

Judgment

No. 6 of *Essays on the Intellectual Powers of Man*

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

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Contents

Chapter 1: Judgment in general	218
Chapter 2: Common sense	228
Chapter 3: The views about judgment of Locke and other philosophers	233
Chapter 4: First principles in general	242
Chapter 5: The first principles of contingent truths	252
Chapter 6: The first principles of necessary truths	264
Chapter 7: Ancient and modern opinions about first principles	276
Chapter 8: Prejudices, the cause of error	277

Chapter 1: Judgment in general

Judging is an operation of the mind that is so familiar to everyone who has understanding, and its name is so common and so well understood, that it doesn't need to be defined.

Just as one can't by a definition give a notion of colour to a man who never saw colours, so you can't by any definition to give a clear notion of judgment to a man who •hasn't judged often and •isn't capable of reflecting attentively on this act of his mind. The best use of a definition is to prompt him to that reflection; and without reflection the best definition will be apt to mislead him.

The definition commonly given of *judgment* by the more ancient writers in logic was that judgment is *an act of the mind by which one thing is affirmed or denied of another*. This is as good a definition of it as can be given, I think. Further on in this Essay you'll see why I prefer it to some later definitions. Without purporting to give any other definition, I shall make two •critical• remarks on this one, and then offer some general remarks about judgment.

(1) It is true that we *express* our judgments by affirming or denying, but there can be judgments that are not expressed. Judgment is a solitary act of the mind, and the expression of it by affirmation or denial is not at all essential to it. It can be silent and not expressed. Indeed, we all know that men may judge *contrary* to what they affirm or deny; so the definition must be understood to be talking of *mental* affirmation or denial—which is merely another name for judgment.

(2) Affirmation and denial is very often the expression of *testimony*, which is a different act of the mind from *judgment* and ought to be distinguished from it.

A judge asks a witness what he knows about some event to which he was an eye-witness. He answers by affirming

or denying something. But his answer doesn't *express his judgment*; it *is his testimony*. On the other hand, I ask a man his opinion on some matter of science or literary criticism. His answer isn't testimony; it's the expression of his judgment.

Testimony is a social act, and it is essential to it to be expressed by words or signs. 'Silent testimony' is a contradiction; but there is no contradiction in 'silent judgment'—a judgment can be complete without being expressed.

In testimony a man swears his truthfulness for what he affirms, so that false testimony is a lie. But a wrong judgment is not a lie; it is only an error.

In all languages, I think, testimony and judgment are expressed by the same form of speech: an affirmative or negative proposition, with a verb in the so-called 'indicative mood'. To distinguish them by the form of speech we would need two indicative moods for verbs—one for testimony and another to express judgment. I don't know of any language where this is found. Why? It can't be that the vulgar cannot distinguish the two, for everyone knows the difference between a lie and an error of judgment. The real reason is that the •content of what someone says and the •context in which he says it make it easy for us to tell whether he intends to give his testimony or merely to express his judgment.

Although men must have *judged* many times before law-courts were established, it is very probable that there were courts before anyone started to *theorize about judgment*; so the word 'judgment' may have been borrowed from the practice of courts. Just as •a judge, after taking the proper evidence, passes sentence in a case—a sentence that we call his 'judgment'—so •the mind, with regard to whatever

is true or false, passes sentence or decides according to the evidence that appears. Some kinds of evidence leave no room for doubt: sentence is passed immediately, without looking for or hearing any contrary evidence, because the thing is certain and widely known. In other cases it is appropriate to weigh evidence on both sides before passing sentence. The analogy between a law-court and this inner court of the mind is too obvious to be overlooked by anyone who ever appeared before a judge. And it is probable that the word 'judgment', as well as many other words we use in speaking of this mental operation, are based on this analogy.

Having offered these preliminaries, so that you will clearly understand what I mean by 'judgment', I proceed to make some general observations concerning judgment. There will be four of them, with the fourth occupying about two-thirds of the chapter.

(1) Judgment is an act of the mind that is of a radically different kind from simple apprehension or the bare conception of a thing. [For 'simple apprehension' see Essay 1, chapter 7.] There would be no need to *say* this if it weren't that some philosophers have been led by their theories to a contrary opinion.

Although there can't be any judgment without a conception of the things about which we judge, the converse doesn't hold—there can be conception without any judgment. Judgment can only be expressed by a proposition, and a proposition is a complete sentence; but simple apprehension can be expressed by a word, or by words, that don't make a complete sentence. There *can* be simple apprehension of a proposition, but everyone knows that it's one thing to •apprehend a proposition—i.e. to conceive what it means—and quite another thing to •judge it to be true or false.

It is self-evident that every judgment must be either true or false; but simple apprehension or conception can't be either be true or false, as I showed in Essay 1, chapter 7.

One judgment can contradict another; and it is impossible for a man to have at the same time two •judgments that he perceives to be contradictory. But contradictory propositions may be •conceived at the same time without any difficulty. *That the sun is bigger than the earth and that the sun is not bigger than the earth* are contradictory propositions. Anyone who apprehends the meaning of •either of them apprehends the meaning of •both. But he can't possibly *judge* both to be true at the same time. He knows that if either is true the other must be false. For these reasons I hold it to be certain that judgment and simple apprehension are radically different acts of the mind.

(2) There are •notions or •ideas whose source is the faculty of judgment. If we didn't have that faculty, those notions or ideas couldn't have entered into our minds; and to people who do have that faculty, and are capable of reflecting on its operations, •they are obvious and familiar. They include the notions of

- judgment
- proposition
- subject, predicate, and copula of a proposition
- affirmation and negation
- true and false
- knowledge
- belief and disbelief
- opinion
- assent
- evidentness.

We couldn't get these notions from any source other than reflecting on our judgments. And the list could be lengthened enormously, because very many of our notions or ideas

concern *relations* of things, and I shall show later—near the end of this chapter—that we can't have an idea of *any* relation without some exercise of judgment.

(3) In people who are old enough to have understanding, judgment necessarily accompanies all •sensation, •sense-perception, •consciousness, and •memory; but not •conception.

I restrict this to people who are old enough to have understanding, because there may be a question as to whether very young infants have any judgment or belief at all. The same question arises regarding brute animals and some mentally retarded people. This question is irrelevant to my present topic, and I say nothing here about it, but merely confine myself to people who do have the use of judgment.

[The word 'determination', which is about to become prominent, connects with settling, deciding, concluding, intellectually *opting*, or the like. No current word could safely be put in its place; you'll have to get the idea from the context.]

It is obvious that someone who •feels pain judges and believes that he is really in pain. The man who •perceives an object believes that it exists and is what he clearly perceives it to be; and it's not in his power to avoid such a judgment. The same holds for •memory and for •consciousness. I shan't argue about whether judgment should be called a *necessary accompaniment* of •these operations or rather a *part or ingredient* of them; but it's certain that all of them are accompanied by a determination that something is true or false, and a consequent belief. If this determination isn't judgment then we have no name for it; it isn't simple apprehension, nor is it reasoning; it

- is a mental affirmation or negation,
- may be expressed by an affirmative or negative proposition, and
- is accompanied by the firmest belief.

These are the characteristics of *judgment*; and I have to call it 'judgment' until I can find another name for it.

The judgments we form are either of necessary things or of contingent things. That three times three is nine, that the whole is greater than a part, are judgments about necessary things. Our assent to such necessary propositions isn't based on any operation of sense, of memory, or of consciousness, and it doesn't require the agreement of any of those. The only other operation that goes along with it is *conception*, which must accompany all judgment; so we can call this judgment of necessary things 'pure judgment'. In contrast with this, our judgment of contingent things must always rest on some *other* operation of the mind, such as sense or memory or consciousness—or belief in testimony, which is itself based on sense—and is in that way *not pure*.

That *I now write on a table covered with green cloth* is a contingent proposition which I judge to be most undoubtedly true. My judgment is based on my •perception, and is a necessary accompaniment or ingredient of my perception. That *I dined with Dr Stewart yesterday* I judge to be true because I •remember it, and my judgment necessarily goes along with this remembering or is a part of it.

Ordinary language contains many forms of speech showing that the senses, memory, and consciousness are regarded as *judging* faculties. We say that a man 'judges colours' by his eye, 'judges sounds' by his ear. We speak of 'the evidence of the senses', 'the evidence of memory', 'the evidence of consciousness'. Evidence is the basis for judgment, and when we see evidence it is impossible for us not to judge.

When we speak of seeing or remembering anything, we hardly ever add that we judge it to be true; but the reason for that seems to be that such an addition would be superfluous because everyone knows that what I see or remember I *must*

judge to be true. This is like the reason why, when speaking of something that is self-evident or strictly demonstrated, we don't say that we judge it to be true. This would be superfluous because everyone knows that we *must* judge something to be true if we think it is self-evident or has been demonstrated.

[Reid gives more examples where the addition of '... and I judge it to be true' would be true but superfluous. He winds up this discussion thus:] A pregnant woman never says that when she went on a certain journey she carried her child along with her. We know that while the child is in her womb she *must* carry it along with her. Well, some mental operations can be said to carry judgment in their womb, and can no more leave it behind them than the pregnant woman can leave her child. That's why in speaking of such operations we don't explicitly mention judgment.

Perhaps this fact about our speech led some philosophers into the opinion that in sense-perception, memory, and consciousness there is no judgment at all. Because it isn't mentioned in speaking of these faculties, they have inferred that judgment doesn't accompany them—that they are only different kinds of simple apprehension or idea-acquisition, and that judging is no part of their job.

[Reid criticises Locke's view that knowledge is one thing and judgment another, quoting passages from the *Essay* that express this view. All Locke's examples of 'knowledge', he says, also deserve the name 'judgment'. Then:] So as to avoid disputes about the meanings of words, please understand that I give the name 'judgment' to every determination of the mind concerning what is true or what is false. . . .

·Here is a different possible explanation for why philosophers have wrongly restricted the domain of judgment. Judgments based on the evidence of the senses, of memory, and of consciousness put all men on a level. So far

as these are concerned, the philosopher has no privilege above the illiterate person or even above the savage. *Their* reliance on the testimony of these faculties is as firm and as well grounded as his. Where he is superior to them is in judgments of another kind—judgments about things that are abstract and necessary—and he is reluctant to give the name 'judgment' to something in respect of which the most ignorant and primitive of our species are his equals.

But philosophers have never been able to give any definition of 'judgment' that •doesn't apply to the determinations of our senses, our memory, and consciousness; or any definition of 'simple apprehension' that •can include those determinations.

Our judgments of this kind are purely the gift of Nature, and there is nothing we can do to improve them. One man's memory may hold more than another's, but both men rely with equal confidence on what they clearly remember. One man's sight may be more acute, or his feeling more delicate, than another's, but the men are on a par in trusting the clear testimony of their sight and touch.

And just as we have this belief because of how we are built, without any effort of our own, so no effort of ours can overturn it.

The sceptic may persuade himself of the •general thesis that he has no reason to believe his senses or his memory, but in •particular cases that concern him his disbelief vanishes and he finds himself having to believe both his senses and his memory.

These judgments can in the strictest sense be called 'judgments of Nature'. Nature has laid them on us, whether we want them or not. They aren't acquired by any use of our faculties and can't be lost by any misuse of them. It is clearly necessary for our survival that this should be so. For if belief in our senses and in our memory had to be learned

by education, the race of men would die out before they learned this lesson. . . .

I admit that our entitlement to count as reasonable beings depends on our making the ‘judgments of Nature’ that I have been discussing *and building other judgments on the basis of them*. But the ‘former oughtn’t to be despised, for they are the foundation on which the grand superstructure of human knowledge must be constructed. In superstructures the foundation is usually overlooked, and so it has been here. The more lofty achievements of the human mind have attracted the attention of philosophers, while they have barely glanced at the humble foundation on which the whole structure rests.

(4) Judgment has to be exercised in ‘the formation of all abstract and general conceptions, however simple or complex, in ‘dividing ‘things into classes’, in ‘defining, and in general in ‘forming all clear and distinct conceptions of things—the only conceptions that are fit materials for reasoning. These operations are tied to each other, which is why I bring them all into my observation (4). They are more closely tied to our rational nature than those mentioned in (3), which is why I am taking them separately.

Don’t misunderstand me. I am *not* denying that abstract notions and other precise notions of things, *once they have been formed*, can be barely conceived without any exercise of judgment about them. I have no doubt that they can. What I am saying is that some judgment must be exercised *in the first formation* of such notions in the mind. ‘Here is why.’

To distinguish the different attributes belonging to a single thing, you have to *judge* ‘that they are really different and distinguishable, and ‘that they relate to the thing in the way that logicians express by saying that they ‘can be predicated’ of it. And we can’t generalise without *judging* that a given attribute does or can belong to many individuals.

I have shown that our simplest general notions are formed by these two operations, distinguishing and generalising. So judgment is exercised in forming the simplest general notions.

Then there are more complex notions, which I have shown to be formed by combining the simpler ones. Such combinations are not made at random, but for a purpose: we form complex general notions to make it easier for us to arrange our thoughts in discourse and reasoning; so we select, out of countless possible combinations, only the ones that are useful and necessary; and *judgment* is needed to make those selections.

It seems clear that judgment must be used in dividing [= ‘classifying’] as well as in distinguishing. It is one thing to divide a subject properly, another to cut it in pieces. . . . Reason has discovered rules of division that have been known to logicians for more than two thousand years. For definition, also, there are rules of no less antiquity and authority. ‘And the application of rules requires *judgment*’. No doubt a man can divide or define properly without ‘attending to the rules, even without ‘knowing them. But this can only be when he can *judge* to be right in a particular case something that the rule says is right in all cases.

So my general thesis is this: without some degree of judgment we can’t form precise and clear notions of things, so that one of judgment’s tasks is to help us in forming clear and distinct conceptions of things, the only conceptions that are fit for use in reasoning.

To philosophers who have always ‘regarded the formation of ideas of every kind as falling into the category of simple apprehension, and have ‘thought that judgment’s only role is to put ideas together in affirmative or negative propositions, my view will probably seem paradoxical. So I ought to provide some confirmation for it.

[Reid says that he already *has* provided confirmation, in his points about distinguishing, dividing and defining. Then:]

There can't be any proposition in *any* language that doesn't involve some general conception. The proposition that *I exist*, which Descartes thought to be the first of all truths and the basis for all knowledge, can't be conceived without the conception of *existence*, which is one of the most abstract general conceptions. A man can't believe in his own existence, or the existence of anything he sees or remembers, until he has enough judgment to distinguish things that really exist from things that are only conceived. He sees a woman six feet tall, and judges that she exists, because he sees her; he conceives a woman sixty feet tall, and doesn't judge that *she* exists, because he only conceives her. Well, then, can he attribute existence to the first woman and not to the second without knowing what existence means? Not possibly! [Reid's example concerned tall men, not women; the change is made in the interests of clarity.]

I can't discover how early the notion of existence enters the mind, but it must certainly be in the mind as soon as we can affirm of anything—understanding what we are saying—that it exists.

In every other proposition, the predicate at least must be a general notion—because a predicable is the same thing as a universal. In addition, every proposition either affirms or denies. And no-one can have a distinct conception of a proposition unless he clearly understands what it is to affirm or deny. But these are very general conceptions and, I repeat, their source and origin is judgment.

·THE INFINITE REGRESS OBJECTION·

I am aware that a strong objection may be made to this reasoning, and that it may seem to lead to an absurdity or a contradiction *or* an infinite regress. It goes like this:

Every judgment is a mental affirmation or negation.

I have said that some *previous* exercise of judgment must have occurred, if one is to understand what is meant by affirmation or negation. It follows that *every* exercise of judgment must be preceded by an exercise of judgment—which is absurd.

Here is a variant on that:

Every judgment can be expressed by a proposition, and *a* proposition must be conceived before we can judge concerning it. I have said that *we* can't conceive the meaning of a proposition without a *previous* exercise of judgment. It follows that *any* judgment must be preceded by the conception of a proposition, and that *the* conception of any proposition must be preceded by judgment—which is a contradiction.

Please notice that I have limited what I have said to *clear* conception and *some degree of* judgment; and I look to those qualifications to keep me out of this labyrinth of absurdity and contradiction. The faculties of conception and judgment are like us—they start as infants, and grow to maturity. What I have been saying is limited to their mature state. I believe in their infant state they are very weak and unclear, and that very gradually they grow to maturity, helping one another along the way. Which of them *first began* this friendly relationship? I am quite unable to answer that. It's like the question about the bird and the egg.

In the *present* state of things it is true that every bird comes from an egg and every egg from a bird; and each may be said to precede the other. But if we go back to the origin of things, there must have been a bird that didn't come from any egg, or an egg that didn't come from any bird.

Similarly, in the mature state of man the clear conception of a proposition presupposes some earlier use of judgment, and clear judgment presupposes clear conception. Each can truly be said to precede the other, as the bird precedes the

egg and the egg precedes the bird. But if we run this series back to its origin—i.e. to the first proposition that was ever conceived by the ·first· man and the first judgment he ever formed—I have nothing to say about those; I don't know *how* or *in what order* they were produced, any more than I know how bones grow in the womb of a pregnant woman. The first exercise of the faculties of conception and judgment is hidden from us.

Consider the analogous case of an artist—a carpenter, say—who can't work at his art without tools, which must be made by art. So the art must be exercised to make the tools, and the tools are necessary for the exercise of the art. This presents the same *appearance of* contradiction as does my thesis that some degree of judgment is needed in order to form clear and distinct conceptions of things. Such conceptions are the tools we must use in judging and in reasoning, and without them we'll do very bungling work; yet these tools can't be made without some exercise of judgment.

·BACK TO THE MAIN THREAD·

The need for some degree of judgment in forming precise and clear notions of things will show up again if we consider carefully what notions we can form, without any help from judgment, of (a) the objects of the senses, (b) the operations of our own minds, and (c) the relations amongst things.

(a) Everyone agrees that our first notions of sensible objects are acquired through the external senses alone, probably before judgment makes an appearance; but these first notions are not simple, nor are they precise and clear. They are crude and unclear, and like 'a rough unordered mass of things' [Reid quotes this from Ovid, in Latin]. Before we can have any clear notion of this mass we must analyse it; we have to separate in our thought the different kinds of parts it contains; the simple elements that were previously hidden in the common mass have to be sorted out separately

and then re-assembled into one whole.

That is how we form clear notions even of the objects of sense; but we are apt to overlook this process of analysis and re-assembly, because it becomes habitual to us, and then we can do it so smoothly and easily that we don't notice it and attribute the clear notion we have formed of the object to the senses alone, ·with no input from judgment·. We are all the more likely to do this because our senses give testimony regarding *each* of an object's sensible qualities—*once we have distinguished them from one another*.

You perceive, for instance, an object that is white, round, and a foot in diameter. I agree that it is *by sense*—·by your eyesight·—that you perceive all these attributes of the object. But if you hadn't been able to distinguish the colour from the shape, and both from the size, your eyesight would have given you only one complex and confused notion of all these attributes jumbled together.

A man who can say with understanding, or can determine in his own mind, that *this object is white* must have distinguished whiteness from other attributes. If he hasn't made this distinction, he doesn't understand what he is saying.

Suppose we show a cube of brass to a one-year-old child and to a man. The regularity of the shape will attract the attention of both. The two have equally good senses of sight and touch, so if the man finds in this cube something that the child can't find in it, that must be due not to the senses but to some other faculty that ·the man has and· the child has not yet attained. The man •can easily distinguish the body from the surface that terminates it, •can perceive that this surface is made up of six planes of the same shape and size, and •can perceive that each of these planes has four equal sides and four equal angles, and that the opposite sides of each plane are parallel, as are also the opposite planes. The child cannot discover any of this.

You'll surely agree that a man of ordinary judgment •can observe all this in a cube that he attends to and thinks about carefully, and •can give the name 'square' to a plane terminated by four equal sides and four equal angles, and the name 'cube' to a solid terminated by six equal squares. All this is nothing but analysing into its simplest elements the shape of the object presented to his senses, and then re-assembling those elements to get the object back.

By this analysis and re-assembly two effects are produced.

(i) From the one complex object which the man's senses presented, though it is one of the simplest the senses can present, he extracts many simple and clear notions of

straight lines
angles
plane surface
solid
equality
parallelism

—notions that the child isn't yet able to acquire. (ii) When he considers the cube as made up of these elements put together in a certain order, he has—*then and not before*—a clear and scientific notion of a cube. The child doesn't conceive those elements, let alone conceive in what order they must be assembled in order to make a cube; so he has no precise notion of a cube that would enable him to reason about it.

I think we can infer from this that the notion we have from the senses alone, even of the simplest objects of the senses, is unclear and incapable of being either described or used in reasoning until it is analysed into its simple elements and regarded as built up out of them. . . .

A clear notion of an object, even of an object of the senses, is never acquired in an instant; but the senses do their job in an instant. Time is required not •to see the thing better but •to analyse it—to distinguish its different parts and their

relation to one another and to the whole.

[Reid goes on to say that when we are in a state of high emotion our sense-perceptions are worse because our judgment is worse. At these times, 'the eye of sense is open but that of judgment is shut'. Then:]

So there are notions of the objects of sense that are crude and unclear, and there are others that are distinct and scientific. The former can be acquired from the senses alone, but the latter can't be obtained without some degree of judgment. The clear and precise notions that geometry gives us of

point
straight line
angle
square
circle
ratios, direct and inverse,

and others of that kind, can't get into any mind that doesn't have some degree of judgment. They are not strictly ideas of the senses, nor are they acquired by combining ideas of the senses. We get them, rather, by •analysing into their simplest elements the ideas or notions we get through the senses, and •re-combining these elements into various precise and elegant forms that the senses never did and never can exhibit.

If Hume had attended properly to this, it ought to have headed off his very bold attempt—fourteen pages of it!—to prove that geometry is based on •ideas that are not exact and •axioms that are not precisely true (*Treatise* I.ii.4). A mathematician might be tempted to think that someone who seriously argues this doesn't know much about geometry; but I think its cause lies elsewhere—in Hume's zeal for his own system. We see that even men of genius can be drawn into strange paradoxes by their attachment to a favourite

idol of the understanding, when it demands such a costly sacrifice.

We protestants think that Roman catholics pay a very large tribute to their church's authority, when in obedience to its decrees they renounce their five senses. But Hume pays an even larger tribute: his devotion to his system leads him even to trample on mathematical demonstration.

