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Enquiry Concerning Human Understanding

By David Hume

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Most of the principles and reasonings contained in this volume were published in a work in three volumes called *A Treatise of Human Nature* - a work which the author had planned before he left college, and which he wrote and published not long after. Its failure made him aware of his error in publishing too early, and he reworked the whole thing in the following pieces, in which he hopes he has corrected some careless slips in his reasoning, and more in his expression of his views, in the *Treatise*. [The ‘pieces’ are the present work, the *Dissertation on the Passions* and the *Enquiry Concerning the Principles of Morals*, which were all published together.] Yet several writers who have honoured the author’s philosophy with answers have taken care to aim their guns only at that youthful work, which the author never acknowledged, ·having published it anonymously·, and they have boasted of the victories they thought they had won against it. This is behaviour is flatly contrary to all the rules of honesty and fairness, and a striking example of those debating tricks that bigoted zealots think it is all right for them to employ. From now on the author wants the following pieces to be regarded as the sole source for his philosophical opinions and principles.

Section 1: The different species of philosophy

Moral philosophy, or the science of human nature, can be treated in two different ways, each of which has its own special merit and may contribute to the entertainment, instruction, and reformation of mankind [‘moral philosophy’ here covers every study involving human nature, including history, politics, etc.]. One of the two treatments considers man chiefly as born for action, and as guided in his conduct by taste and sentiment [= ‘feeling or opinion’], pursuing one object and avoiding another according to the value they seem to have and according to the light in which they are presented. As virtue is agreed to be the most valuable thing one could pursue, philosophers of this kind paint virtue in the most charming colours, getting help from poetry and eloquence and treating their subject in a popular and undemanding manner that is best fitted to please the reader’s imagination and arouse his affections. They select the most striking observations and examples from common life; they set up proper contrasts between opposite characteristics – such as virtue and vice, generosity and meanness; and, attracting us into the paths of virtue by visions of glory and happiness, they direct our steps in these paths by the soundest rules and the most illustrious examples. They make us *feel* the difference between vice and virtue; they excite and regulate our beliefs and feelings; and they think they have fully reached their goal if they manage to bend our hearts to the love of honesty and true honour.

Philosophers who do moral philosophy in the second way focus on man as a *reasonable* rather than as an *active* being, and try to shape his thinking more than to improve his behaviour. They regard human nature as a subject of theoretical enquiry, and they examine it intently, trying to find the principles that regulate our understanding, stir up our sentiments, and make us approve or blame any particular object, event, or behaviour. They think it somewhat disgraceful that philosophy has not yet established an agreed account of the foundation of morals, reasoning, and artistic criticism; and that it goes on talking about truth and falsehood, vice and virtue, beauty and ugliness, without being able to fix the source of these distinctions. While they attempt this hard task, no difficulties deter them; moving from particular instances to general principles, they then push their enquiries still further, to get to principles that are even more general, and they don’t stop, satisfied, until they arrive at the basic principles that set the limits to human curiosity in every branch of knowledge. Though their speculations seem abstract, and even unintelligible to ordinary readers, they aim at getting the approval of the learned and the wise; and think themselves well enough compensated for their lifetime’s work if they can bring out into the open some hidden truths that may be good for later generations to know.

The general run of people will certainly always prefer the relaxed and obvious kind of philosophy to the accurate and abstruse kind; and many will recommend the former as being not only the more agreeable of the two kinds but also the more useful. It enters more into common life; moulds the heart and affections; and because it involves principles on which people *act*, it reforms their conduct and brings them nearer to the model of perfection that it describes. The abstruse philosophy, on the other hand, is based on a mental attitude that cannot enter into every-day business and action; so it vanishes when the philosopher comes out of the shadows into daylight, and its principles cannot easily

influence our behaviour. The feelings of our heart, the agitation of our passions, the intensity of our affections, scatter all its conclusions and reduce the profound philosopher to a mere peasant.

The easy philosophy - let us face the fact - has achieved more lasting fame than the other, and rightly so. Abstract reasoners have sometimes enjoyed a momentary reputation, because they caught the fancy of their contemporaries or because the latter were ignorant of what they were doing; but they haven't been able to support their renown with more equitable posterity [the last seven words are Hume's]. It is easy for a profound abstract philosopher to make a mistake in his intricate reasonings; and one mistake is bound to lead to another, while the philosopher drives his argument forward and is not deterred from accepting any conclusion by its unusual appearance or its inconsistency with popular opinion. Not so with a philosopher who aims only to represent the common sense of mankind in more beautiful and more attractive colours: if by accident *he* falls into error, he goes no further. Rather than pushing on, he renews his appeal to common sense and to the natural sentiments of the mind, gets back onto the right path, and secures himself from any dangerous illusions. The fame of Cicero flourishes at present; but that of Aristotle is utterly decayed. La Bruyère is read in many lands and still maintains his reputation: but the glory of Malebranche is confined to his own nation, and to his own time. And Addison, perhaps, will be read with pleasure when Locke has been entirely forgotten.

To be a *mere philosopher* is usually not thought well of in the world, because such a person is thought to contribute nothing either to the advantage or to the pleasure of society, to live remote from communication with mankind, and to be wrapped up in principles and notions that they can't possibly understand. On the other hand, the *mere ignoramus* is still more despised; and at a time and place where learning flourishes, nothing is regarded as a surer sign of an ill-bred cast of mind than having no taste at all for learning. The best kind of character is supposed to lie between those extremes: retaining an equal ability and taste for books, company, and business; preserving in conversation that discernment and delicacy that arise from literary pursuits, and in business preserving the honesty and accuracy that are the natural result of a sound philosophy. In order to spread and develop such an accomplished kind of character, nothing can be more useful than writings in the easy style and manner, which stay close to life, require no deep thought or solitary pondering to be understood, and send the reader back among mankind full of noble sentiments and wise precepts, applicable to every demand of human life. By means of such writings, virtue becomes amiable, the pursuit of knowledge agreeable, company instructive, and solitude entertaining.

Man is a reasonable being, and as such he gets appropriate food and nourishment from the pursuit of knowledge; but so narrow are the limits of human understanding that we can't hope for any great amount of knowledge or for much security in respect of what we do know. As well as being reasonable, man is a sociable being; but he can't always enjoy - indeed can't always *want* - agreeable and amusing company. Man is also an active being; and from that disposition of his as well as from the various necessities of human life, he must submit to being busy at something; but the mind requires some relaxation, and can't always devote itself to careful work. It seems, then, that nature has pointed out a *mixed* kind of life as most suitable for the human race, and has secretly warned us not to tilt too far in any of these directions so as to incapacitate ourselves for other occupations

and entertainments. Indulge your passion for knowledge, says nature, but seek knowledge of things that are human and directly relevant to action and society. As for abstruse thought and profound researches, nature also says, I prohibit them, and if you engage in them I will severely punish you by the brooding melancholy they bring, by the endless uncertainty in which they involve you, and by the cold reception your announced discoveries will meet with when you publish them. Be a philosopher, nature continues, but amidst all your philosophy be still a man.

If people in general were contented to prefer the easy philosophy to the abstract and profound one, without throwing blame or contempt on the latter, it might be appropriate to go along with this general opinion, and to allow every man to enjoy without opposition his own taste and sentiment. But the friends of the easy philosophy often carry the matter further, even to point of absolutely rejecting all profound reasonings, or what is commonly called metaphysics; and this rejection should not be allowed to pass unchallenged. So I shall now proceed to consider what can reasonably be pleaded on behalf of the abstract kind of philosophy.

Let us first observe that the accurate and abstract kind of philosophy has one considerable advantage that comes from its being of service to the other kind. Without help from abstract philosophy, the easy and human kind can never be exact enough in its sentiments, rules, or reasonings. All literature is nothing but pictures of human life in various attitudes and situations, and these inspire us with different sentiments of praise or blame, admiration or ridicule, according to the qualities of the object they set before us. An artist must be better qualified to succeed in presenting such pictures if, in addition to delicate taste and sensitive uptake, he has an accurate knowledge of the internal structure and operations of the understanding, the workings of the passions, and the various kinds of sentiment that discriminate vice and virtue. However difficult this search into men's interiors may appear to be, it is to some extent *needed* by anyone wanting to describe successfully the obvious and outward aspects of life and manners. The anatomist presents to the eye the most hideous and disagreeable objects; but his science is useful to the painter in presenting even a Venus or a Helen. While the painter employs all the richest colours of his art, and gives his figures the most graceful and engaging airs, he still has to attend to the inward structure of the human body, the position of the muscles, the structure of the bones, and the function and shape of every bodily part or organ. Accuracy always helps beauty, and solid reasoning always helps delicate sentiment. It would be pointless to praise one by depreciating the other.

Besides, it is notable that in every art or profession, even those of the most practical sort, a spirit of accuracy (however acquired) makes for greater perfection and renders the activity more serviceable to the interests of society. And even if philosophers keep themselves far from the world of business and affairs, the spirit of philosophy, if carefully cultivated by a number of people, must gradually permeate the whole society and bring philosophical standards of correctness to every art and calling. The politician will acquire greater foresight and subtlety in apportioning and balancing power; the lawyer more method and finer principles in his reasonings; and the general more regularity in his discipline, and more caution in his plans and operations. The stability of modern governments above the ancient has improved along with improvements in the accuracy of modern philosophy, and will probably continue to do so.

Even if these studies brought no advantage beyond gratifying innocent curiosity, even that ought not to be despised, for it is one way of getting safe and harmless pleasures - few of which have been bestowed on human race. The sweetest and most inoffensive path of life leads through the avenues of knowledge and learning; and anyone who can either remove any obstacles along the path or open up new views ought to that extent to be regarded as a benefactor to mankind. And though these accurate and abstract researches may appear difficult and fatiguing, some minds are like some bodies in this: being endowed with vigorous and flourishing health, they need severe exercise, and get pleasure from activities that most people would find burdensome and laborious. Obscurity, indeed, is painful to the mind as well as to the eye; but to bring light from obscurity is bound to be delightful and rejoicing, however hard the labour.

But this obscurity in the profound and abstract kind of philosophy is objected to, not only as painful and tiring, but also as the inevitable source of uncertainty and error. Here indeed lies the fairest and most plausible objection to a large part of metaphysics, that it isn't properly a science [= not a theoretically disciplined pursuit of knowledge], but arises either from the fruitless efforts of human vanity, trying to penetrate into subjects that are utterly inaccessible to the understanding, or from the craft of popular superstitions which, being unable to defend themselves by fair arguments, raise these entangling metaphysical brambles to cover and protect their weakness. Each of these is sometimes true; and the misuse of metaphysics by the friends of popular superstition is vexatious. Chased from the open country, these robbers run into the forest and lie in wait to break in upon every unguarded avenue of the mind and overwhelm it with religious fears and prejudices. They can oppress the strongest and most determined opponent if he lets up his guard for a moment. And many of their opponents, through cowardice and folly, open the gates to the enemies - the purveyors of superstition - and willingly and reverently submit to them as their legal sovereigns.

But is this a good enough reason for philosophers to hold back from such researches, to retreat and leave superstition in possession of the field? Isn't it proper to draw the opposite conclusion, and see the necessity of carrying the war into the most secret recesses of the enemy? It is no use hoping that frequent disappointment will eventually lead men to abandon such airy pursuits as the superstitious ones, and discover the proper province of human reason. For one thing, many people find it too obviously to their advantage to be perpetually recalling such topics; and furthermore the motive of blind despair should never operate in the pursuit of knowledge, for however unsuccessful former attempts may have proved there is always room to hope that the hard work, good luck, or improved intelligence of succeeding generations will reach discoveries that were unknown in former ages. Each adventurous thinker will still leap at the elusive prize, and find himself stimulated rather than discouraged by the failures of his predecessors; while he hopes that the glory of succeeding in such a hard adventure is reserved for him alone. So the friends of superstition and bad philosophy will never just *give up*. The only way to free learning from entanglement in these abstruse questions is to enquire seriously into the nature of human understanding, and through an exact analysis of its powers and capacity show that it is utterly unfitted for such remote and abstruse subjects. We must submit to this hard work in order to live at ease ever after; and we must cultivate true metaphysics carefully, in order to destroy metaphysics of the false and adulterated kind.

Laziness protects some people from this deceitful philosophy, but others are carried into it by curiosity; and despair, which at some moments prevails, may give place later to optimistic hopes and expectations. Accurate and valid reasoning is the only universal remedy, fitted for all people of all kinds - ·lazy and curious, despairing and hopeful· - and it alone can undercut that abstruse philosophy and metaphysical jargon that gets mixed up with popular superstition, presenting the latter in a manner that casual reasoners can't understand, and giving it the air of real knowledge and wisdom.

So an accurate scrutiny of the powers and faculties of human nature helps us to reject, after careful enquiry, the most uncertain and disagreeable part of learning; and it also brings many positive advantages. It is a remarkable fact about the operations of the mind that, although they are most intimately present to us, whenever we try to reflect *on* them they seem to be wrapped in darkness, and the eye ·of the mind· cannot easily detect the lines and boundaries that distinguish them from one another. The objects ·of this scrutiny - that is, the operations of the mind· - are so rarefied that they keep changing; so they have to be grasped *in an instant*, which requires great sharpness of mind, derived from nature and improved by habitual use. So it comes about that in the pursuit of knowledge a considerable part of the task is simply to know the different operations of the mind, to separate them from each other, to classify them properly, and to correct all the seeming disorder in which they lie when we reflect on them. This task of ordering and distinguishing has no merit when it is performed on external bodies, the objects of our senses; but when it is directed towards the operations of the mind it is valuable in proportion to how hard it is to do. Even if we get no further than this mental geography, this marking out of the distinct parts and powers of the mind, it is at least a satisfaction to go that far; and the more obvious these results may appear (and they are by no means obvious), the more disgraceful it must be for those who lay claim to learning and philosophy to be ignorant of them.

Nor can there remain any suspicion that this branch of knowledge - ·the pursuit of accurate and abstract philosophy· - is uncertain and illusory; unless we adopt a scepticism that is entirely subversive of *all* theoretical enquiry, and even of all action. It can't be doubted ¶that the mind is endowed with various powers and faculties, ¶that these are distinct from each other, ¶that what is really distinct to the immediate perception may be distinguished by reflection; and consequently ¶that in all propositions on this subject there are true ones and false ones, and sorting them out lies within the reach of human understanding. There are many obvious distinctions of this kind, such as those between the *will* and *understanding*, the *imagination* and the *passions*, which every human creature can grasp; and the finer and more philosophical distinctions are no less real and certain, though they are harder to grasp. Some successes in these enquiries, especially some recent ones, can give us a better idea of the certainty and solidity of this branch of learning. Will we think it worth the effort of an astronomer to give us a true system of the planets, and to determine the position and order of those remote bodies, while we turn our noses up at those who with so much success determine the parts of the mind - a topic which for us comes *very* close to home?

But may we not hope that philosophy, if carried out with care and encouraged by the attention of the public, may carry its researches still further? Might it not ·get beyond the task of distinguishing and sorting out the operations of the mind, and· discover, at least in

some degree, the secret springs and drivers by which the human mind is actuated in its operations? Astronomers were for a long time contented with proving, from the phenomena, the true motions, order, and size of the heavenly bodies; until at last a scientist, Isaac Newton, came along and also determined the laws and forces by which the revolutions of the planets are governed and directed. Similar things have been done with regard to other parts of nature. And there is no reason to despair of equal success in our enquiries into the powers and organisation of the mind, if we carry them out as ably and alertly as those other scientists did their work. It is probable that one operation and principle of the mind depends on another; which may in turn be brought under a still more general and universal one; and it will be difficult for us to determine exactly how far these researches can be carried - difficult before we have carefully tried, and difficult even after. This much is certain: attempts of this kind are made every day even by those who philosophize the most carelessly; and the greatest need is to embark on the project with thorough care and attention. That is needed so that if the task *does* lie within reach of human understanding, it can eventually end in success; and if it *doesn't*, it can be rejected with some confidence and security. But this last conclusion is not desirable, and shouldn't be arrived at rashly, for it detracts from the beauty and value of this sort of philosophy. Moralists have always been accustomed, when they considered the vast number and variety of actions that arouse our approval or dislike, to search for some common principle on which this variety of sentiments might depend. And though their passion for a single general principle has sometimes carried them too far, it must be granted that they are excusable in expecting to find some general principles under which all the vices and virtues can rightly be brought. Similar attempts have been made by literary critics, logicians, and even students of politics; and their attempts have met with some success, though perhaps longer time, greater accuracy, and more intensive study may bring these studies still nearer to perfection. To throw up at once all claims to this kind of knowledge can fairly be thought to be more rash, precipitate, and dogmatic than even the boldest and most affirmative philosophy that has ever attempted to impose its crude dictates and principles on mankind.

If these reasonings concerning human nature seem abstract and hard to understand, what of it? This isn't evidence of their falsehood. On the contrary, it seems impossible that what has hitherto escaped so many wise and profound philosophers can be very obvious and easy to discover. And whatever efforts these researches may cost us, we can think ourselves sufficiently rewarded not only in profit but also in pleasure, if by that means we can add at all to our stock of knowledge in subjects of such enormous importance.

Still, the abstract nature of these speculations is a drawback rather than an advantage; but perhaps this difficulty can be overcome by care and skill and the avoiding of all unnecessary detail; so I shall in the following enquiry try to throw some light on subjects from which wise people have been deterred by uncertainty, and ignorant people have been deterred by obscurity. How good it would be to be able to unite the boundaries of the different kinds of philosophy, by reconciling profound enquiry with clearness, and truth with novelty! And still better if by reasoning in this easy manner I can undermine the foundations of an abstruse philosophy that seems always to have served only as a shelter to superstition, and a cover to absurdity and error!

