, i.e. on the ideas of secondary qualities. •To see that something is extended, you have to see colours; to feel that it is extended, you have to feel hardness or softness. The only escape from this conclusion is to assert that we get the ideas of those 'primary' qualities through

abstraction; but the doctrine of abstraction turns out under careful scrutiny to be unintelligible, and even absurd. An extension that is neither tangible nor visible can't possibly be conceived; and a tangible or visible extension that is neither hard nor soft, black nor white, is equally beyond the reach of human conception. Let anyone try to conceive a *triangle in general*, which has no particular length or proportion of sides, and he will soon see the absurdity of all the scholastic notions concerning abstraction and general ideas.¹³

Thus the first philosophical objection to the belief in external objects is this: If the belief is based on natural instinct it is contrary to reason; and if it is attributed to reason it is contrary to natural instinct, and anyway isn't supported by any rational evidence that would convince an impartial person who thought about it. The second objection goes further and represents this belief as *contrary* to reason—at least if reason says that all sensible qualities are in the mind and not in the object. Deprive matter of all its intelligible qualities, both primary and secondary, and you in a way annihilate it and leave only a certain mysterious *something* as the cause of our perceptions, a notion so imperfect that no sceptic will think it worthwhile to argue against it.

¹³This argument is drawn from Dr. Berkeley; and indeed most of the writings of that able author form the best lessons of scepticism that are to be found either among the ancient or modern philosophers. Yet on his title-page he claims, no doubt sincerely, to have composed his book *against* the sceptics as well as against atheists and free-thinkers. But though his arguments are otherwise intended, they are all in fact merely sceptical. This is shown by the fact that *they cannot be answered yet do not convince*. Their only effect is to cause the momentary bewilderment and confusion that is the result of scepticism.

¹⁴Whatever disputes there may be about *mathematical* points, we must allow that there are *physical* points—that is, parts of extension that cannot be divided or lessened either by the eye or imagination. So these images that are present to the imagination or the senses are absolutely indivisible, and consequently must be regarded by mathematicians as infinitely less than any real part of extension; yet nothing appears more certain to reason than that an infinite number of them composes an infinite extension. This holds with even more force of an infinite number of the infinitely small parts of extension that are still supposed to be, themselves, infinitely divisible.

Part 2

There may seem to be something wild about the sceptics' attempt to destroy reason by argument and reasoning; yet that's what all their enquiries and disputes amount to. They try to find objections both to our abstract reasonings and to reasonings about matter of fact and existence.

The chief objection to abstract reasonings comes from the ideas of space and time. Those ideas, when viewed carelessly as we view them in everyday life, are very clear and intelligible; but when we look into them more closely they turn out to involve principles that seem full of absurdity and contradiction. No priestly dogmas, invented on purpose to tame and subdue the rebellious reason of mankind, ever shocked common sense more than the doctrine of the infinite divisibility of extension, with its consequences that are ceremoniously paraded by geometers and metaphysicians as though they were something to be proud of. For example:

A real quantity that is infinitely less than any finite quantity, and contains quantities that are infinitely less than itself, and so on to infinity—

this bold, enormous edifice is too weighty to be supported by any demonstration, because it offends against the clearest and most natural principles of human reason.¹⁴

But what makes the matter more extraordinary is that these seemingly absurd opinions are supported by a chain of

reasoning that seems clear and utterly natural, and we can't accept the premises without accepting the conclusions. The geometrical proofs regarding the properties of circles and triangles are as convincing and satisfactory as they could possibly be; but if we accept them, how can we deny that

- the angle of contact between any circle and its tangent is infinitely less than any angle between straight lines, and that as the circle gets larger
- the angle of contact becomes still smaller, ad infinitum?

The demonstration of these principles seems as flawless as the one proving that the three angles of a triangle equal 180 degrees, though the latter conclusion is natural and easy while the former is pregnant with contradiction and absurdity. Reason here seems to be thrown into a kind of bewilderment and indecision which, without prompting from any sceptic, makes it unsure of itself and of the ground it walks on. It sees a bright light that illuminates some places; but right next to them there is the most profound darkness. Caught between these, reason is so dazzled and confused that there is hardly any topic on which it can reach a confident conclusion.