The basic doctrines of his system are that •all the perceptions of the human mind are either impressions or ideas, and that •ideas are only faint copies of impressions. The idea of a straight line, therefore, is only a faint copy of some line that has been seen or felt by touch; and the faint copy can't be more perfect than the original. Now, obviously the axioms of geometry aren't exactly true of lines like *that*, for two lines that are *straight to our sight or touch* can intersect twice. If therefore we can't form any notion of *straight line* more precise than what we have from the senses of sight and touch, geometry has no solid foundation. But we can run the argument the other way. If the geometrical axioms *are* precisely true, the idea of *straight line* is not copied from any impression of sight or touch, and must have a different origin and a more perfect standard.

Just as the geometrician by reflecting on the •extension and shape of matter forms a set of notions more precise and scientific than any that the senses exhibit, so also the natural philosopher by reflecting on •other attributes of matter forms another set of notions, including

density
 quantity of matter
 velocity
 momentum
 fluidity
 elasticity
 centres of gravity and of oscillation.

These notions are precise and scientific; but they can't get into a mind that doesn't have some degree of judgment, and we can't make them intelligible to children until they have some maturity of understanding. . . . And the same is true for the terminology of every science and every art about which we can reason. Children have their five senses as perfect as men do for years before they are capable of distinguishing, comparing, and perceiving the relations of things so as to be able to form such notions. They acquire the intellectual powers by a slow and gradual progress, and by means of them they learn to form clear and precise notions of things— notions that the senses could never have imparted.

(b) So much for the notions of the objects of sense that we get from the senses alone, •unaided by judgments•. Now let us consider what notions of the operations of our minds we can have from consciousness alone, •unaided by judgments•.

Locke very properly calls consciousness an 'internal sense' (*Essay* II.i.4). It gives the same kind of immediate knowledge of things in the mind—i.e. of our own thoughts and feelings—that the senses give us of external things. There is this difference, however, that an external object may be static, so that the senses can be brought to bear on it for some time. But the objects of consciousness are never still; the stream of thought flows like a river, never stopping for a moment; the whole train of thought passes successively under the eye of consciousness, which is always employed about the *present*. But is it *consciousness* that analyses complex operations, distinguishes their ingredients, and sorts them into distinct lots under general names? Surely not! This work can't be done without reflection, recollecting and judging concerning what we •were conscious of and •now remember. This reflection doesn't appear in children. Of all the powers of the mind it seems to one of the last to show up, while consciousness is among the earliest.

Because consciousness is a kind of internal *sense*, it can't give us clear and precise notions of the operations of our minds, any more than the external senses can give such notions of external objects. •Reflection on the operations of our minds is the same kind of operation as •that by which we form clear notions of external objects. The two differ not in their nature but only in that one engages with external objects and the other with internal ones. Each could quite properly be called 'reflection'.

Locke has restricted the word 'reflection' to the kind of reflection that is concerned with the operations of our minds. I don't think that custom, which is the arbiter of language, entitles him to this usage. Surely I can *reflect* on what I have •seen or •heard as well as on what I have •thought. . . . Locke has also confused •reflection with •consciousness, and seems not to have realized that they are different powers and appear at very different periods of life.

If that eminent philosopher had been aware of these mistakes about the meaning of the word 'reflection', I think he would have seen that just as

- we can form clear and precise notions of the operations of our minds only by reflection, •properly so-called, and not by consciousness without reflection, so also

- we can form clear notions of the objects of the senses only by reflection, and not by the senses without reflection.

Reflection on *anything*, whether external or internal, makes it an object of our intellectual powers, by which we survey it on all sides and make such judgments about it as appear to be sound and true.

(c) I proposed in the third place to consider our notions of the relations of things. What I have to say about this is that in my opinion: without judgment, we can't have any notion

of relations.

[In the rest of this chapter, and early in the next, Reid will use 'compare' in a sense that was current in his day: to 'compare' two things, in this sense, is just to hold them before your mind at the same time in order to see how they are inter-related, not just to see how (un)alike they are. We still use 'compare' in that broader sense, when we speak of 'getting together to compare notes'.]

There are two ways in which we get the notion of relations. The first is by **comparing the related objects**, after we have first had the conception of each. By this comparison we perceive the relation, perceiving it either immediately or through a process of reasoning. I perceive immediately that my foot is longer than my finger, and that three is half of six. This immediate perception is immediate and intuitive *judgment*. That the angles at the base of an isosceles triangle are equal I perceive by a process of •reasoning, and everyone will agree that there is judgment in •that.

The other way for us to get the notion of relations—a way that seems not to have occurred to Locke—is by **attending to one of the related objects** and perceiving or judging that its nature is such that it must have a certain relation to something else—perhaps something we have never thought of before. In this way, our attention to one of the related objects produces the notion of a related object and of a certain relation between them.

Thus, when I attend to colour, shape, weight, I can't help judging these to be qualities that can't exist except in a subject—i.e. in something that is coloured, shaped, heavy. If I hadn't perceived them to be qualities, I would never have had any notion of the thing that has them or of their relation to it.

By attending to the operations of thinking, memory, and reasoning, we perceive or judge that there must be something that thinks, remembers, and reasons—something that we

call 'the mind'. When we attend to any change that happens in Nature, judgment informs us that this change must have had a cause that had the power to produce it; and thus we get the notions of cause and effect and of the relation between them. When we attend to body, we perceive that it can't exist without space; and so we get the notion of •space (which is not an object of sense *or* of consciousness) and of •the relation that each body has to its *place*, which is a certain portion of unlimited space.

So I think that all our notions of relations can be more properly be ascribed to judgment as their source than to any other power of the mind. 'Can't I conceive of a relation without making any judgment concerning it?' Yes, but

before conceiving relations without judging about them, we must first perceive them by our judgment.

That is analogous to this: 'Can't I conceive of a colour

without seeing it?' Yes, but

before we can conceive colours without seeing them, we must first perceive colours by sight.

When Locke comes to speak of the ideas of relations, I don't think he says that they are ideas of sensation or reflection, but only that they 'terminate in' and 'are concerned about' ideas of sensation or reflection.

The notions of unity and number are so abstract that they couldn't possibly get into a mind that doesn't yet have any degree of judgment. We see how hard it is for children to learn to use and understand the names even of small numbers, how slow they are at this, and how triumphant they are when they succeed. Every number is conceived by its relation to *unity* or to known combinations of units; and for that reason, as well as because of its abstract nature, all clear notions of number require some degree of judgment. . . .

Chapter 2: Common sense

The word 'sense' seems to have a different meaning in common language from its meaning in the writings of philosophers; and those different meanings are apt to be muddled together, giving rise to embarrassment and error.

I shan't go back to ancient philosophy on this matter. Modern philosophers regard •sense as a power that has nothing to do with •judgment. They regard •sense as the power by which we receive certain ideas or impressions from objects, and •judgment as the power by which we compare those ideas and perceive their necessary agreements and disagreements.

The external senses give us the ideas of colour, shape, sound, and other qualities—primary or secondary—of bodies. Locke called consciousness an 'internal sense' because through it we have the ideas of thought, memory, reasoning, and other operations of our own minds. Hutcheson thought that we have simple and original ideas that can't be attributed either to the external senses or to consciousness, so he introduced other internal senses such as the sense of harmony, the sense of beauty, and the moral sense. Ancient philosophers also spoke of 'internal senses', of which memory was thought to be one.

But all these ‘senses’, whether external or internal, have been represented by philosophers as the providers to our minds of •ideas, without including any kind of •judgment. Hutcheson defines a *sense* as *the mind’s determination to receive ideas from the presence of an object independently of our will*. And Priestley writes:

Philosophers have used the word ‘sense’ to name the faculties in consequence of which we are liable to feelings *relative to ourselves only*, and from which they haven’t claimed to draw any conclusions concerning the nature of things; whereas truth is not •relative but •absolute and real.

Not so! In common language ‘sense’ always implies *judgment*. A man of sense is a man of judgment. Good sense is good judgment. Nonsense is what is obviously contrary to right judgment. Common sense is *the degree of judgment that is common to men with whom we can converse and transact business*.

Philosophers call seeing and hearing ‘senses’ because we have ideas by them; the vulgar call them ‘senses’ because we judge by them. We judge colours by the eye, sounds by the ear, beauty and ugliness by taste, right and wrong in conduct by our moral sense or conscience.

Philosophers who portray sense as having only one role, namely to provide us with ideas, slip without realizing it into the popular opinion that the sense are *judging* faculties. Thus Locke, writing about the thesis that the quality of colour really exists and has a being outside me: ‘The best assurance I can have, the best my faculties are capable of, is the testimony of my eyes; they are the proper and sole judges of this thing’ (*Essay* IV.xi.2). This popular meaning of the word ‘sense’ is not peculiar to the English language. The corresponding words in Greek, Latin, and (I believe) all the European languages have the same meaning-spread. The

Latin words *sentire*, *sententia*, *sensa*, *sensus*—from the last of which the English word ‘sense’ is borrowed—stand for judgment or opinion, and are applied equally to objects of external sense, of taste, of morals, and of the understanding.

I can’t claim to explain why a word that is not a technicality, and is familiar in common conversation, should have such a different meaning in philosophical writings. I merely remark that the philosophical meaning corresponds perfectly with the account that Locke and other modern philosophers give of judgment. For if the •only role of the external and internal senses is to provide the mind with the ideas about which we judge and reason, it seems to be a natural consequence that •the only role of judgment is to compare those ideas and to perceive their necessary relations.

These two opinions seem to be so connected that one may have been the cause of the other. Anyway, I think that if both are true there is no room left for any knowledge or judgment either about the real existence of contingent things or about their contingent relations.

To return to the popular meaning of the word ‘sense’: it would be much harder to find good authors who never use the word with that meaning than to find ones who do. [Reid then quotes eight lines by Pope, in which ‘good sense’ is described as ‘the gift of Heaven’ and ‘a light which in yourself you must perceive’. Then:] This inner light or sense is given by heaven to different persons in different degrees. We must have a certain degree of it if we are to be subjects of law and government, capable of managing our own affairs, and responsible for our conduct towards others. This is called ‘common sense’, because it is common to all men with whom we can transact business or hold accountable for their conduct.

The laws of all civilised nations distinguish •those who have this gift of heaven from •those who don't. The •latter may have rights that ought not to be violated, but because they have no understanding of their own to direct their actions, the laws arrange for them to be guided by the understanding of others. •Their lack of common sense• is easily detected through its effects on their actions, through what they say, and even through their physical appearance. When there is a question as to whether or not a man has this natural gift of common sense, a judge or a jury can usually give a confident answer after a short conversation with him.

The same degree of understanding that makes a man capable of •acting with common prudence in the conduct of life makes him capable of •discovering what is true and what is false in matters that are self-evident and that he is clear about in his mind.

All knowledge and all science must be built on principles that are self-evident; and every man who has common sense is a competent judge of such principles when he conceives them clearly. That is why disputes very often come down to appeals to common sense.

When the disputants agree on the first principles on which their arguments are based, there is room for reasoning; but when one denies something that the other finds too obvious to need or to be capable of proof, reasoning seems to be at an end; an appeal is made to common sense, and each disputant is left to enjoy his own opinion.

There seems to be no cure for this, and no way to *discuss* such appeals •to common sense•, unless the decisions of common sense can be encoded in rules that all reasonable men accept. If this were possible it would be very desirable, and would give logic something it needs; and why *shouldn't* it be possible for reasonable men to agree on things that are self-evident?

All I want to do in this chapter is to explain the meaning of 'common sense', so that it won't be treated (as some *have* treated it) as signifying something new or as a phrase without any meaning. I have tried to show that 'sense', in its most common and therefore its most proper meaning, signifies *judgment* (though philosophers often use it with a different meaning). This makes it natural to think that 'common sense' should mean *common judgment*; and so it really does.

It may be hard to settle the precise limits separating common judgment from •what is beyond it, on the one hand, and from •what falls short of it, on the other. Men who agree about the meaning of the phrase 'common sense' may disagree about where those limits lie, or may never have even thought of fixing them. There is nothing puzzling about this, any more than there is about the fact that all Englishmen mean the same thing by 'the county of York' though not one in a hundred can point out its precise boundaries.

Indeed, it seems to me that 'common sense' is as well understood and as free from ambiguity as 'the county of York'. We find the phrase in countless places in good writers; we hear it on countless occasions in conversation; and as far as I can tell it is always used with the same meaning. That is probably why it is so seldom defined or explained. [Reid then quotes Bentley, as quoted in Johnson's dictionary: '. . . power and abilities which we call natural light and reason and common sense'. Then:] It is true that 'common sense' is a popular and not a scholarly phrase; and most philosophers who have written systematically about the powers of the understanding have used it only occasionally, and the same is true of other writers. But I recall two philosophical writers who are exceptions to this remark. One is Buffier, who wrote at length about common sense as a source of knowledge more than fifty years ago.

The other is Berkeley, who I think has laid as much stress on •common sense, in opposition to the •doctrines of philosophers, as any philosopher that has come after him. Look back at the quotations from him in Essay 2, chapter 10; I needn't repeat them here.

Men rarely ask what common sense is, because everyone thinks that *he* has it. . . . Yet I remember two very eminent authors who have asked this question; and we should hear their views on this topic that is so often mentioned and so rarely discussed.

It is well known that Lord Shaftesbury called one of his treatises *Sensus Communis: an Essay on the freedom of wit and humour, in a letter to a friend*. [*Sensus communis* is Latin for 'common sense'.] In this, he reminds his friend of a free-wheeling conversation they once had with some of their friends on the subjects of morality and religion. Amidst the different opinions launched and defended with great vivacity and ingenuity, every now and then someone would make an appeal to common sense. Everyone allowed the appeal; no-one questioned the authority of the court; until someone whose intellect they had never questioned solemnly asked them to tell him what common sense is. He said:

If by the word 'sense' we were to understand opinion and judgment, and by the word 'common' the whole or any considerable part of mankind, it would be hard to discover where there is any common sense; for views agreeing with the 'sense' of one part of mankind would conflict with the 'sense' of another part. And if 'common sense' were to be determined by the *majority*, it would change as often as men changed.

In religion, he said, common sense was as hard to determine as *catholic* or *orthodox*; one sect's absurdity was another's demonstration. He continued:

In political matters, if plain British or Dutch 'sense' were right, Turkish and French 'sense' must certainly be wrong. Passive obedience—i.e. unquestioning obedience to a ruler with unlimited powers—seemed to us to be mere nonsense; but it turned out to be the 'common sense' of •a considerable proportion of our fellow-countrymen, •a larger proportion in Europe, and perhaps •a majority of all the world. As for morals, the difference is still wider; for even the philosophers can never agree on a single system. And even some of our most admired modern philosophers have openly told us that virtue and vice have no law or criterion except mere fashion and vogue.

That is the substance of the gentleman's speech. I think it explains the meaning of 'common sense' perfectly, and contains the whole case—everything that has been said or can be said—against the authority of common sense and the permissibility of appeals to it.

There is no report of any immediate answer to this speech, which might incline us to think that the noble author agrees with the views of the intelligent gentleman whose speech he quotes. But that would be wrong, as is clear from the title *Sensus Communis* given to his work, from his frequent use of the phrase 'common sense', and from the whole tenor of the book. [Reid backs this up with a discussion of what Shaftesbury was up to in this work, and quoting some passages including this:]

Some moral and philosophical truths are so evident in themselves that it would be easier •to imagine that half mankind had run mad in precisely the same way than •to admit as truth anything that was advanced against such natural knowledge, fundamental reason, and common sense.

[After adding one more quotation from Shaftesbury, again treating ‘common sense’ as a criterion of truth, Reid presents passages from Fénelon, Cicero, Hume, and Priestley—all using the phrase ‘common sense’ (or its French or Latin equivalent) to stand for a source of knowledge, and thus as implying that common sense involves *judgment*. Then:]

On the basis of this cloud of testimonies (and I could have given hundreds more), I think that whatever criticism is spread over those who have spoken of common sense as a source of knowledge, or who have appealed to it in matters that are self-evident, will fall lightly on any individual when there are so many to share in it! . . .

From the account I have given of the meaning of the phrase ‘common sense’, it is easy to see how to use it properly and how to tell when it is being misused.

It is absurd to think that common sense could be in any way opposed to reason. It is indeed reason’s first-born, and just as they are commonly joined together in speech and in writing they are inseparable in their nature.

We ascribe to reason two roles, or two degrees—•to judge concerning self-evident things, and •to draw conclusions that are not self-evident from premises that are. The former is the job of common sense—its only job. So the whole of common sense coincides with reason; indeed ‘common sense’ is only another name for one branch (or degree) of reason. ‘Why give it a name of its own, when you admit that it is only a degree of reason?’ . . . There is an obvious reason why this degree of reason should have its own special name. It’s that in the vast majority of mankind no other degree of reason is to be found. It is this degree that entitles them to be called

‘reasonable creatures’. It is this degree of reason—and *only* this—that makes a man capable of managing his own affairs and accountable for his conduct towards others. So there is the best reason why it should have its own special name.

These two degrees of reason differ in other respects, which would be sufficient to entitle them to distinct names.

The first is purely the •gift of heaven, and where heaven hasn’t given it no education can make up for that. The second is learned by practice and rules when the first is not lacking. A man who has common sense may be taught to reason. But if someone doesn’t have that •gift, no teaching will enable him either to judge concerning first principles or to reason from them.

I have only one other point to make, namely that common sense has more work to do in •refutation than in •confirmation. A conclusion drawn by valid reasoning from true principles can’t possibly contradict any decision of common sense, because truth will always be consistent with itself. And such a conclusion can’t be confirmed by common sense, because it doesn’t lie with common sense’s jurisdiction.

But someone who sets out from false principles, or who makes a mistake in reasoning, may be led to a conclusion that contradicts the decisions of common sense. In this case the conclusion *is* within the jurisdiction of common sense, even though the reasoning on which it was based is not; and a man of common sense is entitled to reject the conclusion without being able to show the error of the reasoning that led to it. . . .

Chapter 3: The views about judgment of Locke and other philosophers

A difference in what two philosophers mean by a given word ought not to generate disputes between them. But we often need to attend to such differences, so as to prevent verbal disputes. There are indeed no words in any language more liable to ambiguity than the words we use to signify the operations of the mind; and there are sometimes differences of opinion about their precise meaning, even among people who are fair-minded and have good judgment.

I have hinted [page 221] at what I take to be a peculiarity in Locke concerning the meaning of 'judgment', and I mentioned what I think may have led him into it. But I'll let him speak for himself:

The faculty that God has given to man, to make up for the lack of clear and certain knowledge in cases where that can't be had, is *judgment*. Using this, the mind takes its ideas to agree or disagree—that is, takes a proposition to be true or false—without proofs that it perceives as demonstratively self-evident. (*Essay* IV.xiv.3)

Thus the mind has two faculties having to do with truth and falsehood. •First, knowledge, whereby it certainly perceives and is satisfied beyond doubt of the agreement or disagreement of any ideas. •Secondly, judgment, which is putting together or separating ideas in the mind when their certain agreement or disagreement is not perceived but is presumed to be so. (4)

Knowledge, I think, sometimes signifies •things that are known, sometimes •the act of the mind by which we know them. Similarly, 'opinion' sometimes signifies •things that are believed, sometimes •the act of the mind by which we

believe them. But *judgment* is the **faculty** that is exercised in both these acts of the mind. In knowledge we judge without doubting, in opinion we judge with some mixture of doubt. But Locke is the only writer I know of who has called knowledge a **faculty** (and even he doesn't call opinion a faculty!).

Nor do I think that knowledge is confined within the narrow limits that Locke puts around it; because most of what all men call human knowledge concerns things that don't admit of intuitive or of demonstrative proof.

I have all along used the word 'judgment' in a more extended sense than Locke does in the passage quoted above. I use it to stand for the operation of mind by which we determine [= 'decide'], concerning anything that can be expressed by a proposition, whether it is true or false. Every proposition is either true or false; so is every judgment. A proposition may be simply conceived without judging in regard to it. But when there is not only a conception of the proposition but a mental affirmation or negation, an assent or dissent of the understanding, whether weak or strong, that is *judgment*.

I think that since the days of Aristotle •logicians have taken 'judgment' and its equivalents in other languages in that sense, and so have most •other writers. It does have other meanings, but not ones that are in any danger of being mixed up with this.

[Reid cites a passage by Watts, describing and using 'judgment' in the sense that Reid approves of. Then:]

In this meaning, 'judgment' extends to every kind of evidentness, whether probable or certain, and to every degree—every *strength*—of assent or dissent. It extends to

all •knowledge as well as to all •opinion, the only difference being that in •knowledge it [i.e. the judgment] is more firm and steady, like a house founded on a rock, whereas in •opinion it stands on a weaker foundation, and is more liable to be shaken and overturned.

I don't go into these differences about the meanings of words in the spirit of 'Truth is on one side and error on the other', but for two other reasons. Most of Locke's terminology is precise and clear, and I wanted to defend my departing from it in this instance. Also, attention to the different meanings that are given to words by different authors is the best way to avoid mistaking verbal differences for real differences of opinion.

The common theory of ideas [see Essay 2, chapter 8 re this phrase] naturally leads to a theory of judgment, which may be a good test of its truth; for as the two are necessarily connected, they must stand or fall together. Here is how Locke describes their connection:

- Since the mind in all its thoughts and reasonings has no immediate object other than its own ideas, which are all it can contemplate, it is evident that our knowledge has to do only with them.
- Knowledge, then, seems to me to be nothing but the perception of the connection and agreement, or disagreement and incompatibility, of any of our ideas. That is all it is. (*Essay* IV.i.1-2)

The only objection to the validity of this inference is that the proposition from which the inference is made seems to have some ambiguity. For in the first clause of that proposition the mind is said to have 'no *immediate* object other than its own ideas'; in the second clause it is said that the mind has no other object *at all*—that all it can or does contemplate are ideas. If the word 'immediate' in the first clause is a mere filler—conveying the idea that for Locke the only objects are

immediate objects—and isn't meant to pick out *immediate* objects of thought as a *sub*-class of all objects of thought, then the two clauses of that first proposition—

- the mind. . . has no immediate object other than its own ideas,
- all that a mind can contemplate are its own ideas,

will be perfectly consistent, the second being only a repetition or spelling out of the first; and the inference that our knowledge has to do only with ideas will be perfectly logical.

But if the word 'immediate' in the first clause is intended to limit the general proposition, implying that the mind has other *objects* besides its own ideas though no other *immediate objects*, then it won't be true that all it does or can contemplate are ideas, and it won't validly follow that our knowledge has to do only with ideas.

