

Reasoning

No. 7 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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Chapter 1: Reasoning in general, and demonstration

The power of reasoning is closely allied to the power of judging, and in everyday life there is no great need to distinguish them precisely—which is why the same name, ‘reason’, is often given to both. The assent we give to a proposition is called ‘judgment’, whether the proposition is self-evident or derives its evidentness from other propositions by reasoning.

Yet reasoning and judging are not the same. Reasoning is the process by which we pass from one judgment to another that follows from it. Accordingly, our judgments are distinguished into •intuitive judgments, which are not based upon any preceding judgment, and •discursive judgments, which are deduced from some preceding judgment by reasoning.

In all reasoning, therefore, there must be •a proposition that is inferred and •one or more *from* which it is inferred. And this power of ‘inferring’, or ‘drawing a conclusion’, is simply reasoning under another name. The inferred proposition is called ‘the conclusion’ and the propositions from which it is inferred are called ‘the premises’.

Reasoning may consist of many steps, with the first conclusion being a premise for inferring a second conclusion, which in turn serves as a premise for inferring a third, and so on until we come to the last conclusion. Such a many-step process is so easily distinguished from •judgment that it is never called by •that name. But when there is only a single step to the conclusion, the distinction is less obvious and the process is sometimes called ‘judgment’ sometimes ‘reasoning’.

It isn’t surprising that in ordinary speech judgment and reasoning are not very precisely distinguished from one another, because they are sometimes run together even by logicians. We are taught in logic that judgment is expressed

by one proposition whereas reasoning requires two or three. But language offers so many different ways of doing things that something that can be expressed by two or three propositions can also be expressed by one. [Remember that Reid often uses ‘proposition’ to mean ‘sentence’—a bit of language rather than something *expressed by* a bit of language.] For example, I may say

•God is good; therefore good men will be happy.

This is reasoning of that sort that logicians call an ‘enthymeme’ [= ‘argument in which one or more of the premises are left unstated’], consisting of an antecedent proposition and a conclusion drawn from it. But this reasoning can be expressed by a single proposition thus:

Because God is good, men will be happy.

This is what they call a ‘causal proposition’, and therefore it expresses *judgment*; yet the enthymeme that is *reasoning* expresses no more.

Reasoning, as well as judgment, must be true or false; both are based on evidentness that may be probable or demonstrative; and both are accompanied by assent or belief. [The word ‘evidentness’ replaces some of Reid’s uses of ‘evidence’. As well as speaking of

the evidence *for* proposition P
(using ‘evidence’ in our sense), he will speak of
P’s evidence,

meaning the strength of its candidacy for the label ‘true’, i.e. how evident it is, how much evidentness it has. A self-evident proposition has the highest degree of ‘evidence’ (in this sense), and has it without help from any other proposition; a demonstratively evident proposition may have just as much ‘evidence’, but it gets that from its relation to other propositions. Probabilistic considerations may give a proposition a lower degree of evidence. The clumsy term ‘evidentness’ seems to be the only alternative to following Reid in using ‘evidence’ in two radically different senses.]

The power of reasoning is rightly regarded as one of the special **privileges** of human nature, because it can lead us—and *has* led us—to many important truths that would otherwise have been beyond our reach; yet it seems to be only a kind of **crutch** for a limited understanding. We can conceive of an understanding, superior to what humans have, to which truths that we can only discover by reasoning would appear intuitively—i.e. wouldn't need to be reached by reasoning because they would be self-evident. So although we must ascribe •judgment to God, we don't ascribe •reasoning to him, because that would imply some defect or limitation of his understanding. And even among men, reasoning one's way to a conclusion that is self-evident is just fooling around, like a man using crutches when he can walk upon his legs.

What is reasoning? That can be known only by those who •have reasoned and •are capable of reflecting on this operation of their own minds. We can define it only by synonymous words or phrases, such as 'inferring', 'drawing a conclusion', and the like. The very notion of reasoning, therefore, can enter the mind by only one route—namely, reflecting on the operation of reasoning in our own minds. And such notions as those of

premise
 conclusion
 syllogism
 enthymeme
 sorites
 demonstration
 paralogism

and many others have the same origin.

It is of course *Nature* that gives us the ability to reason. If someone lacks that ability, he can't be given it through any kind of therapy or education. But the ability may lie

dormant throughout a person's life, like the seed of a plant that doesn't ever vegetate because it is too cold and too dry. This is probably the case with some savages.

Although the *ability* is purely a gift of Nature, and is probably given in very different degrees to different persons, the *power* of reasoning seems to be acquired by habit as much as the power of walking or running. We can't recollect our own first exercises of reason, and we can't clearly identify such first reasonings in others. They're very feeble, and need to be led by example and supported by authority. The power of reasoning gradually gains strength, chiefly through imitation and exercise.

The exercise of reasoning on various topics not only strengthens the faculty but also provides the mind with a store of materials. Every chain of reasoning that is familiar becomes a beaten track that can lead us to many others. It removes many obstacles that lay in our way, and smoothes many roads that we may want to travel in future inquiries.

If two men whose natural intellectual equipment is the same apply their reasoning power to some subject, the man who has often reasoned on the same subject or on similar ones will do better than one has not, just as a carpenter who has a set of tools for his work will do better than one who still has to *make* his tools, or even to *invent* them.

In a chain of reasoning where nothing is left to be supplied by the reader or hearer, the evidentness of each step must be immediately discernible to everyone of mature understanding who has a clear grasp of the premises and the conclusion, and who holds them together in his mind. It is harder, and seems to require a superior natural ability, to take in and hold together in one's mind a combination of steps of this kind. Anyone can become better at this through practice.

But the highest talent in reasoning is the *invention of proofs*, by which truths that are •seemingly• remote from the

premises are brought to light. In all works of understanding, invention receives the highest praise; it requires a comprehensive view of what relates to the subject, and alertness in spotting the affinities and relations that may be exploited in a proof.

In all invention there must be some end in view; and skill in finding the road that leads to this end is, I think, what we call 'invention' or 'inventiveness'. I think that the superiority of understanding that we call 'genius' chiefly consists in clear and distinct conceptions together with skill in invention. [In Reid's day 'genius' had a less strong meaning than it does today.]

In every chain of reasoning, the evidentness of the final conclusion can't be greater than that of the weakest link in the chain, however strong the other links are.

The most noteworthy line through reasonings has •probable reasonings on one side of it and •demonstrative reasonings on the other.

In every step of •demonstrative reasoning, the inference is necessary and we see that it is impossible for the conclusion of that step not to follow from the premises. In •probable reasoning, the premises are not connected by necessity to the conclusion, and we don't see it to be impossible for the premises to be true while the conclusion is false.

So there are no *degrees* in demonstrative reasoning: one demonstration can't be *stronger* than another, though one may be more easily grasped (by minds like ours) than another is. Every demonstration from true premises gives equal strength to the conclusion, leaving no possibility of its being false.