The absurdity of these bold conclusions of the abstract sciences seems to become even more conspicuous with regard to time than it is with extension. *An infinite number of real parts of time, passing in succession and gone through*

·completely·, one after another - this appears to be such an obvious contradiction that nobody, one would think, could bring himself to believe it unless his judgment had been corrupted, rather than being improved, by the sciences.

Yet still reason must remain restless and unquiet, even with regard to the scepticism it is driven to by these seeming absurdities and contradictions. We can't make sense of the thought that a clear, distinct idea might contain something that is contradictory to itself or to some other clear, distinct idea; this is indeed as absurd a proposition as we can think of. So this scepticism about some of the paradoxical conclusions of mathematics—a scepticism which implies that some of our clear, distinct ideas contradict others—is *itself* something we must be sceptical about, approaching it in a doubting, hesitant frame of mind.¹⁵

Sceptical objections to reasonings about matters of fact are of two kinds—**(1)** everyday informal objections, and **(2)** philosophical ones. **(1)** The informal objections are based on •the natural weakness of human understanding, •the natural weakness of human understanding, •the contradictory opinions that have been held at different times and in different countries, •the variations of our judgment in sickness and health, youth and old age, prosperity and adversity, •the variations of our judgment in sickness and health, youth and old age, prosperity and adversity, •the perpetual differ-

¹⁵We might be able to avoid these absurdities and contradictions if we admitted that there is no such thing as abstract or general ideas, properly speaking; but that all general ideas are really particular ones attached to a general term which brings to mind other particular ideas which in some way resemble the idea that is present to the mind. Thus when the word 'horse' is pronounced, we immediately form the idea of a black or a white animal of a particular size and shape; but as that word is also usually applied to 'horse' is pronounced, we immediately form the idea of a black or a white animal of a particular size and shape; but as that word is also usually applied to animals of other colours, shapes and sizes, these ideas are easily recalled even when they are not actually present to the imagination; so that our reasoning can proceed in the same way as if they were actually present. If this is accepted—and it seems reasonable—it follows that the ideas of quantity that mathematicians reason with are *particular* ones, i.e. ideas of the kind that come through the senses and imagination; in which case those ideas cannot be infinitely divisible. At this point I merely drop that hint, without developing it in detail. It does seem to be the readiest solution for these difficulties. We need *some* solution if the mathematicians are not to be exposed to the ridicule and contempt of ignorant people.

ences of opinion between different individuals—and many other considerations of that kind, but there is no need to go on about them. These objections are weak. For as in ordinary life we reason every moment regarding fact and existence, and can't survive without continually doing so, no objections that are *based on* this procedure can be sufficient to *undermine* it. The great subverter of excessive scepticism is *action*, practical projects, the occupations of everyday life. Sceptical principles may flourish and triumph in the philosophy lecture-room, where it is indeed hard if not impossible to refute them. But as soon as they •come out of the shadows, •are confronted by the real things that our beliefs and emotions are addressed to, and thereby •come out of the shadows, •are confronted by the real things that our beliefs and emotions are addressed to, and thereby •come into conflict with the more powerful principles of our nature, sceptical principles vanish like smoke and leave the most determined sceptic in the same •believing• condition as other mortals.

(2) The sceptic, therefore, had better stay in the area where he does best, and present the philosophical objections whose roots run deeper •than the facts on which the informal objections are based•. These seem to provide him with plenty of victories. He can rightly insist

- that all our evidence for any matter of fact that lies beyond the testimony of sense or memory is entirely based on the relation of cause and effect; item •that our only idea of this relation is the idea of two kinds of event that have frequently been associated with one another; item •that we have no argument to convince us that kinds of event that we have often found to be associated in the past will be so in future;
- and that what leads us to this inference is merely custom - a certain instinct of our nature—which it is

indeed hard to resist but which like any other instinct may be wrong and deceitful.

While the sceptic presses these points, he is in a strong position, and seems to destroy all assurance and conviction, at least for a while. (In a way, what he is showing is not his strength but rather his and everyone's weakness!) These arguments of his could be developed at greater length, if there were any reason to think that doing this would be useful to mankind.