Well, did Locke mean his antecedent proposition without any limitation by the word 'immediate', or did he mean to limit it by that word, thus indicating that some objects—though not immediate objects—of the mind are not ideas? The former alternative seems to me the more probable, for four reasons.

(1) When Locke explicitly defines 'idea' in the introduction to the *Essay*, he says it is 'whatever is the object of the understanding when a man thinks, or whatever the mind can be engaged with in thinking'. This leaves no room for objects of the mind that are not ideas. The same definition is often repeated throughout the *Essay*. . . . Now, if it had really been his opinion that some objects of thought are not ideas, this definition, which is the foundation of the whole *Essay*, would have been very improper and apt to mislead his reader.

(2) Locke has never attempted to show *how* there can be objects of thought that are not immediate objects; and indeed this seems impossible. For whatever the object is, the

man either thinks of it or he doesn't: there is no third way between these! If he thinks of it, it is an immediate object of thought while he thinks of it. If he doesn't think of it, it isn't an object of thought at all. Thus, every object of thought is an immediate object of thought, and the word 'immediate' joined to 'objects of thought' seems to be a mere filler.

(3) Though Malebranche and Berkeley believed that we have no ideas of minds or of the operations of minds, and that we can think and reason about them without ideas, this wasn't Locke's opinion. He thought •that there are ideas of minds and of their operations, as well as of the objects of sense, •that the mind perceives nothing but its own ideas, and •that all words are the signs of ideas.

(4) To suppose that Locke intended the word 'immediate' to *limit* the antecedent proposition is to attribute to him a blunder in reasoning that I don't think he could have committed. It would consist in inferring from the premise

•ideas are among the objects of thought, but aren't the only objects of thought

the conclusion

•all our knowledge has to do only with ideas.

You couldn't come up with a more glaring invalidity than that! On the other hand, if he meant that ideas are the only objects of thought, then the inference he draws is perfectly sound and obvious; and he could just as well have said: *Since ideas are the only things that the mind does or can contemplate, it is evident that our knowledge has to do only with them.*

As to the conclusion itself, I have only to remark that although Locke says what he does only about knowledge (as he calls it) and not about judgment (as he calls it), there is the same reason for extending it to both. It is true of •judgment as well as of •knowledge that it must have to do with objects of the mind, or things that the mind can

contemplate. Judgment, as well as knowledge, requires the conception of the object about which we judge; and it is obviously impossible to judge concerning objects that never were and never can be objects of the mind, •because that would involve judging concerning objects of which one had no conception•.

So we can take it for granted that if knowledge has to do only with ideas, because there is no other object of the mind, it must be just as certain—and for the same reason—that judgment has to do only with ideas.

Locke adds, as the result of his reasoning: 'Knowledge, then, seems to me to be nothing but the perception of the connection and agreement, or disagreement and mutual inconsistency, of any of our ideas. That is all it is.'

This is a very important point, not only •in itself but also •because of its necessary connection with his theory of ideas. The (a) thesis about knowledge and the (b) theory of ideas are connected in such a way that they must stand or fall together. If (a) falls, i.e. if there is any part of human knowledge that doesn't consist in the perception of the agreement or disagreement of ideas, it must follow that (b) falls, i.e. that there are objects of thought and of contemplation that aren't ideas.

So (a) the thesis about knowledge ought to be carefully examined. With this view let us first attend to its *meaning*. I don't think it is likely to be misunderstood, but its meaning may need to be explained somewhat.

Every item of knowledge, and every judgment, is expressed by a proposition in which something is affirmed or denied of the subject of the proposition.

By perceiving 'the connection or agreement' of two ideas, I think Locke means perceiving the •truth of an affirmative proposition of which the subject and predicate are ideas. Similarly, by perceiving 'the disagreement and mutual

inconsistency' of two ideas, I think he means perceiving the truth of a •negative proposition of which both subject and predicate are ideas. This seems to be the only meaning the words can bear, and it is confirmed by what Locke says in a passage already quoted a page back, where he equates 'the mind takes its ideas to agree or disagree' with 'the mind takes a proposition to be true or false'. So if the definition of knowledge given by Locke is sound, the subject as well as the predicate of every proposition by which any item of •knowledge is expressed can only be an idea; and the same must hold for every proposition by which •judgment is expressed, as I have shown.

Having become clear about the meaning of this definition of *human knowledge*, we next have to consider how far it is sound.

•BRINGING IN THE ANCIENTS•

First, I would observe that •if 'idea' is taken in the meaning it had at first among the Pythagoreans and Platonists, and •if by 'knowledge' is meant only abstract and general knowledge (which I think Locke chiefly had in mind), I think it is true that such knowledge consists solely in perceiving the truth of propositions whose subject and predicate are ideas.

By 'ideas' here I mean things conceived abstractly without regard to their existence. We commonly call them 'abstract notions', 'abstract conceptions', 'abstract ideas'; the Aristotelians called them 'universals'; and the Platonists called them simply 'ideas', period, because they didn't know of any other sorts of ideas.

Such ideas are both subject and predicate in every proposition which expresses abstract knowledge.

The whole body of pure mathematics is an abstract science; and in every mathematical proposition both subject and predicate are 'ideas' in the sense I am now exploring. [Reid explains this with examples, emphasizing that math-

ematics implies nothing about what exists. He adds that all so-called 'demonstrative evidentness' is found only in abstract knowledge. Demonstrations do occur in physical sciences, but always from premises that aren't intuitively or demonstratively evident. Then:]

'Ideas', in the sense I am exploring, are creatures of the mind: they are constructed by its rational powers, and we know their nature and their essence because they are nothing more than they are conceived to be. And because they are completely known, we can reason about them with the highest degree of evidentness.

And because they are not things that exist, but things that are conceived, they don't have place or time, and are not liable to change.

When we say that ideas are 'in the mind', *all* this can mean is that they are conceived by the mind, or that they are objects of thought. The act of conceiving them *is*, no doubt, in the mind •in a more literal sense•; the things that are conceived have no place, because they have no existence. Thus a circle, considered abstractly, is said figuratively to be 'in the mind' of the person who conceives it; but in *that* sense it is also true that the city of London is 'in his mind' when he thinks about it.

Place and time belong to finite •things that exist, but not to things that are merely •conceived. They can be objects of conception to thinking beings in every place and at all times, which led the Pythagoreans and Platonists to think that ideas are eternal and omnipresent. If they had existence, that would have to be right, for they have no relation to *any one* place or time that they don't have to *every* place and to every time.

The natural prejudice of mankind that *what we conceive must have existence* led those ancient philosophers to attribute existence to ideas, and that's what led them into all

the extravagant and mysterious parts of their system. When those parts are cleaned out, I think that what remains is the only intelligible and rational system about ideas.

I agree with them, therefore, that ideas are unchangeably the same in all times and places. For this means merely that a circle is always a circle and a square always a square.

I agree with them that ideas are the patterns or models by which every thing that had a beginning was made. For a thinking maker must conceive his work before making it, and he makes it according to that conception. And the thing that is conceived can only be an idea until it exists.

I agree with them that every *species* of things, considered abstractly, is an idea; and that the idea of the species is in every individual of the species, without being •divided or •multiplied—i.e. without •being split into parts, one part for each individual, and without •generating a lot of ideas, one idea for each individual. The point is just that the idea that is the species is an *attribute*, and to say that the idea ‘is in’ every member of the species is just to say that every member *has* the attribute. . . .

[Reid’s next few paragraphs mainly repeat things that he has said in Essay 5, chapter 1, with further emphasis on the restriction to *necessary* truths of the procedure of revealing truth through examining relations amongst ideas. Then:]

•BACK TO LOCKE•

Such is the nature of all truth that can be discovered by perceiving the agreements and disagreements of ideas, when we take ‘idea’ in its historically first sense. Locke in his definition of *knowledge* was mainly thinking about abstract truths, or so it seems from his illustrative examples.

But there is another great class of truths that are not abstract and necessary, and therefore can’t be perceived in the agreements and disagreements of ideas. They are the truths we know concerning the real existence of things—of our

own existence, of the existence of other things—inanimate, animal, and rational—and of their various attributes and relations.

These may be called ‘contingent truths’. The only exceptions to that, so far as I know, are the truths about the existence and attributes of God, these being truths about existence that are nevertheless necessary.

All other things that exist depend for their existence, and for their detailed natures, on the will and power of •God•, the first cause; so neither their existence nor their nature nor anything that happens to them is necessary; all of that is contingent.

But although the existence of God is necessary, I think that it’s only from contingent truths that we can deduce it. The only arguments for the existence of a Deity that I can understand are based on the knowledge of •my own existence and •the existence of other finite beings. And these are contingent truths.

So I believe that perceiving agreements and disagreements of ideas won’t lead us to knowledge of any contingent truth whatsoever, of the real existence of anything—not even of our own existence or the existence of a Deity, though that is a necessary truth. Thus, I have tried to show what knowledge can and what can’t be attained by perceiving the agreements and disagreements of ideas, when we take ‘idea’ in its historically first sense.

Now let us consider whether knowledge consists in perceiving the agreement or disagreement of ideas, when ‘idea’ is taken in any of the senses in which the word is used by Locke and other modern philosophers. •There are three such senses to be considered•.

(1) Very often ‘idea’ is used so that •having the idea of something is a roundabout way of saying •‘conceiving’ it. In this sense, an idea is not an *object of thought*—it is *thought*

itself. It is the act of the mind in which we conceive an object. Obviously *this* couldn't be the meaning that Locke had in mind in his definition of *knowledge*.

(2) A second meaning of 'idea' is the one Locke gives early in his *Essay*, when he is apologising for how often he uses it: 'It seems to be the best word to stand for *whatever is the object of the understanding when a man thinks. . . .* or whatever it is that the mind can be employed about in thinking' (*Essay* I.i.8).

By this definition, indeed, everything that can be the object of thought is an idea. The objects of our thoughts can, I think, be put into two classes.

(a) The first class includes all the objects (that we can think of, and) that we believe to have a real existence. Objects such as the creator of all things, and all his creatures that we encounter. I can think of the sun and moon, the earth and sea, and of the various animal, vegetable, and inanimate productions with which God in his generosity has chosen to enrich our globe. I can think of myself, of my friends and acquaintances. I think of the author of the *Essay* with high esteem. These and their like are objects of the understanding that we believe to have real existence.

(b) A second class of objects of the understanding that a man may be employed about in thinking are things that we either •believe never to have existed or •think of without regard to their existence.

Thus I can think of Don Quixote, of the island of Laputa, of Oceana, and of Utopia, which I believe •to be purely fictional, and •never to have existed. Every attribute, every species, and every genus of things, considered abstractly without any regard to their existence or non-existence, can be an object of the understanding •in this second class•.

The label 'idea', taken in its historically first sense, very properly applies to this second class of objects of

the understanding; and I have already considered what knowledge does and what does not consist in perceiving the agreements and disagreements of ideas of *that* sort.

But if we take 'idea' in such a broad sense that it covers not only (b) the second class but also (a) the first class of objects of the understanding, it will undoubtedly be true that all knowledge consists in perceiving the agreements and disagreements of ideas. For there can't possibly be any knowledge, any judgment, any opinion (true or false) that isn't employed about the objects of the understanding. But whatever is an object of the understanding is an 'idea', according to this second meaning of the word.

Yet I am convinced that Locke in his definition of *knowledge* didn't mean 'idea' to cover *all* the things that we commonly consider as objects of the understanding.

Though Berkeley believed that the sun, moon, and stars, and all material things are ideas and nothing but ideas, Locke nowhere expresses this opinion. He believed that we have ideas of bodies, but not that bodies are ideas. He believed that we have ideas of minds, but not that minds are ideas. When he inquired so carefully into the origin of all our 'ideas', he surely didn't mean •to learn the origin of *everything* that can be the object of the understanding, or •to conclude that the origin of everything that can be an object of that understanding lies in sensation and reflection!

(3) So neither of those two meanings of 'idea'—the ones here labelled (1) and (2)—can be what Locke had in mind in his definition of *knowledge*. So the only meaning he could have intended in that definition is the one that I earlier called 'the philosophical meaning of "idea"', referring to the commonly accepted theory about how the mind perceives external objects, and how it remembers and conceives objects that are not present to it [Essay 1, chapter 1]. It is a very ancient opinion, and has been very generally accepted

among philosophers, that we can't perceive or think of such objects •immediately, and have to perceive or think of them •through the medium of certain images or representatives of them that really exist in the mind at the time.

The ancients called those images 'species' and 'phantasms'. Modern philosophers have named them 'ideas'. Locke writes:

Obviously the mind knows things not immediately but only through the intervention of its ideas of them. (*Essay* IV.iv.3)

And in the same section he puts this question:

How shall the mind, which perceives nothing but its own ideas, know that they agree with things themselves?

I have already considered this theory when discussing •perception, •memory, and •conception. You will find there the reasons why I think

- that this theory has no solid foundation in reason or in attentive reflection on •those operations of our minds,
- that it contradicts the immediate dictates of our natural faculties, which have more authority than any theory;
- that it has arisen from the same prejudices that led all the ancient philosophers to think that God couldn't make this world without some eternal matter to work on, and led the Pythagoreans and Platonists to think that God couldn't conceive the plan of the world he was to make without eternal ideas really existing as patterns to work by; and
- that this theory, when its consequences are competently thought through, leads to absolute scepticism, though those consequences weren't seen by most of the philosophers who have adopted the theory.

I shan't repeat what I have already said on those points. All I shall do, taking 'ideas' in this sense, is to make some observations on Locke's definition of *knowledge*. On this I have two main things to say.

(1) If all knowledge consists in perceiving the agreements and disagreements of ideas, i.e. of representative mental images [= 'likenesses'] of things, it obviously follows that if there are no such ideas there can't be any knowledge. So that if we found good reason for giving up this philosophical hypothesis, all knowledge would have to go along with it.

I hope, however, that it is not so, and that even when this hypothesis about ideas staggers and falls to the ground—as many other hypotheses have done—*knowledge* will continue to stand firm on a more permanent basis.

The cycles and epicycles of the ancient astronomers were, for a thousand years, thought to be absolutely necessary to explain the motions of the heavenly bodies. [The underlying assumption was that heavenly bodies must move in circles. To square this with increasingly precise observations, it was supposed that sometimes a planet moves in a circle with epicycles, i.e. circles within the big circle; and sometimes epicycles within the epicycles.] But now, when all men believe them to have been mere fictions, astronomy has not fallen with them but stands on a more rational foundation than before. Ideas, or mental images of things existing in the mind, have for an even longer time been thought necessary for explaining the operations of the understanding. If they should also at last be found to be fictions, human knowledge and judgment would suffer nothing from being detached from this unwieldy hypothesis. Locke surely didn't look on the existence of ideas as a philosophical *hypothesis*: he thought that we are conscious of their existence, otherwise he wouldn't have made the existence of all our knowledge depend on the existence of ideas.

(2) If this hypothesis is true, I agree with Locke that it is an obvious and necessary consequence that our knowledge can have to do only with ideas, and must consist in perceiving their attributes and relations. (Everything we can know about any object must be either some attribute that it has or some relation it bears to some other object or objects. ·Locke would accept this; by the ‘agreements and disagreements’ of objects, I think he meant both their attributes and their relations·.) For nothing can be more obvious than this: all knowledge and all judgment and opinion must be about things that are or could be immediate objects of our thought. What can’t be the object of thought, or the object of the mind in thinking, can’t be the object of knowledge or of opinion.

So if •ideas are the only objects of thought, it inevitably follows that •they are the only objects of knowledge, and all knowledge consists in perceiving their agreements and disagreements, i.e. their attributes and relations. The use I want to make of this inference is to show that the hypothesis which is its premise must be false: •we *do* have knowledge of things that are not ideas, so it inevitably follows that •ideas are *not* the only objects of our thoughts.

Locke in *Essay* IV has pointed out the extent and limits of human knowledge with more precision and judgment than any philosopher had done before him; but he doesn’t there confine knowledge to the agreements and disagreements of ideas. And I can’t help thinking that a great part of the *Essay* is a knock-down refutation of the principles laid down at the beginning of it.

[Reid remarks that Locke thought he had ‘some certain knowledge’ about all sorts of things that he didn’t think to be ideas—himself, his friends, God, the earth and the sea, etc. His knowledge about those can’t consist in perceptions of the agreements and disagreements of *ideas*. He ought to have thought that, since ideas are the only objects of

thought, there can’t be any knowledge of the existence of ourselves or of external objects or of God. Berkeley accepted that inference as it applies to external objects; he preferred •accepting that there can be no knowledge of them to •dropping the theory of ideas from which that follows. But he didn’t accept the inference as it applies to minds and God; he held that we can think of *them* without ideas. Then:]

Hume saw very clearly •the consequences of this theory ·of ideas·, and adopted •them in his theorizing moments; but he openly admits that in everyday life he found himself compelled to believe with the vulgar. [This alludes to Berkeley’s remark that on some of these matters we should ‘think with the learned and speak with the vulgar’.] His *Treatise of Human Nature* is the only system to which the theory of ideas leads; and in my view every part of it necessarily follows from of that theory.

But Locke didn’t see all the consequences of the theory; he adopted it without doubt or examination, swept along by the stream of philosophers that went before him; and his judgment and good sense have led him to say many things, and to believe many things, that can’t be reconciled with it.

He not only believed in his own existence, the existence of external things, and the existence of a God, but he has shown very soundly how we come by the knowledge of these existences. You might expect him to point out the agreements and disagreements of ideas from which these existences are deduced, but that is impossible, and he doesn’t even try.

Our own existence, he says, we know intuitively; but this intuition is not a perception of the agreement or disagreement of ideas, because the subject of the proposition *I exist* is not an •idea but a •person.

The knowledge of external objects of sense, Locke says, can be had only through ‘sensation’. He later spells out ‘sensation’ into ‘the testimony of our senses, which are the proper and sole judges of this thing’, their testimony

being ‘the greatest assurance we can possibly have, and the greatest our faculties are capable of. This fits perfectly well with the common sense of mankind, and is perfectly understood by those who never heard of the theory of ideas. Our senses testify immediately to the existence, and many of the attributes and relations, of external material things; and we are so built that we confidently rely on their testimony, without seeking a reason for doing so. This assurance, Locke accepts, deserves to be called ‘knowledge’. But those external things are not ideas, and their attributes and relations are the agreements and disagreements not of •ideas but of •things that are not ideas.

To reconcile this to the theory of ideas, Locke says that ‘it is the actual receiving of ideas from outside us that gives us notice of the existence of those external things’. If we take ‘receiving ideas from outside us’ literally, this takes us back to Aristotle’s doctrine that our ideas or ‘species’ come from the external objects, and are the likenesses or forms of those objects. But I don’t think that Locke meant it literally; I believe he meant merely that our ideas of sense must have a cause, and that we are not the cause of them ourselves.

Berkeley acknowledges all this, and shows very clearly that •it doesn’t present the least shadow of a reason for believing in any material object—indeed, that •there can’t be anything external that in any way *resembles* our ideas except the ideas of other minds.

It is evident therefore that the agreements and disagreements of ideas can give us no knowledge of the existence of any material thing. . . .

As to the existence of a god, though Locke was aware that Descartes and many after him had tried to prove it merely from the agreements and disagreements of ideas, he thought that ‘if you want to establish this truth and silence atheists, you are going about it in a poor way if you lay the whole

stress of so important a point as this on that one foundation’ (*Essay* IV.x.7). So instead he argues for the existence of a god, with great strength and solidity, from our own existence and the existence of the perceptible parts of the universe.

By memory, Locke says, we have knowledge of the *past* existence of many things. But all conception of past existence, as well as of external existence, conflicts with the theory of ideas by requiring that there be immediate objects of thought that are not ideas existing right now in the mind.

I conclude, therefore, that if we have any •knowledge of the existence of ourselves, of what we see around us, or of a god, or if we have any •knowledge of past things through memory, that •knowledge can’t consist in perceiving the agreements and disagreements of ideas.

[Reid remarks that this is self-evident, and gives reasons for saying so—reasons that repeat things he has said in the past few pages. Then:]

There can’t be any •knowledge, •judgment, or •opinion about things that aren’t immediate objects of thought. I regard this as self-evident. So if ideas are the only immediate objects of thought, they must be the only things in Nature of which we can have any knowledge and about which we can have any judgment or opinion.

Hume saw this inevitable consequence of the common doctrine of ideas, and he made it evident in his *Treatise of Human Nature*; but what he *used* it for was not to •overturn the theory from which it necessarily follows, but rather to •overturn all knowledge, leaving no basis for believing anything whatsoever. If *Locke* had seen this consequence, there is reason to think that he would have used it differently!

It does seem strange that a man of Locke’s judgment and penetration didn’t see such an obvious consequence. The only way I can explain it is this: the ambiguity of ‘idea’ has misled him, here as in several other places. Having at first

defined 'ideas' to be

- 'whatever is the object of the understanding when we think',

he very often takes it in that unlimited sense—so that everything that can be an object of thought is automatically an idea. At other times he uses 'idea' to signify

- certain representative images of things in the mind, which philosophers have supposed to be immediate objects of thought.

At other times 'ideas' are

- things conceived abstractly, without regard to their existence.

Philosophy is much indebted to Locke for his discussion of the misuse of words. It is pity he didn't apply the discussion to the word 'idea', the ambiguity and misuse of which has very much hurt his excellent *Essay*.

I don't think I need to say much about certain other opinions of philosophers concerning judgment.

Hume sometimes adopts Locke's opinion that judgment is the perception of the agreement or disagreement of our ideas; sometimes he maintains that judgment and reasoning resolve themselves into •conception, and are nothing but particular ways of conceiving objects; and •in this spirit he says that an opinion or belief can most accurately be defined as 'a lively idea related to or associated with a present impression' (*Treatise* I.iii.7). I tried to show in chapter 1 of this *Essay* that judgment is a mental operation of mind of a quite different kind from the bare conception of an object [page 219]. I also considered Hume's notion of belief when discussing theories about memory •in *Essay* 3, chapter 7.

[Reid then •quotes a passage from Hartley which he says expresses the same position as Hume's, •quotes a passage from Priestley which he says expresses the same position as Locke's, and •says that many detailed points about judgment might be made, but they 'are to be found in every system of logic from Aristotle down to the present age'.]

Chapter 4: First principles in general

One of the most important distinctions within our judgments is that between •intuitive judgments and •judgments based on argument.