Section 2: The origin of ideas

Everyone will freely admit that the perceptions of the mind when a man feels the pain of excessive heat or the pleasure of moderate warmth are considerably unlike what he feels when he later remembers this sensation or earlier looks forward to it in his imagination. Memory and imagination may mimic or copy the perceptions of the senses, but they can't create a perception that has as much force and vivacity as the one they are copying. Even when they operate with greatest vigour, the most we will say is that they represent their object so vividly that we could *almost* say we feel or see it. Except when the mind is out of order because of disease or madness, memory and imagination can never be so lively as to create perceptions that are indistinguishable from the ones we have in seeing or feeling. The most lively thought is still dimmer than the dullest sensation.

A similar distinction runs through all the other perceptions of the mind. A real fit of anger is very different from merely thinking of that emotion. If you tell me that someone is in love, I understand your meaning and form a correct conception of the state he is in; but I would never mistake that conception for the turmoil of actually being in love! When we think back on our past sensations and feelings, our thought is a faithful mirror that copies its objects truly; but it does so in colours that are fainter and more washed-out than those in which our original perceptions were clothed. To tell one from the other you don't need careful thought or philosophical ability.

So we can divide the mind's perceptions into two classes, on the basis of their different degrees of force and vivacity. The less forcible and lively are commonly called 'thoughts' or 'ideas'. The others have no name in our language or in most others, presumably because we don't need a general label for them except when we are doing philosophy. Let us, then, take the liberty of calling them 'impressions', using that word in a slightly unusual sense. By the term 'impression', then, I mean *all our more lively perceptions when we hear or see or feel or love or hate or desire or will*. These are to be distinguished from ideas, which are *the fainter perceptions of which we are conscious when we reflect on our impressions*.

It may seem at first sight that human thought is utterly unbounded: it not only escapes all human power and authority - as when a poor man thinks of becoming wealthy overnight, or when an ordinary citizen thinks of being a king - but is not even confined within the limits of nature and reality. It is as easy for the imagination to form monsters and to join incongruous shapes and appearances as it is to conceive the most natural and familiar objects. And while the body must creep laboriously over the surface of one planet, thought can instantly transport us to the most distant regions of the universe - and even further. What never was seen or heard of may still be *conceived*; nothing is beyond the power of thought except what implies an absolute contradiction.

But although our thought seems to be so free, when we look more carefully we'll find that it is really confined within very narrow limits, and that all this creative power of the mind amounts to merely the ability to combine, transpose, augment, or diminish the materials that the senses and experience provide us with. When we think of a golden mountain, we only join two consistent ideas - *gold* and *mountain* - with which we were already familiar. We can conceive a virtuous horse because our own feelings enable us to

conceive virtue, and we can join this with the shape of a horse, which is an animal we know. In short, all the materials of thinking are derived either from our outward senses or from our inward feelings: all that the mind and will do is to mix and combine these materials. Put in philosophical terminology: *all our ideas or more feeble perceptions are copies of our impressions or more lively ones.*

Here are two arguments that I hope will suffice to prove this. (1) When we analyse our thoughts or ideas - however complex or elevated they are - we always find them to be made up of simple ideas that were copied from earlier feelings or sensations. Even ideas that at first glance seem to be the furthest removed from that origin are found on closer examination to be derived from it. The idea of God - meaning an infinitely intelligent, wise, and good Being - comes from extending beyond all limits the qualities of goodness and wisdom that we find in our own minds. However far we push this enquiry, we shall find that every idea that we examine is copied from a similar impression. Those who maintain that this isn't universally true and that there are exceptions to it have only one way of refuting it - but it should be easy for them, if they are right. They need merely to produce an idea that they think isn't derived from this source. It will then be up to me, if I am to maintain my doctrine, to point to the impression or lively perception that corresponds to the idea they have produced.

(2) If man cannot have some kind of sensation because there is something wrong with his eyes, ears etc., he will never be found to have corresponding ideas. A blind man can't form a notion of colours, or a deaf man a notion of sounds. If either is cured of his deafness or blindness, so that the sensations can get through to him, the ideas can then get through as well; and then he will find it easy to conceive these objects. The same is true if one has never experienced an object that will give a certain kind of sensation: a Laplander or Negro has no notion of the taste of wine. Similarly with inward feelings. It seldom if ever happens that a person has *never* felt or is *wholly* incapable of some human feeling or emotion, but the phenomenon I am describing does occur with feelings as well, though in lesser degree. A gentle person can't form any idea of determined revenge or cruelty; nor can a selfish one easily conceive the heights of friendship and generosity. Everyone agrees that non-human beings may have many senses of which we can have no conception, because the ideas of them have never been introduced to us in the only way in which an idea can get into the mind, namely through actual feeling and sensation.

(There is, however, one counter-example that may prove that it is not absolutely impossible for an idea to occur without a corresponding impression. I think it will be granted that the various distinct ideas of colour that enter the mind through the eye (or those of sound, which come in through the ear) really are different from each other, though they resemble one another in certain respects. If that holds for different colours, it must hold equally for the different shades of a single colour; so each shade produces a distinct idea, independent of the rest. (We can create a continuous gradation of shades, running from red at one end to green at the other, with each member of the series shading imperceptibly into its neighbour. If the immediate neighbours in the sequence are not different from one another, then red is not different from green, which is absurd.) Now, suppose that a sighted person has become perfectly familiar with colours of all kinds, except for one particular shade of blue (for instance), which he happens never to have met with. Let all the other shades of blue be placed before him, descending gradually from the

deepest to the lightest: it is obvious that he will notice a blank in the place where the missing shade should go. That is, he will be aware that there is a greater quality-distance between that pair of neighbouring shades than between any other pair in the series. Can he fill the blank from his own imagination, calling up in his mind the idea of that particular shade, even though it has never been conveyed to him by his senses? Most people, I think, will agree that he can. This seems to show that simple ideas are not always, in every instance, derived from corresponding impressions. Still, the example is so singular that it is hardly worth noticing, and on its own it isn't a good enough reason for us to alter our general maxim.)

So here is a proposition that not only seems to be simple and intelligible in itself, but could if properly used make every dispute equally intelligible by banishing all that nonsensical jargon that has so long dominated metaphysical reasonings. Those reasonings are beset by three troubles. (1) All ideas, especially abstract ones, are naturally faint and obscure, so that the mind has only a weak hold on them. (2) Ideas are apt to be mixed up with other ideas that resemble them. (3) We tend to assume that a given word is associated with a determinate idea just because we have used it so often, even if in using it we have not had any distinct meaning for it. In contrast with this, (1) all our impressions - that is, all our outward or inward sensations - are strong and vivid. (2) The boundaries between them are more exactly placed, and (3) it is harder to make mistakes about them. So when we come to suspect that a philosophical term is being used without any meaning or idea (as happens all too often), we need only to ask: From what impression is that supposed idea derived? If none can be pointed out, that will confirm our suspicion that the term is meaningless, that is, has no associated idea. By bringing ideas into this clear light we may reasonably hope to settle any disputes that arise about whether they exist and what they are like.¹

¹ Philosophers who have denied that there are any innate ideas probably meant only that all ideas were copies of our impressions; though I have to admit that the terms in which they expressed this were not chosen with enough care, or defined with enough precision, to prevent all mistakes about their doctrine. For what is meant by 'innate'? If 'innate' is equivalent to 'natural', then all the perceptions and ideas of the mind must be granted to be innate or natural, in whatever sense we take the latter word, whether in opposition to what is uncommon, what is artificial, or what is miraculous. If innate means 'contemporary with our birth', the dispute seems to be frivolous; nor is it worthwhile to enquire at what time thinking begins, whether before, at, or after our birth. Again, the word 'idea' seems commonly to be taken in a very loose sense by Locke and others taken, as standing for any of our perceptions, our sensations *and passions*, as well as our thoughts. I would like to know what it can mean to assert that self-love, or resentment of injuries, or the passion between the sexes, is not innate!

But admitting the words 'impressions' and 'ideas' in the sense explained above, and understanding by 'innate' what is *original* or *not copied from any previous perception*, then we can assert that all our impressions are innate and none of our ideas are innate.

Frankly, I think that Mr. Locke was tricked into this question by the schoolmen, who making use of undefined terms to drag out their disputes to a tedious length without ever touching the point at issue. A similar ambiguity and circumlocution seem to run through all that great philosopher's reasonings on this as well as on most other subjects.

Section 3: The association of ideas

The mind's thoughts or ideas are obviously inter-connected in some systematic way: there is some order and regularity in how, in memory and imagination, one idea leads on to another. This is so clearly true of our more serious thinking or talking what when a particular thought breaks in upon the regular sequence of ideas it is immediately noticed and rejected as irrelevant. Even in our wildest daydreams and night dreams we shall find, if we think about it, that the imagination does not entirely run wild, and that even in imagination the different ideas follow one another in a somewhat regular fashion. If the loosest and freest conversation were written down, you would be able to see something holding it together through all its twists and turns. Or, if not, the person who broke the thread might tell you that he had been gradually led away from the subject of conversation by some orderly train of thought that had been quietly going on in his mind. We also find that the compound ideas that are the meanings of words in one language are usually also the meanings of words in others, even when there can be no question of the languages' having influenced one another. This is conclusive evidence that the simple ideas of which the compound ones are made up were linked by some universal principle that had an equal influence on all mankind.

The fact that different ideas are connected is too obvious to be overlooked; yet I have not found any philosopher trying to list or classify all the principles of association. This seems to be worth doing. To me there appear to be only three principles of connection among ideas, namely, Resemblance, Contiguity [= nextness] in time or place, and Cause or Effect.

I don't think there will be much doubt that our ideas are connected by these principles. A picture naturally leads our thoughts to the thing that is depicted in it; the mention of one room naturally introduces remarks or questions about other rooms in the same building; and if we think of a wound, we can hardly help thinking about the pain that follows it. But it will be hard to prove to anyone's satisfaction - the reader's or my own - that these three are the *only* principles of association among our ideas. All we can do is to consider a large number of instances where ideas are connected, find in each case what connects them, and eventually develop a really general account of this phenomenon.² The more cases we look at, and the more care we employ on them, the more assured we can be that our final list of principles of association is complete.

Section 4: Sceptical doubts concerning the operations of the understanding

Part 1

All the objects of human reason or enquiry fall naturally into two kinds, namely *Relations of Ideas* and *Matters of Fact*. The first kind include Geometry, Algebra, and Arithmetic,

² For instance, Contrast or Contrariety is also a connection among Ideas. But we might consider it as a mixture of Causation and Resemblance. Where two objects are contrary, one destroys the other; that is, causes its annihilation, and the idea of an object's annihilation implies the idea of its former existence.

and indeed every statement that is either intuitively or demonstratively certain. *That the square of the hypotenuse is equal to the squares of the two sides* expresses a relation between those figures. *That three times five equals half of thirty* expresses a relation between those numbers. Propositions of this kind can be discovered purely by thinking, with no need to attend to anything that actually exists anywhere in the universe. The truths that Euclid demonstrated would still be certain and self-evident even if there never were a circle or triangle in nature.

Matters of fact, which are the second objects of human reason, are not established in the same way; and we cannot have such strong grounds for thinking them true. The contrary of every matter of fact is still *possible*, because it doesn't imply a contradiction and is conceived by the mind as easily and clearly as if it conformed perfectly to reality. *That the sun will not rise to-morrow* is just as intelligible as - and no more contradictory than - the proposition *that the sun will rise tomorrow*. It would therefore be a waste of time to try to *demonstrate* [= prove purely by logic] its falsehood. If it were demonstratively false, it would imply a contradiction and so could never be clearly conceived by the mind.

So it may be worth our time and trouble to try to answer this: What sorts of grounds do we have for being sure of matters of fact - propositions about what exists and what is the case - that are not attested by our present senses or the records of our memory? It is a notable fact that neither ancient philosophers nor modern ones have attended much to this important question; so in investigating it I shall be marching through difficult terrain with no guides or signposts; and that may help to excuse any errors I commit or doubts that I raise. Those errors and doubts may even be useful: they may make people curious and eager to learn, and may destroy that ungrounded and unexamined *confidence* that people have in their opinions - a confidence that is the curse of all reasoning and free enquiry. If we find things wrong with commonly accepted philosophical views, that need not be a discouragement, but rather can spur us on to try for something more full and satisfactory than has yet been published.

All reasonings about matters of fact seem to be based on the relation of *Cause and Effect*, which is the only relation that can take us beyond the evidence of our memory and senses. If you ask someone why he believes some matter of fact which is not now present to him - for instance that his friend is now in France - he will give you a reason; and this reason will be some other fact, such as that he has received a letter from his friend or that his friend had planned to go to France. Someone who finds a watch or other machine on a desert island will conclude that there have been men on that island. All our reasonings concerning fact are like this. When we reason in this way, we suppose that the present fact is *connected* with the one that we infer from it. If there were nothing to bind the two facts together, the inference of one from the other would be utterly shaky. Hearing the sounds of someone talking rationally in the dark assures us of the presence of some person. Why? Because such sounds are the effects of the human constitution, and are closely connected with it. All our other reasonings of this sort, when examined in detail, turn out to be based on the relation of cause and effect. The causal chain from evidence to the 'matter of fact' conclusion may be short or long. And it may be that the causal connection between them isn't direct but collateral - as when one sees light and infers heat, not because either causes the other but because the two are collateral effects of a single cause, namely fire.

So if we want to understand the basis of our confidence about matters of fact, we must find out how we come to know about cause and effect.

I venture to assert, as true without exception, that knowledge about causes is never acquired through *a priori* reasoning, and always comes from our experience of finding that particular objects are constantly associated with one other. [When Hume is discussing cause and effect, his word 'object' often covers *events* as well as *things*.] Present an object to a man whose skill and intelligence are as great as you like; if the object is of a kind that is entirely new to him, no amount of studying of its perceptible qualities will enable him to discover any of its causes or effects. Adam, even if his reasoning abilities were perfect from the start, could not have inferred from the fluidity and transparency of water that it could drown him, or from the light and warmth of fire that it could burn him. The qualities of an object that appear to the senses never reveal the causes that produced the object or the effects that it will have; nor can our reason, unaided by experience, ever draw any conclusion about real existence and matters of fact.

The proposition that *causes and effects are discoverable not by reason but by experience* will be freely granted (1) with regard to objects that we remember having once been altogether unknown to us; for in those cases we remember the time when we were quite unable to tell what would arise from those objects. Present two smooth pieces of marble to a man who has no knowledge of physics - he will not be able to work out that they will stick together in such a way that it takes great force to separate them by pulling them directly away from one another, while it will be easy to slide them apart. (2) Events that are not much like the common course of nature are also readily agreed to be known only by experience; and nobody thinks that the explosion of gunpowder, or the attraction of a magnet, could ever be discovered by arguments *a priori* - that is, by simply thinking about the matter, without bringing in anything known from experience. (3) Similarly, when an effect is thought to depend on an intricate machinery or secret structure of parts we don't hesitate to attribute all our knowledge of it to experience. No-one would assert that he can give the ultimate reason why milk or bread is nourishing for a man but not for a lion or a tiger.

But this same proposition - that causes and effects cannot be discovered by reason - may seem less obvious when it is applied to events of kinds (1) that we have been familiar with all our lives, (2) that are very like the whole course of nature, and (3) that are supposed to depend on the simple perceptible qualities of objects and not on any secret structure of parts. We are apt to imagine that we could discover *these* effects purely through reason, without experience. We fancy that if we had been suddenly brought into this world, we could have known straight off that when one billiard ball strikes another it will make it move - knowing this for certain, without having to try it out on billiard balls. Custom has such a great influence! At its strongest it not only hides our natural ignorance but even conceals *itself*: just because custom is so strongly at work, we are not aware of its being at work at all.

If you are not yet convinced that absolutely all the laws of nature and operations of bodies can be known only by experience, consider the following. If we are asked to say what the effects will be of some object, without consulting past experience of it, how can the mind go about doing this? It must invent or imagine some event as being the object's effect; and clearly this invention must be entirely arbitrary. The mind can't possibly find

the effect *in* the supposed cause, however carefully we examine it, for the effect is totally different from the cause and therefore can never be discovered in it. Motion in the second billiard ball is a distinct event from motion in the first, and nothing in the first ball's motion even hints at motion in the second. A stone raised into the air and left without any support immediately falls; but if we consider this situation *a priori* we shall find nothing that generates the idea of a downward rather than an upward or some other motion in the stone.

Just as the first imagining or inventing of a particular effect is arbitrary if it isn't based on experience, the same holds for the supposed tie or connection between cause and effect - the tie that binds them together and makes it impossible for that cause to have any effect but that one. Suppose for example that I see one billiard ball moving in a straight line towards another: even if the contact between them should *happen* to suggest to me the idea of motion in the second ball, aren't there a hundred different events that I can conceive might follow from that cause? May not both balls remain still? May not the first bounce straight back the way it came, or bounce off in some other direction? All these suppositions are consistent and conceivable. Why then should we prefer just one, which is no more consistent or conceivable than the rest? Our *a priori* reasonings will never reveal any basis for this preference.

In short, every effect is a distinct event from its cause. So it can't be discovered *in* the cause, and the first invention or conception of it *a priori* must be wholly arbitrary. Furthermore, even after it has been suggested, the linking of it with the cause must still appear as arbitrary, because plenty of other possible effects must seem just as consistent and natural from reason's point of view. So there isn't the slightest hope of reaching any conclusions about causes and effects without the help of experience.

That is why no reasonable scientist has ever claimed to know the ultimate cause of any natural process, or to show clearly and in detail what goes into the causing of any single effect in the universe. It is agreed that the most human reason can achieve is to make the principles that govern natural phenomena simpler, bringing many particular effects together under a few general causes by reasoning from analogy, experience and observation. But if we try to discover the causes of these general causes, we shall be wasting our labour. These ultimate sources and principles are totally hidden from human enquiry. Probably the deepest causes and principles that we shall ever discover in nature are these four: \dot{Y} elasticity, \dot{Y} gravity, \dot{Y} cohesion of parts which makes the difference between a pebble and a pile of dust, and \dot{Y} communication of motion by impact as when one billiard ball hits another. We shall be lucky if by careful work we can explain particular phenomena in terms of these four, or something close to them. The perfect philosophy of the natural kind [= the perfect physics] only staves off our ignorance a little longer; just as, perhaps, the most perfect philosophy of the moral or metaphysical kind [= the most perfect *philosophy*, in the 21st century sense of the word] serves only to show us more of how ignorant we are. So both kinds of philosophy eventually lead us to a view of human blindness and weakness - a view that confronts us at every turn despite our attempts to get away from it.