That brings me to the chief and most unanswerable objection to excessive scepticism, namely that no lasting good can ever result from it while it remains in its full force and vigour. We need only ask such a sceptic: 'What do you *want*? What do you intend to achieve through your sceptical arguments?' He is immediately at a loss, and doesn't know what to answer. A Copernican or Ptolemaic who supports a particular system of astronomy may hope to produce in his audience beliefs that will remain constant and long-lasting. A Stoic or Epicurean displays principles which may not last, but which have an effect on conduct and behaviour. But a Pyrrhonian [= 'extreme sceptic'; Pyrrho was the first notable sceptic in ancient Greece] cannot expect his philosophy to have any steady influence on the mind, and if it did, he couldn't expect the influence to benefit society. On the contrary, if he will admit anything he must admit that if his principles were universally and steadily accepted, all human life would come to an end. All discourse and all action would immediately cease; and men would remain in a total lethargy until their miserable lives came to an end through lack of food, drink and shelter. It is true that this fatal outcome is not something we really have to fear: nature is always too strong for principle. And though a Pyrrhonian may throw himself or others into a momentary bewilderment and confusion by his deep arguments, the first and most trivial event in life will put all his doubts and

worries to flight, and will leave him—in every aspect of his actions and beliefs—in just the same position as any other kind of philosopher, and indeed the same as someone who had never concerned himself with philosophical researches at all. When he awakes from his dream, the sceptic will be the first to join in the laughter against himself and to admit that all his objections are mere amusement and can only serve to show how odd and freakish the situation of mankind is: we must act and reason and believe, but however hard we try we can't find a satisfactory basis for those operations and can't remove the objections that can be brought against them.

Part 3

There is indeed a milder kind of scepticism that may be both durable and useful. It may be a part of what results from Pyrrhonism, or excessive scepticism, when its indiscriminating doubts are modified a little by common sense and reflection. Most people are naturally apt to be positive and dogmatic in their opinions; they see only one side of an issue, have no idea of any arguments going the other way, and recklessly commit themselves to the principles that seem to them right, with no tolerance for those who hold opposing views. Pausing to reflect, or balancing arguments pro and con, only serves to get them muddled, to damp down their emotions, and to delay their actions. They are very uncomfortable in this state, and are thus impatient to escape from it; and they think they can keep away from it—the further the better—by the violence of their assertions and the obstinacy of their beliefs. But if these dogmatic reasoners became aware of how frail the human understanding is, even at its best and most cautious, this awareness would naturally lead to their being less dogmatic and outspoken,

less sure of themselves and less prejudiced against antagonists. The illiterate may reflect on the fact that learned people, despite all their advantages of study and reflection, are often cautious and tentative in their opinions. If any of the learned should be temperamentally inclined to pride and obstinacy, a small dose of Pyrrhonism might lessen their pride by showing them that the few advantages they have over other (·unlearned·) men don't amount to much when compared with the universal perplexity and confusion that is inherent in human nature. There is, in short, a degree of doubt and caution and modesty that every reasoner ought to have at all times in every context of enquiry.

Another kind of moderate scepticism which may be useful to mankind, and which may be the natural result of Pyrrhonian doubts, is the limitation of our enquiries to the subjects that our narrow human understanding is best equipped to deal with. The imagination of man naturally soars into the heights: it rejoices in whatever is remote and extraordinary, and runs off uncontrollably into the most distant parts of space and time in order to avoid the familiar objects that it has become used to. A faculty of judgment that is working properly proceeds in the opposite way: it avoids all distant and high enquiries, and confines itself to subjects that we meet with in everyday activities and experience, leaving grander topics to poets and orators or to priests and politicians. The best way for us to be brought into this healthy frame of mind is for us to become thoroughly convinced of the force of Pyrrhonian doubt, and to see that our only possible escape from it is through the strong power of natural instinct. Those who are drawn to philosophy will still continue their researches, attracted by the immediate pleasure of this activity and by their realization that philosophical doctrines are nothing but organized and corrected versions of the thoughts of everyday life. But they will never

be tempted to go beyond everyday life so long as they bear in mind the imperfection—the narrowness of scope, and the inaccuracy—of their own faculties. Given that we can't even provide a satisfactory reason why we believe after a thousand experiences that a stone will fall or fire will burn, can we ever be confident in any of our beliefs about the origin of worlds, or about the unfolding of nature from and to eternity?