It is not in our power to judge as we will. The •faculty of judgment is carried along irresistibly by the evidentness—real or illusory—that appears to us at the time. But propositions that are submitted to our judgment fall into one or other of two great classes. (1) Some are of such a nature that

a man of mature understanding can grasp them firmly and perfectly understand their meaning, without finding himself compelled to believe them to be true or false, probable or improbable. In these cases, the •faculty of judgment remains in suspense until it is inclined to one side or another by reasons or arguments. (2) Other propositions are no sooner understood than they are believed. Our •taking them in leads unstoppably to our •judgment on them, and these two

•mental operations• are equally the work of Nature and the result of our basic powers. There is no searching for evidence, no weighing of arguments; the proposition is not deduced or inferred from another; it has the light of truth in itself, and has no occasion to borrow it from another proposition.

Propositions of kind (2), when they are used in matters of science, have commonly been called ‘axioms’; and in all sorts of contexts of their use they are called

first principles
 principles of common sense
 common notions
 self-evident truths.

[Reid quotes Cicero and Shaftesbury for some other labels for them. Then:]

What I have said is sufficient, I think, to distinguish (1) first principles or intuitive judgments from (2) judgments that can be ascribed to the power of reasoning. And this distinction isn’t harmed if there are some judgments concerning which we may be unsure whether they belong in (1) or in (2). There is a real distinction between *people inside the house* and *people outside the house*, yet we may be unsure on which side of the distinction we should put the man who stands on the door-step!

The power of reasoning—i.e. of drawing a conclusion from a chain of premises—may properly enough be called an ‘art’. ‘In all reasoning’, says Locke, ‘we search and flail around, having to take pains and stick to the problem’ (*Essay* I.ii.10). The power to reason resembles the power of walking, which is acquired by use and exercise. Nature prompts us to it, and has given us the power of acquiring it; but we can’t actually walk until we have worked at it. After repeated efforts, much stumbling, and many falls, we •learn to walk; and that is like how we •learn to reason.

But with clearly understood self-evident propositions, the •power of judging can be compared to •the power of swallowing our food. It is purely natural, and therefore common to the learned and the uneducated, to the trained and the untrained. It requires maturity of understanding and freedom from prejudice, but nothing else.

I take it for granted that there *are* self-evident principles. Nobody, I think, denies this. If anyone *was* so sceptical as to deny that any proposition is self-evident, I don’t see how we could convince him by reasoning.

But there seem to be great differences of opinion among philosophers about first principles. One philosopher •takes to be self-evident a proposition that a second •labours to prove by arguments and a third •denies altogether. Consider for example the proposition that

There is a sun, moon, earth, and sea which really exist, whether or not we think of them.

Before Descartes’s time, that was taken to be a first principle. Descartes thought that it ought to be proved by argument; and in this he was been followed by Malebranche, Arnauld, and Locke. They all laboured to prove, by very weak reasoning, the existence of external objects of sense; and Berkeley and Hume, aware of the weakness of those arguments, were led to deny the existence of the sun etc. altogether.

The ancient philosophers granted that all knowledge must be based on first principles, and that there is no reasoning without them. Rather than having too few ‘first principles’, the Aristotelian philosophy had too many. Perhaps the misuse of them in that ancient system is what brought them into discredit in modern times; . . . and as one extreme often leads to the opposite extreme, this seems to have been the case with the ancient and the modern attitudes to first principles.

Descartes thought that one principle, expressed in one word *cogito*—‘I think.’—was a sufficient foundation for his whole system, and he asked for no more.

Locke seems to think that first principles are very little use. Holding that knowledge consists in the perception of the agreement or disagreement of our ideas, he thought that when we have clear ideas and can compare them with one another, we can always fabricate first principles as often as we need them. Such differences we find among philosophers about first principles.

A question of some importance is this: When men disagree about first principles, can the disagreements be resolved? What actually happens in most such disputes is that one man maintains something as a first principle which another man denies, both parties •appeal to ‘common sense’, and there the matter rests. Isn’t there some way of discussing this •appeal? Isn’t there some mark or criterion by which to distinguish genuine first principles from purported first principles that really are not so? I shall humbly offer, in the following •four• propositions, what appears to me to square with the truth in these matters, though I am always open to being convinced that I should change my opinion. [They are numbered in large type, to prevent confusion with numbering of points *within* items (3) and (4).]

(1) All knowledge acquired by reasoning must be built on first principles. I hold this to be certain, and even demonstrable.

It is as certain as that every house must have a foundation. The •power of reasoning in this respect resembles •mechanical powers or engines: •like them•, it must have a fixed point to rest on, because otherwise it spends its force in the air and produces no effect.

[In most of this work, Reid has taken ‘analysis’ to stand for a process of intellectually taking something apart, but we are about the meet

‘analytic’ in a different sense that is now obsolete. In this sense, an ‘analytic’ procedure is one that works from effects back to causes, from what is given to what explains it, from conclusions back to premises; and a ‘synthetic’ procedure, in the related sense, is one that goes in the reverse direction.]

When we examine in an analytic way the evidentness of any proposition, either we find it to be self-evident or •we find that• it rests on one or more propositions that support it. The same holds for those supporting propositions, and of the supports of their supports, . . . as far back as we can go. But we can’t go back along this track to infinity. So where is this analysis of ours to stop? Obviously, it can’t stop until we come to propositions that •support all the others that are built on them but are themselves •not supported by any—i.e. until we come to self-evident propositions.

Now consider a synthetic proof of some kind, where we start with the premises and pursue a series of consequences until we eventually come to the last conclusion, the thing to be proved. In this procedure we must begin either with •self-evident propositions or with •ones that have been already proved. In the latter case, the proof of those propositions is a silent part of our proof, which is deficient without it. Well, suppose that that deficiency is remedied and our proof is completed: isn’t it obvious that it must set out with self-evident propositions, and that the evidentness of the conclusion must rest on them? So it seems to be demonstrable that •without first principles analytic reasoning could have no end, and synthetic reasoning could have no beginning; and that •every conclusion reached through reasoning must rest its whole weight on first principles, as a building does on its foundation.

(2) Some first principles yield conclusions that are certain, others such as are probable in various degrees from the highest probability to the lowest.

In valid reasoning, the strength or weakness of the conclusion will always correspond to the strength or weakness of the principles on which it is based.

Where it's a matter of testimony, it is self-evident that testimony from two people is better than testimony from one, provided that the two are on a par in their characters and their access to knowledge; but the testimony of one person may be true, and testimony that is preferred to it—e.g. the contrary testimony of two others—may be false.

When an experiment has succeeded in several trials, and the circumstances have been noted with care, there is a self-evident •probability that it will succeed in a new trial; but there is no •certainty. The level of probability varies in different cases, because cases vary in how easy it is to observe all the circumstances that may influence the outcome. And even when many experiments have been made with care, our expectation *may* be frustrated in the very next trial, because of some difference in the circumstances that hasn't been—perhaps couldn't have been—observed.

Newton laid this down as a first principle in natural philosophy:

A property that has been found in all bodies that we have been able to test, and that has always been found in its quantity to be in exact proportion to the quantity of matter in the body in question, is to be regarded as a universal property of matter.

This principle has never been questioned, as far as I know. The evidence we have that all matter is divisible, movable, solid, and inert all relies on this principle. If the principle isn't true, we can't reasonably believe that all matter has those properties. From the same principle that great man has shown that we have reason to conclude that all bodies gravitate towards each other.

But this principle doesn't have the kind of evidentness that mathematical axioms have. It isn't—and Newton never thought it to be—a necessary truth whose contrary is impossible. And if it were ever discovered through sound experiments that some parts of some bodies don't have gravity, that fact would have to be accepted as an exception to the general law of gravitation.

In games of chance, it is a first principle that •every side of a die has an equal chance to be turned up; and that in a lottery •every ticket has an equal chance of winning. From such first principles as these, which are the best we can have in such matters, we can infer by demonstrative reasoning the precise degree of probability of every possible outcome in such games.

But the principles on which all this precise and deep reasoning is based can never yield a certain conclusion, for you can't make up for a defect in the first principles by any excellence in the reasoning based on them. Just as water, however skillfully channelled, can't rise higher than its source, so also no conclusion of reasoning can be more evident than the first principles from which it is inferred.

(3) It would contribute greatly to the stability of human knowledge, and consequently to increasing it, if the first principles on which the various parts of it are based were pointed out and ascertained.

We have reasons to accept this, both from facts and from the nature of the thing [by which, as we shall see in a moment, Reid means 'both from empirical reasons and from ones based on abstract theoretical points'].

·FROM THE FACTS·

Mathematics and natural philosophy are two branches of human knowledge in which this method has been followed, ·i.e. whose basic principles have been pointed out and ascertained·. This has been done in mathematics as far back

as we have books. This science is the only intellectual area which, in more than two thousand years, has generated no sects, no conflicting systems, and hardly any disputes—and any disputes there *have* been have ended, for good, as soon as the animosity of parties subsided. The science once firmly established on the basis of a few axioms and definitions, as though on a rock, has grown through the centuries so as to become the highest and firmest structure that human reason can boast.

Until less than two hundred years ago, natural philosophy remained in the same fluctuating state as the other sciences. Every new system pulled up the old ones by the roots. The system-builders were indeed always willing to get help from first principles when they were on their side; but, finding them insufficient to support the structure that their imagination had raised, they brought them in only as *helps*, mixing with conjectures and with lame inductions, so that the resultant systems were like the statue of Nebuchadnezzar with its feet made partly of iron and partly of clay.

Bacon first set out the only solid foundation on which natural philosophy can be built; and Newton boiled Bacon's principles down into three or four axioms that he calls 'rules of philosophising'. From these, together with the phenomena observed by the senses (which he also lays down as first principles), Newton infers by strict reasoning the propositions contained in the third book of his *Principia* and in his *Optics*; and in this way he has built in those two branches of natural philosophy a structure that is not open to being shaken by doubtful disputation, and stands immovable on the basis of self-evident principles.

This structure has been further developed by the arrival of new discoveries, but it is no longer subject to revolutions.

We are now *done with* the disputes about prime matter, substantial forms, Nature's abhorring a vacuum, and bodies'

having no gravitation when they are in their proper place. The builders in this work don't have to build with only one hand because they are holding a *defensive* weapon in the other! All they have to do is to carry on the work.

Yet it seems very probable that if natural philosophy hadn't been raised on this solid foundation of self-evident principles, it would have remained *to this day* a battle-field on which every inch of ground was disputed and nothing was permanently settled.

Admittedly, natural philosophy and (especially) mathematics have an advantage over most other sciences, namely that in them it is easier to form clear and definite conceptions of the objects that they are dealing with. But the difficulty that other sciences have about this can be overcome. It could explain why they have had a longer infancy, but it gives no reason why they can't eventually reach maturity by the same steps as were taken by the two sciences that grew up faster.

These facts may lead us to conclude that if in other branches of philosophy the first principles were laid down as has been done in mathematics and natural philosophy, and the subsequent conclusions were based on them, this would make it much easier to distinguish what is solid and well supported from the vain fictions of human fancy.

'FROM THE NATURE OF THE THING'

But quite apart from *empirical* facts, the nature of the thing leads to the same conclusion.

For when any system is based on first principles, and is deduced from them in a way that conforms to the *logical* rules, we have a thread to lead us through the labyrinth. Our judgment has a clear and definite object. The *three* different parts *of the system* can be separated, so that each can be examined in isolation.

The whole system comes down to *axioms*, *definitions*, and *deductions*. These are very different materials, which

have to be evaluated by very different standards; and judging each in isolation is much easier than judging a mass in which they all mixed together without distinction. Let us consider how we judge each of them.

(1) As to •definitions, it is very easy. They relate only to words; and if people mean different things by some word, and each sticks to his own meaning, that will produce different ways of speaking but it can't ever produce different ways of thinking.

Still, when in the course of reasoning men use the same word sometimes in one sense and sometimes in another, this produces fallacies—nothing produces *more* fallacies than it does! And the best way of preventing such fallacies, or of detecting them when they occur, is to have definitions of words that are as precise as possible.

(2) As to •deductions from principles that are accepted by both sides ·in a scientific dispute·, I don't see how *they*—i.e. the deductions·—can be a subject of dispute for long, among men who aren't blinded by prejudice or bias. For the rules of reasoning by which conclusions can be inferred from premises have been fixed with great unanimity for two thousand years. No-one man disputes the rules of reasoning laid down by Aristotle and repeated by every writer on practical logic.

I would point out, by the way, that the reason why logicians from •Aristotle down to this day have been so unanimous in settling on the rules of reasoning seems to be that •that great genius derived them in a scientific manner from a few definitions and axioms. I add that when men differ about whether a certain conclusion follows from certain premises, I think it is always because they differ about some first principle. I shall explain this by an example.

Suppose that from a thing's having begun to exist one man infers that it must have had a cause, while another

man doesn't accept that inference. It is obvious in this case that one man does, while the other doesn't, take it to be a self-evident principle that everything that begins to exist must have a cause. If they settle *this* point, their dispute will be at an end.

Thus I think it appears that in matters of science if •the terms are properly explained, •the first principles on which the reasoning is based are laid down and exposed to examination, and •the conclusions are deduced from them in a way that conforms to the ·logical· rules, it might be expected that fair-minded and able men who love truth and have patience to examine things coolly would reach unanimity about the validity of the inferences, so that their only differences would be ones concerning first principles.

(4) When fair-minded and honest people happen to differ about first principles, Nature has equipped us with means by which to bring them to unanimity.

When men differ about things that are taken to be first principles or self-evident truths, reasoning seems to be at an end. Each party appeals to common sense. When one man's common sense gives one answer and another man's gives a conflicting answer, there seems to be no way out except to leave everyone to enjoy his own opinion. This is often said, and I think it is true if rightly understood.

It is useless to reason with someone who denies the first principles on which the reasoning is based. Thus it would be useless to try to prove a proposition in Euclid to someone who denies Euclid's axioms. Indeed we ought never to reason with men who deny first principles because they are obstinate and unwilling to yield to reason.

But isn't it possible that men who really love truth and are open to conviction may differ about first principles?

I think it is possible, and that it would show a great lack of charity if one said that it isn't. (·Saying that it isn't

possible is tantamount to saying ‘If someone disagrees with me about first principles, he doesn’t really love truth and is obstinately determined not to yield to reason’—which shows a lack of charity.)

When this kind of disagreement occurs, everyone who believes that there is a real distinction between truth and error, and that the faculties God gave us aren’t inherently deceptive, must be convinced that there is a defect or a perversion of judgment on one side or the other.

A fair-minded and humble man who is party to such a disagreement will naturally have enough doubt about his own judgment to want to conduct a serious examination of propositions that he has been regarding—perhaps for many years—as first principles. He will think it possible that although his heart is upright his judgment may have been twisted by education, by authority, by party zeal, or by some other of the common causes of error—causes that can influence even the able intellects of honest people.

When someone is in that frame of mind, so unaggressive and so suitable to every good man, has Nature left him with no rational means either to correct his judgment if it is wrong or to confirm it if it is right? I hope not. . . .

In other kinds of controversy, the procedure by which the truth of a proposition is discovered (or its falsehood detected) is to show that it is necessarily connected with (or inconsistent with) first principles; but when the controversy is about whether a proposition is a first principle, this procedure can’t be followed. In controversies of this kind, therefore, truth has a special disadvantage. But it has three advantages of another kind to make up for this.

(4.1) In controversies about first principles, everyone is a competent judge; and that makes it hard for anyone to deceive mankind.

To form a judgment about first principles, all you need is a sound mind free from prejudice, and a clear conception of the question. The learned and the uneducated, the philosopher and the day-labourer, are on a level in this respect, and they’ll pass the same judgment unless they are misled by some bias or taught to renounce their own understandings from some mistaken religious principle.

In matters that are beyond the reach of common understanding, the many are led by the few, and willingly yield to their authority. But in matters of common sense, the few must yield to the many when local and temporary prejudices are removed. No man is *now* moved by the subtle arguments of Zeno against the possibility of motion, even if he doesn’t know how to answer them.

The ancient form of scepticism furnishes a remarkable instance of this truth. That system, said to have been invented by Pyrrho, was carried down through a succession of ages by very able and acute philosophers who taught men to believe nothing at all and regarded it as the highest achievement of human wisdom to withhold assent from absolutely every proposition. It was supported with great subtlety and learning. . . . The assault of the sceptics against all science seems to have been managed with more skill and nimbleness than the defence of science by the dogmatists.

But because this scepticism was an insult to the common sense of mankind it died without having to be killed, and it would be useless to try to revive it. Modern scepticism is very different from the ancient version, otherwise it wouldn’t have been given a hearing; and when it has lost the charm of novelty it will die too even if it isn’t ever refuted.

Modern scepticism—I mean the scepticism of Hume—is built on principles that were very generally maintained by philosophers who didn’t see that they led to scepticism. Hume, by tracing with great acuteness and ingenuity the

consequences of generally accepted principles, has shown that those principles overturn all knowledge, and eventually overturn themselves, leaving the mind in perfect suspense.

(4.2) Opinions that contradict first principles are distinguished from other errors by being not merely false but absurd. And Nature has given us a particular device for showing up and embarrassing absurdity, namely the emotion of *ridicule*, which seems intended for this very purpose of putting to shame anything that is absurd either in opinion or practice.

This weapon, when properly wielded, cuts with as sharp an edge as argument does. Nature has provided us with •ridicule to expose •absurdity, and with •argument to refute •error. Both are well fitted for their different jobs, and are equally friendly to truth when properly used.

Both may be misused in the service of error. But the degree of judgment that serves to detect the misuse of argument in false reasoning is also adequate to detect the misuse of ridicule when it is wrongly directed.

[Reid then discusses some factors that may disguise absurdity, thus shielding it from ridicule: intense religious feelings, the ‘gravity and solemnity’ with which the absurdity is presented, the stature of the author of the absurdity, the charm of novelty, the fact that the absurdity is something we have accepted since we were children. Then:] But an absurdity can be taken seriously by sensible people only while it wears a mask. As soon as someone has the skill or the boldness to pull off the mask, it can no longer bear the light; it slinks into dark corners for a while, and is never heard of again except as something to laugh at.

(4.3) Just because first principles are *first* principles, they can’t be directly or demonstratively proved; but there are certain ways of reasoning about them which confirm the ones that are sound and solid and detect the ones that are

false. I shall describe ·five of· these ways of reasoning.

(4.3.1) If it is shown that a first principle that a man rejects stands on the same footing with others that he accepts, this is a good argument *ad hominem*. [Latin = ‘against the man’; an argument *ad hominem* against proposition P as held by person x purports to show not that •P is false but that •x is not in a position to accept P.] For when this is the case, he is guilty of an inconsistency in holding one and rejecting the other.

Here is an example. The faculties of •consciousness, •memory, •external senses, and •reason are all equally gifts of Nature. Any good reason that can be given for accepting the testimony of one of them is an equally good reason for accepting the testimony of all the others. The greatest sceptics accept the testimony of •consciousness, and allow that what it testifies is to be held as a first principle. So if they reject the immediate testimony of •the senses or of •memory, they are guilty of an inconsistency.

(4.3.2) A first principle may admit of a proof *ad absurdum*.

In this kind of proof, which is very common in mathematics, we prove the proposition P by supposing not-P and tracing the consequences of *that* in a course of reasoning; if we find any of not-P’s inevitable consequences to be obviously absurd, we conclude that not-P is false and therefore that P is true.

Very few propositions—and *extremely* few propositions that are candidates for the role of first principles—stand alone and unconnected. A proposition draws many others along with it, in a chain that can’t be broken. Someone who takes up a proposition must bear the burden of all its consequences; and if that burden is too heavy for him to carry, he must set down—i.e. no longer accept—that proposition.

(4.3.3) The consent of ages and nations, of the learned and the uneducated, should have great authority regarding

first principles, where everyone is a competent judge.

First principles are a basis not only for •our theorizing in philosophy but also for •our ordinary conduct in life; and every motive to action presupposes some belief. When we find that men generally agree about principles that concern human life, this must have great authority with every sober mind that loves truth.

Berkeley tried to show that his theory asserting the non-existence of a material world didn't contradict the views of the vulgar, but only those of the philosophers. With good reason, he was more afraid of opposing the **authority** of vulgar opinion in a matter of this kind than of opposing all the schools of philosophers. But when we watch his doomed attempt to reconcile his system with vulgar opinion, we can only be amused.

You may say: 'What has **authority** to do with matters of opinion? Is truth to be determined by votes? Is authority to be raised out of its grave so that it can again tyrannise over mankind?' I'm aware that these days an advocate for authority has an unpopular case to make, but I don't want to give to authority any more than its due.

Quite rightly we honour the names of the benefactors of mankind who have helped to break the yoke of the authority that deprives men of their natural and unalienable right to judge for themselves; but while we are rightly hostile to *that* kind of authority and to everyone who wants to subject us to its tyranny, let us remember how common the folly is of going from one fault to the opposite extreme—in this case, escaping from one kind of authority and rushing to the opposite extreme of rejecting *all* kinds of authority.

Authority, though a very tyrannical •master of private judgment, may yet sometimes be a useful •servant; that is all it is entitled to and all that I claim for it. To see that I am right about this, let us consider a possible case in mathematics,

the science where everyone agrees that authority has *less* weight than in any other.

Suppose a mathematician makes a discovery that he thinks is important, puts his demonstration of it in the proper order, and after examining it carefully finds no flaw in it. Won't he still hold back a little, having some fear that the thrill of discovery may have made him overlook some false step? This must be granted.

He submits his demonstration to the examination of a mathematical friend whom he thinks to be a competent judge, and impatiently waits to hear his judgment. Won't the favourable (or unfavourable) verdict of his friend greatly increase (or lessen) his confidence in his own judgment? Most certainly it will, and so it should.

If •his friend's judgment agrees with his own—and especially if it is confirmed by two or three •other• able judges—he becomes sure about his discovery, without further examination; but if •it is unfavourable, he is has to suspend judgment again, until the suspect part of the demonstration is examined again more rigorously. . . . Here we see a man's judgment, even about a mathematical demonstration,

- conscious of some febleness in itself,
- seeking the aid of authority to support it,
- greatly strengthened by that authority, and
- hardly able to stand up to it without some new aid.

When people who are regarded as fair and competent judges agree in their judgment on some matter, that creates a kind of •*judgment society*, which has effects very similar to those of •*civil society*: it gives strength and courage to every individual, and removes the anxiety that accompanies •solitary judgment as naturally as it accompanies a •solitary man in the state of Nature. So we should judge for ourselves while also being willing to get help from the authority of other competent judges. . . . Regarding a matter of common sense,

everyone is as competent a judge as a mathematician is regarding a mathematical demonstration; and there must be a great presumption that the judgment of *mankind* in such a matter is the natural output of the faculties that God has given us. Such a judgment can be wrong only when there is some cause of the error that is as general as the error is. When this can be shown to be the case, I accept that it ought to have its due weight. But it is highly unreasonable to suppose that mankind in general, in accepting something self-evident, have deviated from the truth although no cause for the deviation can be given.