Although geometry is rightly famous for the accuracy of its reasoning, when it is brought to the aid of physics it can't lead us to knowledge of ultimate causes, thereby curing the ignorance I have been discussing. Every part of applied mathematics works on

the assumption that nature operates according to certain established laws; and abstract reasonings are used either to help experience to discover these laws or to work out how the laws apply in particular cases where exactness of measurement is relevant. Here is an example. It is a law of motion, discovered by experience, that *the force of any moving body is proportional to its mass and to its velocity*; so we can get a small force to overcome the greatest obstacle if we can devise a machine that will increase the velocity of the force so that it overwhelms its antagonist. Geometry helps us to apply this law by showing us how to work out the sizes and shapes of all the parts of the machine that we make for this purpose; but the law itself is something we know purely from experience, and no amount of abstract reasoning could lead us one step towards the knowledge of it. When we reason *a priori*, considering some object or cause merely as it appears to the mind and independently of any observation of its behaviour, it could never prompt us to think of any *other* item, such as its effect. Much less could it show us the unbreakable connection between them. It would take a very clever person to discover by reasoning that heat makes crystals and cold makes ice without having had experience of the effects of heat and cold!

Part 2 (of Section 4)

But we haven't yet found an acceptable answer to the question that I initially asked. Each solution raises new questions which are as hard to answer as the first one, and which lead us on to further enquiries. To the question *What is the nature of all our reasonings concerning matter of fact?* the proper answer seems to be that they are based on the relation of cause and effect. When it is further asked, *What is the foundation of all our reasonings about cause and effect?* we can answer in one word, Experience. But if we persist with questions, and ask, *What are inferences from experience based on?* this raises a new question that may be harder still. Philosophers - for all their air of superior wisdom - are given a hard time by people who persist with questions, pushing them from every corner into which they retreat, finally bringing them to some dangerous dilemma [= a choice between two alternatives which both seem wrong]. The best way for us to avoid such an embarrassment is not to claim too much in the first place, and even to find the difficulty for ourselves before it is brought against us as an objection. In this way we can make a kind of merit even of our ignorance!

In this section I shall settle for something easy, offering only a negative answer to the question I have raised - about what inferences from experience are based on. It is this: even after we have experience of the operations of cause and effect, *the conclusions we draw from that experience are not based on reasoning or on any process of the understanding*. I shall try to explain and defend this answer.

It must be granted that nature has kept us at a distance from all its secrets, and has allowed us to know only a few superficial qualities of objects, concealing from us the powers and principles on which the influence of the objects entirely depends. Our senses tell us about the colour, weight and consistency of bread; but neither the senses nor reason can ever tell us about the qualities that enable bread to nourish a human body. Sight or touch gives us an idea of the *motion* of bodies; but as for the amazing *force* that keeps a body moving for ever unless it collides with other bodies - we cannot have the remotest

conception of that. Despite this ignorance of natural powers³ and principles, however, we always assume that the same sensible qualities [that is, qualities that can be seen or felt or heard etc.] will have the same secret powers, and we expect them to have the same effects that we have found them to have in our past experience. If we are given some stuff with the colour and consistency of bread that we have eaten in the past, we don't hesitate to repeat the experiment of eating it, confidently expecting it to nourish and support us. That is what we do every morning at the breakfast table: confidently *experiment* with bread-like stuff by eating it! I would like to know what the basis is for this process of thought. Everyone agrees that a thing's sensible qualities are not connected with its secret powers in any way that we know about, so that the mind isn't led to a conclusion about their constant and regular conjunction through anything it knows of their nature. All that past experience can tell us, directly and for sure, concerns the behaviour of the particular objects we observed, at the particular time when we observed them. My experience directly and certainly informs me that *that* fire consumed coal *then*; but it is silent about the behaviour of the same fire a few minutes later, and about other fires at any time. Why should this experience be extended to future times and to other objects, which for all we know may only *seem* similar? - that is what I want to know. The bread that I formerly ate nourished me; that is, a body with such and such sensible qualities did at that time have such and such secret powers. But does it follow that other bread must also nourish me at other times, and that the same perceptible qualities must always be accompanied by the same secret powers? It does not seem to follow necessarily. Anyway, it must be admitted that in such a case as this the mind draws a conclusion; it takes a certain step, goes through a process of thought or inference, which needs to be explained. These two propositions are far from being the same:

I have found that such and such an object has always had such and such an effect.

I foresee that other objects which appear similar will have similar effects.

The second proposition is always inferred from the first; and if you wish I shall grant that it is rightly inferred. But if you insist that the inference is made by a chain of reasoning, I challenge you to produce the reasoning. The connection between these propositions is not intuitive [that is, the second does not self-evidently and *immediately* follow from the first]. If the inference is to be conducted through reason alone, it must be with help from some intermediate step. But when I try to think what that intermediate step might be, I am defeated. Those who assert that it really exists and is the origin of all our conclusions about matters of fact owe us an account of what it is.

They haven't given any account of this, which I take to be evidence that none can be given. If many penetrating and able philosophers try and fail to discover a connecting proposition or intermediate step through which the understanding can perform this inference from past effects to future ones, my negative line of thought about this will eventually be found entirely convincing. But as the question is still new, the reader may not trust his own abilities enough to conclude that because he cannot find a certain argument it does not exist. In that case I need to tackle a harder task than I have so far

³ 1 The word 'power' is here used in a loose and popular sense. Using it more accurately would add strength to this argument. See Section 7.

undertaken - namely, going through all the branches of human knowledge one by one, trying to show that none can give us such an argument.

All reasonings fall into two kinds: (1) demonstrative reasoning, or that concerning relations of ideas, and (2) factual reasoning, or that concerning matters of fact and existence. That no demonstrative arguments are involved in (1) seems evident; since there is no outright contradiction in supposing that the course of nature will change so that an object that seems like ones we have experienced will have different or contrary effects from theirs. Can't I clearly and distinctly conceive that snowy stuff falling from the clouds might taste salty or feel hot? Is there anything unintelligible about supposing that all the trees will flourish in December and lose their leaves in June? Now, if something is intelligible and can be distinctly conceived, it implies no contradiction and can never be proved false by any demonstrative argument or abstract *a priori* reasoning.

So if there are arguments to justify us in trusting past experience and making it the standard of our future judgment, these arguments must be *probable* only; that is, they must be of the kind (2) that concern matters of fact and real existence, to put it in terms of the classification I have given. But probable reasoning can't provide us with the argument we are looking for, if I have described it accurately. According to my account, all arguments about existence are based on the relation of cause and effect; our knowledge of that relation is derived entirely from experience; and in drawing conclusions from experience we assume that the future will be like the past. So if we try to prove *this* assumption by probable arguments, i.e. arguments regarding existence, we shall obviously be going in a circle, taking for granted the very point that is in question.

In reality, all arguments from experience are based on the similarities that we find among natural objects - which lead us to expect that the effects of the objects will also be similar. Although only a fool or a madman would ever challenge the authority of experience or reject it as a guide to human life, still perhaps a philosopher may be allowed to ask what it is about human nature that gives this mighty authority to experience and leads us to profit from the similarities that nature has established among different objects. Our inferences from experience all boil down to this: *From causes that appear similar we expect similar effects*. If this were based on reason, we could draw the conclusion as well after a single instance as after a long course of experience. But that isn't in fact how things stand. Nothing so similar as eggs; yet no-one expects them all to taste the same. When we become sure of what will result from a particular event, it is only because we have experienced many events of that kind, all with the same effects. Now, where is that process of reasoning that infers from one instance a conclusion that was not inferred from a hundred previous instances just like this single one? I ask this for the sake of information as much as with the intention of raising difficulties. I can't find - I can't *imagine* - any such reasoning. But I am willing to learn, if anyone can teach me.

It may be said that from a number of uniform experiences we *infer a connection* between the sensible qualities and the secret powers; but this seems to raise the same difficulty in different words. We still have to ask what process of argument *this* inference is based on. Where is the intermediate step, the interposing ideas, which join propositions that are so different from one another? It is agreed that the colour, consistency and other sensible qualities of bread do not appear to be inherently connected with the secret powers of nourishment and support. If they were, we could infer these secret powers from a first

encounter with those qualities, without the aid of long previous experience; and this contradicts what all philosophers believe and contradicts plain matters of fact. Start by thinking of us in our natural state of ignorance, in which we know nothing about the powers and influence of anything. How does experience cure this ignorance? All it does is to show us that certain similar objects had similar effects; it teaches us that those particular objects had such and such powers and forces at those particular times. When a new object with similar perceptible qualities is produced, we expect similar powers and forces and look for a similar effect. We expect for instance that stuff with the colour and consistency of bread will nourish us. But this surely is a movement of the mind that needs to be explained. When a man says 'I have found in all past instances such and such sensible qualities conjoined with such and such secret powers', and then goes on to say 'Similar sensible qualities will always be combined with similar secret powers', he isn't guilty of merely repeating himself; these propositions are in no way the same. 'The second proposition is inferred from the first', you may say; but you must admit that the inference isn't intuitive [that is, it can't be seen at a glance to be valid], and it isn't demonstrative either [that is, it can't be carried through by a series of steps each of which can be seen at a glance to be valid]. What kind of inference is it, then? To call it 'experiential' is to assume the point that is in question. For all inferences from experience are based on the assumption that the future will resemble the past, and that similar powers will be combined with similar sensible qualities. As soon as the suspicion is planted that the course of nature may change, so that the past stops being a guide to the future, all experience becomes useless and cannot support any inference or conclusion. So no arguments from experience can *support* this resemblance of the past to the future, because all such arguments are *based on* the assumption of that resemblance. However regular the course of things has been, that fact on its own doesn't prove that the future will also be regular. It's no use your claiming to have learned the nature of bodies from your past experience. Their secret nature, and consequently all their effects and influence, may change without any change in their sensible qualities. This happens sometimes with regard to some objects: Why couldn't it happen always with regard to all? What logic, what process of argument, secures you against this? You may say that I don't *behave* as though I had doubts about this; but that would reflect a misunderstanding of why I am raising these questions. When I am considering how to act, I am quite satisfied that the future will be like the past; but as a philosopher with an enquiring - I will not say sceptical - turn of mind, I want to know what this confidence is based on. No reading or enquiry has yet been able to remove my difficulty. Can I do better than to put the difficulty before the public, even though I may not have much hope of being given a solution? In this way we shall at least be aware of our ignorance, even if we don't increase our knowledge.

It would be inexcusably arrogant to conclude that because I haven't discovered a certain argument it does not really exist. Even if learned men down the centuries have searched for something without finding it, perhaps it would still be rash to conclude with confidence that the subject must surpass human understanding. Even though we examine all the sources of our knowledge and conclude that they are unfit for a given subject, we may still suspect that the list of sources is not complete or our examination of them not accurate. With regard to our present subject, however, there are reasons to think that my conclusion is certainly right and that I am not arrogant in thinking so.

It is certain that the most ignorant and stupid peasants, even infants, indeed even brute beasts, improve by experience and learn the qualities of natural objects by observing their effects. When a child has felt pain from touching the flame of a candle, he will be careful not to put his hand near any candle, and will expect a similar effect from any cause that is similar in its appearance. If you assert that the child's understanding comes to this conclusion through a process of argument, it is fair for me to demand that you produce that argument, and you have no excuse for refusing to comply. You can't say that the argument has eluded you because it is so difficult and complex, because you have said that a mere infant finds it easy! So if you hesitate for a moment, or if after reflection you produce any intricate or profound argument, you have in effect given up your side in this dispute: you have as good as admitted that *it is not reasoning which leads us to suppose the future to resemble the past and to expect similar effects from apparently similar causes*. This is the proposition that I intended to establish in the present section. If I am right about it, I don't claim it as any great discovery. If I am wrong, then there *is* an argument -from past to future- which was perfectly familiar to me long before I was out of my cradle, yet now I can't discover it. What a backward scholar I must be!

Section 5: Sceptical solution of these doubts

Part 1

The passion for philosophy, like that for religion, involves a certain danger. Although it aims to correct our behaviour and wipe out our vices, it may - through not being handled properly - end up by merely encouraging us to carry on in directions that we are already naturally inclined to follow. We may set out to achieve philosophical wisdom and firmness, and to become satisfied with the pleasures of the mind -as distinct from those of the body-, yet reason ourselves out of all virtue as well as all social enjoyment, ending up with a philosophy which (like that of Epictetus and other Stoics) is only a more refined system of selfishness. While we meditate on the vanity of human life, and focus our thoughts on the empty and transitory nature of riches and honours, perhaps we are really just finding excuses for our idleness, trying to get reason's support for our lazy unwillingness to be busy in the world. However, one kind of philosophy seems to run little risk of this drawback, because it does not join forces with any disorderly passion of the human mind, and cannot get mixed up with any of our natural tendencies or inclinations; and that is the sceptical philosophy. The sceptics always talk of doubt and suspending judgment, of the danger of deciding too quickly, of keeping intellectual enquiries within narrow limits, and of giving up all theorizing that isn't in touch with common life and practice. So their philosophy is as opposed as it could be to the mind's idleness, its rash arrogance, its grandiose claims, and its superstitious credulity. This philosophy has a humbling effect on every passion except the love of truth; and *that* could never be carried too far. Given that this philosophy is almost always harmless and innocent, it is surprising that it should so often be criticized and stigmatized as libertine, profane, and irreligious. Perhaps the very feature that makes it so innocent also brings hatred and resentment against it. It doesn't encourage any bad feelings or habits, so it has few supporters; but it does oppose many vices and follies, which is why it has so many enemies!

When it tries to limit our enquiries to common life, this philosophy runs no risk of going too far and undermining the reasonings that we use *in* common life, pushing its doubts so far as to destroy all action and belief. Nature will always maintain its rights, and prevail in the end over any abstract reasoning whatsoever. That is, we shall continue to think and act in the ways that our human nature dictates - the ways that are *natural* to us - and there's no chance of our being deflected from these by philosophical considerations. For example, I showed in the preceding section that whenever we reason from experience we take a step that is not supported by any argument or intellectual considerations; but these experiential reasonings are the basis for almost all the knowledge we have, and there's no chance of their being dislodged by the discovery that they can't be justified by arguments. If we are not led by argument to make inferences from past experience, we must be led by something else that is just as powerful - some other principle that will have power in our lives as long as human nature remains the same. It would be worthwhile to explore what that other principle is.

Suppose that a highly intelligent and thoughtful person were suddenly brought into this world; he would immediately observe one event following another, but that is all he could discover. He would not be able by any reasoning to reach the idea of cause and effect, because (firstly) the particular powers by which all natural operations are performed are never perceived through the senses, and (secondly) there is no *reason* to conclude that one event causes another merely because it precedes it. Their occurring together may be arbitrary and casual, with no causal connection between them. In short, until such a person had more experience he could never reason about any matter of fact, or be sure of anything beyond what was immediately present to his memory and senses.

Now suppose that our person gains more experience, and lives long enough in the world to observe similar objects or events occurring together constantly; *now* what conclusion does he draw from this experience? He immediately infers the existence of one object from the appearance of the other! Yet all his experience has not given him any idea or knowledge of the secret power by which one object produces another; nor can any process of reasoning have led him to draw this inference. But he finds that he *can't help* drawing it: and he will not be swayed from this even if he becomes convinced that there is no intellectual support for the inference. Some other principle is at work, compelling him to go through with it.

This principle is *custom* or *habit*. When we are inclined to behave or think in some way, not because it can be justified by reasoning or some process of the understanding but just because we have behaved or thought like that so often in the past, we always say that this inclination is the effect of 'custom'. In using that word we don't claim to give the basic reason for the inclination. All we are doing is to point out a fundamental feature of human nature which everyone agrees is there, and which is well known by its effects. Perhaps that is as far as we can go. Perhaps, that is, we cannot discover the cause of this cause, and must rest content with it as the deepest we can go in explaining our conclusions from experience. Our ability to go that far should satisfy us; we oughtn't to complain about the narrowness of our faculties because they won't take us any further. We do at least have here a very intelligible proposition and perhaps a true one: *After the constant conjunction of two objects - heat and flame, for instance, or weight and solidity - sheer habit makes us expect the one when we experience the other.* Indeed, this hypothesis

seems to be the only one that could explain why we draw from a thousand instances an inference which we cannot draw from a single one that is exactly like each of the thousand. Reason isn't like that. The conclusions it draws from considering one circle are the same as it would form after surveying all the circles in the universe. But no man, having seen only one body move after being pushed by another, could infer that every other body will move after a similar collision. All inferences from experience, therefore, are effects of custom and not of reasoning.⁴

Custom, then, is the great guide of human life. It alone is what makes our experience useful to us, and makes us expect future sequences of events to be like ones that have appeared in the past. Without the influence of custom, we would be entirely ignorant of

⁴ Writers often distinguish between reason and experience, and suppose that these kinds of argumentation are entirely different from each other. The arguments of reasons are thought to result purely from our intellectual faculties, which establish principles of science and philosophy by considering *a priori* the nature of things, examining the effects that must follow from their operation. The arguments from experience are supposed to be derived entirely from sense and observation, through which we learn what has actually resulted from the operation of particular objects and from this can infer what their results will be in the future. Thus, for instance, the limitations and restraints of civil government and a legal constitution may be defended either from reason which - reflecting on the great frailty and corruption of human nature - teaches that no man can safely be trusted with unlimited authority; or from experience and history, which inform us of the enormous abuses that have resulted in every age and country from an excess of such authority.