The slightest enquiry into the natural powers of the human mind, and the comparison of those powers with those powers with the topics the mind studies, will be enough to make anyone willing to limit the scope of his enquiries in the way I have proposed. Let us then consider what are the proper subjects of science and enquiry.

It seems to me that the only objects of the abstract sciences—the ones whose results are rigorously proved—are quantity and number, and that it's mere sophistry and illusion to try to extend this more perfect sort of knowledge beyond these bounds. The component parts of quantity and number are entirely similar; for example, the area of a given triangle is made of the same elements as the area of a given square, so that the question of whether the two areas are equal can at least *come up*. For this reason, the relations amongst the parts of quantity and number become intricate and involved; and nothing can be more intriguing, as well as useful, than to trace in various ways their equality or inequality through their different appearances. But all other ideas are obviously distinct and different from each other; and so with them we can never go further—however hard we try—than to observe this diversity and come to the immediate, obvious conclusion that one thing is not another. If there is any difficulty in these decisions, it proceeds entirely from the indeterminate meaning of words, which is corrected by juster definitions. That *the square on the hypotenuse is equal to the squares of the other two sides* can't be known

without a train of reasoning and enquiry. But to convince us that *where there is no property there can be no injustice* it is only necessary to define the terms and explain 'injustice' to be 'a violation of property'. This proposition is indeed merely an imperfect definition. Similarly with all those purported reasonings that may be found in every other branch of learning except the sciences of quantity and number. The latter sciences, it's safe to say, are the only proper objects of knowledge and demonstration.

All other enquiries of men regard only matter of fact and existence; and these obviously can't be demonstrated. Whatever is the case may *not be* the case. No negation of a fact can involve a contradiction. The nonexistence of any existing thing is as clear and distinct an idea as its existence. The proposition which affirms it not to exist, even if it is quite false, is just as conceivable and intelligible as that which affirms it to exist. The case is different with the sciences properly so called [Hume means: the mathematical sciences]. Every mathematical proposition which isn't true is confused and unintelligible. That *the cube root of 64 is equal to the half of 10* is a false proposition and can never be distinctly conceived. But that *Caesar never existed* may be a false proposition but still it's perfectly conceivable and implies no contradiction.

It follows that the existence of any thing can only be proved by arguments from its cause or its effect; and such arguments are based entirely on experience. If we reason *a priori*, anything may appear able to produce anything. The falling of a pebble may, for all we know, extinguish the sun; or the wish of a man may control the planets in their orbits.

Only experience teaches us the nature and limits of cause and effect, and enables us to infer the existence of one object from that of another.¹⁶

Such is the foundation of factual reasoning, which forms the greater part of human knowledge and is the source of all human action and behaviour.

Factual reasonings concern either particular or general facts. Everyday practical thinking is concerned only with the former, as is the whole of history, geography and astronomy.

The sciences that treat of general facts are politics, natural philosophy [= 'physics'], physic [= 'medicine'], chemistry, etc. where the qualities, causes and effects of a whole species of objects are investigated.

Divinity or theology proves the existence of a god and the immortality of souls, so the reasonings that compose it partly concern particular facts and partly general ones. In so far as

it is supported by experience, theology has a foundation in reason, but its best and most solid foundation is faith and divine revelation.

Morals and artistic criticism are in the domain of taste and feeling rather than of intellectual thought. Beauty, whether moral or natural, is felt rather than perceived. If we do reason about it and try to fix standards of judgment, we must bring in *facts* that can be the objects of reasoning and enquiry—e.g. facts about the general taste of mankind.

When we go through libraries, convinced of these principles, what havoc must we make? If we take in our hand any volume—of divinity or school metaphysics, for instance—let us ask, *Does it contain any abstract reasoning about quantity or number?* No. *Does it contain any experiential reasoning about matters of fact and existence?* No. Then throw it in the fire, for it can contain nothing but sophistry and illusion.

¹⁶That impious maxim of the ancient philosophy, *Ex nihilo, nihil fit* [From nothing, nothing is made], which was supposed to rule out the creation of matter, ceases to be a secure axiom according to this philosophy. Not only might the will of the supreme being create matter; but for all we know *a priori* it might be created by the will of any other being, or by any other cause that the most fanciful imagination can assign.