All the ancient philosophers held, I think, that demonstrative reasoning can be applied only to necessary truths, not to contingent ones. I think they were right about this. The existence of all created things is contingent, and so are

their attributes and (therefore) the relations resulting from those attributes. Those all depend on the will and power of •God• who made them. These are matters of fact, which can't be demonstrated.

What demonstrative reasoning is concerned with, therefore, are the various relations amongst abstract things, i.e. things that we conceive without regard to their existence. Because these are conceived by the mind, and are nothing except what they are conceived to be, we can have a clear and adequate grasp of them. Their relations and attributes are necessary and unchangeable. They are the things that the Pythagoreans and Platonists called 'ideas'. Let me borrow this meaning of 'idea' from those ancient philosophers, and then I have to agree with them that ideas are the only objects about which we can reason demonstratively.

Some of our ideas won't support any *long* chain of reasoning. However well defined they are, and however perfectly grasped, we can't reason from them at any length because their agreements and disagreements are few, and we spot them at once. We may go a step or two in forming a conclusion about such objects, but we can't go further. There are other ideas about which we can reach very remote and unexpected conclusions through a long chain of demonstrative reasoning.

The reasonings I have met with that can be called strictly demonstrative fall into two classes: •metaphysical and •mathematical.

In metaphysical reasoning the process is always short. The conclusion is a mere step or two—seldom more—from the first principle or axiom on which it is based; and though there may be several conclusions that can be drawn from the same axiom, there is no dependence *among* these conclusions, so they can't be strung together into a long demonstrative chain.

It's not like that with mathematical reasoning. Here the field has no limits. One proposition leads on to another, that to a third, and so on without end.

Why does demonstrative reasoning have such a wide field in mathematics while in other abstract subjects it is held within very narrow limits? I think that this is chiefly because of the nature of *quantity*, which is the object of mathematics.

Because every quantity has magnitude, and is divisible into parts without end, its magnitude stands in a certain ratio to the magnitudes of every quantity of that same kind. The ratios of quantities are innumerable:

a half
a third
a tenth
double
triple.

(Indeed, all the resources of numbers are insufficient to express the variety of ratios, for there are countless ratios that can't be perfectly expressed by numbers—for example the ratio of the side of a square to its diagonal, the ratio of the circumference of a circle to its diameter.) Every one of this infinity of ratios can be clearly conceived, and clearly expressed, in such a way that there is no risk of one of them being mistaken for another.

Extended quantities such as lines, surfaces, solids, besides the various magnitude-relations they have to one another, also vary just as much in respect of shape; and every mathematical figure or shape can be precisely defined so as to distinguish it from all others.

There is nothing like this with other objects of abstract reasoning. Some of them have various degrees; but they

can't be measured, and can't be said to have specifiable ratios to others of the same kind. They are either •simple or •compounded out of a few indivisible parts; and so they have (if I may put it this way) only a few points of contact. But mathematical quantities, being made up of countless many parts, can be •in contact at countless points and be •compared in countless different ways.

Attempts have been made to measure the merit of an action by the ratio between two of its sources—•affections and feelings, and •principles of action. This may serve in an analogical way to illustrate things that we already knew, but I don't think that any truth can be *discovered* in this way. No doubt there *are* degrees of benevolence, self-love, and other affections, but I don't think there is any meaningful way of assigning ratios to them.

Some demonstrations are called 'direct', others 'indirect'. The direct ones lead directly to the conclusion to be proved. Some of the indirect ones are so-called 'demonstrations ad absurdum'. In a demonstration ad absurdum of P, it is demonstrated that not-P is false or leads to an absurdity; from which it follows that P is true. This inference is based on the logical axiom: *Of two contradictory propositions, if one is false the other must be true.*

Another kind of indirect demonstration proceeds by enumerating all the alternatives to the proposition P and demonstrating that all they are all false. From this it follows that P is true. For example, one line is proved to be equal to another by proving (1) that it can't be greater and then (2) that it can't be less; for it must be either •greater or •less or •equal; and when two of these have been knocked out the one left standing must be true. . . .

Chapter 2: Can morality be demonstrated?

What I have said about demonstrative reasoning may help us to judge an opinion that Locke advanced in several places in his *Essay*, namely that 'morality is capable of demonstration, as well as mathematics'. In *Essay* III.xi.15 he remarks that 'mixed modes', especially the ones belonging to morality, are combinations of ideas that the mind *chooses* to put together, and for that reason the meanings of their names can be perfectly and exactly defined. In the next section he writes:

That is why I venture to think that morality is capable of demonstration, as well as mathematics. The precise real essences of the things that moral words stand for can be perfectly known; and so the congruity and incongruity of the things themselves can be certainly discovered, which is to say that there can be perfect knowledge of them. It may be objected that as well as the names of modes the names of *substances* are often used in morality, and that they will introduce obscurity; but they won't. When substances are involved in moral discourses, their various natures are not being *inquired into* but *presupposed*. For example, when we say that *man is subject to law*, all we mean by 'man' is a corporeal rational creature, with no concern for what the real essence or other qualities of that creature are.

And again:

Here are two ideas that are clear in us: •the idea of a supreme being who made us and •the idea of ourselves. If we thought hard about these and explored them, I think they would provide foundations for our duty and rules of action, in such a way as to make morality one of the sciences capable of demonstration.

Relations concerning number and extension are not the only relations between modes that can be perceived with certainty, and I don't see why the others shouldn't also be capable of demonstration, if we devised good methods for examining their agreements and disagreements. (*Essay* IV.iii.18)

He goes on to offer two examples of moral propositions of which we can be as certain as of any in mathematics; and he considers at length what it is about the ideas of quantity that made people think that they are more capable of certainty and demonstration. Later on he writes:

I will say this much: if other ideas that are the *real* as well as the *nominal* essences of their species were pursued in the way familiar to mathematicians, they would carry our thoughts further, with results that are more evident and clearer than we are apt to imagine. This gave me the confidence to offer my conjecture (in chapter iii) that not only mathematics but also morality is open to demonstration. (*Essay* IV.xii.7,8)

From all these passages it appears that this opinion wasn't a mere passing thought, but something that Locke had turned over in his mind on different occasions. He offers his reasons for it, illustrates it by examples, and considers at length the causes that have led men to think that mathematics is more capable of demonstration than are the principles of morals.

Some of his learned acquaintances, especially his friend Molyneux, urged and nagged him to compose a system of morals according to the idea he had advanced in the *Essay*; and in answering these requests he only pleads that he has too much else to do, without suggesting any change of his opinion or any great difficulty in doing what was wanted.

The reason Locke gives for this opinion is ingenious; and his regard for virtue—the highest privilege of the human species—made him fond of an opinion that seemed to be favourable to virtue and to have a solid basis in reason.