The same distinction between reason and experience is maintained in all our discussions about the conduct of life. While the experienced statesman, general, physician, or merchant is trusted and followed, the unpracticed novice, however talented he may be, is neglected and despised. Reason can enable one to make plausible estimates of what will be likely to ensue from such and such conduct in such and such circumstances, people say, but they regard reason as not good enough unless it gets help from experience. Only experience (they hold) can give stability and certainty to the results that are reached - by reason - from study and reflection.

However, although this distinction is universally accepted, both in practical life and in intellectual inquiry, I do not hesitate to say that it is basically mistaken, or at least superficial.

If we examine (1) arguments of the kinds I have mentioned that are supposed to involve nothing but reasoning and reflection, they turn out to be ultimately based on some general principle or conclusion for which we have no reason but observation and experience. The only difference between them and (2) the maxims that are commonly thought to come from pure experience is that (1) can't be established without some process of thought - some reflection on what we have observed, in order to sort out its details and trace its consequences - whereas in (2) the experienced event is exactly like the one we predict on the new occasion. Consider the fear that if our monarchs were freed from the restraints of laws they would become tyrants. We might arrive at this fear in either of two ways: (2) through our knowledge of the history of Tiberius or Nero; (1) through our experience of fraud or cruelty in private life, which with a little thought we can take as evidence of the general corruption of human nature and of the danger of putting too much trust in mankind. In *each* case the ultimate basis for the fear that we arrive at is experience.

Any man, however young and inexperienced, will have been led by his experience to many general truths about human affairs and the conduct of life; but he will be apt to go wrong in putting them into practice, until time and further experience have broadened the scope of these truths and taught him how to apply them. Talented though he may be, he will be likely to overlook some apparently minor aspects of a situation which are in fact crucial to the conclusions he ought to draw and to how he ought to act. The truth is that an 'unexperienced reasoner' could not reason at all if he had really had *no* experience; and when we apply that phrase to anyone, we mean it only in a comparative sense - meaning by 'unexperienced reasoner' someone who has not had much experience.

every matter of fact beyond what is immediately present to the memory and senses. We would never know what means we should adopt in order to reach our ends; we could not employ our natural powers to produce any desired effect. There would be an end of all action and of most theorizing.

I should point out, however, that although our inferences from experience carry us beyond our memory and senses, and assure us of matters of fact that happened in distant places and at remote times, any such inference must start with a fact that *is* present to the senses or memory. A man who found in a desert country the remains of magnificent buildings would conclude that the country had long before had civilized inhabitants; but without the initial experience he could never infer this. We learn the events of bygone ages from history; but to do this we must read the books that give the information, and carry out inferences from one report to another, until finally we arrive at the eye-witnesses and spectators of these distant events. In short, if we did not start with some fact that is present to the memory or senses, our reasonings would be merely hypothetical; and however strong the particular links might be, the whole chain of inferences would have nothing to support it, and we couldn't use it to arrive at knowledge of any real existence. If I ask why you believe any particular matter of fact that you tell me of, you must tell me some reason; and this reason will be some other fact connected with it. But you can't go on like this for ever: eventually you must end up with some fact that is present to your memory or senses - or else admit that your belief has no foundation at all.

What are we to conclude from all this? Something that is far removed from the common theories of philosophy, yet is very simple:

All beliefs about matters of fact or real existence are derived merely from *something that is present to the memory or senses, and a customary association of that with some other thing.*

Or in other words: having found in many cases that two kinds of objects - flame and heat, snow and cold - have always gone together, and being presented with a new instance of flame or snow, the mind's habits lead it to expect heat or cold and to believe that heat or cold exists now and will be experienced if one comes closer. This belief is the inevitable result of placing the mind in such circumstances. That our minds should react in that way in those circumstances is as unavoidable as that we should feel love when we receive benefits, or hatred when we are deliberately harmed. These operations of the soul are a kind of natural instinct, which no reasoning or process of the thought and understanding can either produce or prevent.

At this point we could reasonably allow ourselves to stop our philosophical researches. In most questions, we can never make a single step further; and in all questions, we must eventually stop, after our most restless and probing enquiries. But still our curiosity will be pardonable, perhaps commendable, if it carries us on to still further researches, and makes us examine more accurately the nature of this belief, and of the customary conjunction from which it is derived. This may bring us to some explanations and analogies that will give satisfaction - at least to those who love the abstract sciences and can enjoy speculations which, however accurate, may still retain a degree of doubt and uncertainty. As to readers whose tastes are different from that: Part 2 of this section is not addressed to them, and can be neglected without harm to their understanding of the rest.

Part 2 (of Section 5)

Nothing is more free than the imagination of man; and though it is confined to the original stock of ideas provided by the internal and external senses, it has unlimited power to mix, combine, separate and divide these ideas, in all the varieties of fiction and vision [= in every way that can be described or depicted.] It can invent a sequence of events, with all the appearance of reality, ascribe to them a particular time and place, conceive them as really happening, and depict them to itself with as much detail as it could any historical event which it believes with the greatest certainty to have really happened. What, then, is the difference between such a fiction and belief? It is *not* this:

There is one special idea that is joined to every proposition that we assent to and not to any that we regard as fictional.

The reason why that is a wrong account is that the mind has authority over all its ideas, so that if this 'one special idea' existed the mind could voluntarily join it to any fiction, and consequently - according to this account - it would be able to believe anything it chose to believe; and we find by daily experience that it cannot. We can in putting thoughts together join the head of a man to the body of a horse; but we can't choose to believe that such an animal has ever really existed.

It follows, therefore, that the difference between fiction and belief lies in some *sentiment or feeling* that goes with belief and not with fiction - a feeling that doesn't depend on the will and can't be commanded at pleasure. It must be caused by nature, like all other sentiments; and must arise from the particular situation that the mind is in at that particular moment. Whenever any object is presented to the memory or to the senses, it immediately leads the imagination - by the force of *custom* - to conceive the object that is usually conjoined to it; and this conception comes with a feeling or sentiment that is different from anything accompanying the loose daydreams of the imagination. That is all there is to belief. For as there is no matter of fact that we believe so firmly that we can't conceive the contrary, there would be no difference between the conception assented to and that which is rejected if there were not some feeling or sentiment that distinguishes the one from the other. If I see a billiard-ball moving towards another on a smooth table, I can easily conceive it to stop upon contact. This conception implies no contradiction; but still it *feels* very different from the conception by which I represent to myself the collision followed by the communication of motion from one ball to the other.

If we tried to define this feeling, we might find that hard if not impossible to do; like the difficulty of defining the feeling of cold or the passion of anger to someone who never had any experience of these sentiments. 'Belief' is the true and proper name of this feeling; and everyone knows the meaning of that term because everyone has beliefs all the time, and therefore is at every moment conscious of the feeling represented by it. Still, it may be worthwhile to try to describe this sentiment, in the hope of explaining it better with help from some analogies. In that spirit, I offer this:

Belief is nothing but a more vivid, lively, forcible, firm, steady conception of an object than any that the unaided imagination can ever attain.

This variety of terms, which may seem unphilosophical, is intended only to express that act of the mind which renders realities - or what we take to be realities - more present to us than what we take to be fictions, which causes them to weigh more in the thought and

gives them a greater influence on the passions and on the imagination. Provided we agree about the *thing*, it is needless to dispute about the *terms*. The imagination has the command over all its ideas, and can join and mix and vary them in every possible way. It can conceive fictitious objects with all the circumstances of place and time. It can set such fictions - *in a way* - before our eyes, in their true colours, just as they might have existed. But this faculty of imagination can never by itself produce a belief; and that makes it evident that belief doesn't consist in any special nature or order of ideas - because the imagination has no limits with respect to those, but rather in the *manner* of their conception and in their *feeling* to the mind. I admit that it is impossible to explain perfectly this feeling or manner of conception. We can use words that express something near it - as I have been doing; but its true and proper name, as we observed before, is 'belief' - a term that everyone sufficiently understands in common life. And in philosophy we can go no further than to assert that *belief is something felt by the mind that distinguishes the ideas of the judgment from the fictions of the imagination*. It gives them more weight and influence, makes them appear of greater importance, strengthens them in the mind, and makes them the governing principle of our actions. For example: right now I hear the voice of someone whom I know, the sound seeming to come from the next room. This impression of my -auditory- senses immediately carries my thought to the person in question and to all the objects surrounding him. I depict them to myself as existing right now, with the same qualities and relations that I formerly knew them to have. These ideas take a firmer hold on my mind than would ideas of -something I know to be fictitious, such as- an enchanted castle. They are very different to the feeling, and have a much greater influence of every kind, either to give pleasure or pain, joy or sorrow.

Let us, then, take in this doctrine in its full scope, and agree that

The sentiment of belief is nothing but a conception that is more intense and steady than conceptions that are mere fictions of the imagination, and this manner of conception arises from a customary conjunction of the object with something present to the memory or senses.

It will not be hard, I think, to find other operations of the mind analogous to belief (on this account of it), and to bring these phenomena under still more general principles.

I have already remarked that nature has established connections among particular ideas, and that no sooner has one idea occurred to our thoughts than it introduces its correlative - that is, the idea that nature has connected with it - and carries our attention towards it by a gentle and imperceptible movement. These -natural- principles of connection or association come down to three -basic ones-, namely, Resemblance, Contiguity [= nextness], and Causation. These three are the only bonds that unite our thoughts together, and generate that regular *sequence* of thought or talk that takes place among all mankind to a greater or lesser degree. Now a question arises on which the solution of the present difficulty will depend. Does it happen with each of these relations that, when an object is presented to the senses or memory the mind is not only carried to the *conception* of the correlative, but comes to have -a *belief* in it, that is-, a steadier and stronger conception of it than it would otherwise have been able to attain? This seems to be what happens when beliefs arise from the relation of *cause and effect*. If it also holds for the other two relations or principles of association, this will be established as a general law that holds in all the operations of the mind.

As the first relevant experiment, let us notice that when we see the picture of an absent friend, our idea of him is evidently enlivened by the picture's *resemblance* to him, and that every feeling that our idea of him produces, whether of joy or sorrow, acquires new force and vigour. This effect is produced by the joint operation of *Ÿa* relation ·of resemblance· and *Ÿa* present impression. If the picture does not resemble him, or at least was not intended to be *of* him, it does not convey our thought to him at all. And when the picture and the person are both absent from us, though the mind may pass from the thought of the one to that of the other it feels its idea of the person to be weakened rather than strengthened by that transition. We take pleasure in viewing the picture of a friend, when it is set before us; but when it is not in our presence we would prefer considering him directly to considering him through a likeness of him that is both distant and obscure.

The ceremonies of the Roman Catholic religion can be considered as instances of this phenomenon. When the devotees of that superstition are reproached for the ridiculous ceremonies it has them perform, they usually plead in their defence that they feel the good effect of those external motions and postures and actions, in enlivening their devotion and intensifying their fervour, which would decay if it were directed entirely to distant and immaterial objects ·such as God·. 'We portray the objects of our faith', they say, 'in perceptible pictures and images; and the immediate presence of these pictures makes the objects more present to us than they could be merely through an intellectual view and contemplation.' Perceptible objects always have a greater influence on the imagination than anything else does, and they readily convey this influence to the ideas to which they are related and which they resemble. All that I shall infer from these practices and this reasoning is that the effect of resemblance in enlivening ideas is very common; and because in every case a resemblance and a present impression must both be at work, we are supplied with plenty of experiences that support the truth of the foregoing principle.

We may add force to these experiences by others of a different kind, bringing in the effects of contiguity as well as of resemblance. It is certain that distance diminishes the force of every idea, and that as we get nearer to some object - even though our senses don't show it to us - its influence on the mind comes to be like the influence of an immediate ·sensory· impression. Thinking about an object readily transports the mind to things that are contiguous to it; but it is only the actual presence of an object that transports the mind with a superior vivacity. When I am a few miles from home, whatever relates to it touches me more nearly than when I am two hundred leagues distant, though even at that distance reflecting on anything in the neighbourhood of my friends or family naturally produces an idea of them. But in cases like this, both the objects of the mind - ·what it is carried from and what it is carried to· - are *ideas* ·and not the more vivacious kind of perception that we call 'impressions'·. Although there is an easy transition between them, that transition alone can't give either of them a vivacity greater than ideas have; and the reason for that is that in these cases no immediate impression is at work.⁵

⁵ 'Is it just a fact about our nature, he said, or is it because of some sort of error that we are more moved by seeing places where we have heard that notable people spent time than we are by hearing of their deeds or reading their writings? Indeed I am moved right now; for I remember Plato, who (we are told) was the first to hold discussions in this place. And these little gardens don't just conjure up his memory; they seem to place the man himself before me. [Then some remarks about the place's association with other people, whom the speaker names.] Such is the power of suggestion that places have. It is not without reason that

No-one can doubt that *causation* has the same influence as the other two relations, *resemblance* and *contiguity*. Superstitious people are fond of the relics of saints and holy men for the same reason that they like to have pictures or images - namely to enliven their devotion and give them a more intimate and strong conception of those exemplary lives that they desire to imitate. Now it is evident that one of the best relics that a devotee could procure would be something *made by* a saint; and if his clothes and furniture are ever considered in this light, it is because they were once at his disposal and were moved and affected by him. This lets us consider them as imperfect effects of the saint; 'imperfect' because he did not cause them to exist, but merely caused them to go through various vicissitudes while they were in his possession. They are connected with him by a shorter chain of consequences than any of the things - human testimony, gravestones, written records, etc. - by which we learn the reality of his existence.

Suppose we encounter the son of a friend of ours who has been long dead or absent; it is evident that this object (the son) would instantly revive its correlative idea (namely, the idea of our friend), and recall to our thoughts all our past intimacies and familiarities with the friend, in more lively colours than they would otherwise have appeared to us. This is another phenomenon that seems to prove the above-mentioned principle.

Notice that in each of these phenomena the person *believes* that the correlative object does or did exist. Without that the relation could have no effect. The influence of the picture requires that we *believe* our friend to have once existed. Being close to home can never stir up our ideas of home unless we *believe* that home really exists. Now I assert that this *belief*, where it reaches beyond the memory or senses, is of a similar sort and arises from similar causes as the transition of thought and vivacity of conception that I have just been explaining. When I throw a piece of dry wood into a fire, my mind is immediately carried to a thought of it as making the flame grow, not as extinguishing it. This transition of thought from the cause to the effect doesn't come from reason. Its sole origin is custom and experience. And as it first begins from an object that is present to the senses - when I see the dry wood go into the fire, it makes the idea or conception of flame more strong and lively than it would be in any loose, floating reverie of the imagination. That idea of the augmented flame arises immediately. The thought moves instantly towards it, and conveys to it all the force of conception that comes from the impression present to the senses. It might happen by accident that when a glass of wine is presented to me my next ideas are those of *wound* and *pain*; but they will not occur as strongly as they would if I had been presented with a sword levelled at my breast! But what is there in this whole matter to cause such a strong conception apart from *a present object and a customary transition to the idea of another object, which we have been accustomed to conjoin with the former?* This is all that our mind does in all our inferences concerning matters of fact and existence; and it is satisfactory to have found some analogies through which it can be explained. In every case, the transition from a *present object* gives strength and solidity to the related idea to which the transition is made.

Here, then, is a kind of pre-established harmony between the course of nature and the sequence of our ideas; and though the powers and forces by which nature is governed are

wholly unknown to us, we find that our thoughts and conceptions have occurred in an order matching the order of events in the other works of nature. This correspondence has been brought about by *custom*, which is so necessary to the survival of our species and to the regulation of our conduct in every circumstance and occurrence of human life. If it hadn't been the case that the presence of an object instantly arouses the idea of objects that are commonly conjoined with it, all our knowledge would have been limited to the narrow sphere of our memory and senses; and we would never have been able to suit our means to our ends, or to employ our natural powers in producing good and avoiding evil. Those who delight in the discovery and contemplation of final causes [= 'purposiveness in nature'] have here a great deal to admire and wonder at.

Here is a point that further confirms the theory I have offered. This operation of the mind in which we infer like effects from like causes, and vice versa, is so essential to our survival that it probably *couldn't* have been entrusted to the fallacious deductions of our *reason*. For reason is slow in its operations; very little of it appears in early infancy; and at best - even in adults - it is extremely liable to error and mistake. It fits better with the ordinary wisdom of nature that such a necessary an act of the mind should be secured by some instinct or mechanical [= 'automatic'] tendency, which may be infallible in its operations, may be present at the first appearance of life and thought, and may be independent of all the laborious deductions of the understanding. As nature has taught us the use of our limbs without giving us knowledge of the muscles and nerves by which they are moved, so she has implanted in us an instinct that carries our thought forward along a course corresponding to the course has established among external objects - though we are ignorant of those powers and forces on which this regular course and succession of objects totally depends.

Section 6: Probability⁶

Even if there were no such thing as chance in the world, our ignorance of the real cause of any event has the same effect on the understanding, and generates the same kinds of belief or opinion, as knowledge about chances does.

It can certainly happen that an outcome is probable because the chances of its occurring are greater than the chances of its not occurring; and the probability is greater - and the corresponding belief or assent stronger - in proportion as those chances exceed the chances of the outcome's not occurring. If a die were marked with two spots on four of its sides and with three spots on the two remaining sides, then it would be more probable that when the die was thrown it would turn up *two* than that it would turn up *three*. If it had a thousand sides, with 999 of them marked with two spots and the remaining one side marked with three spots, the probability of its turning up *two* would be much higher, and

⁶ Mr. Locke divides all arguments into demonstrative and probable. On this view, we must say that it is only probable all men must die or that the sun will rise to-morrow because neither of these can be demonstrated. But to conform our language more to common use, we ought to divide arguments into demonstrations, *proofs*, and probabilities - by 'proofs' meaning arguments from experience that leave no room for doubt or opposition.

our belief or expectation of the event more steady and secure. This process of thought or reasoning may seem trivial and obvious, but it offers plenty to think about for those who attend to it carefully.

