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 avoidance of all unnecessary detail; so in the following enquiry I shall 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 liveliness 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 liveliness. 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* [= 'look inwards at'] *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 isn't 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 merely to the ability to combine, transpose, enlarge, or shrink 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 a man can't 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 for someone who 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 ·because he has never had the sensation of tasting 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 isn't 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 neighbour-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 [Hume's word] that it's 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.

All ideas, especially abstract ones, are naturally faint and obscure, so that the mind has only a weak hold on them. Ideas are apt to be mixed up with other ideas that resemble them. 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 haven't had any distinct meaning for it. In contrast with this, all our impressions—i.e. all our outward or inward sensations—are strong and vivid. The boundaries between them are more exactly placed, and 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, i.e. 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.

START OF A BIG FOOTNOTE

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—there is no point in enquiring *when* 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, who use it to stand for any of our perceptions, sensations *and passions*, as well as 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 Locke was tricked into this question by the schoolmen [= mediaeval Aristotelians], who have used 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 philosopher"s reasonings on this as well as on most other subjects.

END OF THE BIG FOOTNOTE

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 on 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 doesn't 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

factor that had an equal influence on all mankind.

The fact that different ideas are connected is too obvious to be overlooked; yet I haven't found any philosopher trying to list or classify all the sources of association. This seems to be worth doing. To me there appear to be only three factors connecting ideas with one another, 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 factors. •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 this these three are the *only* sources 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.[1] 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 about the operations of the understanding

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, and indeed every statement that is either intuitively or demonstratively certain. *That the square of the hypotenuse is equal to the squares of the other 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 tomorrow* 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 absolutely rigorously'] 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

[1] For instance, Contrast or Contrariety is also a connection among Ideas. But we might considered 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.

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 aren't attested by our present senses or the records of our memory? It's 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 needn't discourage us, but rather can spur us on to try for something fuller and more 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 isn't 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 the 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, couldn't 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 aren't 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*—·i.e. by simply *thinking* about gunpowder and magnets, 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 aren't aware of its being at work at all.

If you're 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. Also, 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's 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: •elasticity, •gravity, •cohesion of parts ·which makes the difference between a pebble and a pile of dust·, and •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

But we haven't yet found an acceptable answer to the question that I initially asked. Each solution raises new questions that are as hard to answer as the first one was, and that 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 that 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 energies 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 powers[2] and forces, however, we always assume that the same sensible qualities [= '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's what we do every morning at the breakfast table: confidently *experimenting* 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 aren't 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's 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's what I want to know. The bread that I formerly ate nourished me; i.e. a body with

[2] 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.

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 doesn't 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 like I'll 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 [i.e. the second doesn't 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 can't find a certain argument it doesn't exist. In that case I need to tackle a harder task than I have so far 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 **(1)** demonstrative arguments are involved in the inference from past to future 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 can only be *probable*; i.e. 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, if I have described it accurately, can't provide us with the argument we are looking for. 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 don't appear to be inherently connected with the secret powers of nourishment and life-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 [= 'can't be seen at a glance to be valid'], and it isn't demonstrative either [= '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 can't 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'm considering how to act, I am quite satisfied that the future will be like the past; but as a philosopher with an *enquiring*—I won't say *sceptical*—turn of mind, I want to know what this confidence is based on. Nothing I have read, no research I have done, 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 doesn't 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 do so. You can't say that the argument has eluded you because it is so difficult and complex, because you have just 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 isn't through reasoning that we are led 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'm 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!