But we needn't be afraid that the interests of virtue will suffer from a free and honest examination of this question, or indeed of any question whatever. For the interests of truth will never be in conflict with the interests of virtue. Darkness and error may make friends with vice, but they can never be favourable to virtue.

The philosophers who think that our determinations in morals are not real judgments, that right and wrong in human conduct are only certain feelings or sensations in the person who contemplates the action, must reject Locke's opinion out of hand. For if the principles of morals are not a matter of •judgment but merely of •feeling, they can't possibly be demonstrated; and no *reason* can be given for them except that men are so constituted by •God•, the author of their being, that they contemplate with pleasure the actions we call 'virtuous' and with disgust the ones we call 'vicious'. . . .

But if our determinations in morality are real judgments, and like all other judgments are either true or false, it is of some importance to understand what kind of basis there is for those judgments.

Here is Locke's argument for his thesis that morality is capable of demonstration: 'The precise real essences of the things that moral words stand for can be perfectly known; and so the congruity and incongruity of the things themselves can be certainly discovered, which is to say that there can be perfect knowledge of them.' (*Essay* III.xi.16)

It is true that demonstration has to do with the various relations of •things conceived abstractly, of which we can have perfect and adequate conceptions. And Locke, taking all the •things that moral words stand for to be of this kind,

concluded that morality is as capable of demonstration as mathematics.

I agree that the names of the virtues and vices, of right and obligation, of liberty and property, stand for abstract things that can be precisely defined, or at least conceived as distinctly and adequately as mathematical quantities. From this it does indeed follow that their mutual relations can be perceived as clearly and certainly as mathematical truths.

Locke gives two relevant examples of this. (1) 'Where there is no property there is no injustice', which he calls 'a proposition as certain as any demonstration in Euclid' (*Essay* IV.iii.18). When 'injustice' is defined as a violation of property, it is indeed a necessary truth that there can be no injustice where there is no property—it's as necessary as the truth that you can't take from a man something that he doesn't have. (2) 'No government allows absolute liberty.' This is just as certain and necessary as the other.

I would call such abstract truths 'metaphysical' rather than 'moral'. We label as 'mathematical' all truths that express the relations of quantities, considered abstractly; and all other abstract truths can be called 'metaphysical'. But if Locke's two *are* to be called 'moral' truths, then I agree with him that many moral truths are necessarily true and are just as evident as the most evident mathematical truths are.

But something I said earlier should be remembered here: there aren't many relations among things that are abstractly perceivable by us—except for relations among mathematical quantities—and what few there are can be seen immediately and don't have to be found through a chain of reasoning, a demonstration. They are evident in the manner of mathematical •axioms rather than of mathematical •propositions.

You can see this in Locke's two examples. (1) follows immediately from the definition of 'injustice'; (2) follows

immediately from the definition of 'government'. Their evidentness is really intuitive rather than demonstrative; and I think that this, or something close to it, holds for all non-mathematical abstract truths. I gave the reasons for this in chapter 1.

The propositions that I think are properly called 'moral' are the ones saying that one or more individual persons have (or don't have) a certain moral obligation. Locke's reasoning doesn't apply to such propositions, because the propositions' subjects are not things whose real essence can be perfectly known. God made them; their obligation results from the constitution God has given them and the circumstances in which he has placed them. That an individual *has* such-and-such a constitution and *is* placed in such-and-such circumstances is not an abstract and necessary truth, but a contingent one. It is a matter of fact, and therefore not capable of demonstrative evidentness, which only necessary truths have.

To each person *his own existence* is irresistibly evident, but not demonstratively evident. And the same holds for the evidentness to each person *that he is a moral agent and under certain moral obligations*. Nor is it demonstratively evident—though it is *very* evident—that people other than oneself exist and are endowed with faculties that make them moral and accountable agents.

If man didn't have the God-given faculty of perceiving certain things in conduct to be right and others to be wrong, and of perceiving his obligation to do what is right and not to do what is wrong, he would not be a moral and accountable being.

If man is endowed with such a faculty, it will enable him to see immediately the rightness of some things and the wrongness of others; so there must be in morals, as in other sciences, first principles that don't derive their

evidentness from any antecedent principles but can be said to be intuitively known.

So moral truths can be divided into two classes—•those that are self-evident to every man whose understanding and moral faculty are mature, and •those that are deduced by reasoning from those that are self-evident. If the •former weren't known without reasoning, no amount of reasoning could take us to the •latter.

If any man could sincerely say that he isn't conscious of any obligation

to consult his own present and future happiness,
to keep his promises,
to obey ·God·, his maker, and
to injure no man,

I don't know what reasoning—whether probable or demonstrative—I could use to convince him of *any* moral duty. Just as you can't reason in mathematics with a man who denies the axioms, so also you can't reason in morals with a man who denies the first principles of morals. The man who doesn't perceive, by the light of his own mind, some actions to be right and others to be wrong is as incapable of reasoning about morals as a blind man is about colours. If there ever *were* such a man, he wouldn't be a moral agent and couldn't have any moral obligations.

Some first principles of morals must be immediately known, otherwise we have no foundation on which others can rest, no axioms from which we can reason.

Everyone knows for sure that what he approves in other men he ought to do himself in similar circumstances, and that he ought not to do what he condemns other men for doing. Everyone knows that he ought honestly to do the best he can to know what his duty is. To everyone who has a conscience these things are self-evident. They are •immediate dictates of our moral faculty, which is a part of

the human constitution; and every man condemns himself, whether he wants to or not, when he knowingly acts contrary to them. So the evidentness of these basic principles of morals—and of others that I could name—appears to me to be •intuitive rather than demonstrative.

The man who acts according to the dictates of his conscience, and takes trouble to learn what his duty is, is a morally perfect man who doesn't deserve any blame, no matter what errors his understanding may commit. Someone who knowingly acts contrary to the dictates of his conscience is conscious of guilt, and condemns himself. Every particular action that falls evidently within the basic rules of morals is evidently his duty, and it doesn't take any *reasoning* to convince him that this is so.

What I think emerges from this is that •everyone of common understanding knows certainly and without reasoning the ultimate ends that he ought to pursue, and that •reasoning is necessary only to discover the best means for attaining them; and with regard to this a good man may indeed often be in doubt.

Thus a law-maker knows that it is his duty to promote •the good of the community, which has entrusted him with authority; and it would be insulting to offer to prove this to him by reasoning. But will •that end be best served by *this* proposed policy or by *that*? He may often be in doubt about questions of that sort, and will very rarely find some answer to be demonstratively evident. His •conscience determines what end he ought to pursue, and it is •intuitively evident to him that that end is good; but •prudence has to show him the means for attaining that end—and prudence can almost never use demonstrative reasoning, and must fall back on what appears most *probable*.

I think that this holds for every kind of duty that we owe to God or man. That is: •the obligation of the most general

rules of duty is self-evident; •the application of those rules to particular actions is often equally evident; and •when it isn't evident but requires reasoning, the reasoning must nearly always be of the probable rather than the demonstrative kind. Sometimes it depends on the temperament and talents and circumstances of the man himself, sometimes on the character and circumstances of others, sometimes on both; and none of these are things that admit of demonstration. . . .