You may think: 'It is impossible to collect the opinion of *men in general* on any point whatsoever. So the "authority" of their general opinion can't give us any help in examining first principles.' I reply that in many cases this is not impossible, and not even difficult.

Who can *wonder whether* men have universally believed

- in the existence of a material world?
- that every change that happens in Nature must have a cause?
- that there is a right and a wrong in human conduct; some things that merit blame and others that are entitled to approval?

The universality of these opinions, and of many others like them that I could name, is sufficiently evident from the whole tenor of human conduct as we have experienced it and learned about it from history.

There are other opinions that appear to be universal from what is common in the structure of all languages. [Reid develops this point, repeating things he has said more than once before, starting with Essay 1, chapter 1.]

(4.3.4) Opinions that appear so early in the minds of men that they can't be the effect of education or of false reasoning have a good claim to be considered as first principles. Consider, for example, our belief that *the people around us are living and thinking beings*. Perhaps when we become able to reason we can give some reason for this; but we believed it before we could reason, and before we could learn it by being taught it. It seems, therefore, to be an immediate effect of our constitution.

(4.3.5) When an opinion is so necessary in the conduct of life that without it a man will be led into a thousand absurdities in his behaviour, such an opinion can safely be regarded as a first principle, even if we can give no other reason for it. . . .

Chapter 5: The first principles of contingent truths

Berkeley writes: 'Surely it is well worth the trouble to make a strict enquiry into the first principles of human knowledge, to sift and examine them on all sides' (*Principles*, Introduction 4). What I said in the last chapter is intended both to show the importance of this enquiry, and to make it easier.

But such an enquiry can't actually be made until the first principles of knowledge have been separated out from other truths and exhibited for us to inspect them, so that they can be 'sifted and examined on all sides'. For that purpose I shall try to *list* the truths that I take to be first principles, and to give my reasons for thinking that that's what they are.

Some readers may think that my list contains things that shouldn't be there; others may think that some first principles are missing from the list; others again may have both complaints. Things that I take to be first principles may strike some people as vulgar errors, or as truths that stem from other truths and are therefore not *first* principles. Well, in these matters everyone must judge for himself! If I see a list that is better than mine in any or in all of those respects, I shall rejoice! I am convinced that the agreement of honest men of judgment concerning first principles would do as much for the advancement of knowledge in general as the agreement of mathematicians concerning the axioms of geometry has done for the advancement of that science.

The truths that fall within the scope of human knowledge, whether they are self-evident or deduced from ones that are self-evident, fall into two classes: •necessary and unchangeable truths, whose contrary is impossible, and •contingent and changeable truths that depend on some effect of *will* and *power* that had a beginning and may have an end.

That *a cone has one third of the volume of a cylinder with*

the same base and the same height is a necessary truth. It doesn't depend on the will and power of anyone or anything. It is unchangeably true, and its contrary is impossible. That *the sun is the centre around which the earth and the other planets of our system revolve* is a truth; but it isn't a necessary truth. It depends on the power and will of ·God·, the being who made the sun and all the planets and who gave them the motions that seemed best to him.

[Reid remarks that if all truths were necessary, we would need only one tense because everything that was ever true would be always true. He says that for necessary truths we use the present tense, but this is just a convenience. Someone who says 'two plus two *make* four' doesn't mean to be saying only what the sum of two and two is *right now*.]

The distinction commonly made between

- abstract truths and
- truths that express matters of fact or real existences

coincides to a large extent but not entirely with the distinction between

- necessary truths and
- contingent truths.

The necessary truths that we know about are mostly abstract truths, but there is an exception: the truth about the existence and nature of ·God·, the supreme being, which is necessary ·but obviously is a matter of fact and existence·. Other existences are the effects of will and power. They had a beginning and are changeable. Their nature is whatever the supreme being chose to give them. Their attributes and relations must depend on the nature God gave them, the powers he bestowed on them, and the situation in which he placed them.

The conclusions derived by reasoning from first principles

will commonly be necessary or contingent depending on whether the principles they are derived from are necessary or contingent. On the one hand, I take it to be certain that whatever can be inferred by valid reasoning from a necessary principle must be itself be a necessary truth, i.e. that no contingent truth can be inferred from principles that are necessary. Thus, because the axioms in mathematics are all necessary truths, so are all the conclusions drawn from them—i.e. the whole of mathematics. But from no mathematical truth can we deduce the *existence* of anything; not even of mathematical objects.

On the other hand, I think that we can very seldom infer necessary truths from contingent premises. The only example of this I can call to mind is this: from the existence of things that are contingent and changeable we can infer the existence of an unchangeable and eternal cause of them.

The minds of men are occupied much more about contingent truths than about necessary ones, so I shall first try to identify the principles of contingent truths, though I may miss a few. I shall present a list of twelve of them, and my discussion of them will occupy the rest of this chapter.

(1) Everything of which I am conscious really exists.

Consciousness is an operation of the understanding that is like no other, and it can't be logically defined. [See Reid's account of 'logical definition' in Essay 1, chapter 1.] The objects of it are our present pains, our pleasures, our hopes, our fears, our desires, our doubts, our thoughts of every kind—in brief, everything that our minds do or undergo, while it is actually happening. We may remember these doings and undergoings when they are past, but we are conscious of them only while they are present.

When a man is conscious of pain, he is certain of its existence; when he is conscious that he doubts or believes, he is certain of the existence of those operations.

His irresistible conviction of the reality of those operations is immediate and intuitive; it doesn't come from reasoning. So the existence of the undergoings and doings of our minds of which we are conscious is a first principle that Nature requires us to believe on her authority.

If I am asked to prove that I can't be deceived by consciousness, to prove that consciousness isn't a deceptive sense, I can find no proof. I can't find any antecedent truth from which it is deduced, or on which its evidentness depends. It seems to scorn any such *derived* authority, and to demand my assent on its own authority.

If someone were so deranged that he denied that he was thinking at a time when he was conscious of thinking, I might wonder or laugh or pity him, but I couldn't *reason* with him about this. We would have no common principles *from* which to reason, so we could never come to grips through argument.

I think this is the only principle of common sense that has never been directly called in question. It seems to be so firmly rooted in men's minds that it retains its authority with the greatest sceptics. Hume, after annihilating body and mind, time and space, action and causation, and even his own mind, acknowledges the reality of the thoughts, sensations, and passions of which he is conscious.

No philosopher has offered any theory to *account for* this consciousness of our own thought, and the certain knowledge of their real existence that accompanies it. By this *theory-silence* they seem to accept that *this* at least is an original *or underived* power of the mind, a power by which we have not only *ideas* but original *judgments* and *knowledge* of real existence.

(I can't reconcile this immediate knowledge of the operations of our own minds with Locke's theory that all knowledge consists in perceiving the agreement and disagreement of

ideas. . . . What are the agreements or disagreements that convince a man that he is in pain when he feels it? Nor can I reconcile it with Hume's theory that to believe that a thing exists is merely to have a strong and lively conception of it, or anyway that belief is merely *some* special version of the idea that is the object of the belief. For one thing, the objects of belief are propositions, not ideas. Also, in all the variety of thoughts and other events of which we are conscious, we believe in the existence of the weak as well as of the strong, the faint as well as the lively. No special feature of the operations of our minds inclines us to have *any* doubt that they really exist). . . .

But although this principle isn't supported by any other, a very considerable and important branch of human knowledge is supported by *it*. Everything we know, indeed everything we *can* know, about •the structure and powers of our own minds is derived from this source of consciousness; so there is no branch of knowledge that stands on a firmer foundation than •this one does, for surely nothing can be more evident than the deliverances of consciousness.

So how does it come about that in this branch of knowledge—i.e. knowledge of the structure and powers of our minds—there are so many conflicting systems? so many controversies that are never resolved? so little that's fixed and settled? Can it be that philosophers differ most on the topic where they have the surest means of agreement?. . . .

This strange phenomenon can be explained, I think, if we distinguish •consciousness from something that is often wrongly identified with it, namely •reflection.

All men have consciousness at all times, but it on its own can't give us clear and distinct notions of the operations of which we are conscious, and of their mutual relations and tiny differences. On the other hand, attentive reflection on those operations, making them objects of thought, sur-

veying them attentively and examining them on all sides, is something that **very few** men perform. The great majority of men *never* reflect attentively on the operations of their own minds—because they aren't capable of it or for some other reason. And even for those whom Nature has equipped for it, the habit of reflecting in this way can't be acquired without much labour and practice.

The only way we can know anything about the immediate objects of sight is through the testimony of our eyes. If we'd had as much difficulty attending to the objects of sight as we have in attentively reflecting on the operations of our minds, our knowledge of visible objects might have been in as backward a state as our knowledge is of the operations of our minds.

But this darkness won't last for ever. Light will arise on this benighted part of the intellectual globe. When someone has the good fortune to depict the powers of the human mind as they really are in Nature, men who are unprejudiced and reflective will recognise themselves in the picture. And then the only questions will be: How could things that are so obvious be wrapped up in mystery and darkness for so long? How could men be swept away by false theories and conjectures, when they could have found the truth inside themselves if only they had attended to it?

(2) The thoughts of which I am conscious are the thoughts of a being that I call myself, my mind, my person.

The thoughts and feelings of which we are conscious are continually changing, and the present thought is not the thought of a moment ago; but something that I call *myself* remains through this change of thoughts. This *self* has the same relation to all the successive thoughts that I am conscious of—they are all *my* thoughts. And every thought that isn't mine must be the thought of some other person.

If you ask me for a proof of this, I admit that I can't give you one; the proposition itself has an evidentness that I can't resist. Shall I think that thought can stand by itself without a thinking being? or that ideas can feel pleasure or pain? My nature tells me that it is impossible.

And the structure of all languages shows that Nature has dictated the same thing to everyone. For in all languages when men have spoken of thinking, reasoning, willing, loving, hating, they have used personal verbs which from their nature require a *person* who thinks, reasons, wills, loves, or hates. Evidently men have been taught by Nature to believe that thought requires a thinker, reason requires a reasoner, and love requires a lover.

Here we must part company with Hume, who thinks it is a vulgar error to suppose that in addition to the thoughts we are conscious of there is a mind that *has* them. If the mind is anything more than impressions and ideas, 'Hume holds', 'mind' must be a word without a meaning. According to him, then, 'mind' is a word signifying a bundle of perceptions; or when he defines it more precisely 'It is that succession of related ideas and impressions of which we have an intimate memory and consciousness' (*Treatise* II.i.2). So that is what *I* am—the succession of related ideas and impressions of which I have the intimate memory and consciousness!

But who is the *I* that has this memory and consciousness of a succession of ideas and impressions? Oh, it's nothing but that succession itself!

So I am being taught that this succession of ideas and impressions intimately remembers and is conscious of *itself*. I would like to be further instructed. Is it that the impressions remember and are conscious of the ideas, or the ideas remember and are conscious of the impressions, or both remember and are conscious of both? Do the ideas 'remember' those that come after them as well as those

that went before? These questions naturally arise from this system, and they haven't yet been answered.

But this much is clear: this succession of ideas and impressions not only remembers and is conscious, but also judges, reasons, affirms, denies; indeed it eats and drinks and is sometimes merry and sometimes sad! If it is consistent with common sense to say things like that about a succession of ideas and impressions, what on earth is nonsense?

[Reid then rather laboriously turns a joke that had been used to mock scholastic philosophers into a complex and leaden-footed joke in mockery of Hume.]

(3) Events that I clearly remember really did happen.

This has one of the surest marks of a first principle: no man ever purported to prove it, yet no man in his right mind questions it. The testimony of memory, like the testimony of consciousness, is immediate; it claims our assent on its own authority.

Suppose that a lawyer, defending a client against the testimony of credible witnesses, were to argue like this:

Admitting that the witnesses are honest, and that they clearly remember the things to which they have testified, it doesn't follow that the prisoner is guilty. It has never been proved that even the most distinct memory can't be deceptive. Show me any necessary connection between •the act of the mind that we call 'memory' and •the past existence of the remembered event. No-one has ever offered a shadow of argument to prove that they are connected; but this is one link in the chain of proof against the prisoner, and if it is weak the whole proof falls to the ground. Until it is proved that we can safely rely on •the testimony of memory for •the truth about past events, no judge or jury can justly take away the life of a citizen on such doubtful evidence.

We will all agree, I think, that the only effect of this argument on the judge or jury would be to convince them that the lawyer's judgment had broken down. A defence lawyer is allowed to plead on his client's behalf everything that is fit to persuade or to move, but I don't think any defence counsel ever had the nerve to argue in the above fashion. Why not? Surely, because the argument is absurd. Now what is absurd in court is absurd in the philosopher's chair. Something that would be ridiculous if said to a jury of honest, sensible citizens is equally ridiculous when solemnly said in a philosophical dissertation.

Hume, as far as I remember, hasn't directly questioned the testimony of memory; but he has laid down the premises for overturning its authority, leaving it to his readers to draw the conclusion.

He works at showing that the belief or assent that always accompanies memory and the senses is nothing but the liveliness of the perceptions they present. He shows very clearly that this liveliness is no reason to believe in the existence of external objects. Obviously, it is no more a reason to believe in the past existence of the objects of memory.

Indeed the theory of ideas that is generally accepted by philosophers destroys all the authority of memory, as well as the authority of the senses. Descartes, Malebranche, and Locke were aware that this theory required them to find *arguments* to prove the existence of external objects, which the plain man believes on the mere authority of his senses; but those philosophers didn't realize that this theory made it equally necessary for them to find arguments to prove the existence of past things that we remember.

All the arguments they advanced to support the authority of our senses were very weak and inconclusive, and Berkeley and Hume had no trouble refuting them. It would have

been just as easy to refute any argument they could have brought, consistent with •their theory of ideas•, to support the authority of memory. •I shall explain why•.

According to •that theory, the immediate object of memory—as of every other operation of the understanding—is an idea present in the mind. From the present existence of this idea of memory I am left to infer by reasoning that six months or six years ago there did exist something similar to this idea. But what is there in the idea that can lead me to this conclusion? What mark does it bear of the *date* of its archetype [= 'the item of which it is a copy']? Indeed, what evidence do I have that it *had* an archetype, rather than being the first of its kind?

'Well, this idea or image in the mind must have had a cause.' I admit that if there is such an image in the mind, it must have had a cause, and indeed a cause able to produce this effect; but what can we infer from *that*? Does it follow that the effect is a likeness, a copy, of its cause? If so, it also follows that a picture resembles the painter and a coach resembles the coach maker!

A past event can be known by •reasoning, but that is not •remembering it. When I clearly remember something, I give the back of my hand to reasons *for* it as well as reasons *against* it. And so I think does every man in his senses.

(4) Our own personal identity and continued existence extends as far back in time as we remember anything clearly.

We know this immediately, not by reasoning. It seems indeed to be a part of the testimony of memory: everything we remember relates to ourselves in such a way as to imply our existence at the time remembered. Nothing could be more obviously absurd than to suppose that a man might remember what happened before he existed! So, if his memory isn't deceptive, he must have existed as far back as

he remembers anything clearly. This principle is so tightly tied to (3) that one might think they should be coalesced into one. Decide this in whatever way you think fit. The proper notion of identity, and Locke's views on this subject, have been considered in Essay 4, chapter 6.

(5) Things that we clearly perceive by our senses really exist and really are what we perceive them to be.

All men are led by Nature to put their faith in the clear testimony of their senses, long before they can be biased by prejudices from education or from philosophy. This is too obvious to need proof.

How did we first come to know that our environment contains certain beings whom we call 'father' and 'mother' and 'sisters' and 'brothers' and 'nurse'? Wasn't it by the testimony of our senses? How did those people get across to us any information or instruction? Wasn't it by means of our senses?

Obviously, we can't have any communication, correspondence, or society with *any* created being except by means of •our senses. Until we rely on •their testimony, we must consider ourselves as being alone in the universe without any other created things, living or inanimate, and be left to converse with our own thoughts.

Berkeley can't have properly taken in that it is by means of the material world that we have any interactions with thinking beings or any knowledge of their existence, and that by depriving us of the material world he deprived us at the same time of family, friends, country, and every human creature—of every object we could like or admire or care about, except ourselves.

The good bishop surely never intended this. He was too warm a friend, too devoted a patriot, and too good a Christian to be capable of such a thought. He wasn't aware of the consequences of his system, so we oughtn't

to attribute them to •him; but we must attribute them to •his philosophical system, which stifles every impulse of generosity or neighbourliness.

When I think I am speaking to men who hear me and can judge what I say, I feel the respect that is due to such an audience. I enjoy the two-way traffic of opinions between myself and friends who are open and able, and my soul blesses •God•, the author of my being, who has enabled me to be entertained in this manly and rational manner.

But Berkeley shows me that this is all a dream, that I don't see any human face, that all the objects I see and hear and handle are only the ideas in my own mind; ideas are my only companions. Cold company indeed! Every human feeling freezes at the thought!

But, my Lord Bishop, is mine the only mind left in the universe?

'Oh no. Only the *material* world is annihilated •by my philosophy•; everything else remains as it was.'

This apparently offers to comfort me in my forlorn solitude. But do I see those minds? No. Do I see ideas that they have? No. Nor do they see me or my ideas. So they mean no more to me than do the inhabitants of . . . the moon; and my gloomy solitude returns. Every social tie is broken, and every social affection is stifled.

[Reid goes on to say that Berkeley's reasoning was fine, and that the trouble lay in his premises. The real culprit is the doctrine that 'we don't perceive external objects themselves, but only certain images or ideas in our own minds'. After alluding to his earlier attacks on this, Reid adds:] If external objects are perceived immediately, we have the same reason to believe in their existence as philosophers have to believe in the existence of ideas while they hold them to be the immediate objects of perception.

(6) We have some power over our actions and over the decisions of our will.

All power must be derived from ·God·, the source of power and of every good gift. Its continuance depends on his choosing to let it continue, and it is always subject to his control.

Beings to whom God has given any degree of power, along with understanding to direct their use of it, must be accountable to their maker. But those who are not entrusted with any power aren't accountable to anyone, for all good conduct consists in the right use of power and all bad conduct in the misuse of it.

To call to account a being who was never entrusted with any degree of power is an absurdity, just as it would be to call to account an inanimate being. So we are sure that if we are in any way answerable to the author of our being, we must have some degree of power that entitles us to his approval when we use it properly, and to his displeasure when we misuse it.

How do we first get the idea of power? It isn't easy to say. It isn't an object of sense or of consciousness: we see events succeeding one another, but we don't see the power by which they are produced. We are conscious of the operations of our minds; but power is not an operation of mind. If our only notions were ones provided by the external senses and by consciousness, it seems impossible that we should ever have any conception of power. That is why Hume, who has reasoned the most precisely on the basis of this •hypothesis—namely, that all our ideas are copied from impressions—says that we *don't* have any idea of power, and he clearly refutes Locke's account of the origin of this idea.

But it is futile to reason from a •hypothesis against a fact whose truth everyone can see by attending to his

own thoughts. It is obvious that everyone, very early in life, not only has an *idea of power* but is sure that he has some degree of *power* in himself. For this belief is necessarily involved in many mental operations that are familiar to everyone and are part of the essential repertoire of a reasonable being. ·I shall cite three operations that essentially involve believing that one has some power·.

(a) It is involved in every act of •volition. 'Clearly,' writes Locke, 'volition is an act of the mind knowingly exerting the control *it takes itself to have* over any part of the man. . . .'. Thus, every volition implies a belief that one has the power to do the action that is willed. A man may *desire* to visit the moon, but nothing but insanity could make him *will* to do so. And if insanity did produce this effect, it would have to be by making him think he *did* have the power.

(b) This belief is involved in all •deliberation; for no-one in his right mind deliberates about whether to do something that he believes isn't within his power.

(c) The same belief is involved in any adoption of a plan or policy that is reached through deliberation. A man may as well decide to pull the moon off-course as to lift his finger if he believes that it isn't in his power to do so. The same holds for every promise or contract in which a man gives his word; for anyone who promises something that he doesn't think he has the power to perform is not an honest man.

Just as these operations involve a belief that one has some power in oneself, so there are others—equally common and familiar—that involve a similar belief about others.

When we give approval or blame to a man for something he has done, or for not doing something he has not done, we must think he had the power to act otherwise. The same belief is involved in all advice, encouragement, command, and rebuke, and in everything in which we trust someone to do what he has promised. . . .

The belief that there is some degree of power in ourselves and in other people resembles our belief in the existence of a material world in several respects, including this: even those who reject it as a matter of philosophical theory find themselves *having* to be governed by it in their everyday practice. That is what always happens when philosophy contradicts first principles.

(7) The natural faculties by which we distinguish truth from error are not deceptive. If anyone demands a proof of this, it is impossible to satisfy him. Even supposing this principle were mathematically demonstrated, this wouldn't give the questioner what he wanted, because to judge a demonstration a man must trust his faculties, taking for granted the very thing that is in question. Trying to prove that our reason is not deceptive by any kind of reasoning is absurd in the same way as trying to settle whether a man is honest or not by asking him.

If a sceptic builds his scepticism on the basis that all our powers of reasoning and judging are deceptive in their nature, or resolves at least to withhold assent until it is proved that they aren't deceptive, it is impossible to beat him out of this stronghold by argument, and we'll have to leave him to enjoy his scepticism.

Descartes certainly made a false step in this matter. He put forward, among other doubts, this one:

However evident things might seem that he received from his consciousness, his senses, his memory, or his reason, perhaps some malignant being had given him those faculties on purpose to lead him astray; and therefore they shouldn't be trusted without a proper certificate of trustworthiness.

To remove this doubt, Descartes tries to prove the existence of a God who is not a deceiver; from which he concludes that the faculties God had given him are trustworthy.

It is strange that such a sharp reasoner didn't see that this reasoning obviously involves begging the question. [Reid uses that phrase in its original meaning of 'trying to support P by an argument in which P lurks among the premises'.] For if our faculties are deceptive, why can't they deceive us in this reasoning as well as in others? And if they are to be trusted here, without a certificate, why not elsewhere as well?

Every kind of reasoning for the truthfulness of our faculties amounts to no more than taking their own word for it that they are truthful; and that is what we must do, confidently, until God gives us new faculties to sit in judgment on the old ones. Why was Descartes satisfied with such a weak argument for the truthfulness of his faculties? Probably because he never seriously doubted it.