It seems clear that when the mind looks forward to learn which event will result from the throw of such a die, it considers the turning up of each particular side as equally probable; and this is the very nature of chance, to render all the particular events that it covers entirely equal. But the mind, finding that a greater number of sides involve one event (·turning up *two*·) than in the other (·turning up *three*·), is carried more frequently to the former event, and meets it oftener in revolving the various possibilities or chances on which the ultimate result depends. This situation in which several views involve one particular event immediately generates - by an inexplicable contrivance of nature - the sentiment of *belief*, and gives that event the advantage over its antagonist, which is supported by a smaller number of views and recurs less frequently to the mind. ·Although I have called it inexplicable·, this operation may perhaps be in some measure accounted for if we allow that belief is nothing but a firmer and stronger conception of an object than what accompanies the mere fictions of the imagination. The concurrence of these several views or glimpses imprints the idea more strongly on the imagination; gives it superior force and vigour; renders its influence on the passions and affections more obvious; and, in short, creates that reliance or security which constitutes the nature of belief and opinion.

With the probability of *causes* the situation is the same as it is with the probability of *chance*. Some causes are entirely uniform and constant in producing a particular ·kind of effect, with no instance having ever been found of any failure or irregularity in their operation. Fire has always burned, and water has always suffocated, every human creature. The production of motion by impact and gravity is a universal law which up to now has had no exceptions. But other causes have been found to be more irregular and uncertain: rhubarb hasn't always worked as a purge, or opium as a soporific, on everyone who has taken these medicines. It is true that when any cause fails to produce its usual effect, scientists don't ascribe this to any irregularity in nature; but rather suppose that some secret causes in the particular structure of parts have prevented the operation. But our reasonings about the outcome are the same as if this principle ·concerning 'secret causes'· did not apply. Custom has determined us to transfer the past to the future in all our inferences; so where the past has been entirely regular and uniform, we expect the ·usual· outcome with the greatest confidence, and leave no room for any contrary supposition. But where different effects have been found to follow from causes that *appear* exactly alike, all these various effects must occur to the mind when it moves from the past to the future, and must enter into our thoughts when we estimate the probability of an outcome. Though we give preference to the one that has been found to be the most usual, and believe that this effect will occur this time too, we have to take into account the other effects, assigning to each a particular weight and authority in proportion as we have found it to be more or less frequent. In almost every country of Europe it is more probable that there will be frost some time in January than that the weather will continue frost-free throughout that whole month; though this probability varies according to the different climates, and comes near to certainty in the more northern kingdoms. Here then it seems evident that when we transfer the past to the future in order to predict the effect that will result from any cause, we transfer all the different outcomes in the same proportion as

they have appeared in the past, and conceive (for instance) one to have existed a hundred times, another ten times, and another once. As a great number of views here point to one outcome, they fortify and confirm it to the imagination, generate the sentiment that we call *belief*, and make us prefer that outcome to the contrary one that isn't supported by as many experiences and doesn't show up so frequently in our thought in transferring the past to the future. Try to account for this operation of the mind on the basis of any of the received systems of philosophy and you will become aware of the difficulty. For my part, I shall be satisfied if the hints that I have given arouse the curiosity of philosophers, and make them aware of how defective all common theories are in their treatments of these interesting and elevated subjects.

Section 7: The idea of necessary connection

Part 1

The mathematical sciences have a great advantage over the sciences that deal with human nature, namely that the ideas of the former - because they come from the senses - are always clear and determinate, the smallest distinction between them is immediately perceptible, and the same terms continue to stand for the same ideas, without ambiguity or variation. An oval is never mistaken for a circle, nor a hyperbola for an ellipse. The isosceles and scalenon triangles are distinguished by boundaries more exact than those between vice and virtue, right and wrong. When a term is defined in geometry, the mind always promptly substitutes the definition for the term defined. And even when no definition is employed, the object itself may be presented to the senses and by that means be clearly and firmly grasped. But the more subtle sentiments of the mind, the operations of the understanding, the various agitations of the passions, though really in themselves distinct from one another, easily escape us when we reflectively look in on them; and we are not able to recall the original object every time we have occasion to think about it. Ambiguity, by this means, is gradually introduced into our reasonings; similar objects are readily taken to be the same; and eventually the conclusion goes far beyond the premises.

Still, it is safe to say that if we consider these sciences in a proper light we shall see that their respective advantages and disadvantages make them nearly equal. Although the mind more easily retains clear and determinate ideas in geometry, it must carry on a much longer and more intricate chain of reasoning, and compare ideas that are much wider of each other, in order to reach the abstruser truths of that science. On the other side, although ideas relating to human nature are likely, if we are not extremely careful, to fall into obscurity and confusion, the inferences are always much shorter in these enquiries, with far fewer steps from premises to conclusion than in the sciences that treat of quantity and number. Almost every proposition in Euclid's *Geometry* consists of more parts than are to be found in any fully coherent reasoning about human nature. When we trace the principles of the human mind through a few steps, we can be well satisfied with our progress, considering how soon nature puts up barriers to all our enquiries into causes, and reduces us to admitting our ignorance. Thus, the chief obstacle to our making advances in the human or metaphysical sciences is the obscurity of the ideas and the

ambiguity of the terms. The principal difficulty in the mathematics is the length of inferences and scope of thought needed for reaching any conclusion. And it may be that what chiefly holds back our progress in natural science is the lack of relevant experiments and phenomena, which are often found only by chance, and sometimes when they are needed can't be found at all, even by the most persistent and careful enquiry. As the study of human nature seems until now to have advanced less than either geometry or physics, we may conclude that if there is any difference in this respect among these sciences, the difficulties that obstruct the progress of the human sciences require the greater care and skill to be surmounted.

Of all the ideas that occur in metaphysics, none are more obscure and uncertain than those of *power, force, energy* or *necessary connection*, which we have to make use of at every moment in our enquiries. So I shall try in this section to fix (as far as possible) the precise meaning of these terms, thereby removing some of the obscurity that is so much complained of in this species of philosophy.

It seems that there won't be much dispute about this proposition:

All our ideas are merely copies of our impressions, so it is impossible for us to *think* of anything that we have not previously *felt* through either our external or our internal senses.

I tried in Section 2 to explain and prove this proposition, expressing my hope that by applying it properly men may make their philosophical reasonings clearer and more precise than ever before. Perhaps complex ideas can be well known by definition, for a definition merely enumerates the parts or simple ideas that make up the defined idea. But when we have pushed definitions back to the most simple ideas, and still find some ambiguity and obscurity, where can we turn for help? What technique can we use to throw light on these ideas and give our minds an altogether precise and determinate grasp of them? The answer is that we can produce the impressions or original sentiments, from which the ideas are copied. These impressions are all strong and sensible. There can be no ambiguity in them. They are not only placed in a full light themselves, but may throw light on the corresponding ideas that lie in obscurity. Perhaps by this means we can come to have a new microscope, so to speak, through which in the human sciences the smallest and simplest ideas can be enlarged enough to be readily grasped and to be as well known as the biggest and most sensible ideas that we can enquire into.

To be fully acquainted with the idea of power or necessary connection, therefore, let us examine the impression that it copies; and in order to find that impression with greater certainty, let us search for it in all the sources from which it might have been derived.

When we look around us at external objects, and think about the operation of causes, we are *never* able to discover any power or necessary connection, any quality that ties the effect to the cause and *makes it an infallible consequence* of it. All we find is that the one event *does in fact follow* the other. The impact of one billiard-ball is accompanied by motion in the other. This is all that appears to the outer senses. The mind feels no sentiment or inward impression from this sequence of events: so in no single particular instance of cause and effect is there anything that can suggest the idea of power or necessary connection.

When we experience something for the first time, we never can conjecture what effect will result from it. But if the power or energy of any cause were discoverable by the mind,

we would be able to foresee the effect even if we had no previous experience of similar items, and would be able straight off to say with confidence what the effect would be, simply through thought and reasoning.

In fact no material thing ever reveals through its sensible qualities any power or energy, or gives us a basis for thinking it will produce anything or be followed by any other item that we could call its effect. Solidity, extension, motion - these qualities are all complete in themselves, and never point to any *other* item that might result from them. The scenes of the universe are continually shifting, and one object follows another in an uninterrupted sequence; but the power or force that drives the whole machine is entirely concealed from us, and never shows itself in any of the sensible qualities of material things. We know that in fact heat constantly *accompanies* flame; but we have no basis on which to conjecture or imagine - let alone to know - what the *connection* is between flame and heat. So the idea of power can't be derived from our experience of bodies in single instances of their operation; because no bodies ever reveal any power that could be the origin of this idea.⁷

Since external objects as they appear to our senses give us no idea of power or necessary connection by their operation in particular instances, let us see whether this idea is derived from our reflection on the operations of our own minds, and thus copied from some internal impression. Here is something that may be said:

We are conscious of internal power all the time, while we feel that by the simple command of our will we can move our limbs or change our thoughts. An act of volition produces motion in our limbs, or raises a new idea in our imagination. We know this influence of our will by being conscious of it. That is how we acquire the idea of power or energy; and it is what makes us certain that we ourselves and all other intelligent beings are possessed of power. So this idea is an idea of reflection, since it arises from reflecting on the operations of our own mind, and on the command that is exercised by will over the organs of the body and faculties of the soul.

I shall examine this claim, first with regard to the influence of volition over the organs of the body. This influence, like all other natural events, can be known only by experience; it can never be foreseen from any apparent energy or power in the cause which connects it with the effect and makes the effect absolutely certain to follow. The motion of our body follows the command of our will; we are conscious of this at every moment. But *how* this comes about - the *energy* through which the will performs so extraordinary an operation - is something of which we are so far from being immediately conscious that it we can never discover it, however hard we look. I now give three reasons for believing this.

First: the most mysterious principle in the whole of nature is that of the union of mind and body, in which a supposed spiritual substance gets so much influence over a material substance that the most refined thought is able to drive large portions of matter - such as human limbs. If we had the power to move mountains or control the planets just by

⁷ Mr. Locke, in his chapter on power [*Essay* II.xxi] says that when we find from experience that matter undergoes changes, we infer that there must be somewhere a power capable of producing them, and this reasoning leads us to the idea of power. But no reasoning can ever give us a new, original, simple idea, as Locke himself admits. So this can't be the origin of that idea.

secretly *wishing* these results to occur, this wide-ranging power wouldn't be more extraordinary or further from our understanding than the power our thoughts do have over our bodies. But if by consciousness we perceived any power or energy in the will, we would know this power, know its connection with the effect, know the secret union of soul and body, and know the nature of both these substances through which one is able to operate so often upon the other.

Secondly: we know from experience that we don't have an equal command over all the organs of our body, though we can't explain why there is this remarkable difference between one and the other. *Why can the will influence the tongue and fingers, not the heart or liver?* This question would not perplex us if we were conscious of a power in the former case and not in the latter. We would then perceive, independently of experience, why the authority of will over the organs of the body is kept within certain limits. Being fully acquainted with the power or force by which the will operates, we would also know why its influence reaches precisely as far as it does and no further.

It often happens that someone who has been suddenly struck with paralysis in a leg or arm, or who has recently lost a limb, tries to move the paralysed or lost limb and to make it perform its usual tasks. In this case he is as much conscious of power to command such limbs as a man in perfect health is conscious of power to move any limb that remains in its natural state and condition. But consciousness never deceives. Consequently, we are never conscious of any power in *either* case - that is, with a limb lost or paralysed, or with all limbs present and correct. We learn the influence of our will from experience alone. And experience teaches us only how one event constantly *follows* another, without instructing us in the secret connection that binds them together and makes them inseparable.

Thirdly: we learn from anatomy that in voluntary motion the immediate object of power is not the body-part that is moved but certain muscles and nerves and animal spirits (and perhaps something still tinier and more unknown) through which the motion is passed along until it eventually reaches the body-part whose motion is the immediate object of volition - that is, the part the person is trying to move. Can there be a more certain proof that the power by which this whole operation is performed, so far from being directly and fully known by an inward feeling or consciousness, is utterly mysterious and impossible to understand? The mind wills a certain event: immediately another event is produced, one that we don't know and that is totally different from the one intended; this event produces another, which is equally unknown; and finally, through a long sequence of such intermediaries, the desired event is produced. But if the original power were felt, it would be known; if it were known its effect would also be known, because all power is relative to its effect - that is, knowing a power *is* knowing it as the-power-to-produce-x for some specific x. And vice versa: if the effect isn't known in advance, the power can't be known or felt. Indeed, how can we be conscious of a *power to move our limbs* when we have no such power? All we have is a power to move certain animal spirits which, though they eventually make our limbs move, operate in a manner that is wholly beyond our understanding.

From all of this we can safely conclude that our idea of power is not copied from any feeling or consciousness of power within ourselves when we get our limbs to perform their normal functions. That their motion follows the command of the will is something we find

from common experience, like other natural events; but the power or energy by which this is brought about, like that in other natural events, is unknown and inconceivable.⁸

Well, then, shall we assert that we are conscious of a power or energy in our own minds when, by an act or command of our will, we make something happen in our *minds*; for example, when we raise up a new idea, make our mind focus on it, turn it on all sides, and finally dismiss it when we think that we have inspected it with enough accuracy? I believe the same arguments will show that even *this* command of the will gives us no real idea of force or energy.

First, it must be allowed that when we know a power we know what it is about the cause that enables it to produce the effect. For these are supposed to be synonymous. [That is, 'x's power to produce y' is supposed to be synonymous with 'what it is about x that enables it to produce y'.] To know the power, therefore, we must know both the cause and effect and the relation between them. But do we claim to be acquainted with the nature of the human mind and the nature of an idea, or the aptitude of the mind to produce the idea? Producing an idea is a real *creation*, a production of something out of nothing; and that implies a power so great that it may seem at first sight to be beyond the reach of any finite being. At least it must be admitted that such a power isn't felt or known by the mind, and isn't even conceivable by it. We only feel the event, namely the existence of an idea following a command of the will. How this operation is performed, the power by which it is produced, is entirely beyond our understanding.

Secondly: like its command over the body, the command of the mind over itself is limited; and these limits are not known by reason, or any acquaintance with the nature of cause and effect, but only in the way we know all other natural events, namely by experience and observation. Our authority over our feelings and passions is much weaker than our authority over our ideas; and even the latter authority is contained within narrow boundaries. Will anyone claim to assign the ultimate reason for these boundaries, or show why the power is lacking in one case and not in another?

Thirdly: this self-command is very different at different times. A healthy man has more of it than a sick one; we are more master of our thoughts in the morning than in the evening, and more when fasting than after a full meal. Can we give any reason for these variations, except experience? Where then is the power of which we claim to be conscious? Isn't there here, in either a spiritual or material substance or both, some secret mechanism or structure of parts on which the effect depends? And since this is entirely

⁸ It may be claimed that the resistance we meet with in bodies, because it often requires us to exert our own force and call up all our power, gives us the idea of force and power. According to this view, this strong endeavour which we are conscious of in ourselves, is the original impression from which this idea is copied. There are two objections to this. (1) We attribute power in a vast number of cases where we never can suppose that this resistance or exertion of force occurs: to the Supreme Being, who never meets with any resistance; to the mind in its command over its ideas and limbs, in common thinking and motion, where the effect follows immediately upon the will without any exertion or summoning up of force; to inanimate matter, which is not capable of conscious effort. (2) This feeling of an endeavour to overcome resistance has no known connection with any event. We know *by experience* what follows it; we could not know it *a priori*. Still, it must be admitted that the animal effort which we experience, though it cannot give us an accurate precise idea of power, looms large in the common everyday inaccurate idea which is formed of it.

unknown to us, isn't the power or energy of the will equally unknown and incomprehensible?

Volition is surely an act of the mind with which we are sufficiently acquainted. Reflect on it. Consider it on all sides. Do you find anything in it like this creative power through which it creates a new idea out of nothing, and with a kind of *Let it be so!* imitates the omnipotence of God (if I may be allowed so to speak), who called into existence all the various scenes of nature by saying things like *Let there be light!*? So far from being conscious of this energy in the will, we need solid experiential evidence if we are to be convinced that such extraordinary effects ever *do* result from a simple act of volition.

People in general find no difficulty in accounting for the more common and familiar operations of nature, such as the falling of heavy bodies, the growth of plants, the procreation of animals, and the nourishment of bodies by food. They think that in all these cases they perceive the very force or energy of the cause that connects it with its effect and guarantees that the effect will always follow. Through long habit they come to be in a frame of mind such that, when the cause appears, they immediately and confidently expect its usual outcome, and think it virtually inconceivable that any other event could result from that cause. It is only when they encounter extraordinary phenomena such as earthquakes, plague, and strange events of any kind, that they find themselves at a loss to assign a proper cause and to explain how the effect has been produced. It is usual for men in such difficulties to fall back on some *invisible thinking cause* as the immediate cause of the event that surprises them and cannot (they think) be accounted for through the common powers of nature. But philosophers, who look a little deeper, immediately perceive that the energy of the cause is no more intelligible in the most familiar events than it is in the most unusual ones, and that we only learn by experience the frequent *conjunction* of things without ever being able to grasp anything like a *connection* between them. Here, then, many philosophers - most notably Malebranche - think that reason obliges them to appeal to the same cause that common people appeal to only in cases that appear miraculous and supernatural. These philosophers hold that an intelligent mind is the *immediate and sole* cause of *every* event that appears in nature, not merely the *ultimate and original* cause of all events, or the immediate and sole cause of *seemingly miraculous* events. They claim that the items that are commonly called *causes* are really nothing but *occasions*, and that the true and direct cause of every effect is not any power or force in nature but a volition of the Supreme Being, who wills that such-and-such particular pairs of items should for ever be conjoined with each other. Instead of saying that *Y*one billiard-ball moves another by a force that the author of nature bestowed on it, they say that *Y*it is the Deity himself who moves the second ball by a particular act of will, having been led to do this by the impact of the first ball - in conformity with the general laws that he has laid down for himself in the government of the universe. But philosophers push their enquiries further, and discover that, just as we are totally ignorant of the power through which bodies act on one another, so we are equally ignorant of the power through which mind acts on body or body acts on mind; and that neither our senses nor our consciousness tells us what the ultimate principle is in that case any more than in the other. So they are led by the same ignorance to the same conclusion. They assert that the Deity is the *immediate* cause of the union of mind with body; and that sensations in the mind are not produced by sense-organs that have been activated by external objects, but rather it is a particular

volition of God's that arouses a particular kind of sensation in consequence of a particular motion in the sense-organ. Similarly, the movements of our limbs are not produced by any energy in our will; rather (they say), it is God himself who is pleased to back up our will (which in itself has no power to do anything) and to command the bodily motion which we wrongly attribute to our own power and efficacy. And these philosophers do not stop there. They sometimes extend the same inference to the internal operations of mind itself. Our mental vision or conception of ideas (they say) is nothing but a revelation made to us by our Maker. When we voluntarily turn our thoughts to any object, and bring up its image in the imagination, it isn't our will that creates that idea; it is the universal Creator who reveals it to the mind and makes it present to us.