It is commonly and rightly said that the •man of virtue is in a more secure position regarding the achieving of his end than is the •man of the world. This isn't because he reasons better concerning means to his end (he probably doesn't), but because mishaps that *deeply* affect all the concerns of the present world—I mean such things as involuntary errors, unforeseen accidents, and unavoidable ignorance—have *no* effect on virtue or its reward.

In the common occurrences of life, a man of integrity who has exercised his moral faculty in judging what is right and what is wrong sees his duty without reasoning. . . . The cases that require reasoning are few compared with those that don't, and a man can be very honest and virtuous without being able to reason and without knowing what 'demonstration' means.

The power of reasoning in those who have it can be misused in morals as in other matters. Reasoning will be enormously useful to a man who uses it with an upright heart and an eye focussed on finding what his duty is; but when it is used to justify what a man has a strong •non-moral• inclination to do, it will only serve to deceive the man himself and others. When *a man* can reason, his *passions* will reason; and they are the most cunning sophists—the cleverest performers of argumentative trickery—that we meet with.

If the rules of virtue had to be discovered by demonstrative reasoning, or by reasoning of any kind, that would be a sad thing for the great majority of men, who don't have the means for developing the power of reasoning. Virtue is the business of all men, and its first principles are written in their hearts in letters so legible that no-one can claim to be ignorant of them or of his obligation to practice them.

Some knowledge of duty and of moral obligation is necessary to all men. Without it they couldn't be moral and accountable creatures, or capable of being members of civil society. It may therefore be presumed that Nature has put this knowledge within the reach of all men. [Reid continues with this line of thought, stressing the importance of his thesis that moral intuitions are equally available to everyone. Then:]

On the whole I agree with Locke that •propositions expressing the congruities and incongruities of the abstract things that moral words stand for may be as evident as •mathematical truths. But this holds for abstract propositions of every kind, not merely ones that moral words stand for. [Reid gives two examples that are very close to Locke's

two [page 291], and remarks that it would be better to call them 'evident' in the way that mathematical axioms are' than to say that they are 'capable of demonstration'. Then:]

Propositions that deserve to be called 'moral propositions' are of another kind. They are ones that affirm something to be the duty of persons who really exist. These are not abstract propositions, and so Locke's reasoning doesn't apply to them. . . .

Some such propositions are self-evident to everyone who has a conscience, and these are the principles from which all moral reasoning must start. They could be called the 'axioms' of morals. But it is very rare for us to be able to reason demonstratively from •these axioms to •any duty that is not self-evident. This does no harm to the cause of virtue, because •acting against •what appears most probable in a matter of duty is as real a trespass against the first principles of morality as •acting against demonstration; and because •someone who has only a little ability at reasoning and makes proper use of it will be accepted •into heaven• as well as someone to whom God has given ten times as much reasoning ability.

Chapter 3: Probable reasoning

Demonstration's territory (to repeat myself) is necessary truth; the domain of probable reasoning is contingent truth—not what necessarily *must* be at all times, but what *is* or *was* or *will be*.

No contingent truth can be strictly demonstrated, but necessary truths can sometimes be merely probable.

Wallis discovered many important mathematical truths by the kind of induction that draws a general conclusion from particular premises. This isn't strict demonstration, but in some cases it convinces us as completely as demonstration does, and a man can be certain that a truth is demonstrable before anyone has actually demonstrated it. In other cases,

induction or analogy can make a mathematical proposition sufficiently probable for a mathematician to be encouraged to look for a way to demonstrate it. Still, the reasoning that is particularly appropriate for mathematical and other necessary truths is •demonstration; and the reasoning that is particularly appropriate for contingent truths is •probable reasoning.

These two kinds of reasoning differ in other respects. In demonstrative reasoning, one argument is as good as a thousand. One demonstration may be more elegant than another, easier to grasp, or more suitable for some further purpose; and any of these may make it preferable to its rivals. But once it has been selected, it is sufficient by itself; it doesn't need and can't receive help from any other demonstration. To add more demonstrations of the same conclusion would be a kind of tautology in reasoning. . . .

·In stark contrast with that·, the strength of probable reasoning mostly depends not on any one argument but on many arguments that combine their strengths and lead to the same conclusion. Any one of them by itself would be insufficient to convince; but the whole taken together can have an irresistible force, so that it would be absurd to want something to make their conclusion even more evident. Would anyone ·these days· look for new arguments to prove that there were such persons as Charles I and Oliver Cromwell?

This ·combined-strength· kind of evidentness might be compared to a rope made up of many slender fibres twisted together. The rope is more than strong enough to take the stress that it is subjected to, though no one of its fibres is strong enough for that.

It is often said that it is unreasonable

- to require demonstration for things that don't admit of it.

It is equally unreasonable

- to require reasoning of any kind for things that are known without reasoning.

All reasoning must start from truths that are known without reasoning. In every branch of real knowledge there must be first principles whose truth is known intuitively, without probable *or* demonstrative reasoning. They aren't based on reasoning, but all reasoning is based on them. I have shown that there are first principles of necessary truths and first principles of contingent truths. Demonstrative reasoning is based on the former, and probable reasoning on the latter.

To avoid getting into tangles because of the ambiguity of words, I ought to point out that there is a popular meaning of 'probable evidentness', which ought not to be confused with the philosophical meaning that I have explained.

In common language, 'probable evidentness' is regarded as a lower degree of evidentness, and is contrasted with certainty: what is certain is more than probable, and what is only probable is not certain. Philosophers regard probable evidentness not as a *degree* of evidentness but as a *kind* of evidentness; and it stands in contrast not to certainty but to another kind of evidentness called 'demonstration'.

Demonstrative evidentness has no degrees; but probable evidentness, taking that phrase in its philosophical sense, has every degree from the very least to the greatest, which we call certainty.

There is such a city as Rome—I'm as certain of that as of anything in Euclid; but its evidentness is not demonstrative but only 'probable' (as the philosophers call it). But it would ordinarily sound odd to say 'It is probable that there is such a city as Rome', because that implies that one isn't sure. . . .

In most cases, I think, we measure the degrees of evidentness by the effect they have on a sound understanding when grasped clearly and without prejudice. Every degree

of •evidentness that the mind perceives produces a corresponding degree of •assent or •belief. One's judgment may be in perfect suspense between two conflicting opinions, when neither is evident at all, or when they are equally evident. The least preponderance on one side inclines the judgment in proportion. Belief is mixed with varying amounts of doubt right up to (but not including) the highest degree of evidentness, where all doubt vanishes and the belief is firm and immovable. This degree of evidentness—the highest the human faculties can attain—we call 'certainty'.