If any truth can be said to be prior to all others in the order of Nature, this one seems to have the best claim; because *every* time we assent to something that we find evident on the strength of intuition, demonstration, or probabilistic considerations, the truth of our faculties is taken for granted and is, as it were, one of the premises on which our assent is based.

Then how do we come to be assured of this fundamental truth on which all others rest? Well, evidentness resembles light in many respects, and one of them may be this: just as

light, which is the revealer of all visible objects, reveals itself at the same time,

so also, perhaps,

evidentness, which is the guarantor of all truth, guarantees itself at the same time.

[Reid repeats that it is just a fact about 'the constitution of the human mind' that we *can't help* assenting to P with a strength corresponding to how evident P is to us. Someone who went against this compulsion would be an intellectually

misshapen ‘monster’, like someone born without hands or feet. He compares the sceptic with a man walking on his hands: stop paying attention to him and he will start being sensible and get onto his feet! Then:]

The principle we are considering here, like many other first principles, has a property that is hardly ever possessed by principles that are based solely on reasoning, namely: in most men the principle produces its effect without ever being attended to or thought about. No man ever *thinks* ‘My natural faculties are not deceptive’ except when he is thinking about the case for scepticism; yet this principle *invariably* governs his opinions. . . .

Another property of this and many other first principles is that they compel assent •in particular instances more powerfully than •as general propositions. Many sceptics have denied every •general principle of science excepting perhaps the existence of our present thoughts; yet in •particular cases they reason and refute and prove, assent and dissent. They use reasoning to overturn all reasoning, judge that they ought to have no judgment, and see clearly that they are blind!

(8) There is life and thought in our fellow-men with whom we converse.

As soon as children are capable of asking a question or of answering one, as soon as they show signs of love, resentment, or any other feeling, they must be convinced that the people with whom they have these relationships are thinking beings. They are obviously capable of such relationships long before they can reason. Everyone knows that there is a social bond between the nurse and the child before it is a year old. It can at that age understand many things that are said to it.

It can by signs ask and refuse, threaten and beg. It clings to its nurse in danger, shares her grief and joy, is happy in

her soothing and caresses and unhappy in her displeasure. I think it must be admitted that these things can’t be so unless the child believes that the nurse is a thinking being.

Well, then, *how* does a one-year-old child come by this belief? Not by reasoning, surely, because children don’t reason at that age. Nor is it through the external senses, for life and intelligence are not objects of the external senses.

It is hard to determine how or when Nature first gives this information to the infant mind. We can’t find out by remembering our own case, because our memory doesn’t extend that far back. We see it in those who are born blind, and in others who are born deaf; so Nature hasn’t tied it solely to anything visible or audible. When we grow up to the years of reason and reflection, this belief remains. No man thinks of asking himself ‘Why do I think that my friend is a living creature?’. Wouldn’t he be surprised if someone else asked him that absurd question? If he were asked, he might not be able to give any reason that wouldn’t equally be a reason to think that a watch or a puppet is a living creature. But even if you convince him of the weakness of the reasons he gives for his belief, you can’t make him in the least doubtful. This belief stands on a foundation other than that of reasoning. . . .

Setting aside this *natural* conviction, I think the best reason we can give to show that other men are living and thinking is that *their words and actions indicate powers of understanding like those we are conscious of in ourselves*. The very same argument, applied •not to the behaviour of men but •to the works of Nature, leads us to conclude that there is a thinking author of Nature; and it seems just as strong and obvious in that case as in the other. So we may suspect that the mere use of reason can reveal to men •the existence of God as soon as it can reveal that •other men have life and thought. . . .

Our judgments concerning life and thought in other beings are not at first free from error. But the errors children make about this lie on the safe side: they are apt to attribute thought to inanimate things. These errors don't matter much, and are gradually corrected by experience and mature judgment. But the belief that other men have life and thought is absolutely necessary for us before we are capable of reasoning, which is why the author of our being has given us this belief in advance of all reasoning.

(9) Certain features of the face, tones of voice, and physical gestures indicate certain thoughts and dispositions of mind.

I suppose everyone will admit that many operations of the mind have their natural signs in face, voice, and gesture. [Reid quotes Cicero as saying this. Then:] The only question is this: do we (a) understand the significance of those signs by the constitution of our nature, i.e. by a kind of natural perception similar to sense-perception; or do we rather (b) gradually learn the significance of such signs from experience, as we learn that smoke is a sign of fire and ice a sign of cold? I think (a) is the right answer.

I can't believe that the notions we have about what is expressed by features, voice, and gesture are entirely the fruit of experience. Children *very* soon after birth can be frightened and thrown into fits by a threatening or angry tone of voice. I knew a man who could make an infant cry by whistling a sad tune within its hearing, and again by altering his key and melody could make the child leap and dance for joy.

It is not by experience, surely, that we learn what music expresses, for often a piece of music works on us most strongly at our first hearing of it. One tune expresses cheerfulness and festivity, so that when we hear it we can hardly forbear to dance. Another is sorrowful and solemn.

One inspires the hearer with tenderness and love; another with rage and fury.

Hear how Timotheus' varied lays surprise,
And bid alternate passions fall and rise;
While at each change, the son of Lybian Jove
Now burns with glory, and then melts with love.
Now his fierce eyes with sparkling fury glow,
Now sighs steal out, and tears begin to flow.
Persians and Greeks, like turns of Nature, found,
And the world's victor stood subdu'd by sound.
(from Pope's *Essay on Criticism*)

A man can feel these effects without having studied either music or the passions. The most ignorant and uncultivated people to whom Nature has given a good ear feel them as strongly as those who know most.

Face and gesture express things just as strongly and naturally as voice does. The first time someone sees a stern and fierce look, a contracted brow and a menacing posture, he concludes that the person is inflamed with anger. Are we to say that until experience teaches us better we find the most hostile facial expression to be as pleasant as the most gentle and benign? This surely would contradict all experience; for we know that an angry face will frighten a child in the cradle. Who hasn't noticed that very young children can distinguish, going by tone of voice and facial expression, things said as jokes and things said in earnest? They judge by these natural signs, even when they seem to contradict the artificial signs.

[Reid speaks of our having no memory of first learning how to read faces, voices and gestures, and that we don't observe children learning this—whereas we *do* observe them learning that fire burns and knives cut. Then:]

Indeed, I think that it is not just empirically unlikely, but downright *impossible* that this should be learned from experience. When we •see the sign and •see the thing signified always conjoined with it, experience can teach us how that sign is to be interpreted. But how can experience instruct us when we •see only the sign, and •the thing signified is invisible? That's what the case is here: the thoughts and passions of the mind, as well as the mind itself, are invisible, so their connection with any sensible sign can't be first discovered by experience. There must be some earlier source for the knowledge of this connection.

Nature seems to have given men a faculty or sense by which this connection is perceived. And the operation of this sense is closely analogous to that of the external senses.

When I grasp an ivory ball in my hand, I feel a certain sensation of touch. In the sensation there is nothing external, nothing corporeal. The sensation isn't round or hard; it is an act of feeling of the mind, from which I can't *by reasoning* infer the existence of any body. But

by the constitution of my nature the sensation carries along with it the conception of and belief in a round hard body really existing in my hand.

Similarly, when I see the features of an expressive face, I see only various detailed shapes and colours. But

by the constitution of my nature the visible object brings along with it the conception of and belief in a certain passion or sentiment in the mind of the person.

In the former case a sensation of touch is the sign, and the hardness and roundness of the body I grasp is signified by it. In the latter case the facial expression is the sign, and the passion or sentiment is signified by it.

[Reid goes on at some length about the evidence that the significance of facial expressions and gesture is something we

know instinctively, i.e. 'by the constitution of our natures'; he cites the success of well-done pantomimes in communicating thoughts and emotions to people who have had no experience of pantomime. It takes hard work and practice to *be* a mime, he says, but not to understand a mime's performance.]

(10) A certain respect should be accorded to human testimony in matters of fact, and even to human authority in matters of opinion.

Before we can reason about testimony or authority, there are many things we need to know, and we *can't* know them except on the evidence of testimony and authority. •God•, the wise author of Nature, has implanted in the human mind a propensity to rely on this evidence before we can give a reason for doing so. This does indeed, in the first period of life, put our judgment almost entirely in the power of those who are close to us; but this is necessary for our survival and for our growing up. If children were so built that they had no respect for testimony or authority, they would—I mean this literally—*die* for lack of knowledge. They *have to* •be instructed in many things before they can •discover them by their own judgment, just as they *have to* •be fed before they can •feed themselves.

But when our faculties mature, we find reason to check the propensity to yield to testimony and authority that was so necessary and so natural when we were very young. We learn to reason about the respect due to them, and see it as a childish weakness to give them more weight than reason justifies. And yet I think that all through life most men are more apt to over-rate testimony and authority than to under-rate them; •which suggests that• the natural propensity still retains some force •even when it *could* be replaced by reasoning•. . . .

(11) For many outcomes that will depend on the will of man, there is a self-evident probability, greater or less according to circumstances.

Some individuals may have such a degree of frenzy and madness that no-one can say what they may or may not do. We have to put such people under restraint, to keep them as far as possible from harming themselves or others. They aren't regarded as reasonable creatures or as members of society. But with men of sound mind we depend on a certain degree of regularity in their conduct; and we could cite a thousand cases where we could bet ten to one that they will act *thus* and not *so*.

If we weren't confident about how our fellow-men will act in such circumstances, it would be impossible to live in society with them. What makes it possible for men to live in society, and to unite in a political body under government, is that their actions will always be to a large extent governed by the common principles of human nature.

It can always be expected that they will care about their own interest and reputation, and that of their families and friends; that they will resent insults, have some feeling for being obligingly helpful, and have enough regard for truth and justice not to depart from them without temptation.

All political reasoning is based on such principles as these. It is never demonstrative, but it may have a high probability especially when applied to large numbers of men.

(12) In the phenomena of Nature, what happens will probably be like what has happened in similar circumstances.

We must have this conviction as soon as we are able to learn anything from experience, for all experience is based on the belief that the future will be like the past. Take away this principle and the experience of a hundred years makes us no wiser about what is to come.

This is one of the principles that we can confirm by reasoning when we have grown up and observe the course of Nature. We perceive that Nature is governed by fixed laws, and that if it weren't there could be no such thing as prudence in human conduct: there would be no such thing as *a good means to achieving such-and-such an end*, because something that did once •lead to that end is just as likely to •block it next time.

But we need the principle *before* we can discover it by reasoning, which is why it has been built into our constitution and produces its effects before the use of reason.

When we come to the use of reason, this principle remains in full force but we learn to be more cautious in applying it. We observe more carefully the circumstances on which the past outcome depended, and learn to distinguish them from features of the situation that just happened to be there had no effect on the outcome.

To do this—i.e. to sort out the causally relevant from the irrelevant details—we often need to perform a number of experiments that vary in their details. Sometimes a single experiment is thought sufficient to establish a general conclusion. For example, when it was once found that at a certain temperature quicksilver became a hard and malleable metal, there was good reason to think that that temperature will always—for ever—produce this effect.

I need hardly mention that the whole structure of natural philosophy is built on this principle, and will collapse into rubble if the principle is taken away.

Therefore the great Newton lays it down as an axiom, or as one of his laws of philosophising, that 'the causes assigned to natural effects of the same kind must be the same' [Reid gives it in Latin]. Every man assents to this as soon as he understands it, and no-one asks for a reason for it. So it has the most genuine marks of a first principle.

It is very remarkable that although all our expectation of what will happen in the course of Nature is derived from our belief in this principle, it doesn't occur to anyone to ask what the grounds are for this belief. I think Hume was the first person to raise this question; and he has shown clearly and conclusively that the belief isn't based on reasoning and isn't intuitively evident in the way mathematical axioms are. It isn't a necessary truth.

He has tried to explain it on his own principles. I am not concerned here with examining his account of this universal belief of mankind. Whether or not that account is correct (and I don't think it is), this belief is universal among mankind and is not based on any antecedent reasoning but on the constitution of the mind itself, so you must agree that it is a 'first principle' in my sense of that phrase.

Chapter 6: The first principles of necessary truths

There has been no dispute about most of the first principles of *necessary* truths, so there is less need to dwell on them. It will be sufficient to divide them into different classes, to present some examples of each class, and to make some remarks about the ones whose truth has been called in question.

They may I think most properly be divided according to the sciences to which they belong. On that basis they fall into six classes.

(1) Some first principles could be called 'grammatical': every adjective in a sentence must relate to some noun, expressed or understood; every complete sentence must have a verb.

Those who have studied the structure of language, and formed clear notions of the nature and use of the various parts of speech, perceive without reasoning that these principles and others like them are necessarily true.

(2) There are logical axioms: any string of words that doesn't make a proposition is neither true nor false; every proposition is either true or false; no proposition can be both true and false at the same time; reasoning in a circle

proves nothing; whatever can be truly affirmed of a genus can be truly affirmed of all the species and all the individuals belonging to that genus.

(3) Everyone knows that there are mathematical axioms. Ever since Euclid, mathematicians have very wisely laid down the axioms or first principles on the basis of which they reason. And the effect this seems to have had on the stability and progress of this science strongly encourages us to try to lay the foundations of other sciences in a similar manner as far as we can.

Hume thinks he has discovered a weak side even in mathematical axioms; and thinks that it isn't strictly true, for instance, that two straight lines can't intersect twice.

The principle he reasons from is that *every simple idea is a copy of a preceding impression and therefore can't be more precise and detailed than that impression*. From this he argues:

- No-one ever saw or felt a line that was so straight that it couldn't cut another equally straight in two or more points.

- Therefore there can be no idea of such a line.

The ideas that are most essential to geometry, such as the ideas of *equality of a straight line* and *a square surface*, are, Hume says, far from being clear and determinate, and when they are defined the definitions destroy the demonstrations that geometers put forward. So he finds mathematical demonstration to be a rope of sand.

I agree with this acute author that *if* we could form no notion of points, lines, and surfaces that were more precise than those we see and handle, there couldn't be any mathematical demonstration. But everyone who has understanding can construct in his own mind those elegant and precise forms of mathematical lines, surfaces, and solids, doing this by analysing, abstracting, and compounding the raw materials presented to him by his senses

If a man finds that he can't form a precise and determinate notion of the figure that mathematicians call a 'cube', he not only *isn't* a mathematician but he *can't become* one. But if he does have a precise and determinate notion of that figure, he must perceive that •it is bounded by six perfectly square and perfectly equal mathematical surfaces. He must perceive that •these surfaces are bounded by twelve perfectly straight and perfectly equal mathematical lines, and that •those lines are terminated by eight mathematical points.

When someone is aware of having these conceptions in a clear and determinate form, as every mathematician is, it is useless bring metaphysical arguments to convince him that they *aren't* clear. You might as well try to argue a man who is racked with pain that he doesn't feel any pain.

Every theory that implies that we *don't* have precise notions of mathematical lines, surfaces, and solids must be false. So these notions are not copies of our impressions.

The Medici Venus is not a *copy* of the block of marble from which it was made. The elegant statue was formed out of the rough block, and this was done by a manual operation

that could in a literal sense be called 'abstraction' [from Latin *abstrahere* = 'pull away from']. Mathematical notions are formed in the understanding, by abstraction of another kind, out of the rough perceptions of our senses.

The truths of natural philosophy are not necessary truths, but contingent ones, because they depend on the will of •God•, the maker of the world. And so the principles from which they are deduced must also be contingent and therefore don't belong to this class.

(4) I think there are axioms even in matters of taste. Despite the differences of taste that are found among men, I think there are some common principles even in matters of this kind. I never heard of anyone who thought it a beauty in a human face to lack a nose or an eye, or to have the mouth on one side. In all the centuries that have passed since the days of Homer, there has never been anyone who thought Thersites was beautiful. . . .

Homer and Virgil and Shakespeare and Milton had the same taste; and all men who have known their writings and agree in admiring them must have the same taste. The fundamental rules of poetry and music and painting and dramatic action and eloquence have been always the same and will be so to the end of the world. The variety we find among men in matters of taste is easily accounted for consistently with the views I have been presenting.

There is acquired taste and natural taste. This holds with respect both to the external sense of taste •using the palate and tongue• and the internal sense of taste •in judgments of beauty, ugliness etc.. Habit and fashion have a powerful influence on both.

Some natural tastes can be called *rational*, while others are merely *animal*. Children are delighted with brilliant and gaudy colours, with romping and noisy fun, with feats of agility, strength, or cunning; and savages have much the

same taste as children. But there are tastes that are more intellectual. It is the dictate of our *rational* nature that love and admiration are misplaced when there is no intrinsic worth in the object. In rational operations of taste we judge the real worth and excellence of the object, and our love or admiration is guided by that judgment. In such operations there is •judgment as well as •feeling, and the feeling depends on our judgment regarding the object.

Taste that is based on judgment can be brought under principles; I don't say the same for taste that is acquired •by habit and fashion• or taste that is merely animal.

The virtues, the graces, the muses, have an intrinsic beauty. It lies not in •the feelings of the spectator but in •the real excellence of the object. If we don't perceive their beauty, that is because of some defect in us or some twist of our faculties.

And just as there is a •basic •and intrinsic• beauty in certain moral and intellectual qualities, so there is a •borrowed and derived beauty in the natural signs and expressions of such qualities. The features of the human face, the shaping of the tones of the voice, and the proportions, attitudes, and gestures of the body are all natural expressions of good or bad qualities of the person, and have a beauty or an ugliness that is derived from •the beauty or ugliness of• the qualities they express.

Works made by human skill may have *two* sources of derived or non-basic beauty: •some quality of the maker that they express, and •their usefulness, or fitness for the purpose for which they were made.

Some of these things ought to please, others ought to displease. If they don't, that's because of some defect in the spectator. Anything that has real excellence will always please people who have a correct judgment and a sound heart.

Here, in summary, is what I have said on this subject: Setting aside the tastes that men acquire through habit and fashion, there is a *natural* taste that is partly animal and partly rational. All we can say about animal taste is that •God•, the author of Nature, for wise reasons has built us in such a way that we can

- receive pleasure from contemplating certain objects, and disgust from others, before we are able to
- perceive any real excellence in one or real defect in the other.

But the taste that we can call 'rational' is that part of our constitution by which we

- receive pleasure from contemplating what we judge to be excellent in its kind, the pleasure being tied to this judgment and governed by it.

Such rational taste can be true or false, depending on whether the judgment it is based on is true or false. And if it can be true or false, it must have first principles. [Essay 7 of this work is entitled 'Taste'. It is not offered on the website from which the present text came.]

(5) There are also first principles in morals:

- An unjust action has more demerit than a •merely• ungenerous one.
- A generous action has more merit than a merely just one.
- No man ought to be blamed for something that he didn't have the power to prevent.
- We ought not to do to others what we would think unjust or unfair if it were done to us in similar circumstances.

These are moral axioms, and I could cite many more; they seem to me to be just as evident as the axioms of mathematics.

Some people may think this:

Our determinations in matters of taste and of morals ought not to be regarded as necessary truths. They are based on the constitution of •the faculty we call ‘taste’ and •the faculty we call ‘the moral sense’ or ‘conscience’, and these faculties *could* have been constituted in such a way that their output was different from, even contrary to, what they in fact deliver. We all know that things are sweet or bitter not in themselves but only according to whether they agree or disagree with •the external sense called ‘taste’. Well, similarly, things are beautiful or ugly not in themselves but according to whether they agree or disagree with •the internal sense that we also call ‘taste’; and nothing is morally good or bad in itself, but only according to whether they agree or disagree with •our moral sense.

This theory of morals and taste has been supported in modern times by great authorities. If it is true, it will follow that there can’t be any principles of taste or of morals that are •necessary truths. For according to this system, what we have to say about matters of taste and about morals come down to things like this:

- We are so built that when X is the case we have certain pleasant feelings,
- We are so built that when Y is the case we have certain unpleasant feelings.

And these are not necessary, because they are matters of fact.

But I can’t help having the opposite opinion. I am convinced that a man who held that polite behaviour is very ugly, and that there is great beauty in rudeness and bad manners, would be •judging wrongly, whatever his •feelings were. Similarly, I can’t help thinking that a man who held that there is more moral worth in cruelty, treachery, and injustice

than in generosity, justice, prudence, and temperance would be judging wrongly, whatever his constitution was.

And if it’s true that there is judgment in our determinations of taste and of morals, it must be granted that whatever is •true or •false in morals or in matters of taste is •necessarily true or necessarily false. That’s why I have classified the first principles of morals and of taste as necessary truths.

(6) The last class of first principles that I shall mention can be called ‘metaphysical’. I shall mainly attend to three of these that have been called into question by Hume.

The **first** is this: The qualities we perceive through our senses must have a subject that we call ‘body’, and the thoughts we are conscious of must have a subject that we call ‘mind’.

Shape can’t exist unless there is something that is shaped, and Motion can’t exist without something that is moved—these are as evident as *Two and two make four*. In perceiving shape and motion I perceive them to be qualities. They have a necessary relation to something in which they exist as their subject. It is only because of the theory of ideas that some philosophers have found it hard to accept this. A subject of the sensible qualities that we perceive through our senses is not an idea either of sensation or of consciousness, so they say that we have no such idea. . . .

The distinction between •sensible qualities and •the substance to which they belong, and between •thought and •the mind that thinks, wasn’t invented by philosophers. It shows up in the structure of all languages, so it must be common to all men who speak with understanding. And I don’t think that any man, however sceptical he may be in theory, can talk for half an hour about the common affairs of life without saying things that imply his belief in the reality of these distinctions.

Locke acknowledges that ‘because we can’t conceive how simple ideas of sensible qualities could exist alone, we think of these qualities as existing in and supported by some common subject’ (*Essay* II.xxiii.4). Some of his turns of phrase in the *Essay* seem to leave room for suspicion that this belief that *sensible qualities must have a subject* is regarded by Locke as a vulgar prejudice rather than a true judgment. But in his first letter to the Bishop of Worcester he clears this matter up, quoting many passages from the *Essay* to show that he neither denied nor doubted the existence of substances, both thinking and material; and that he believed in their existence on the same grounds that the bishop did, namely that ‘it is inconsistent with our conceptions to suppose that modes and accidents exist by themselves’. He offers no proof of this inconsistency; and I don’t think any proof of it *can* be given, because it is a first principle.