Thus, according to these philosophers, everything is full of God. Not content with the principle that nothing exists except by his will, that nothing has any power except with his permission, they rob nature and all created beings of every power, in order to render their dependence on the Deity still more obvious and immediate. They overlook the fact that by this theory they diminish instead of magnifying the grandeur of those divine attributes which they purport to celebrate so much. God's delegating some power to lesser creatures surely shows him as *more* powerful than would his producing everything by his own immediate volition. It indicates more wisdom to structure the world from the outset with such perfect foresight that it will serve all the purposes of providence of itself and by its own way of operating, than if God needed moment by moment to adjust the world's parts and animate by his breath all the wheels of that stupendous machine.

But if you want a more philosophical rather than theological case against this theory, perhaps the two following reflections may suffice.

First, It seems to me that this theory of the universal energy and operation of the Supreme Being is too bold ever to convince someone who is properly aware of how weak and limited human reason is. Even if the chain of arguments leading to the theory were ever so logical, there would have to be a strong suspicion (if not absolute certainty) that it has carried us quite beyond the reach of our faculties, when it leads to conclusions that are so extraordinary and so remote from common life and experience. We are got into fairy land long before we have reached the last steps of the argument leading to our theory, and *there* we have no reason to trust our common methods of argument or to think that our usual analogies and probabilities carry any weight. Our line is too short to fathom such immense depths. We may flatter ourselves that we are guided every step of the way by a kind of likelihood and experience; but we can be sure that this supposed experience has no authority when (as here) we apply it to subjects that lie entirely outside the sphere of experience. I shall have occasion to say more about this in section 12.

Secondly, I can't see any force in the arguments on which this theory is based. It is true that we are ignorant of *how* bodies act on one another; their force or energy is entirely incomprehensible. But aren't we equally ignorant of the manner or force by which a mind, *even the supreme mind*, acts either on itself or on body? I ask you, from where do we acquire any idea of that force? We have no feeling or consciousness of this power in ourselves. We have no idea of the Supreme Being but what we learn from reflection on our own faculties. So if our ignorance were a good reason for rejecting anything, we should be led to deny all energy in the Supreme Being as much as in the crudest matter. We surely understand the operations of the former as little as we do those of the latter. Is

it harder to conceive that motion may arise from impact than to conceive that it may arise from volition? All we know is our profound ignorance in both cases.⁹

Part 2 (of Section 7)

We have looked at every possible source for an idea of *power* or *necessary connection*, and have found nothing. However hard we look at an isolated physical episode, it seems, we can never discover anything but one event *following* another; we never find any force or power by which the cause operates, or any connection between it and its supposed effect. The same holds for the influence of mind on body: the mind wills, and then the body moves, and we observe both events; but we don't observe - and can't even conceive - the tie that binds the volition to the motion, that is, the energy by which the mind causes the body to move. And the power of the will over its own faculties and ideas - that is, over the mind, as distinct from the body - is no more comprehensible. Summing up, then: throughout the whole of nature there seems not to be a single instance of *connection* that is conceivable by us. All events seem to be entirely loose and separate. One event follows another, but we never can observe any tie between them. They seem associated, but never connected. And as we can have no idea of anything that never appeared as an impression to our outward sense or inward feeling, we are forced to conclude that we have no idea of 'connection' or 'power' at all, and that those words - as used in philosophical reasonings or in common life - have absolutely no meaning.

One escape route may be still open to us: there is one possible source for the idea of connection or power that I haven't yet examined. When we are confronted by any natural object or event of which we have had no experience, no amount of cleverness and hard work will enable us to discover or even guess what event will result from it, or to make any prediction that goes beyond what is immediately present to our memory and senses. Even after we know from experience what the result was in a particular case, we are not entitled to bring it under a general rule, or to predict what will happen in similar cases in the future. Basing a view about the whole course of nature on a single experiment, however accurate or certain it may be, is rightly thought to be too bold. But if events of

⁹ I needn't examine at length the *inertia* which is so much talked of in the new science, and which is ascribed to matter. We find by experience that a body at rest or in motion continues in that state until some new cause acts upon it; and that when a body is bumped into it takes as much motion from the bumping body as it acquires itself. These are facts. When we call this a *power of inertia*, we merely record these facts without claiming to have any idea of the inert power; just as in talking of gravity we mean certain *effects* without having any grasp of that active power. Sir Isaac Newton never meant to deny all force or energy to causes other than God, though some of his followers have tried to establish that theory on his authority. On the contrary, that great scientist invoked an ethereal active fluid to explain his universal attraction; though he was cautious and modest enough to allow that this was a mere hypothesis, not to be insisted on without more experiments. I have to say that there's something odd about what happens to opinions. Descartes hinted at the doctrine that only God has real power or efficacy, though he did not insist on this. Malebranche and other Cartesians made it the foundation of all their philosophy. But the doctrine had no authority in England. Locke, Clarke, and Cudworth never so much as mention it, and assume all along that matter has real power, though of a subordinate and derived kind. By what means has it - that is, the doctrine that God is the only being with causal power - become so prevalent among our modern metaphysicians?

one kind have *always* in *all* instances been associated with events of some one other kind, we no longer shrink from predicting an event of the latter kind when we experience one of the former kind. We then call one the 'cause', and the other the 'effect'. We suppose there to be some connection between them; some power in the cause by which it infallibly produces the effect, operating with the greatest certainty and strongest necessity.

The source of this idea of a necessary connection among events seems to be *a number of similar instances of the regular pairing of events of these two kinds*; and the idea cannot be prompted by any one of these instances on its own, however comprehensively we examine it. But what can *a number of* instances contain that is different from any *single* instance that is supposed to be exactly like them? Only that when the mind experiences many similar instances, it acquires a habit of expectation: the repetition of the pattern affects it in such a way that when it observes an event of one of the two kinds it expects an event of the other kind to follow. So the feeling or impression from which we derive our idea of power or necessary connection is a feeling of connection in the mind - a feeling that accompanies the imagination's habitual move from observing one event to expecting another of the kind that usually follows it. That is all there is to it. Study the topic from all angles; you will never find any other origin for that idea. This is the only difference between a single instance (which can never give us the idea of connection) and a number of similar instances (which do suggest the idea). The first time a man saw motion being passed from one thing to another in a collision, as when one billiard ball hits another, he couldn't say that the red ball's starting to move was connected with the white ball's hitting it, but only that one event followed the other. After seeing several instances of this kind, he then says that they - that is, the two events within each instance - are connected. What has happened to give rise to this new idea of connection? Only that he now *feels* these events to be connected in his imagination, and can predict the occurrence of one from the appearance of the other. So when we say that one event is connected with another, all we mean is that they have come to be connected in our thought so that we are willing to conduct this inference through which they are taken to be proofs of each other's existence. This is a strange conclusion! But it seems to be well supported by the evidence. Even people who are in a general way cautious about what the understanding can achieve, or sceptical about every conclusion that is new and extraordinary, should not on that account be suspicious of *this* conclusion. It announces a discovery about the weakness and narrow limits of human reason and capacity - nothing could be more agreeable to scepticism than it is.

And what stronger example than this could we find of how surprisingly ignorant and weak our understanding is? If there is any relation between objects that it matters to us to know perfectly, it is that of cause and effect. It is the basis for all our reasonings about matters of fact or existence; it alone assures us about objects that are not now present to memory or senses. The only immediate use of all the sciences is to teach us how to control and regulate future events through their causes. So our thoughts and enquiries are at every moment concerned with the relation of cause to effect; yet our ideas regarding it are so imperfect that we can't accurately define 'cause' except in terms of something that is extraneous to the cause, forming no part of it. There are two ways of doing this. (1) Similar events are always associated with similar. Of this we have experience. Suitably to this experience, therefore, we may define a 'cause' to be

an event followed by another, where all events similar to the first are followed by events similar to the second.

Or in other words

where if the first event hadn't occurred the second wouldn't have occurred either.

[Hume states all this in terms of the 'existence' of 'objects' rather than the occurrence of events.] (2) The appearance of a cause always conveys the mind - in a transition brought about through custom - to the idea of the effect. Of this also we have experience. We could embody this experience in another definition of 'cause':

an event followed by another, where the appearance of the former always conveys the thought to the latter.

Each of these definitions brings in something that lies right outside the cause itself - because definition (1) brings in earlier events similar to the cause, while (2) brings in events in the mind of the speaker; but there is no remedy for this drawback. We can't replace those definitions by a more perfect one that picks out something *in the cause itself* that connects it with its effect. We have no idea of this connection; nor even any clear notion of what we are aiming at when we try to form a conception of it. When we say, for instance, that the vibration of this string is 'the cause of' this particular sound, what do we mean? We mean that this vibration is followed by this sound and *either* that all similar vibrations have been followed by similar sounds *or* that when the mind sees the vibration it immediately forms an anticipatory idea of the sound. We can look at the cause-effect relation in either of these two ways; but beyond them we have no idea of it.¹⁰

¹⁰ According to these explanations and definitions, the idea of *power* is as relative as the idea of *cause* is. Each refers to an effect, or some other event constantly associated with the former. When we consider the unknown nature of an object that fixes what effects it will have, we call that its 'power'; which is why everyone agrees that a thing's effects provide a measure of its power. But if they had any idea of *power* as it is in itself, why couldn't they measure it in itself? Similarly with the dispute about whether the force of a body in motion is proportional to its velocity or to the square of its velocity: if we had an idea of power as it is in itself, this dispute could be settled by direct measuring and comparison, with no need to compare effects in equal or unequal times.

It is true that the words 'force', 'power', 'energy' etc. occur frequently throughout everyday conversation as well as in philosophy; but that doesn't show that we are ever acquainted with the connecting principle between cause and effect, or that we can account ultimately for one event's causing another. These words, as commonly used, have very loose meanings, and their ideas - that is, the associated ideas that give them their meanings - are very uncertain and confused. Those ideas fall into two groups, each of which is animistic, treating inanimate causes and effects as though they were alive. (1) One group of ideas comes into play only when a cause-effect transaction is thought of as involving a transfer of motion from one object to another. (2) The other group are the ideas that are treated in my account of causal reasoning. (1) No animal can set external bodies into motion without a feeling of effort; and every animal knows the feeling of being pushed or hit by a moving external object. These sensations - which are merely animal, and from which we can *a priori* draw no conclusions - we are inclined to transfer to inanimate objects, and to suppose that *they* have some such feelings whenever motion is transferred by them or to them. For example, we suppose or pretend that the white billiard ball exerts an effort which it feels, and that the red one feels the impact of the white one. (2) When one event causes another and we don't bring the thought of motion-transfer into play, we have no way of bringing in the ideas based on the feelings of pushing or being pushed, and so we take into account only the constant experienced association of the two kinds of events. That has set up in our minds a habitual connection between our ideas of the two events, and we transfer the feeling of that mental connection to the objects. We attribute to external bodies internal sensations which they induce in us; this is absolutely normal

To sum up the reasonings of this section: Every idea is copied from a previous impression or feeling, and where we can't find any impression we may be certain that there is no idea. No isolated episode of mental or physical causation yields any *impression* of power or necessary connection. Therefore, no such episode can prompt us to form any *idea* of power or necessary connection. When many similar episodes are observed to occur, however, and events of one kind are always followed events of a second kind, we then start to form the notion of cause and connection. The experience of this regularity gives us a new impression, namely the feeling or impression of a custom-induced connection in our thought or imagination between one event and another; and the idea that we have been hunting for - the idea of power or necessary connection - is copied from this impression. Here is why this must be right. The idea arises from a series of similar episodes and not from any one taken singly; so it must arise from whatever it is that differentiates the series from each individual episode; and the only difference is this customary connection or transition of the imagination. In every other respect, each individual episode is just like the whole series. To return to our humdrum example: The first time we saw motion being transferred through a collision between two billiard balls, what we saw was exactly like any other such collision that we might see now; the only difference was that on that first occasion we could not infer one event from the other, as we can now after such a long course of uniform experience. I not know whether the reader will easily grasp this reasoning. I am afraid that if I were to go on longer about it, presenting it from a greater variety of angles, it would only become more obscure and complicated.

Section 8: Liberty and necessity

Part 1

It might reasonably be expected, in questions that have been eagerly discussed and disputed since science and philosophy first began, that the disputants would at least have agreed on the meanings of all the terms, so that in the course of two thousand years we would be able to get away from verbal disputes and come to the true and real subject of the controversy. Isn't it easy enough to give exact definitions of the terms used in reasoning, and to then to focus our attention on these definitions rather than on the mere sound of the words? But if we look more closely we shall be inclined to think that that isn't what happens. From the mere fact that a controversy has kept going for a long time and is still undecided, we may presume that there is some ambiguity in how the disputants express themselves, and that they assign different ideas to the words used in the controversy. Here is the basis for this presumption. The intellects of human beings are supposed to be naturally alike (and if they were not, there would be no point in reasoning or disputing together); so if men attached the same ideas to the words they use, they

human practice. [In another of his works, Hume writes: 'The mind has a great propensity to spread itself on external objects, and to conjoin with them any internal impressions which they occasion.']

couldn't go on for so long forming different opinions of the same subject - especially when they communicate their views to one another, and cast about in every direction for arguments that may give them the victory over their opponents. Admittedly, if men try to discuss questions that lie right outside the reach of human capacity, such as those concerning the origin of worlds, or the workings of the domain of spirits, they may for a long time beat the air in their fruitless contests, and never arrive at any definite conclusion. But when the question concerns any subject of common life and experience, the only thing that could keep the dispute alive for a long time is (one would think) some ambiguous expressions that keep the antagonists at a distance and prevent them from coming to grips with each other.

That is what has been happening in the long dispute about liberty and necessity. I think we shall find that all people - both learned and ignorant - have always had the same view about liberty and necessity - although they have differed in how they expressed it, and have thus seemed to be in disagreement; I think that a few intelligible definitions would have immediately put an end to the whole controversy. This dispute has been so vigorous and widespread, and has led philosophers into such a labyrinth of obscure sophistry, that it would be understandable if a reader had the good sense to save himself trouble by refusing to listen to any side in a debate that he can't expect to find instructive or interesting. But perhaps he will return to it, given my account of how the debate stands: my account has more novelty than its predecessors, promises at least some resolution of the controversy, and won't put him to much trouble by any intricate or obscure reasoning.

There is my project, then: to show that all men have always agreed about both *necessity* and *liberty*, when those terms are taken in any reasonable sense, and that the whole controversy until now has turned merely upon words. I shall begin by examining the doctrine of necessity.

Everyone agrees that matter in all its operations is driven by a necessary force, and that every natural effect is so exactly settled by the energy of its cause that in those particular circumstances no other effect could possibly have resulted from that cause. The laws of nature prescribe the speed and direction of every motion so exactly that the collision of two bodies *has to* produce motion with precisely the speed and direction that it does in fact produce; it could no more have resulted in any other motion than it could have resulted in the formation of a living creature. So if we want to get a correct and precise idea of necessity, we must consider where that idea comes from when we apply it to the operation of bodies.

It seems obvious that if

all the scenes of nature were continually changed in such a way that no two events bore any resemblance to each other, but every event was entirely new, without any likeness to whatever had been seen before,

we would never have acquired the slightest idea of necessity, or of a connection among these objects. We might then say that one object or event has *followed* another, but not that one was *produced by* the other. The relation of cause and effect would have to be utterly unknown to mankind. Inference and reasoning about the operations of nature would come to a halt; and memory and the senses would remain the only channels through which knowledge of any real existence could possibly have access to the mind. This shows that our idea of necessity and causation arises entirely from the uniformity we observe in

the operations of nature, where similar items are constantly conjoined, and the mind is determined by custom to infer the one from the appearance of the other. The necessity that we ascribe to matter consists only in those two - the constant *conjunction* of similar objects, and the consequent *inference* from one to the other. Apart from these we have no notion of necessity or connection.

If it turns out that all mankind have always held, without any doubt or hesitation, that these two factors are present in the voluntary actions of men and in the operations of minds - that is, that like is followed by like, and that we are disposed to make inferences on that basis - it follows that all mankind have always agreed in the doctrine of necessity, and have been disputing simply because they did not understand each other.