[In the rest of this chapter, most occurrences of Reid's word 'evidence' are left untouched. Up to here he has been writing about evidentness—about a proposition's candidacy for the label 'true'—with different degrees of it, ranging from long-shots to shoo-ins. But his next topic is 'different kinds of probable evidence', and you'll see that his topic is not kinds of 'evidentness' but rather kinds of *basis for a proposition's having whatever degree of evidentness it does have*. And we have a good word for that—it is Reid's word 'evidence'!]

There are different *kinds* of probable evidence. I shall mention the ·seven· main ones, though there may be others.

(1) There is human testimony, on which most human knowledge is built. The credibility of history depends on it, as does the judgment of solemn courts concerning •men's civil rights and •their guilt or innocence when they are charged with crimes. . . . And no man can act with common prudence in matters that arise in everyday life if he doesn't have some competence in evaluating human testimony.

Our acceptance of testimony in many cases is not based solely on ·our thinking that· the testifier is a truthful person. In a single testimony, we consider the motives a man might have to falsify. If there seems to be no such motive—and even more if there are motives going the other way—his testimony has weight, independently of his moral character. If the testimony is highly detailed, we consider how well

the details square with one another and with things that we know independently. It is very difficult to concoct a story that can't be detected by a careful examination of the details—so difficult that testimony acquires evidentness by being able to survive such a test. There is an art in detecting false evidence in judicial proceedings, and judges and lawyers know it well; so that I believe few false witnesses leave the bar without anyone suspecting that they have lied.

When many witnesses agree in a great variety of details, without the possibility of their having agreed on a story in advance, the proposition that they testify to may be as evident as if it had been demonstrated.

(2) There is the authority of people who are good judges in the matter in question. The highest law-courts of the British nation often steer by the opinion of lawyers on a point of law, of physicians on a point of medicine, and of other skilled people on matters that relate to their various professions. And in ordinary everyday life we often rely on the judgment of others in matters on which we are not proper judges ourselves.

(3) There is the evidence by which we recognise the identity of things and persons of our acquaintance: It may be abstractly *possible* that two swords, two horses, or two persons, should be so perfectly alike that they couldn't be told apart by the people who know them best. But we learn—either from Nature or from experience—that it never happens; or so very rarely that a person or thing we know well is immediately recognised by us, without any doubt, when we perceive the marks or signs that we have been using to distinguish it (·or him or her·) from all other things (·or persons·) of that kind.

We rely on this evidence in the most important affairs of life; and it is by this evidence that the identity of things and of persons is determined in courts of law.

(4) There is the evidence we have regarding men's future actions and conduct, from the general sources of action in man or from our knowledge of the individuals.

Despite the •folly and •vice that are to be found among men, there's a certain degree of •prudence and •honesty that we rely upon in everyone who isn't insane. If this weren't so, no-one would be safe in the company of anyone else, and men couldn't form any kind of society. If men were as much disposed to hurt as to do good, to lie as to speak truthfully, they couldn't live together; they would keep as far as possible from one another, and the human race would soon die out.

We expect that men will take some care of themselves, of their family, friends, and reputation; that they won't injure others for no reason; that they will have some gratitude for favours and some resentment of injuries.

Such maxims concerning human conduct are the foundation for all political reasoning, and for ordinary prudence in the conduct of life. It isn't easy for a man to have, in public or in private life, a project that doesn't depend on the conduct of other men as well as his own, and that doesn't rely on the supposition that men will do A in circumstances B. This evidence may be probable in a very high degree, but it can't ever be demonstrative. The best group project may fail, and wise counsels may be frustrated, because some individual acted in a way that couldn't reasonably have been expected.

(5) A counterpart to that is the evidence that men's actions, speech, and other external signs provide regarding their characters and plans.

We don't see men's hearts or the principles on which they act; but there are external signs of their principles and inclinations; and though these are not certain, we sometimes trust them more than we do what they *say*. And it is from external signs that we must get all the knowledge we can attain of men's characters.

(6) There is the evidence that mathematicians call the 'probability of chances'. We sometimes attribute an outcome O_1 to chance because •we know a remote cause that was bound to produce some one outcome out of the set O_1, \dots, O_n but •we don't know the more immediate cause that settled on O_1 in particular.

I think all the chances that we reason about in mathematics are of this kind. [Reid applies this to the six possible outcomes of the throw of an unbiased die. Then:] Upon such principles as these, the doctrine of chances has provided a very wide field of demonstrative reasoning, although the outcomes that this reasoning focuses on are not necessary but contingent, and not certain but probable.

This may seem to contradict the principle that contingent truths can't be demonstrated; but it doesn't. In mathematical reasonings about chance, the conclusion that is demonstrated is not that outcome O will happen, but only that the *probability* of its happening bears ratio R to the *probability* of its failing; and *this* conclusion is necessary, given the suppositions on which it is based.

(7) Finally, there is the evidence by which men have discovered •the known laws of Nature, and the •effects that have been produced by them in former ages or that may be expected in time to come.

The laws of Nature are the rules by which God governs the world. We infer them only from facts that we have observed or that are properly attested by those who have observed them.

Everyone in the course of his ordinary everyday life needs to know *some* of the laws of Nature. These are soon discovered, even by savages. They know that fire burns, that water drowns, that bodies gravitate towards the earth. They know that day and night, summer and winter, regularly succeed each other. They know that these have happened

regularly as far back as their experience and information reach; and this leads them, because of the constitution of human nature, to expect that they will happen in the future in similar circumstances.

The knowledge of the laws of Nature that the philosopher [here = 'scientist'] gets differs from that of the common man, not in the first principles on which it is based but in its extent and accuracy. He collects with care the phenomena that lead to the same conclusion and compares them with those that seem to contradict or to limit it. He observes the details on which every phenomenon depends, and distinguishes them carefully from the details that are accidentally conjoined with it. He puts natural bodies into various situations, and applies them to one another in various ways, on purpose so as to observe the effect; and in this way he acquires through his senses a more extensive knowledge of the course of Nature in a short time than could be gathered by centuries of casual observation.

But what is the result of his laborious researches? It is that as far as he has been able to observe, W things have always happened in X circumstances, and Y bodies have always been found to have properties Z. These are matters of fact, attested by sense, memory, and testimony, which are also the source of the few facts that the plain man knows.

And what conclusions does the philosopher draw from the facts he has collected? They are that similar events have happened in former times in similar circumstances, and will happen in time to come; and these conclusions have the very same basis as the simple peasant's belief that the sun will rise tomorrow.

All that we really know of the material world are •facts put into the form of general rules, and •the consequences of those general rules. And the thesis that such general rules have no exceptions, as well as the thesis that they will be the same in the future as in the past, can never be demonstratively evident. It is only evident in the way that philosophers call 'probable'. General rules may have exceptions or limitations that no-one has happened to observe. The laws of Nature may be changed by God, who established them. But our constitution leads us to rely on their continuance, with as little doubt as if it were demonstrable.