Locke is to be praised for his precise inquiries into the origin, certainty, and extent of human knowledge. I wish he had turned his attention more particularly to the origin of these two opinions, which he firmly believed: •Sensible qualities must have a subject that we call ‘body’; •Thought must have a subject that we call ‘mind’. These two opinions govern the beliefs of all men, even of sceptics, in the practice of life; and if Locke had properly attended to them he would probably have come to perceive •that sensation and consciousness—which he wrongly called ‘reflection’—are *not* the only sources of human knowledge; •that there are sources of belief in human nature that we can’t explain beyond saying that they necessarily result from the constitution of our faculties; and •that if we threw off their influence on our practice and conduct—if we could!—we would become unable to speak or act like reasonable men.

We can’t give a reason why we believe that our sensations are real and not deceptive, why we believe what we are

conscious of, why we trust *any* of our natural faculties. We say it *must* be so, it *can’t* be otherwise. This doesn’t give a reason; it merely expresses a strong belief; but that belief is the voice of Nature, which it is futile to try to resist. But, if in spite of Nature, we try to dig deeper and not trust our faculties unless we find a *reason* showing that they can’t be deceptive, I’m afraid that in seeking to become wise and to be like gods we shall become foolish, and in our dissatisfaction with the lot of humanity we shall throw off common sense.

The **second** metaphysical principle I shall discuss is: Anything that begins to exist must have a cause that produced it.

Philosophy is indebted to Hume for, among many other things, calling into question many of the first principles of human knowledge. This put theorists to work inquiring, more carefully than they had done before, into the nature of the evidence on which those principles rest. Truth can never suffer by a fair enquiry; it can stand being seen naked in good light; and the strictest examination will always, eventually, work to truth’s advantage. Hume was the first, I believe, who ever called into question whether things that begin to exist must have a cause.

There are three lines we can take about this principle: •it is an opinion for which we have no evidence, which men have foolishly taken up without good reason; •it is capable of direct proof by argument; •it is self-evident and doesn’t need proof—it should be accepted as an axiom which reasonable men can’t call into question.

The first of these would put an end to all philosophy, all religion, all reasoning taking us beyond the objects of sense, and all prudence in the conduct of life.

As for the second supposition, namely that this principle can be proved by direct reasoning, I’m afraid we’ll find the proof extremely difficult if not altogether impossible.

I know only of three or four lines of abstract reasoning that philosophers have used to prove that things which begin to exist must have a cause. One is offered by Hobbes, another by Clarke, another by Locke. I'm not going to discuss them here. Hume in his *Treatise of Human Nature* has examined them all, and in my opinion he has shown that they take for granted the thing to be proved. That kind of false reasoning is something that men are very apt to fall into when they try to prove something that is self-evident.

It has been thought that although this principle can't be proved through abstract reasoning, it *can* be proved from experience, being validly inferred from instances that fall within our observation. But this method of proof will leave us in great uncertainty, I think, for these three reasons.

(a) The proposition to be proved is not contingent but necessary. It is not that things that begin to exist *usually* have a cause or even that they *always* have a cause; it's that they *must* have a cause and *can't* begin to exist without one. Propositions of this kind can't be proved by induction. . . .

That is why no mathematical proposition can be proved by induction. It could be found by experience in a thousand cases that the area of a triangle is equal to the rectangle with the same height and half the width, but this wouldn't prove that it *must* be so in all cases, which is what the mathematician affirms.

Similarly, even if we had abundant experimental evidence that things that have begun to exist had a cause, this wouldn't prove that they *must* have a cause. Experience may show us what the established course of Nature is, but can never show what connections of things are inherently necessary.

(b) General maxims based on experience have only a degree of *probability* that is proportional to the extent of our experience, and they ought always to be understood as

leaving room for exceptions if future experience comes up with any.

The law of gravitation has as much support from experience and induction as any principle can be supposed to have. But if any philosopher shows by clear experiment there is a kind of matter that doesn't gravitate, the law of gravitation ought to be limited by that exception.

Now, it's obvious that men have never considered the principle of the necessity of causes as a truth of this kind, one that could be restricted in some way; and that shows that it hasn't been accepted on the basis of this kind of evidence.

(c) Even leaving aside the issue about necessity, I can't see that experience could satisfy us that *every* change in Nature does actually have a cause. For the vast majority of natural events that we observe, the causes are unknown; so we can't know from experience whether they have causes or not.

Causation is not something we can sense. The only experience we can have of causation at work is in our consciousness of exerting some power when we order our thoughts and actions. This experience is surely too narrow a foundation for the general conclusion that all things that have had or shall have a beginning must have a cause.

For these three reasons, this principle can't be drawn from experience any more than from abstract reasoning.

So much for the second supposition, namely that the causal principle can be demonstrated by abstract reasoning or by appeals to experience. Failing that, and failing the first supposition that the principle is rubbish which ought to be jettisoned, there remains only the third supposition, namely that the causal principle is an underived, basic, self-evident principle. Two reasons can be urged for this.

(a) The universal consent of mankind, not merely of philosophers but also of the great unwashed multitudes.

As far as I know, Hume was the first person who ever expressed any doubt of this principle. And his doubts don't carry much authoritative weight, given that he has rejected *every* principle of human knowledge except that of consciousness, not even sparing the axioms of mathematics!

Indeed, when it comes to first principles there is no reason why the opinion of a philosopher should have more authority than that of any other sensible person who has been accustomed to judge in such cases. An illiterate plain man is a competent judge, and the philosopher has no privilege in matters of this kind. His only relevant difference from the plain man is that he is more liable than the plain man is to be misled by a favourite theory, especially if it's *his* theory!

Setting Hume aside, what philosophy has been busy with ever since men first began to philosophise is the investigation of the causes of things. [Remember that for Reid 'philosophy' includes natural science]. . . . Before Hume it never occurred to anyone to *wonder whether* things have a cause or not. If anyone had thought that there might be uncaused events, that would surely have come up in the context of the variety of absurd and contradictory causes assigned some events. [Reid recites a couple of the absurdities, then:] We don't know of any atheistic sect that denied the causal principle, though such a denial would have enabled them to evade every argument that could be brought against them and to answer all the objections to their system. But rather than adopt such an absurdity as the denial of the causal principle, they contrived some imaginary cause for the universe—that it arose from a chance coming-together of atoms, or that it exists because it was necessary for it to exist.

[Reid quotes from Cicero and Plato passages showing their acceptance of the causal principle. He quotes Hume as questioning it, and remarks that what Hume says against it amounts to saying that the principle isn't intuitively evident because it doesn't fit Hume's theory of intuitive certainty. He repeats that 'the vulgar adhere to this maxim as firmly and universally as the philosophers'. Then:]

This universal belief of mankind is easily accounted for if we allow that *the necessity of a cause for every event is obvious to the rational powers of a man*. But it is impossible to account for it otherwise. It can't be ascribed to education, to systems of philosophy, or to priestcraft. You might expect that a philosopher who takes the causal principle to be a general delusion or prejudice would try to show what the causes in human nature are from which such a general error could arise. But in writing that, I was forgetting that Hume might answer, on his own principles, that this error and delusion of men may have occurred right across the species without any cause!

(b) My second reason for holding the causal principle to be a first principle is that men in general don't just assent to it as a theoretical matter but live their lives on the basis of it, applying it to the most important matters. . . .

In large families such as mine was, so many bad things are done by a certain personage called 'Nobody' that it is proverbial that every house contains a Nobody who does a great deal of mischief; and even when there is exact inspection and tight parental control, many events will occur that can't be attributed to anyone but Nobody! So if we trust merely to experience in this matter, Nobody will be found to be a very active person and to have a considerable share in the management of affairs. But however this theory may seem to be supported by experience, it is too offensive to common sense to take in even the most ignorant. A child

knows that when his toy is taken away it must have been taken by somebody. . . .

[Reid illustrates the role of the causal principle in human life. Someone who suffers a robbery doesn't entertain the thought that perhaps his goods disappeared with no cause. A coroner's jury considers *what* caused a man's death; it doesn't consider that perhaps there was no cause. He comments on what an absurd figure Hume would cut if he intruded into one of those scenes with his challenge to the causal principle; and goes on to say that Hume himself sometimes shows his unconscious acceptance of the principle:] I shall mention only one such passage, in a part of the *Treatise of Human Nature* where he is engaged in fighting *against* the causal principle! He writes:

As for the impressions that arise from the senses: in my opinion their ultimate cause is utterly inexplicable by human reason; we will never be able to decide with certainty whether they arise immediately from the object, or are produced by the creative power of the mind, or are caused by God. (*Treatise* I.iii.5)

Among these alternatives he never thought of their not arising from any cause.

Hume has three arguments purporting to show that the causal principle is not self-evident. (a) All certainty arises from comparing ideas and discovering their unalterable relations; and none of those relations imply *Whatever has a beginning must have a cause of existence*. I have already examined this theory of certainty.

(b) Whatever we can conceive is possible, and we can conceive an uncaused actual event. I have examined this too.

(c) What we call a 'cause of x' is only something that occurs before x and is always conjoined with it. This is another of the doctrines that Hume has all to himself; I may

have occasion to consider it later. All I shall say here is that this doctrine implies that night is the cause of day and day the cause of night, because no two things have more constantly followed each other since the beginning of the world.

The **third and last** metaphysical principle I shall discuss—one that is also opposed by Hume—is: If something shows marks or signs of design and intelligence, we can infer with certainty that there was design and intelligence in its cause. I shall call this 'the design principle'. It will be my topic to the end of this chapter.

Intelligence, design, and skill are not objects of the external senses, and we can't be conscious of them in anyone but ourselves. Even in ourselves we can't properly be said to be *conscious* of our natural or acquired talents; all we are conscious of are the mental operations in which those talents are exerted. Indeed, a man comes to know his own mental abilities just as he knows another man's, namely by the effects they produce when there is occasion to put them to work.

A man's wisdom is known to us only by the signs of it in his conduct; his eloquence by the signs of it in his speech. And that is also how we judge someone's virtue, his fortitude, and all his talents and virtues. But notice this: we judge men's talents with as little doubt or hesitation as we judge concerning the immediate objects of sense. One person we are sure is a perfect idiot; another who feigns idiocy to screen himself from punishment is found when tested to have the understanding of a man and to be accountable for his conduct. We perceive one man to be open, another cunning; one to be ignorant, another very knowledgeable; one to be slow of understanding, another quick. Everyone forms such judgments regarding those he has any dealings with, and the affairs of everyday life depend on such judgments. . . .

From this it appears that it is just as thoroughly built into us

to judge men's characters and their intellectual powers on the basis of the signs of them in their actions and talk

as it is

to judge concerning corporeal objects on the basis of our senses.;

that •such judgments are common to every human being who is capable of thinking, and that •they are absolutely necessary in the conduct of life.

Now, every judgment of this kind is just one application of •the design principle•, the general principle that intelligence, wisdom, and other mental qualities in the cause can be inferred from their marks or signs in the effect. The things men say and do are effects, of which the speakers and doers are the causes. We perceive the effects through our senses, but the causes are behind the scene. We simply *infer* their existence and their degrees from what we observe in the effects. From wise conduct we infer wisdom in the cause, and so on.

[Reid goes on to remark that people make these inferences with perfect confidence. The design principle's essentialness for everyday life is another sign of its being a first principle. We don't get it through reasoning; it is too universal for that to be plausible; and we never find philosophers—even very good arguers—defending it on any other basis than common sense. Reid quotes a long passage in which Cicero constantly deploys the principle—not in *arguments* but rather in what amount to appeals to common sense. For example:] 'Carneades imagined that in the stone quarries at Chios he found in a split stone a representation of the head of a little Pan or forest-god. And perhaps he did, but surely not one that you might think had been made by an excellent

sculptor; for chance never perfectly imitates design.' [Reid continues with a very long quotation from Tillotson, of which this is a part:]

I appeal to any man of reason whether anything can be more unreasonable than obstinately to attribute to •chance an effect that carries on the face of it all the signs of •design? Did it ever happen that a considerable work, needing a great variety of parts and an orderly and regular adjustment of them, was done by chance? Will chance fit means to ends in ten thousand instances without failing in any one? . . . How long might twenty thousand blind men, sent out from the remote parts of England, wander up and down before they would all meet on Salisbury plains and fall into rank and file in the exact order of an army? Yet that is much easier to imagine than how the innumerable blind parts of matter should rendezvous themselves into a world.

[Reid remarks that through the whole long passage Tillotson doesn't argue for the design principle; he merely exhibits what he thinks are the absurd consequences of denying it, this being an implicit appeal to common sense.]

I have met with one or two respect-worthy authors who appeal to probability theory to show how improbable it is that a regular arrangement of parts should be the effect of chance, or that it should not be the effect of design. I don't object to this reasoning; but I would point out that probability theory is a branch of mathematics little more than a hundred years old, whereas the conclusion drawn from it—•the design principle•—has been held by all men from the beginning of the world. So it can't be thought that men have been led to this principle by that reasoning. Also, one may question whether (a) the first principle on which all the mathematics of probability theory is based is

more self-evident than (b) this conclusion drawn from it, or whether instead (a) is not a particular instance of (b) that general conclusion.

·So much for the suggestion that we accept the design principle on the strength of abstract reasoning·. Next we should consider whether we might have learned it from experience. . . . I have two reasons for thinking that we can't have done so.

(a) The principle is a necessary truth, not a contingent one. ·The fact that it squares with our experience doesn't mean that it can be learned from experience·. Here are two truths that square with the experience of mankind since the beginning of the world:

- The area of a triangle is equal to half the rectangle with the same width and height.
- The sun rises in the east and sets in the west.

So far as experience goes, these truths are on an equal footing. But everyone sees how they differ: one is a necessary truth that can't possibly be untrue; the other is a contingent truth, depending on the will of ·God·, who made the world. . . . Experience informs us only of what •has been, never of what •must be.

(b) Experience *can* show a connection between a sign and the thing signified, but only in cases where both the sign and thing signified are perceived, and have always been perceived together. But in a case where only the sign is perceived, experience can't show its connection with the thing signified. For example: thought is a sign of a thinking thing, a mind. But how do we know that thought can't occur without a mind? If anyone claims to know this from experience, he is deceiving himself. He can't possibly have any experience of this, because although we have an immediate knowledge of the existence of thought in ourselves by consciousness, we have no immediate knowledge of a mind. The mind is not

an immediate object either of sense or of consciousness. So we are entitled to conclude that the necessary connection between thought and a mind or thinking thing is not learned from experience.

The same reasoning holds for the connection between •a work excellently fitted for some purpose and •design in the author or cause of that work. The work may be an immediate object of perception. But the design and purpose of the author *can't* be an immediate object of perception; so experience can never inform us of *any* connection between the one and the other, let alone a *necessary* connection.

[Reid repeats that the design principle is a first principle, and then goes on to talk about its importance in 'natural theology'—i.e. in the branch of theology that infers conclusions about God's existence and nature from the signs of design in the natural world. Thus:]

The clear marks and signs of wisdom, power, and goodness in the constitution and government of the world constitute an argument for the existence and benevolence of God; and of all such arguments this is the one that has always made the strongest impression on honest and thinking minds. It has a special advantage ·that the others lack·, namely that it gets stronger as human knowledge advances, and is more convincing now than it was a few centuries ago.

King Alphonsus might say that he could devise a better planetary system than the one that the astronomers of his day believed in [he lived in the 13th century]. That system was not the work of God, but a fiction created by men. But since the true system of the sun, moon, and planets has been discovered, no-one, however atheistically inclined, has offered to show how a better one could be contrived.

When we attend to the signs of good design that appear in the works of God, every discovery we make. . . .becomes a hymn of praise to the great creator and governor of the world.

Anyone who has the genuine spirit of philosophy will think that it would be impiety—an insult to God—to contaminate the divine workmanship by mixing it with those fictions of the human imagination called ‘theories’ and ‘hypotheses’, which will always carry the signs of human folly as much as the other does of divine wisdom.

I don’t know of anyone who ever called into question the ·design· principle as applied to the actions and speech of men. For this would be to deny that we have any means of telling a wise man from an idiot, or an utterly illiterate man from a learned one; and no-one has had the impudence to deny that these differences can be known.

But all through the centuries, people unfriendly to the principles of religion have tried to weaken the force of the argument for the existence and perfections of God that is based on this ·design· principle. That argument has come to be known as ‘the argument from final causes’ [= ‘the argument from purposes’]; and as the meaning of this name is well understood, I shall use it.

The argument from final causes, when expressed as a syllogism, looks like this:

- Design and intelligence in a cause can be inferred with certainty from marks or signs of it in the effect.
- There are in fact the clearest marks of design and wisdom in the works of Nature.
- Therefore the works of Nature are the effects of a wise and thinking cause.

The first premise is the ·design· principle that we have been considering; let us call it the *major* premise of the argument, and the other the *minor* premise’. One must either assent to the conclusion or deny one or other of the premises.

[Reid is here using technical terms from the theory of syllogisms. His argument has this form:

All D&I things are caused by W&T things.

Nature is a D&I thing.

Therefore Nature is caused by a W&T thing.

The first premise is the *major* premise because it contains the predicate of the conclusion; the other is the *minor* premise. The order in which they are written down is irrelevant.]

Those among the ancients who denied a God seem to me to have conceded the major premise and to have denied the minor, because they didn’t find in the constitution of things clear enough signs of wise design to put the conclusion beyond doubt. . . . The gradual advances in our knowledge of Nature has made this opinion quite untenable.

When the structure of the human body was much less known than it is now, the famous Galen saw such evident marks of wise design in it that, although he had been brought up as an Epicurean, he •renounced that system and •wrote his book *The Use of the Parts of the Human Body* specifically in order to convince others of what seemed so clear to *him*, namely that such admirably designed structures couldn’t possibly be the effect of chance. So people who have more recently been dissatisfied with the argument from final causes have left the stronghold of the ancient atheists, which had become untenable, and have chosen instead to defend their position against the major premise.

Descartes seems to have led the way in this, though he was no atheist. He had invented some new arguments for God’s existence, and that may have led him to belittle the arguments that had been used before, so that his own argument would look better. Or perhaps he was objecting to the way the Aristotelians often tried to explain the phenomena of Nature through a mixture of •physical causes and •final causes. [That is, a mixture of •what *we* would call ‘causes’ and •appeals to a thing’s purpose or ‘end’.] Descartes maintained that only physical causes should be assigned for phenomena,

that philosophers ·should· have no use for final causes, and that we are getting above ourselves if we claim to have found out what the purpose was of any work of Nature. [Reid then reports that some Cartesians differed from him on this point, whereas others went the whole way with him. Then:] The most direct attack on the ·design· principle is Hume's. He puts into the mouth of an Epicurean an argument on which he seems to lay great stress: *The universe is a singular effect, so we can't infer from it any conclusion about whether or not it was made by wisdom.* (*Treatise* I.iv.5)

If I understand the force of this argument, it amounts to this:

If we had been accustomed to seeing ·many· worlds produced, some by wisdom and others without it, and had observed that any world like ours was always an effect of wisdom, then we could have inferred from past experience ·and the facts about our world· that our world was made by wisdom. But we *haven't* had any such experience, so we have no way of reaching any conclusion about the causes of our world.

That's the core of Hume's argument: If the marks of wisdom seen in one world are not evidence of wisdom ·in the cause·, then similar marks seen in ten thousand ·worlds· won't give evidence for that either, unless in the past we have

perceived •wisdom itself along with the signs or marks of it, and can infer from their perceived conjunction in the past that although in the present world we see only one of the two the other must accompany it—i.e. though we see only •the signs, •the wisdom must accompany them, ·meaning that this world must have been caused by a wise being·.

So we see that Hume's argument is built on the supposition that we could infer •design from •the strongest marks of it only if we had had experience of always finding these two things conjoined. But I hope I have made it evident that this is *not* the case—i.e. that the inference from •the marks of design to •design does *not* depend on past experience·. Indeed, it is obvious that according to this reasoning we can't have any evidence of mind or design in any of our fellow-men.

How do I know that some friend of mine has understanding? I never saw his understanding! All I see are certain effects that my judgment leads me to conclude are marks and signs of it. . . .

It seems, then, that the man who maintains that there is no force in the argument from final causes must in consistency think that he has no evidence for the existence of any thinking being other than himself.

Chapter 7: Ancient and modern opinions about first principles

[This sixteen-page chapter focuses mainly on Aristotle, Descartes, and Locke. The main point about Aristotle is that he treated as first principles many propositions that were really ‘vulgar prejudices and rash judgments’, e.g. that Nature abhors a vacuum, that the heavenly bodies move in circles. Descartes, Reid says, went to the other extreme:]

The modern philosophy of which Descartes can fairly be regarded as the founder, though built on the ruins of the Aristotelian philosophy, has a quite opposite spirit that takes it to a contrary extreme. The Aristotelian system adopted as first principles not only •those that mankind have always relied on in their most important transactions but also •many vulgar prejudices; so that this system had a foundation that was broad but in many parts unsound. The modern system has made the foundation so narrow that every superstructure built on it appears top-heavy!

[Descartes, ‘that truly great reformer in philosophy’, was entitled to trust his own consciousness and treat ‘I think’ as a first principle, Reid says, but the case for accepting that is also a case for accepting other principles that Descartes refuses to take on board. He points out that Descartes initially suspended belief even concerning the propositions of mathematics, and adds: ‘And he didn’t allow that there are any necessary truths, maintaining that the truths that are commonly called “necessary” depend on the will of God •and are therefore contingent.’ (In sketching the views of some post-Descartes philosophers, Berkeley remarks that the system of Malebranche, with one doctrine deleted from it, is the same as Berkeley’s. He adds: ‘I offer this incidental remark in justice to a foreign author to whom British authors seem not to have given his due.’) Reid’s suggestion about

why Descartes was drawn to parsimony in the foundations of his system is noteworthy:]

There is no doubt a beauty in building a large structure of knowledge on a few first principles. The stately edifice of mathematical knowledge, built on the foundation of a few axioms and definitions, charms everyone who sees it. Descartes, who was well acquainted with this beauty in the mathematical sciences, seems to have had the ambition of giving the same beautiful simplicity to his system of philosophy; and therefore sought only one first principle as the foundation of all our knowledge, at least of contingent truths.

[Reid says that Locke was the only Descartes-influenced modern to write explicitly about first principles as such, but he finds Locke’s handling of the topic to be inconsistent. (1) On the one hand, Locke *uses* first principles as load-bearing parts of his own arguments, for example in his argument in *Essay IV.x* for the existence of a god:]

If we consider the argument Locke gives for the existence of a first thinking cause, it is obviously based on two principles: •What begins to exist must have a cause of its existence. •An unintelligent and unthinking being can’t be the cause of beings that are thinking and intelligent. With the support of these two principles, he argues very convincingly for the existence of a first thinking cause of things. And if these principles are not true, we can’t have any proof of the existence of a first cause—whether from our own existence or from our experience of other things.