Here are some points that may satisfy you concerning the constant and regular conjunction of similar events. Everyone acknowledges that there is much uniformity among the actions of men in all nations and ages, and that human nature remains the same in its principles and operations. The same motives always produce the same actions; the same events follow from the same causes. Ambition, avarice, self-love, vanity, friendship, generosity, public spirit - these passions, mixed in various proportions and distributed throughout society, are now (and from the beginning of the world always have been) the source of all the actions and projects that have ever been observed among mankind. Do you want to know the feelings, inclinations, and course of life of the Greeks and Romans? Then study well the character and actions of the French and English: you can't go far wrong in transferring to the former most of your observations regarding the latter. Mankind are so much the same in all times and places that history informs us of nothing new or strange on this topic. The chief use of history is only to reveal the constant and universal principles of human nature by showing men in all kinds of circumstances and situations, and providing us with materials from which we can form our observations and become acquainted with the usual sources of human action and behaviour. These records of wars, intrigues, factions, and revolutions, are so many sets of data that the political theorist or moral philosopher uses to fix the principles of his science; just as the natural scientist learns the nature of plants, minerals, and other external objects by the tests he puts them through. The earth, water, and other elements examined by Aristotle and Hippocrates don't resemble those we find now any more closely than the men described by Polybius and Tacitus resemble those who now govern the world.

If a traveller, returning from a distant country, were to bring us an account of men wholly different from any we have ever encountered - men with no trace of greed, ambition or vengefulness, knowing no pleasure except friendship, generosity, and public spirit - we would immediately spot the falsehood of his account, and would judge him to be a liar just as confidently as if he had filled his report with stories of centaurs and dragons, miracles and prodigies. And when we want to expose an historical document as a forgery, we can't make use of a more convincing argument than to show that the actions ascribed to some person in the document are directly contrary to the course of nature, and that no human motives in such circumstances could ever lead him to behave in that way. The veracity of Quintus Curtius is as suspect when he describes the supernatural courage by which Alexander was hurried on to attack multitudes single-handed as it is when he describes the supernatural force and activity by which Alexander was able to resist the multitudes. So readily and universally do we acknowledge a uniformity in human motives and actions, as well as in the operations of material things.

In we have a long life and a variety of business and social contacts with other people, that experience is beneficial in teaching us the general principles of human nature, and guiding us in our future conduct as well as in our theory-building. Guided by this experience we infer *upwards* from men's actions, expressions, and even gestures to their inclinations and motives; and in the opposite direction we interpret and predict their actions on the basis of our knowledge of their motives and inclinations. The general observations that we store up through a lifetime's experience give us the clue to human nature and teach us to disentangle all its intricacies. Pretences and mere show no longer deceive us. Public declarations pass for the specious colouring of a cause [=, roughly, 'We take public declarations of politicians to be the work of spin-doctors']. And though we allow virtue and honour their due weight and authority, the *perfect unselfishness* that people so often lay claim to is something we never expect in multitudes and parties, seldom in their leaders, and not much even in individuals at any level in society. But if there were no uniformity in human actions, and if the outcomes of all the tests of these matters that we conducted were irregular and did not fit any general patterns, we could not possibly assemble any general observations concerning mankind, and no experience, however thoughtfully pondered, would ever serve any purpose. To revert for a moment to the general point about the need for uniformities if there is to be understanding: Why is the old farmer more skillful in his calling than the young beginner if not because there is a certain uniformity in how the operation of the sun, rain, and earth affects the production of plants, and experience teaches the old practitioner the rules by which this operation is governed and directed?

But we mustn't expect this uniformity of human actions to be so complete that all men in the same circumstances will always act in precisely the same way, for that would not be allow for differences among characters, prejudices, and opinions. Such complete uniformity is never found in nature. On the contrary, from observing the variety of conduct in different men, we are enabled to form a greater variety of generalizations, which still presuppose a degree of uniformity and regularity underlying the variety.

Does the behaviour of men differ in different ages and countries? That teaches us the power of custom and education, which mould the human mind from its infancy and form it into a fixed and established character. Is the conduct of the one sex very unlike that of the other? From that we learn the different characters that nature has given to the sexes and preserved in them with constancy and regularity. Are the actions of one person very different in the different periods of his life from infancy to old age? This invites many general observations about the gradual change of our feelings and inclinations, and the different patterns that human creatures conform to at different ages. Even the characteristics that are special to each individual have a uniformity in their influence; otherwise our acquaintance with the individuals and our observation of their conduct could never teach us what their dispositions are or serve to direct our behaviour towards them.

I admit that we may encounter some actions that seem to have no regular connection with any known motives, and that are exceptions to all the patterns of conduct that have ever been established as governing human conduct. But if we want to know what to think about such irregular and extraordinary actions, we might consider the view that is commonly taken of irregular events that appear in the course of nature and in the

operations of external objects. All causes are not conjoined to their usual effects with the same uniformity. A workman who handles only dead matter may be thwarted in what he is trying to do ·by something unexpected in the dead material he is working with·, just as a politician directing the conduct of thinking and feeling agents can be thwarted ·by something unexpected in the people he wants to control·.

Common people, who judge things by their first appearance, explain these unexpected of outcomes as arising from an uncertainty in the causes that makes them often fail to have their usual effects even though they encounter no obstacle to their operation. But scientists, observing that in almost every part of nature there are vastly many different triggers and causes that are too small or too distant for us to find them, judge that it is *at least possible* that the contrariety of events comes not from any contingency in the cause - ·that is, the cause's being inherently liable to fail to produce the usual effect· - but from the secret operation of contrary causes. This *possibility* is converted into *certainty* when by further careful observation they discover that a contrariety of effects always reveals that there *was* indeed a contrariety of causes, and comes from their mutual opposition. A peasant can give no better reason for a clock's stopping than to say that it often does not go right; but a clock-maker easily sees that the same force in the spring or pendulum has always the same influence on the wheels, but ·in this one case· fails of its usual effect because a grain of dust (perhaps) has put a stop to the whole movement. From observing a number of parallel instances, scientists arrive at the maxim that the connection between all causes and effects is equally necessary, and that its seeming uncertainty in some instances comes from the secret opposition of contrary causes.

In the human body, for instance, when the usual symptoms of health or sickness are not as we expect, when medicines don't operate with their usual effect, when some cause leads irregularly to different effects - the scientist and the physician are not surprised by this, and are never tempted to deny the necessity and uniformity of those principles that govern the animal system. They know that a human body is a mighty complicated machine, that many secret powers lurk in it which we have no hope of understanding, that to us it must often appear very uncertain in its operations, and that therefore the irregular events which outwardly appear are not evidence that the laws of nature are not observed with the greatest regularity in its internal operations and control systems.

The scientist, if he is consistent, must apply the same reasoning to the actions and decisions of thinking agents. The most irregular and unexpected decisions of men may often be explained by those who know every particular circumstance of their character and situation. A normally obliging person gives an irritable answer; but he has toothache, or hasn't dined ·and is hungry·. A sluggish fellow reveals an unusual briskness in his step; but he has met with a sudden piece of good fortune. Sometimes a person acts in a way that neither he nor anyone else can explain; but we know in a general way that the characters of men are somewhat inconstant and irregular. This ·inconstancy· is, in a way, the constant character of human nature, though there is more of it in some persons who have no fixed rule for their conduct and frequently act in a capricious and inconstant manner. ·Even in these people· the internal principles and motives may operate in a uniform manner, despite these seeming irregularities; just as the winds, rain, clouds, and other variations of the weather are supposed to be governed by unchanging principles, though our skill and hard work can't easily tell us what they are.

Thus it appears not only that the relation of motives to voluntary actions is as regular and uniform as that of cause to effect in any part of nature, but also that this regular relation has been universally acknowledged among mankind, and has never been the subject of dispute in science or in common life. Now, it is from past experience that we draw all our conclusions about the future, and in these inferences we conclude that objects that we find to have always been conjoined will always be conjoined in the future; so it may seem superfluous to argue that the experienced uniformity of human actions is a source from which we infer conclusions concerning them. But I shall do so, though briefly, so as to show my over-all position from a different angle.

In all societies people depend so much on one another that hardly any human action is entirely complete in itself, or is performed without some reference to the actions of others that are needed if the action is to produce what the agent intends. The poorest workman, who labours alone, still expects at least the protection of the law, to guarantee him the enjoyment of the fruits of his labour. He also expects that when he takes his goods to market, and offers them at a reasonable price, he will find buyers, and will be able through the money he earns to get others to supply him with what he needs for his subsistence. In proportion as a man's dealings with others are wide-ranging and complicated, to that extent his way of life involves a variety of voluntary actions by other people - things people do from their own motives, but which he expects to co-operate with his motives. In arriving at these expectations he goes by past experience, in the same manner as in his reasonings about external objects; and he firmly believes that men, as well as all the kinds of stuff, will continue to behave in the ways that he has found them to do. A manufacturer relies on the labour of his employees for getting a job done, as much as he relies on the tools that he uses, and he would be equally surprised if either the men or the tools disappointed his expectations. In short, this empirical inference and reasoning about the actions of others enters so much into human life that every man is engaged in it at every waking moment. Isn't this a reason to affirm that all mankind have always agreed in the doctrine of necessity, according to my account of it?

Nor have philosophers or scientists ever thought differently about this. Almost every *action* of their life presupposes the common people's opinion, which is also essential to most branches of *learning*. What would become of history if we didn't, on the basis of the experience we have had of mankind, depend on the truthfulness of the historian? How could politics be a science if laws and forms of government didn't have a uniform influence on society? Where would the foundation of morals be if people's characters had no certain or determinate power to produce sentiments [here = 'feelings and opinions'], or if these sentiments had no constant effect on actions? And what could entitle us to pass critical judgment on any poet or author if we couldn't say whether the conduct and sentiments of his actors were natural for such characters and in such circumstances? It seems almost impossible, therefore, to engage either in learning or in action of any kind without acknowledging the doctrine of necessity, and this *inference* from motives to voluntary actions, from characters to conduct.

And indeed, when we consider how aptly we can form a single chain of argument involving both human nature and other parts of the natural world, we shan't hesitate to agree that these are of the same nature and are derived from the same principles. A prisoner who has neither money nor influence can't escape, and he learns the impossibility

of this as well when he considers the obstinacy of the gaoler as when he considers the walls and bars with which he is surrounded; and in trying to escape he chooses to work on the stone and iron of the latter rather than on the inflexible nature of the former. The same prisoner, when led to the scaffold, foresees his death as certainly from the constancy and fidelity of his guards as from the operation of the axe. His mind runs along a certain train of ideas:

the refusal of the soldiers to consent to his escape;
 the action of the executioner;
 the separation of the head from the body;
 bleeding, convulsive motions, and death.

Here is a connected chain of natural causes and voluntary actions; but our mind feels no difference between them when it passes from one link to the next. And we are just as certain of the future event as we would be if we inferred it, from objects present to the memory or senses, through a sequence of causes linked by so-called *physical* necessity. The same experienced union has the same effect on the mind, whether the united objects are motives, volition, and actions or rather shapes and movements. We may change the names of things, but their nature and how they operate on the understanding never change.

If an intimate friend of mine, whom I know to be honest and wealthy, comes into my house where I am surrounded by my servants, I rest assured that he is not going to stab me before he leaves, in order to rob me of my silver ink-well; and I no more suspect such behaviour from him than I expect the collapse of the house itself which is new, solidly built, and well founded. --*But he may have been seized with a sudden and unknown frenzy.* --So may a sudden earthquake start up, and shake and tumble my house about my ears. Very well, I shall change the examples. I shall say that I know with certainty that he will not put his hand into the fire and hold it there until it is consumed; and I can foretell this with the same confidence as I can that if my friend throws himself out of the window and meets with no obstruction, he will not remain for a moment suspended in the air. No suspicion of an unknown frenzy can give the least possibility to the former event, which is so contrary to all the known principles of human nature. Here is another example, equally certain. A man who at noon leaves his purse full of gold on the pavement of a busy street may as well expect that it will fly away like a feather as that he will find it still there an hour later! More than half of human reasonings contain inferences like this, accompanied by varying degrees of certainty proportioned to our experience of the usual conduct of mankind in situations of the kind in question.

I have frequently wondered what could possibly be the reason why all mankind, though they have always unhesitatingly acknowledged in all their behaviour and reasoning that human conduct is governed by necessity, have nevertheless shown so much reluctance to acknowledge it in words, and have rather tended, all through the centuries, to proclaim the contrary opinion. Here is what I think may be the explanation. If we examine the operations of inanimate bodies and the production in them of effects from their causes, we shall find that our faculties can never give us more knowledge of this cause-effect-relation than merely to observe that particular objects are *constantly conjoined* together and that the mind is carried by a *customary transition* from the appearance of one to the expectation of the other. This conclusion concerning a limit on human knowledge is the result of the strictest scrutiny of this subject, which I have conducted, and yet men are

still very inclined to think that they penetrate further into the powers of nature and perceive something like a *necessary connection* between the cause and the effect. When they turn their reflections back towards the operations of their own minds, and *feel* no such connection between the motive and the action, they are inclined to infer that the effects arising from thought and intelligence are unlike those resulting from material force. But once we are convinced that all we know of causation of *any* kind is merely the constant conjunction of objects and the consequent inference of the mind from one to the other, and we have grasped that these two circumstances - the constant conjunction and the consequent inference - are agreed by everyone to occur in voluntary actions, we may be more easily led to admit that the same necessity is common to all causes. And though this reasoning may contradict the systems of many philosophers by ascribing necessity to the determinations of the will, we shall find when we think about it that they disagree with it only in words and not in their real beliefs. Necessity, in the sense I have been giving the word, has never yet been rejected, and I don't think it ever could be rejected by any philosopher. Someone wanting to reject it would have to claim that the mind can perceive in the operations of matter some further *connection* between cause and effect, and that no such connection occurs in the voluntary actions of thinking beings. Now whether this is right or not can only appear on examination of the empirical facts, and the onus is on these philosophers to justify their assertion by defining or describing that *connection* and pointing it out to us in the operations of material causes.

It would seem, indeed, that men begin at the wrong end of this question about liberty and necessity when they start in on it by examining the faculties of the mind, the influence of the understanding, and the operations of the will. They should at first investigate a simpler topic, namely the operations of body and of brute unthinking matter, and see whether they can *there* form any idea of causation and necessity except that of a constant conjunction of objects and a subsequent inference of the mind from one to the other. If these items - the conjunction and the inference - are really all there is to the necessity that we conceive in matter, and if they are also universally agreed to occur in the operations of the mind, the dispute is at an end; or if it continues, it should be admitted to be merely verbal. But as long as we rashly suppose that we have some further idea of necessity and causation in the operations of external objects, while finding nothing further in the voluntary actions of the mind, we can't possibly resolve the issue when we start from such an erroneous supposition. The only way out of this error is to examine the narrow extent of our knowledge relating to material causes, and to convince ourselves that all we know of such causes is the constant conjunction and inference above-mentioned. It may be hard for us to accept that human understanding has such narrow limits; but we shall afterwards have no difficulty in applying this doctrine to the actions of the will. For as it is evident that these actions have a regular conjunction with motives and circumstances and characters, and as we always draw inferences from latter to the former, we ought to acknowledge *in words* the necessity that we have already avowed in every deliberation of

our lives and in every step of our conduct and behaviour.¹¹

But to continue in this reconciling project regarding the question of liberty and necessity (which is the most contentious question in metaphysics), it will not require many words to prove that all mankind have always agreed about liberty as well as about necessity, and that the whole dispute about liberty has hitherto been merely verbal. For what is meant by 'liberty' when the term is applied to voluntary actions? Surely we can't mean that actions have so little connection with motives, inclinations, and circumstances that the former don't follow with a certain degree of uniformity from the latter, and that motives etc. support no inference by which we can infer actions. For these - the uniformity and the inference - are plain and acknowledged matters of fact. By 'liberty', then, we can only mean a power of acting or not acting according to the determinations of the will; that is, if we choose to stay still we may do so, and if we choose to move we may do that. This hypothetical liberty - 'hypothetical' because it concerns what we may do *if* we so choose - is universally agreed to belong to everyone who isn't a prisoner and in chains. There is nothing to disagree about here.

Whatever definition we may give of 'liberty', we should be careful to ensure *first* that it be consistent with plain matter of fact, and *secondly* that it be consistent with itself. If we observe these two constraints, and make our definition intelligible, I am sure that all mankind will be found of one opinion with regard to it.

Everyone agrees that nothing exists without a cause of its existence, and that *chance* is a mere negative word, and does not stand for any real power that exists anywhere in

¹¹ Another cause for the prevalence of the doctrine of liberty may be a false sensation or seeming experience that we have, or may have, of liberty or indifference in many of our actions. The *necessity* of any physical or mental action is not, strictly speaking, a quality in the agent; rather, it resides in the thinking or intelligent onlooker, and consists chiefly in the determination of the onlooker's thoughts to infer the occurrence of that action from some preceding events; and liberty, when opposed to necessity, is nothing but the absence of that determination - in the onlooker's thought - and a certain looseness or indifference which the onlooker feels in passing or not passing from the idea of one event to the idea of a following event. When we reflect on human actions - as onlookers -, we seldom feel such a looseness or indifference, and can commonly infer with considerable certainty how people will act from their motives and dispositions; but it often happens that in performing the actions ourselves we are aware of something like it [= like that looseness and indifference]. And as we are prone to think, when one thing resembles another, that it *is* the other, this - fact about experiencing something like the looseness and indifference mentioned above - has been treated as a perfect proof of human liberty. We feel that our actions are subject to our will on most occasions; and we *imagine* we feel that the will itself is not subject to anything. That is because when for purposes of argument we try it out, we feel that the will moves easily in every direction, and produces an image - or likeness - of itself even on that side on which it did not settle. - For example, I play with the question of whether to raise my right hand or my left, and raise my left, but I have the feeling that in doing this I performed a kind of image or shadow of a decision to raise my right. We persuade ourselves that this image or faint motion could at that time have been completed into the thing itself - - for instance, into my raising my right hand - - because if anyone denied this - and we wanted to challenge the denial - we would find upon a second trial that now it can - lead to my raising my right hand. We overlook the fact that in this case the motive for our actions is the fantastical desire to show that we are free. It seems certain that, even when we imagine we feel a liberty within ourselves, an onlooker can commonly infer our actions from our motives and character; and even where he can't, he concludes in general that he could do so if he knew every circumstance of our situation and mood, and the most secret springs of our character and disposition. And *this* is the very essence of necessity, according to my doctrine.

nature. But it is claimed that some causes are necessary while others are not. Here then is the advantage of definitions. Let anyone define a 'cause' in such a way that 'a necessary connection with its effect' is not included in the definition, and let him show clearly the origin of the idea expressed by his definition; and I shall readily give up the whole controversy. But if my account of causation is right, there is absolutely no chance of making and defending such a definition. If objects did not have a regular conjunction with each other, we would never have had any notion of cause and effect; and this regular conjunction produces the inference of the understanding that is the only 'connection' we can understand. Whoever attempts a definition of 'cause' in terms of something other than regular conjunction and subsequent inference will be obliged to employ either unintelligible terms or ones that are synonymous to the term he is trying to define.¹² And if the above-mentioned definition is accepted, a definition according to which liberty is contrasted not with *constraint* (-as in my definition-) but with *necessity*, liberty becomes equivalent to *chance*; and everyone agrees that there is no such thing as chance.