I don't claim to have listed all the kinds of probable evidence; but those I have mentioned are sufficient to show that by far the greatest and the most interesting part of our knowledge must rest on evidence of this kind; and that many things are *certain* for which we have only the kind of evidence that philosophers call 'probable'.

Chapter 4: Hume's scepticism with regard to reason

In his *Treatise of Human Nature* I.iv.1 Hume sets out to prove two things: **(1)** Everything that is called human 'knowledge' (meaning demonstrative knowledge) is only probability. **(2)** When this probability is properly examined, it gradually vanishes until all evidentness is gone. The upshot is that there is no basis for believing any one proposition rather than its contrary, and 'all those who reason or believe anything are certainly fools' (I.iv.7).

According to this account, reason—that boasted privilege of man, the light of his mind—is a will-o'-the-wisp which misleads the wandering traveller and eventually leaves him in absolute darkness.

What a miserable condition a man is in if he has a built-in compulsion to •believe contradictions and to •trust a guide—•reason—•who admits to being a false one!

It is some comfort that this doctrine can never be seriously adopted by any man in his senses. After Hume had shown that 'all the rules of logic require a total extinction of belief and evidentness' (I.iv.1), he himself, like all sane men, must have believed many things and given in to the evidentness which he had •supposedly• extinguished.

He openly admits this. 'I find myself absolutely and necessarily made to live and talk and act like other people in the common affairs of life. Most fortunately it happens that since reason can't scatter these clouds, Nature herself suffices for that purpose and cures me of this philosophical gloom and delirium' [adapted from I.iv.7; all remaining quotations from Hume are from I.iv.1].

This was surely a very kind and friendly thing for Nature to do! For if this philosophical delirium were carried into •ordinary everyday• life, it would indeed have produced

gloomy results.

But what a pity it is that Nature (whoever 'she' is), who is so kind as to cure this delirium, should •first• be so cruel as to cause it! Does the same fountain send forth sweet waters and bitter? Isn't it more probable that if the cure was the work of •Nature, the disease came from elsewhere and was the work of •the philosopher?

To claim to *prove by reasoning that there is no force in reason* does indeed look like a philosophical delirium. It is like a man's claiming to *see clearly that he himself and all other men are blind*. . . .

Whatever was the cause of this delirium, we must admit that if it were real and not feigned, it couldn't be cured by reasoning; for if a man disowns the authority of reason, nothing could be more absurd than to try to convince him by reasoning. So it was very fortunate that Nature found other means of curing it.

However, we are entitled to ask this: Was the delirium produced by a *soundly applying* the rules of logic or rather by *misapplying and misusing* them? Hume thinks it was the former; others may be apt to think it was the latter.

•Hume's argument for scepticism about reason has two main parts, which are unsatisfactory in different ways. **First**, because we are fallible, Hume concludes that **all knowledge degenerates into probability**.

We ought to grant that man, and probably every created being, is fallible, and that a fallible being can't have that perfect grasp and assurance of truth that an infallible being has. It is fitting for a fallible being to be modest, open to new light, and aware that he may be misled by some false bias or by rushing to judgment. Call this a degree of 'scepticism',

if you like. I can't help approving of it, being convinced that the man who makes the best use he can of the faculties God has given him, without thinking them more perfect than they really are, may have all the beliefs he needs for his daily life and all he needs to be acceptable to 'God', his maker.

I grant, then, that human judgments ought *always* to be formed with a humble sense of our fallibility in judging. That is all that can be inferred by the rules of logic from our being fallible. And if it is all that is meant by our knowledge degenerating into probability, I don't know of anyone who thinks otherwise.

But I should point out that Hume here uses the word 'probability' in a sense for which I know no authority but his own. Philosophers understand probability as opposed to •demonstration; the vulgar understand it as opposed to •certainty; but Hume understands it as opposed to something that no man claims to have, namely •infallibility.

Someone who believes himself to be fallible can still hold it to be *certain* that two and two make four, and that two contradictory propositions can't both be true. He can believe some things to be merely probable, and others to be demonstrable, without making any claim to infallibility.

If we use words in their proper meanings, it is impossible that *demonstration* should degenerate into *probability* because of the imperfection of our faculties. Our judgment can't change the nature of the things about which we judge. Something that really *is* a demonstration will remain so, whatever judgment we form concerning it. Also, when we think that something is a demonstration when really it isn't, the consequence of this mistake is not that demonstration degenerates into probability, but that what we took to be demonstration is no proof at all; for one false step in a demonstration destroys the whole thing, but can't turn it into another kind of proof. [Here, as almost everywhere, Reid

uses 'proof' to stand for something like 'argument', with no implication of validity. What he is saying here is that a logically invalid demonstration isn't a not-very-strong argument; it is no argument.]

I conclude that Hume's first conclusion, that *the fallibility of human judgment turns all knowledge into probability*, if understood •literally, is absurd. And if it is only a •figure of speech, and means merely that in all our judgments we ought to remain aware of our fallibility and ought to hold our opinions with the modesty that is fitting for fallible creatures—and I think that this is what Hume meant—then it's something that nobody denies, and there was no need to enter into a laborious proof of it.

One is never in greater danger of offending against the rules of logic than when trying to prove something that doesn't need proof. Our present case is an example of this. For Hume begins his proof that all human judgments are fallible by asserting that some are infallible: 'In all demonstrative sciences the rules are certain and infallible; but when we apply them, our fallible and uncertain faculties are very apt to depart from them and fall into error.' He must have forgotten that the rules of demonstrative sciences are discovered by our 'fallible and uncertain' faculties, and have no authority but that of human judgment! If they are infallible, some human judgments are infallible; and many rules in various branches of human knowledge have as good a claim to infallibility as the rules of the demonstrative sciences.

We have reason here to find fault with Hume •for not being sceptical enough, as well as •for a mistake in reasoning when he claims infallibility for certain decisions of the human faculties in order to prove that all their decisions are fallible!

The **second** thing that he tries to prove is that **this probability**, when properly examined, **undergoes a continual lessening until eventually it is wiped out altogether.**

The obvious consequence of this is that no fallible being can have good reason to believe anything at all. But let us hear the proof:

In every judgment we ought always to correct the •first judgment derived from the nature of the object by a •second judgment derived from the nature of the understanding. Besides •the original uncertainty inherent in the subject, •a second uncertainty arises, derived from the weakness of our judgment •in arriving at the first probability. When we have put the two together •to get a single over-all probability, we are obliged by our reason to add •a third doubt derived from the possibility of error •at the second stage, where we estimated the reliability of our faculties. This third doubt is one that immediately occurs to us, and if we want to track our reason closely we can't get out of giving a decision about it. But even if this decision is favourable to our second judgment, it is itself based only on probability and must weaken still further our first level of confidence. And it must *itself* be weakened by a •fourth doubt of the same kind, and so on ad infinitum.