[(2) But on the other hand, Reid continues, Locke equates first principles with ‘maxims’, and under that label he attacks them as true and safe but empty and useless. Reid of course

objects to this, not only as inconsistent with Locke's practice but as wrong in itself. Most of Locke's discussion of this theme focuses on the maxims

- Whatever exists exists, and

- The whole is larger than a part,

as though these were the only candidates. Locke remarks that Newton in his great work didn't employ such trivialities as those. Reid replies that the first of them is an identity, and is indeed scientifically useless; and that Newton *often* used the second of them, because it lies at the heart of geometry.

Reid winds up this discussion thus:]

In looking for examples to support his dislike of first principles, Locke couldn't have made a *worse* choice than Newton. It was Newton who, by laying down the first principles on the basis of which he reasons in those parts of natural philosophy that he worked on, gave to that science a stability that it never had before, and that it will retain to the end of the world.

[The chapter ends with remarks about the treatment of first principles by other writers, especially Claude Buffier.]

Chapter 8: Prejudices, the cause of error

Our intellectual powers are wisely fitted by ·God·, the author of our nature, for the discovery of as much truth as is suitable for us in our present state. They don't naturally produce error, any more than the natural structure of the body produces disease. But just as we are liable to various •bodily diseases from accidental causes, external and internal, so also we are from similar causes liable to •wrong judgments.

Medical writers have tried to list the diseases of the body, and to handle them systematically under the name 'nosology'. If only we had also a 'nosology' of the human understanding!

It often happens that we know what is wrong with a body but don't know how to remedy it; but usually the disorders of the understanding point so plainly to remedies that someone who knows what the trouble is must know the cure for it. Many authors have provided useful materials for this purpose, and some have tried to get them into a systematic form. The general classification that I like best is the one

given by Bacon in his fifth book *Scientific Advances*, and more fully treated in his *New Organon*. He divides them into four classes:

- idols of the tribe

- idols of the cave

- idols of the market-place

- idols of the theatre.

[Reid gives these in Latin.] Perhaps the names are fanciful; but I think that the classification is judicious, like most of the productions of that wonderful genius. And since he invented this classification we can allow him the privilege of naming its classes.

In this chapter I shall explain the headings in this classification, according to Bacon's own account of what they mean; and I'll give examples of each, without confining myself to the ones that Bacon gave, and without claiming to have listed them all.

Bacon labels as an ‘idol’ every bias of the understanding by which a man can be misled or drawn into error in judging. The understanding in its natural and best state pays homage only to truth. He regards the causes of error as so many false gods ·or ‘idols’· who receive the homage which is due only to truth.

·IDOLS OF THE TRIBE·

The first class are the idols of the tribe. These are ones that attack the whole human species—the whole ‘tribe’—so that everyone is in danger from them. They arise from aspects of the human constitution that are highly useful and necessary for us in our present state, but they can lead us into error through •being taken to extremes or •having some defect or •being steered in the wrong direction.

The sources of action in the human frame are wisely contrived by God for the direction of our •actions, and yet they are apt to lead us astray if they aren’t properly regulated and restrained; and the same thing holds for the parts of our constitution that influence our •opinions. I shall present some examples of this—six of them, occupying most of the rest of this chapter·.

(1) Men are apt to be led too much by authority in their opinions. In our early years we have no other guide, and we couldn’t learn and develop if we weren’t disposed to accept without question everything we are taught.

When our judgment has matured, there are ·still· many things in regard to which we are incompetent judges. In these matters it is most reasonable to rely on the judgment of those whom we believe to be competent and not self-interested. The highest court of law in the nation relies on the authority of lawyers and physicians in matters belonging to their respective professions.

Even in matters of which we *can* have knowledge, authority always will and should have weight—more or less of it

depending on •the evidence on which our own judgment is based and on •our opinion of the judgment and honesty of those who disagree with us and those who agree with us. A modest man, conscious of his own fallibility in judging, is in danger of giving too much weight to authority; an arrogant man risks giving too little.

In all matters relating to our knowledge, everyone must go by *his own* final judgment; otherwise he isn’t behaving like a rational being. Authority may add weight to one side of the scale; but the man holds the balance, and *he* judges what weight he should allow to authority.

Even confronted by someone claiming to be infallible, *we* must judge whether he is entitled to that privilege. If someone claims to be an ambassador from heaven, *we* must judge his credentials. No claim can deprive us of this right, or excuse us for neglecting to exercise it.

So our respect for authority may be too great or too small; the bias of human nature seems to lean towards ‘too great’, and I think it is good for men in general that it should do so.

When this bias is combined with indifference about truth, its operation will be all the more powerful. The love of truth is natural to man, and strong in every well-disposed mind. But it can be overwhelmed by party zeal, by vanity, by the desire to win, or even by laziness. When it rises above these it is a manly virtue which demands that one work hard and exercise endurance, self-denial, honesty, and preparedness to change one’s mind.

Some people have such a poor and miserable spirit that they would rather owe their survival to the charity of others than to acquire property of their own by working for it; and similarly there are people—many more of them—who could be called mere ‘beggars’ with regard to their opinions. Through laziness and indifference to •truth they leave to others the drudgery of digging for •this commodity; for their

purposes they can get enough of it second-hand. What they care about is not knowing what is true but what is said and thought on such subjects; and their understanding, like their clothing, is tailored to suit the current fashion.

This disease of the understanding has taken root so deeply in a great part of mankind that they can hardly be said to use their own judgment at all except in matters that concern their worldly interests. It is not just the ignorant who have the disease; it infects all social ranks. To guess the opinions of people who have it, we need only know where they were born, of what parents, how they were educated, and what company they have kept. These circumstances determine their opinions in religion, in politics, and in philosophy.

(2) A second general prejudice arises from an inclination to think of things that are less well known to us in terms of things that we know better.

This is the foundation of analogical reasoning, which we are naturally inclined to indulge in, and not always wrongly; indeed, we owe a great part of our knowledge to analogical reasoning. It would be absurd to lay it aside altogether, and it is hard to judge how far we may go with it. The bias of human nature is to go too far, i.e. to judge on the basis of analogies that are too slight.

The objects of sense dominate our thoughts in our early years, and all through our lives they're more familiar to us than anything else. That is why men all down the centuries have been apt to attribute human shape, and human passions and frailties, to superior intelligences and even to God, the supreme being.

Men are inclined to *materialize* everything (to coin a term), i.e. to apply our notions of material objects to things that are not material. Thought is taken to be analogous to motion in a body. Because

bodies are set in motion by impulses and by impressions made on them by bodies that touch them, we are inclined to think that

the mind is made to think by impressions that are made on it,

and that

the mind must somehow be in touch with the objects of thought.

And so we get the theories of ideas and impressions that have so generally prevailed.

Because the most perfect products of human skill are made following a model and made of materials that already existed, the ancient philosophers all thought that the world was made of a pre-existing uncreated matter; and many of them also thought that there were eternal and uncreated models for every species of things which God made.

Countless mistakes in everyday life come from this prejudice—you can't have failed to notice them. Men judge other men by themselves or by the small circle of people they know. The selfish man writes off all claims to benevolence and public spirit as mere hypocrisy or self-deceit. The generous and open-hearted man is too vulnerable to sweet talk, and is apt to think men better than they really are. The abandoned and profligate person can hardly be persuaded that there is any such thing as real virtue in the world. The peasant gets his notions of the conduct and characters of men from the ones he experiences in his country village, so he is easily duped when he visits a great city.

It is commonly taken for granted that the only cure for this narrow way of judging men is to have extensive dealings with men of different social ranks, professions, and nations; and that someone who knows only a narrow circle of people is bound to have many prejudices and narrow notions which a wider range of personal contacts would have cured.

(3) Men are often led into error by their love of simplicity, which inclines us to boil things down to a few principles and to think Nature to be much simpler than it really is.

Loving simplicity and being pleased with it wherever we find it—*that* isn't an imperfection. On the contrary, it comes from good taste. We can't help being pleased to see that all the changes of motion produced by the collision of bodies, whether hard, soft, or elastic, are governed by three simple laws of motion which have been discovered through the hard work of philosophers [here = 'physicists'].

[Reid exclaims at some length over the way Nature presents 'simplicity of cause and beauty and variety of effects'. Then:] No doubt every work of Nature exhibits all the beautiful simplicity that is consistent with the end for which it was made. But if we hope to discover how Nature brings about its ends merely from the principle that it operates in the simplest and best way, we deceive ourselves and forget that •the wisdom of Nature is further above •the wisdom of man than •man's wisdom is above •that of a child. [He gives an example of a practical task that a child would get wrong because he doesn't know enough. Then:]

From fact and observation we can learn something about how Nature operates; but if we conclude that it operates like that only because that appears to our minds to be the best and simplest manner, we shall always go wrong.

[Reid gives a historical example of an error that arose from an undue respect for simplicity, namely the view that all material things are compounded out of the four elements—earth, air, fire, water. Then:]

The Pythagoreans and Platonists were carried further by the same love of simplicity. Pythagoras by his skill in mathematics discovered that there can't be more than five regular solid [= 'three-dimensional'] figures bounded by plane surfaces with have the same shape and area. . . . As Nature

works in the simplest and most regular way, he thought that all the elementary bodies must have one or other of those ·five· regular shapes; and that the discovery of the properties and relations of the regular solids would be a key to open the mysteries of Nature.

This notion of the Pythagoreans and Platonists undoubtedly has great beauty and simplicity, which is why it prevailed at least up to the time of Euclid. He was a Platonist philosopher, and it is said—and seems to be true—that he wrote the whole of his *Elements* in order to discover the properties and relations of the five regular solids. . . .

So that this most ancient mathematical work, whose admirable structure has served as a model for all later writers on mathematics, seems to have been intended by its author to exhibit the mathematical principles of natural philosophy—which is also what Newton intended the first two books of his *Principia* to do.

[Then more examples of simplicity leading scientists into believing things for which there was no real evidence. The handling of physiology in terms of moisture, dryness, heat, and cold. The classification of human body-types into sanguine, melancholy, bilious, and phlegmatic. The belief that all bodies are made up of salt, sulphur, and mercury. The belief that all the objects of thought fall into ten categories, and so on. Then:]

Of all the systems we know, Descartes's was most remarkable for its simplicity. He builds the whole structure of human knowledge on one proposition, *I think*. And from mere •matter, together with a certain quantity of •motion given to matter at the outset, he accounts for all the phenomena of the material world. The physical part of this system was sheer hypothesis, with nothing to recommend it but its simplicity; yet it had enough force to end the thousand-year domination of Aristotle's physics.

Through half a century, the majority of theorists in Europe rejected the principle of gravitation and other attracting and repelling forces, after Newton had given the strongest evidence of their real existence in Nature. They were rejected because they couldn't be accounted purely in terms of •matter and •motion. That shows how deeply men were in love with the simplicity of Descartes's system!

Indeed, I think it was this love of simplicity, more than real evidence, that led Newton himself to say about the phenomena of the material world:

Many things lead me to suspect that all phenomena may depend on certain forces by which the particles of bodies are, by causes not yet known, either •impelled toward one another and held together in regular shapes or •repelled from one another and pulled away. (Preface to the *Principia*)

•I suspect that simplicity is at work here•, because we certainly have no factual evidence that all the phenomena of the material world are produced by attracting or repelling forces. . . .

When a real cause is discovered, the same love of simplicity leads men to credit it with effects that are outside its sphere. It often happens that a medicine, having been found to be of great use for one disease, has its virtues multiplied till it becomes a panacea [= 'cure for everything']. . . . In other branches of knowledge the same thing often happens. . . .

(4) One of the richest sources of error in philosophy is the wrong application of our noblest intellectual power to purposes that are beyond its scope.

Of all the intellectual powers of man, that of *invention* carries the highest price. What it is most like is the power of *creation*, and sometimes it is honoured by being called just that.

We admire the man who •has a superior talent for finding the means for accomplishing a given end; who •can effectively bring things together so as to produce an effect or make a discovery beyond the reach of other men; who •can draw important conclusions from details that are usually not noticed; who •brings the greatest wisdom to his judgments on the plans of other men and the consequences of his own actions. We label as 'genius' this superiority of understanding, and we look up with admiration to everything that carries the signs of it. Yet this power, so valuable in itself and so useful in the conduct of life, can be misapplied; and men of genius in all ages have tended to apply their genius to purposes for which it is altogether incompetent.

The •works of men and the •works of Nature are not of the same order. The force of genius may enable a man perfectly to grasp •the former, and to see the whole way through them. What is designed and carried out by one man can be completely understood by another. On the basis of a part of such a work he can conjecture what the whole is like, or on the basis of its effects he can conjecture what the cause was; and these conjectures can have a high probability, because these works are effects of a wisdom down at his own level.

But the •works of Nature are designed and carried out by a wisdom and power that are infinitely superior to that of •any• man; and when men try by the force of genius to discover the causes of the phenomena of Nature, all that they get •from their genius• is a chance of going wrong more ingeniously •than a less able man would•. Their conjectures may seem very probable to people no wiser than they are, but they have no chance to hit on the truth. They are like a child's conjectures about how war-ship is built and how it is managed at sea.

Let the man of genius try to •make an animal, even the simplest and lowest kind of animal; or to •make a plant, or

even a single leaf of a plant or feather of a bird. He'll find that all his wisdom and intelligence can't stand comparison with the wisdom of Nature, or his power with the power of Nature.

The experience of all the ages shows how prone ingenious men have been to *invent hypotheses* to explain the phenomena of Nature; how eager to 'discover' her secrets by guessing at them in advance. Instead of a slow and gradual ascent in the scale of natural causes, by a sound induction from very many particular facts, they want to shorten their task and get straight to the top by a flight of genius. This gratifies the pride of human understanding, but it is an attempt to do something that is beyond us. . . .

When a man has spent all his ingenuity in devising a system, he views it with the eye of a parent; he tugs phenomena around to •make them fit it and •make it look like the work of Nature.

The slow and patient method of induction—the only way to attain any knowledge of Nature's work—was little understood until it was described by Bacon, and it hasn't been much followed since his time. It humbles a man's pride, constantly reminding him that his cleverest conjectures about the works of God are pitiful and childish.

There is no room here for the favourite talent of *invention*. We must get all our knowledge of Nature by the humble method of reading in the great book of Nature. Anything that isn't •in that book, or •part of a sound interpretation of it, is the work of man; and the work of God ought not to be contaminated by any mixture with it.

To a man of genius, self-denial is difficult. . . . To bring his fine imaginings and cleverest conjectures to the fiery trial of experiment and induction, by which most if not all of them will be found to be dross, is a humiliating task. This is to condemn him to dig in a mine when he would rather fly with

the wings of an eagle.

In all the •fine arts whose purpose is to please, genius is deservedly supreme. In the conduct of •human affairs it often does wonders. But in all •enquiries into the constitution of Nature, genius must play a minor role that doesn't fit with the superiority it boasts of. It may •combine, but it mustn't •make. It may •collect evidence, but it mustn't •make up for the lack of evidence by conjectures. It may display its powers by •putting questions to Nature in well-designed experiments, but it mustn't •add anything to Nature's answers.

(5) In avoiding one extreme, men are very apt to rush into the opposite. [Reid illustrates this with the move from primitive animism, which saw gods and demons at work in just about everything, to modern atheism, which doesn't see gods anywhere. His other example concerns 'occult qualities': the Aristotelians brought them in far too much, whereas the Cartesians have gone to the other extreme and ruled them out entirely, making the very label 'occult quality' a term of abuse.]

(6) Men's judgments are often perverted by their affections and emotions. This is so commonly observed and so universally acknowledged that it doesn't need to be proved or illustrated.

·IDOLS OF THE CAVE·

The second class of idols in Bacon's classification are the idols of the cave. These are prejudices that arise not from the constitution of human nature but from something special to the individual. Just as objects in a cave vary in their appearance according to the shape of the cave and the way light gets into it, Bacon regards each individual person's mind as being like a cave that has •its own particular shape and •its own particular way of letting in light; and these two features of the cave often give false colours and a misleading appearance to objects seen in it.

For this reason he labels as ‘idols of the cave’ the prejudices that arise from •the individual man’s training, from •his being a member of some particular profession, or from •some individual quirk of his mind. A man whose thoughts have been kept on track by his profession or manner of life is very apt to judge wrongly when he risks going off that track. He is apt to draw everything into the sphere of •his profession, using •its maxims as a basis for judging things that have nothing to do with it.

The mere mathematician is apt to apply *measurement* and *calculation* to things that can’t be measured or calculated. Direct and inverse ratios have been applied by an ingenious author to measure human affections and the moral worth of actions. An eminent mathematician tried to discover by calculation the answer to the question:

By how much per year does the evidential force of facts decrease?

On this basis he purported to fix the time at which •the evidential force of the facts on which Christianity is based will have vanished, so that •no faith will be found on the earth. . . .

I think it was Locke who mentioned an eminent musician who believed that God created the world in six days and rested the seventh because there are only seven notes in music. I knew a musician who thought that there could be only three parts in harmony—bass, tenor, and treble—because there are only three persons in the Trinity! [Reid throws in one more example, involving Henry More. Then:] Thus even very ingenious men are apt to cut a ridiculous figure by pulling onto the track in which *their* thoughts have long run things that have nothing to do with it. . . .

•Someone—*anyone*—may, because of his temperament or his upbringing, have particular tendencies in his thinking, and if they are carried to excess they will get in the way of

sound judgment. •Some people have too much admiration for antiquity and contempt for anything modern; others go as far into the opposite extreme. . . . •Some are afraid to venture a step off their beaten track, and think it safest to go with the multitude; others are fond of special cases and of everything that has the air of paradox. •Some are slack and changeable in their opinions; others are unduly tenacious. Most men have a liking for the doctrines of their sect or party, and still more for their own inventions.

•IDOLS OF THE MARKET-PLACE•

The idols of the market-place are the fallacies arising from the imperfections and the misuse of language, which is an instrument of thought as well as of the communication of our thoughts. [Bacon gave them that name because a market is a place where men meet and talk to one another.]

No man can pursue a train of thought or reasoning without the use of language. Is this because of our •constitution or rather because of •habits that we have acquired? I shan’t try to answer that. From one or both of •those causes it happens that words are the signs of our thoughts; and the sign is so tightly linked with the thing signified that the thing can hardly present itself to the imagination without drawing the word along with it.

A man who wants to write in some language must think in that language. If he thinks in one language something that he wants to express in another, that will double his work and lead to a final product that will read more like a translation than like an original.

This shows that our thoughts are coloured by the language we use; and that although language ought always to be subservient to thought, thought is sometimes compelled to be subservient to language.

Consider how a servant who is extremely useful and necessary to his master gradually comes to have authority

over him, so that the master must often do what the servant wants him to do. Well, language is like such a servant. Its intention is to be a servant to the understanding; but it is so useful and so necessary that we can't avoid sometimes being led by it, when it ought to follow. We can't shake off this burden; we have to drag it along with us, and direct our course and regulate our pace as it permits.

Language is bound have many imperfections when it is applied to philosophy, because it wasn't made for that use. In the early periods of society, rough and ignorant men use certain forms of speech to express their wants, their desires, and their transactions with one another. Their language can't reach further than their speculations and notions; and if their notions are vague and ill-defined, the words by which they express them must also be vague and ill-defined.

Wilkins had a grand and noble project, namely inventing a philosophical language that would be free from the imperfections of everyday speech. Whether this attempt will ever have enough success to be generally useful I shan't try to determine, but the omens aren't good. All the trouble taken by that excellent man in this design have so far produced no effect. Very few people have ever looked closely at all into his views; far less has his philosophical language . . . been brought into use.

He bases his philosophical language . . . on a systematic division and subdivision of all the things that may be expressed by language; and instead of the ancient division into ten categories Wilkins has made forty categories or highest classes. This classification was made by a very comprehensive mind, but there is room for doubt that it will always suit the various systems that may be introduced and all the real growth that may come in human knowledge. The difficulty is still greater when we come to dividing into subclasses. So it is to be feared that this noble attempt of

a great genius will prove to be abortive until philosophers have the same opinions and the same systems in the various branches of human knowledge.

There is more reason to hope that the languages used by philosophers may gradually become richer and clearer, and that improvements in knowledge and improvements in language may go hand in hand, and help each other. But I'm afraid that the imperfections of language can never be perfectly remedied while our knowledge is imperfect. [This is one of the places where it is good to remember that for Reid 'perfect' can mean 'complete']. . . .

Locke found it necessary to employ one of the four Books of his *Essay Concerning Human Understanding* to words—their various kinds, their imperfections and misuses and the remedies for both—and his many observations on these subjects are well worth attentive study.

•IDOLS OF THE THEATRE•

The fourth class of prejudices are the idols of the theatre, by which Bacon means prejudices arising from the systems or sects in which we have been trained or which we have adopted. [Bacon wrote: 'I call them "idols of the theatre" because I regard every one of the accepted systems as the staging and acting out of a fable, presenting its own fictitious staged world.']

A false theory, once fixed in the mind, becomes (as it were) the medium through which we see objects. They are tinted by it, and seem to have a colour other than the one they have when seen by a pure light. A Platonist, an Aristotelian, and an Epicurean will think differently about a single subject, even when the subject is quite remote from the special doctrines of each of those systems.

A judicious history of the different sects of philosophers, and of the different methods of philosophising that have been followed among mankind, would help men considerably in their search for truth. What would matter most in such a

history is not the fine details of each sect's doctrines, but rather a good account of •the spirit of each sect and of •the point of view from which its founder saw things. Adam Smith in his *Theory of the Moral Sentiments* perfectly understood this, and applied it to the theories of morals with great judgment and fairness.

Some constitutions of the body make a man more likely to contract one class of diseases than to contract another; and on the other hand when diseases of that kind happen by accident, they are apt to create the bodily constitution that is suited to them. •I mention this because• there is something analogous to it in the diseases of the understanding.

A certain cast of mind can make a man more likely to accept one system of opinions than another; and, in the other direction, when a system of opinions is fixed in the mind by education or otherwise, it puts the understanding into a condition that is suited to it.

It would be good if the different systems that have held sway could be classified according to their spirit, as well as named after their founders. Bacon distinguished false philosophy into the •sophistical, the •empirical, and the •superstitious, and has made wise observations on each of these kinds. But I think that this subject deserves to be treated more fully by someone like Bacon, if such a person can be found.