Part 2 (of Section 8)

There is no method of reasoning more common, and yet none more blameable, than to try to refute a philosophical hypothesis by claiming that its consequences are dangerous to religion and morality. When an opinion leads to absurdities, it is certainly false; but it isn't certain that an opinion is false because its consequences are dangerous. That line of argument ought therefore to be avoided, because it doesn't contribute to the discovery of truth but merely makes one's antagonist personally odious. I offer this as a general observation, without claiming to draw any advantage from it. I frankly submit ·my views· to the dangerousness test, and shall venture to affirm that the doctrines of necessity and of liberty that I have presented are not only consistent with morality but are absolutely essential to its support.

Necessity can be defined in either of two ways, corresponding to the two definitions of *cause*, of which necessity is an essential part. Necessity consists either in the constant conjunction of similar objects, or in the inference of the understanding from one object to another. Now, it has silently been agreed - in the universities, in the pulpit, and in common life - that the will of man is subject to necessity in each of these senses (which in fact are basically the same). Nobody has ever claimed to deny that we can draw inferences concerning human actions, or that those inferences are founded on the experienced union of similar actions with similar motives, inclinations, and circumstances. There are only two ways in which someone might disagree about this. (1) He might refuse to give the name 'necessity' to this property of human actions; but as long as the meaning is understood, I hope the word can do no harm. (2) Or he might maintain that we could discover in the

¹² Thus, if a 'cause' is defined as 'that which produces anything', it is easy to see that producing is synonymous to causing. Similarly, if a 'cause' is defined as 'that by which a thing exists', this is open to the same objection. For what does the phrase 'by which' mean? Had it been said that a cause is that *after* which anything constantly exists, we would have understood the terms. For this is indeed all we know of the matter. And this constancy forms the very essence of necessity, of which we have no other idea but that.

operations of matter something further than the constant conjunction and the inference that I have said constitute the idea of necessity. But it must be admitted that such a discovery - because it only concerns the material world - cannot imply anything for morality or religion, whatever it may mean for natural science or metaphysics. I may have been mistaken in asserting that there is no idea of any other necessity or connection in the actions of *body* apart from constant conjunction and inference - but what I have ascribed to the actions of the mind is surely only what everyone does and must readily agree to. My views about *material* objects and causes do conflict somewhat with what is generally believed, but my views about *the will* do not. So my doctrine can at least claim to be utterly innocent.

All laws are founded on rewards and punishments, which are based on assuming as a fundamental principle that rewards and punishments have a regular and uniform influence on the mind, producing good actions and preventing evil ones. We may call this influence anything we like; but as it is usually conjoined with the action it must be regarded as a *cause*, and as being an instance of the kind of necessity that I have been presenting.

The only proper object of hatred or vengeance is a person or creature that thinks and is conscious; and when any criminal or injurious *actions* arouse that passion, it is only by their connection to the *person* whose actions they are. Actions are by their very nature temporary and perishing; and when they don't come from some *cause* in the character and disposition of the person who performed them, they can neither bring him credit (if they are good) or discredit (if they are bad). Even if the actions themselves are blameable - even if they are contrary to all the rules of morality and religion - the person isn't responsible for them, and can't possibly become, on account of them, the object of punishment or vengeance, because they didn't come from anything in him that is durable and constant - as his *character* is - and they leave nothing durable and constant behind them - in him. So according to the principle that denies necessity, and consequently denies causes - in human behaviour - a man who has committed the most dreadful crime is as pure and untainted as a newborn baby. His character is in no way involved in his actions, since they are not caused by it; and the wickedness of the actions never be used as a proof of the depravity of the character.

Men are *not blamed* for actions that they perform ignorantly and casually, whatever their consequences are. Why is this, if not because the principle of such an action is only momentary, ending when the action ends? Men are *less blamed* for actions that they perform hastily and without premeditation than they are for ones that come from deliberation. Why is this, if not because a rash or hasty cast of mind, even if it is a constant cause or principle in the mind, operates only at intervals and does not infect the whole character? Repentance wipes off every crime if it is accompanied by a reform of life and manners. What can account for this, if not the thesis that actions make a person criminal only insofar as they show that he has criminal principles in the mind; and when these principles change - through his repentance - his actions no longer show what they used to show, and so they cease to be criminal? But it is only upon the doctrine of - the - necessity - of human actions - that they ever did show anything about his mind; so without that doctrine they show nothing, and consequently never were criminal.

It is equally easy to prove by the same arguments that liberty - understood according to my definition, in which all men agree - is also essential to morality, and that no human

actions in the absence of such liberty are capable of having any moral qualities, or can be the objects either of approval or disapproval. For actions are objects of our moral sentiment [= feeling or opinion] only insofar as they indicate the internal character, passions, and affections; so they can't possibly attract either praise or blame when they come not from those sources but only from external force.

I don't claim to have met or removed all objections to my theory about necessity and liberty. I can foresee other objections, derived from lines of thought that I haven't here discussed. For instance, this may be said:

If voluntary actions fall under the same laws of necessity as the operations of matter, there is a continuous chain of necessary causes, pre-ordained and pre-determined, reaching from the original cause of everything through to every single volition of every human creature. No contingency anywhere in the universe, no indifference [no cases where either P or not-P could come true], no liberty. When we *act* we at the same time *are acted on*. The ultimate Author of all our volitions is God, who first set this immense machine in motion and placed everything in it in a particular position, so that every subsequent event had to occur as it did, through an inevitable necessity. Human actions, therefore, cannot be morally wicked when they come *inevitably* from so good a cause; or if there is anything wrong in them, God must share the guilt because he is the ultimate cause and author of our actions. A man who sets off an explosion is responsible for all the explosion's consequences, whether the fuse he employs is long or short; and in the same way when a continuous chain of necessary causes is fixed, whoever produces the first item in the chain is equally the author of all the rest, and must both bear the blame and win the praise that belong to them; and this holds whether the being in question is finite or (like God) infinite. Our clear and unalterable ideas of morality give us unquestionable reasons for applying this rule when considering the consequences of any human action; and these reasons must be even stronger when applied to the volitions and intentions of an infinitely wise and powerful being *such as God*. When it concerns such a limited a creature as man, we may plead ignorance or impotence *in his defence*, but God doesn't have those imperfections. He foresaw, he ordained, he intended all those actions of men that we so rashly judge to be criminal. So we have to conclude either *that those actions are not criminal*, or *that God and not man is accountable for them*. But each of these positions is absurd and impious; so it follows that the doctrine from which they are deduced cannot possibly be true, because it is open to all the same objections. If a doctrine necessarily implies something that is absurd, the doctrine itself is absurd; in the same way that an action that necessarily and inevitably leads to a criminal action is itself criminal.

This objection consists of two parts, which I shall examine separately. (1) If human actions can be traced up by a necessary chain to the Deity, they can never be criminal; on account of the infinite perfection of the being from whom they are derived, and who can intend only what is altogether good and praiseworthy. (2) If they are criminal, we must conclude that God isn't perfect after all, and must accept that he is the ultimate author of guilt and moral wickedness in all his creatures.

(1) The answer to the first objection seems obvious and convincing. There are many philosophers who, after carefully surveying all the phenomena of nature, conclude that the whole universe, considered as one system, is at every moment ordered with perfect benevolence; and that the greatest possible happiness will in the end come to all created beings, not tainted by any positive or absolute ill and misery. Here is how they reconcile this with the existence of physical ills, such as earthquakes, plagues, and so on. Every physical ill, they say, is an essential part of this benevolent system, and could not possibly be removed - even by the Deity himself, considered as a wise agent - without letting in some greater ill or excluding some greater good that will result from the removed ill. From this theory some philosophers (including the ancient Stoics) derived a theme of *comfort under all afflictions*, teaching their pupils that the ills under which they laboured were really goods to the universe; and that if we could grasp the system of nature as a whole we would find that every event was an object of joy and exultation. But though this theme is high-minded and superficially attractive, it was soon found in practice to be weak and ineffectual. You would surely irritate rather than comfort a man racked by the pains of gout by preaching to him the rightness of the general laws that produced the poisoned fluids in his body and led them through the proper canals to the sinews and nerves, where they now arouse such acute torments! These 'grasping-the-whole' views of nature may briefly please the imagination of a theorizing man who is secure and at ease; but they can't stay for long in his mind, even when he isn't disturbed by the emotions of pain or passion; still less can they maintain their ground when attacked by such powerful antagonists as pain and passion. Our feelings aren't affected by surveys of the entire universe; they take a narrower and more natural view of things, and - in a manner more suitable for the infirmity of human minds - take account only of nearby beings around us and respond to events according as they appear good or ill to us.

The case is the same with moral as with physical ills. It can't reasonably be supposed that those remote considerations that are found to have so little effect with regard to the latter will have a more powerful influence with regard to the former. The mind of man is so formed by nature that when it encounters certain characters, dispositions, and actions it immediately feels the sentiment of approval or blame. (No emotions are more essential to the human constitution than those two.) The characters that arouse our approval are chiefly those that contribute to the peace and security of human society; and the characters that arouse blame are chiefly those that tend to public detriment and disturbance. This makes it reasonable to suppose that the moral sentiments arise, either immediately or through an intermediary, from a reflection on these opposite interests - namely, public welfare and public harm. Philosophical meditations may lead to a different opinion or conjecture, namely:

everything is right with regard to the whole system, and the qualities that disturb society are in the main as beneficial and as suitable to the primary intention of nature as are those that more directly promote society's happiness and welfare; but what of it? Are such remote and uncertain speculations able to counterbalance the sentiments arising from the natural and immediate view of the objects on which judgment is passed? When a man is robbed of a considerable sum of money, will his vexation over his loss be lessened in the slightest by these lofty reflections about the good of the whole? Clearly not! Why then should his moral *resentment against the crime* be

supposed to be incompatible with those reflections? Indeed, why shouldn't the acknowledgment of a real distinction between Vice and Virtue be consistent with all philosophical systems, as is the acknowledgment of a real distinction between personal beauty and Ugliness? Both these distinctions are grounded in the natural sentiments of the human mind; and these sentiments can't be controlled or altered by any philosophical theory or speculation whatsoever.

(2) The second objection can't be answered so easily or satisfactorily: it isn't possible to explain clearly how God can be the ultimate cause of all the actions of men without being the author of sin and moral wickedness. These are mysteries which mere natural reason - not assisted by divine revelation - is unfit to handle; and whatever system reason embraces, it must find itself involved in inextricable difficulties and even contradictions at every step it takes with regard to such subjects. It has so far been found to be beyond the powers of philosophy to reconcile the indifference and contingency of human actions (so that men could have acted differently from how they did act) with God's foreknowledge of them, or to defend God's absolute decrees and yet clear him of the accusation that he is the author of sin. It will be a good thing if these difficulties make philosophy aware of her rashness in prying into these sublime mysteries, and get her to leave this scene which is so full of obscurities and perplexities, and return with suitable modesty to her true and proper province, which is the examination of common life. She will find there difficulties enough to keep her busy, without launching into such a boundless ocean of doubt, uncertainty, and contradiction!

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 cohesion of parts, 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 how animals use 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 are not 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.¹³

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 is not 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. Though the instincts are different, it is as much an instinct that teaches a man to avoid the fire as it is an instinct that teaches a bird with such exactness the art of incubation and the whole management and order of its nest.

¹³ Since 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 shall here try 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 there is a complication of causes 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 is to 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. There are various degrees of this infirmity.

5. The circumstance on which the effect depends is frequently involved in other circumstances which have 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 books and conversation.

It would be easy to discover many other circumstances that make a difference in the understandings of men.

Section 10: Miracles

Part 1

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.

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 [= 'experiences']; 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 assurance in any argument of this kind is derived wholly from our observation of the truthfulness of human testimony, and of the way in which 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 ought not 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 principle of honesty; ¶if they were they 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 is 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 hesitation 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 fact 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 would not 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 fact, it was allowed, might invalidate even that great an authority.

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 were not contrary to his experience, these facts - involving freezing cold - did not conform to it either.¹⁴

But in order to increase the probability against the testimony of witnesses, let us take a case where the fact which they affirm, instead of being only extraordinary, is really

¹⁴ Obviously, no Indian could have experience that water does not freeze 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, 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.

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, 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 would not 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 is a miracle; and such a proof can't be destroyed or the miracle made credible except by an opposite proof which is even stronger.¹⁵

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

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 what he reports really has happened. I weigh one miracle against the other, and according

¹⁵ Sometimes 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.

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 (of Section 10)

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 is 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 are not deluded; 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 uncouth manners! 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 is not 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 is not at work, his vanity - encouraged by so strong a temptation -

operates on him more powerfully than on other people in other circumstances; and this 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, emotions and a heated imagination upset its workings. 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 detected by contrary evidence or have detected 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 marvellous, 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 a more suitable soil, *they* shot up at last into prodigies almost equal to those that 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 is what enabled Alexander to move on from his ignorant Paphlagonians to the enlisting of 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 those which have not 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 is just the same as the reasoning of a judge who supposes that the credit of two witnesses maintaining 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 secular history is the one that Tacitus reports of 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 so free from any tendency to credulity 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 Arragon, 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 is not 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 was not 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.¹⁶ Where shall we find such a number of circumstances converging

¹⁶ 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 set 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 Leibniz 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

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

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 what the Jews of old used to fall back on saying.

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.

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 soothes 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 need not 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.

No means of exposure remain but those that must be drawn 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 and break-down of nature is an event that is rendered probable by so many analogies that any phenomenon that seems to have a tendency towards such a catastrophe comes within the reach of human testimony, if that testimony be very extensive and uniform.

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 would not have the least inclination to believe in so miraculous an event. I would not 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 was not and could not 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 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 to whom the miracle is ascribed (in this supposed case) is God, that doesn’t make it a whit more probable; for it is 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 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 facts which 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:

Of our fall from that state;

Of the age of man, extended to near a thousand years;

Of the destruction of the world by a flood;

Of the arbitrary choice of one people as the favourites of heaven - people who are the countrymen of the author;

Of 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 received its first birth 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 public encouragement of pensions and salaries was afforded equally, by the wisest of all the Roman emperors [Marcus Aurelius], 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 those harsh winds of slander and persecution that blow upon 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 which 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. Speculative dogmas of religion, which now cause such furious dispute, could not 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 out of tales that were mainly 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 them-selves 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 do not 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.’

* * *

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 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 upon 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 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 must themselves, if they are consistent with their own lines of thought, agree to be so.

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; where there appear 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 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 counterbalancing 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 is not 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 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 could not 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 the workman to have 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 traces now appear to us; 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 present effects - the ones 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 ill 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 ground to ascribe 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 could not 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 is 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 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 is 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 got 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 give it any particular 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 have 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 sea-shore 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 which 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 is 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.¹⁷

‘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 from 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 *Y*a Being who is so remote and incomprehensible, who bears much less analogy to *Y*any other being in the universe than *Y*the sun to *Y*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 to the Supreme Being, when it does not seem to have been exercised to the full in his works, smacks more of flattery and praise-singing than of valid reasoning and sound philosophy. Thus. all the philosophy in the world, and all the religion (which is nothing but a species 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

¹⁷ In 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 can be inferred.

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, I think that the state ought to tolerate every principle of philosophy; and no government has ever suffered in its political interests through such indulgence. There is no fanaticism among philosophers; their doctrines are not 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 is 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 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 Deity, 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

Part 1

Philosophical arguments proving the existence of a Deity 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 is 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, and

 •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 unfit to reach 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 is natural for us to wonder about them, and to look for the arguments on which they may be based.

I need not 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 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 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 the one are merely representations of the other. 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 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 was not 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 do not 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 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 any of them *do* arise from something external?. In any case, we are utterly unable to explain *how* body could so act on mind as to convey an image of itself to a mental substance whose nature is supposed to be so different from - even contrary to - the nature of the body.

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 is not 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 archetype 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, that is, 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.¹⁸

Thus the first philosophical objection to the belief in external objects consists in 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 is not 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 unknown mysterious *something* as the cause of our perceptions, a notion so imperfect that no sceptic will think it worthwhile to argue against it.

Part 2 (of Section 12)

There may seem to be something wild about the sceptics' attempt to destroy reason by argument and reasoning; yet is that is 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.¹⁹ 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

¹⁸ This 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 that momentary bewilderment and confusion which is the result of scepticism.

¹⁹ Whatever 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 those infinitely small parts of extension which are still supposed to be, themselves, infinitely divisible.

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 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 cannot 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.²⁰

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 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 perpetual differences of opinion between different individuals - and many other considerations of

²⁰ We 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 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, that is, 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.

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, they 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;

That our only idea of this relation is the idea of two kinds of event that have frequently been associated with one another;

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 great 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 (of Section 12)

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, intolerant of those who hold opposing views. Pausing to reflect, or balancing arguments properly and condition, 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 experiments 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 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 is 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 is 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 is not 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 is 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.²¹ 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 Deity and the immortality of souls, so the reasonings which 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.

²¹ That 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.