Every one of these uncertainties takes away some of the first probability; till at last nothing remains of the first probability; and, however great that was, it must eventually be reduced to zero, by these repeated diminishments. Nothing that is finite can survive an infinity of repeated decreases

When I reflect on the natural fallibility of my judgment, I have less confidence in my opinions than when I consider only the topic that I am reasoning about; and when I go still further and scrutinize every successive estimation that I make of my faculties, all the rules of logic require a continual lessening and eventually a

total extinction of belief and evidentness.

This is Hume's Achillean argument against the evidentness of reason, from which he concludes that •a man who wants to govern his belief by reason must believe nothing at all and that •belief is an act not of the cogitative but of the sensitive part of our nature. [Reid describes the ancient story about Achilles running a race against an old man, who is given a start. By the time Achilles reaches the old man's starting-point P_1 , the old man has moved on to P_2 ; by the time Achilles reaches P_2 , the old man has moved to P_3 , and so on ad infinitum. The spurious conclusion is that Achilles can never catch up with the old man. Then:]

The reasoning of the modern sceptic against reason is equally ingenious, and equally convincing! Indeed they are very similar.

If we trace Achilles' journey for an appropriate distance, we'll find the very point where he *does* overtake the old man. But this short journey is made to appear infinite, by dividing it into an infinite number of stages with corresponding estimations. Similarly, Hume by subjecting every judgment to an infinite number of successive probable estimations, reduces the evidentness to nothing.

To return, then, to the argument of the modern sceptic. I examine the proof of a theorem of Euclid. It appears to me to be a strictly valid demonstration. But I may have overlooked some fallacy; so I examine it again and again, but can find nothing wrong with it. Everyone else who has examined it agrees with me. I have now the evidentness of the truth of the proposition which I and all men call 'demonstration', and the belief of it that we call 'certainty'.

Here my sceptical friend interrupts. and assures me that the rules of logic reduce this demonstration to no evidentness at all. I am willing to hear what step in it he thinks fallacious, and why. He doesn't object to any part of the demonstration,

but pleads my fallibility in judging. I have made the proper allowance for this already, by being open to correction. The conversation continues like this:

My friend: But there are *two* uncertainties: the •first is inherent in the subject, which I have already shown to have only probable evidentness; the •second arises from the weakness of the judging faculty.

Myself: It is only the weakness of the faculty that reduces this demonstration to what you call 'probability'. You mustn't turn it into a second uncertainty; it is the same as the first. To take credit twice for the same article is not agreeable to the rules of logic. So far, then, there is only *one* uncertainty, namely my fallibility in judging.

My friend: But you are obliged by reason to add a new uncertainty derived from the possibility of error in your estimation of the truth and fidelity of your faculties.

Myself: This estimation •that you speak of• is ambiguously expressed. It could mean

- an estimation of my liableness to err through the misapplication and misuse of my faculties,

or it could mean

- an estimation of my liableness to err through conceiving my faculties to be true and faithful while they may be false and deceptive in themselves, even when applied in the best manner.

I shall consider this estimation in each of these senses. [At this] point, Reid stops presenting his material in the form

•PERHAPS I MISUSED MY FACULTIES•

If the estimation in question is the first of the two I have listed, then it is true that reason directs us as fallible creatures to carry along with us in all our judgments a sense of our fallibility. It is true also that •*how much* danger of erring we are in varies from case to case, that •in a given

case we *may*—depending on the details of the case—be able to estimate the danger, and that •we ought also to carry this estimate along with us in every judgment we form.

•What details of the case? Well•, when a demonstration is short and plain, when the point to be proved doesn't involve our self-interest or our emotions, when the faculty of judging in such cases has grown strong from being much used, there is •less danger of erring; and when the opposite of any of these obtains, there is •more.

In the case now under discussion, every detail is favourable to the judgment I have formed. The danger of going wrong could never be less, except perhaps when I affirm a self-evident axiom.

The sceptic persists, claiming that this decision, though favourable to •my first judgment, must still reduce how evident •it is, because the decision is based merely on probability.

Here I can't help having a quite contrary opinion, and I can't imagine how a clever writer could deceive himself so grossly. •I am sure he deceived *himself*•, for surely he didn't intend to deceive *his readers*.

After repeated examination of a proposition of Euclid, I judge that:

(1) The proposition has been strictly demonstrated.

Because I am liable to err from various causes, I consider how far I may have been misled by any of these causes in my judgment (1), and about this I judge that:

(2) It is highly unlikely that I went astray in arriving at (1).

To say that because (2) is only probable, it must reduce the evidentness of (1) seems to me contrary to all rules of logic and to common sense.

Compare (1) with the testimony of a credible witness, and (2) with •the outcome of• an examination of the witness's

character, removing every objection that can be made to it. Surely, (2) must confirm (1) rather than weakening it.

But let us suppose that in another case I examine my first judgment about something, and find that some details of the situation are unfavourable to my first judgment's being right. What, in reason and according to the rules of logic, ought to be the effect of *this* discovery?

The effect surely will be, and ought to be, to make me less confident of my first judgment until I re-examine the matter in more favourable circumstances. If it is an important matter, I weigh again the evidentness of my first judgment. If I had rushed to it the first time around, I must now slow down and take every point carefully. If at first I was in a state of high emotion, I must now be cool. If I had an interest in the decision, I must place the interest on the other side. [That sentence is exactly what Reid wrote.]

Despite the suspicious features of the case, it is obvious that my review of the subject may *confirm* my first judgment. Though the judge was biased or corrupted, it doesn't follow that the sentence was unjust. Whether the decision was right doesn't depend on the character of the judge but on *the nature of the case*—that and nothing else must settle whether the decision was right. The details that made it suspect are mere presumptions, which have no force against direct evidence. ['Presumption' was a technical legal term. Example: someone's not having been heard of for seven years might create a 'legal presumption' that he had died, meaning that the courts would take it that he had died unless positive evidence to the contrary turned up.]

Thus, I have considered the effect of this estimate of our liableness to err in our first judgment, allowing it all the effect that reason and the rules of logic permit. In every case where we can't find any cause of error, the outcome of the estimate of our liableness to err creates a presumption in favour of the first judgment. In cases where we *do* uncover

a possible source of error, the outcome of the estimate of our liableness to err may create a presumption against the first judgment. But the rules of logic forbid us to judge by *presumptions* when we have *direct evidence*. The effect of an unfavourable presumption should only be to make us examine the evidence with the greater care.

The sceptic insists that this estimation must be subjected to another estimation, that to a third, and so on ad infinitum; and as every new estimation reduces somewhat the evidentness of the first judgment, it must eventually be totally annihilated. I have three things to say about this.

(1) I have shown that the first estimation, supposing it to be unfavourable, can afford only a presumption against the first judgment; the second, supposing *it* to be unfavourable, will be only the presumption of a presumption. . . . and so on. This infinite series of presumptions resembles an infinite series of quantities decreasing in geometrical proportion, which amounts only to a finite sum—as the sum of the infinite series of fractions $\frac{1}{2}, \frac{1}{4}, \dots$ has a sum = 1. The infinite series of stages of Achilles's journey following the old man amounts to only two thousand paces; and this infinite series of presumptions, even if they are all unfavourable to the first judgment, also has a finite sum: the totality of them can't outweigh one solid argument in favour of the first judgment.

(2) I have shown that the estimation of our first judgment may *strengthen* it; and the same thing may be said of each subsequent estimation. So it would be as reasonable to conclude that the first judgment will be brought to infallible certainty when the series of estimations is wholly in its favour as to conclude its evidentness will be brought to nothing by such a series if they are wholly unfavourable to it! But in reality **one** serious and cool re-examination of the evidence by which our first judgment is supported has and *ought to*

have more force to strengthen or weaken the first judgment than an infinite series of estimations of the sort that Hume requires.

(3) I know no reason, and no rule in logic, that requires that such a series of estimations should be conducted after every particular judgment.

A wise man who has done a great deal of reasoning knows that he is fallible, and carries this conviction along with him in every judgment he makes. He also knows that he is more liable to err in some cases than in others. He has a scale in his mind by which he estimates his liability to err, and he adjusts how strongly he assents to his first judgment to where the case stands on that scale.

Hume's reasoning supposes that when a man forms his first judgment he thinks of himself as infallible; that by a second and subsequent judgment he discovers that he is not infallible; and that by a third judgment subsequent to the second he estimates his liability to err in such a case as the present.

If the man does go about things in this way, I agree that his second judgment will with good reason bring down the first from supposed infallibility to fallibility; and that his third judgment will in some degree either strengthen or weaken the first as adjusted in the light of the second.

But every intelligent man goes about things in the opposite way. When about to judge concerning some particular point, he knows already that he isn't infallible. He knows which are the cases in which he is most or least liable to err. The conviction of these things is always present to his mind, and it influences the strength of his assent in his first judgment, influencing it as much as seems to him reasonable.

If he should later find reason to suspect his first judgment, and wants to have all the satisfaction his faculties can give,

reason will direct him not to form a series of estimations upon estimations such as Hume requires, but rather to examine the evidentness of his first judgment carefully and coolly; and this review may, according to its result, either strengthen or weaken or totally overturn his first judgment.

So this infinite series of estimations is *not* the method that reason directs us to follow in arriving at a judgment in any case. It is introduced without necessity, without any use except to puzzle the understanding and make us think that judging even in the simplest and plainest cases is a matter of insurmountable difficulty and endless labour; just as the ancient sceptic made a journey of two thousand paces appear endless by dividing it into an infinite number of stages.

·PERHAPS MY FACULTY OF JUDGMENT IS DEFECTIVE·

I remarked [on page 302] that the estimation that Hume requires can be understood in another way—one that •better fits his •and my friend's• phrase 'the possibility of error in your estimation of the truth and fidelity of your faculties', but •is inconsistent with what he has said earlier.

By the 'possibility of error in the estimation of the truth and trustworthiness of our faculties' one could be referring to the possibility that we may err by trusting our faculties to be true and faithful when they may be false and deceptive even if used according to the rules of reason and logic.

If this is Hume's meaning, I answer first that the truth and trustworthiness of our faculty of judging is and must be taken for granted in every judgment and in every estimation.

If the sceptic can seriously doubt the truth and trustworthiness of his faculty of judging when it is properly used, and suspend his judgment about that until he finds proof, his scepticism can't be cured by reasoning, and he must stay with it until he is given new faculties that are authorized to sit in judgment on the old! And there's no need for an

endless succession of doubts on this subject, for the very first one puts an end to all judgment and reasoning, and to the possibility of convincing him by that means. The sceptic has here established himself in a stronghold that is impregnable to •reasoning, and we must leave him in possession of it until Nature by some •other means makes him give it up.

Secondly, I note that this way of basing scepticism on the supposedly untrustworthy nature of our faculties contradicts what Hume said earlier in this very same argument, namely that 'The rules of the demonstrative sciences are certain and infallible', and that 'Truth is the natural effect of reason, and error arises from the intrusion of other causes'.

But perhaps he made these concessions carelessly. If so, then he is free to retract them and to base his scepticism solely upon this: *No reasoning can prove the truth and trustworthiness of our faculties*. Here he stands on firm ground. . . .

All that I ask of *this* kind of sceptic is that he be uniform and consistent, and that his practice in life not belie his announced scepticism concerning the trustworthiness of his faculties: For just as •faith is best shown by works, so also is •lack of faith! If a sceptic avoids the fire as much as those who believe that entering it would be dangerous, we can hardly avoid thinking his scepticism to be pretended and not real.

Hume indeed was aware that neither his scepticism nor that of any other person could endure this trial, and therefore he covers himself against this point. He writes:

Neither I nor anyone else was ever sincerely and constantly of that •sceptical• opinion. Nature, by an absolute and uncontrollable necessity, *makes* us judge as well as breathe and feel. . . . Then why did I display so carefully the arguments of that fantastic sect (•the total sceptics•)? It was to make you aware

of the truth of my hypotheses that •all our reasonings about causes and effects are derived from nothing but custom, and that •*belief is strictly an act of the sensitive part of our natures rather than of the cogitative part*.

I have already considered the first part of this hypothesis, namely that our reasoning about causes is derived only from custom. [This presumably refers to Essay 1 in Reid's *Essays on the Active Powers of Man*.]

The other part of Hume's hypothesis here mentioned is obscurely expressed, though he seems to have thought about how to put it, because it is in italics. Surely it can't mean that belief is not an act of thinking. So what he is calling 'the cogitative part of our nature' isn't •the power of thinking. And it can't be •the power of judging, because all belief implies judgment—believing a proposition is the same thing as judging it to be true. So it is presumably •the power of reasoning that he calls 'the cogitative part of our nature'.

If that's his meaning, I agree with it in part. The belief in first principles is not an act of our reasoning power, for *all* reasoning must be based on such principles. We judge them to be true and believe them without reasoning. But I don't understand why this power of judging of first principles should be called the 'sensitive part of our nature'.

As our belief in first principles is an act of pure judgment, without reasoning, so also our belief in the conclusions drawn by reasoning from first principles may, I think, be called 'an act of the reasoning faculty'.

Summing up this chapter: I see only two conclusions that can be fairly drawn from this deep and intricate reasoning against reason. (1) We are fallible in all our judgments and in all our reasonings. (2) The truth and trustworthiness of our faculties can never be proved by reasoning; and therefore our belief in it can't be based on reasoning. If (2) is what

Hume is calling his 'hypothesis', I accept it (and think that it isn't an hypothesis but an obvious truth); though I think it to be very poorly expressed by saying that belief is strictly

an act of the sensitive rather than of the cogitative part of our nature.