

An Inquiry into the Human Mind

Thomas Reid

Copyright © 2010–2015 All rights reserved. Jonathan Bennett

[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 short passage that seems to present more difficulty than it is worth. Longer omissions are reported between square brackets in normal-sized type.

First launched: September 2005

Last amended: July 2007

Contents

Chapter 1: Introduction	1
1. The subject's importance, and how to study it	1
2. Obstacles to our knowledge of the human mind	2
3. The present state of this part of philosophy: Descartes, Malebranche and Locke	4
4. In defence of those philosophers	6
5. Bishop Berkeley. ·Hume's· <i>Treatise of Human Nature</i> . Scepticism	7
6. The <i>Treatise of Human Nature</i>	9
7. The system of all these authors is the same, and it leads to scepticism	9
8. We ought not to despair of finding a better system	10
Chapter 2: Smelling	11
1. The order in which I shall take things. The medium of smelling and the organ of smell	11
2. The sensation ·of smell· considered abstractly	12
3. Sensation and memory: natural producers of belief	13

4. Sometimes judgment and belief precede simple apprehension	14
5. Two theories of the nature of belief refuted. Conclusions.	15
6. In defence of metaphysical absurdities. The theory of ideas implies that a sensation can exist without there being anything that <i>has</i> it. Consequences of this strange opinion	17
7. The conception of and belief in a sentient being or mind is suggested by our constitution. The notion of relations is not always acquired by comparing the related ideas	20
8. There is a quality or virtue in bodies which we call their smell. How this is connected in the imagination with the sensation	21
9. There is a force at work in human nature from which the notion of a body's smell is derived, along with all other natural virtues or causes	23
10. In sensation is the mind active or passive?	25
Chapter 3: Tasting	26
Chapter 4: Hearing	28
1. The variety of sounds. Their place and distance is learned by custom, without reasoning	28
2. Natural language	29
Chapter 5: Touch	32
1. Heat and cold	32
2. Hardness and softness	33
3. Natural signs	35
4. Hardness and other primary qualities	37
5. Extension	38
6. More on extension	40
7. The existence of a material world	41
8. The systems of philosophers concerning the senses	45
Chapter 6: Seeing	48
1. The excellence and dignity of this faculty	48
2. Sight reveals almost nothing that the blind can't <i>comprehend</i> . The reason for this	49
3. The visible appearances of objects	52
4. Colour is a quality of bodies, not a sensation in the mind	54
5. An inference from the foregoing	55
6. None of our sensations resemble any of the qualities of bodies	57

7. Visible shape and extension	61
8. Answers to some questions about visible shape	63
9. The geometry of visibles	66
10. The parallel motion of the eyes	72
11. Seeing objects the right way up by images that are upside down	74
12. More on this topic	78
13. Seeing objects single with two eyes	85
14. The laws of vision in brute animals	89
15. Squinting considered hypothetically (omitted)	90
16. Facts relating to squinting (omitted)	90
Chapter 6 (cont'd): Seeing	91
17. The effect of custom in seeing objects single	91
18. Dr. Porterfield's account of single and double vision	95
19. Dr. Briggs's theory and Sir Isaac Newton's conjecture on this subject	97
20. Perception in general	101
21. Nature's way of bringing about sense-perception	106
22. The signs by which we learn to perceive distance from the eye	109
23. The signs used in other acquired perceptions	115
24. How perception is analogous to the trust we have in human testimony	117
Chapter 7: Conclusion	127
Reflections on the opinions of philosophers on this subject	127

Chapter 1: Introduction

1. The subject's importance, and how to study it

The structure of the human mind is intricate and wonderful, like the structure of the human body. The faculties of the mind are just as well suited to their various purposes as are the organs of the body. Indeed, because the mind is nobler and of a higher order than the body, it is reasonable to think that even *more* of God's wisdom and skill went into its structure than into that of the body. So the human mind is a subject well worth investigating—on its own account but even more on account of how extensively the knowledge of the mind affects every other branch of science. [Throughout this work, 'science' means something like 'knowledge that is well established and theoretically organised'; and 'arts' covers the whole range of activities—from agriculture and government to painting and architecture—that involve practical skill, practical techniques and the like.]

This applies even to the arts and sciences that have least connection with the mind, because even with them we have to employ the faculties of the mind; and the better we understand what they are and how they work, and what defects and disorders they are prone to, the more skillfully and successfully we shall apply them. But in the noblest arts the mind is not only what we *use* but also what we *affect*. The painter, the poet, the actor, the orator, the moralist, and the statesman all try to affect the mind in different ways and for different purposes; and how well they succeed depends on how skillfully they touch the strings of the human frame. And their various arts can't ever stand on a solid foundation or rise to the dignity of sciences until they are built on the principles of the human constitution.

Wise men now agree (or ought to!) that there is only one route to knowledge of nature's works; namely the path of observation and experiment. We have built into us a strong propensity for bringing particular facts and observations under general rules, and applying such general rules to explain other effects or to show us how to produce them. This intellectual process is familiar to every human creature in the common affairs of life, and it is the only one by which any real discovery in philosophy can be made. [In this work, 'philosophy' is used in a broad sense in which it also covers science. Many of Reid's references to 'the philosophers' could as well be to 'the scientists', but there is no clean line to be drawn between the two in his text, so 'philosophy' and its cognates are left untouched, though an occasional reminder will be supplied.]

The man who first discovered that cold freezes water and that heat turns it into vapour was using the same general principles and the same method as Newton did in his discovery of the law of gravitation and the properties of light. His *regulae philosophandi* [= 'rules for scientific and philosophical thinking'] are maxims of common sense, and are practised every day in common life; and anyone who philosophizes by other rules, whether concerning the material system or the mind, will get nowhere.

Conjectures and theories are created by men, and will always be found to be very unlike the things created by God. If we want to know the works of God, we must consult *them* with attention and humility, not daring to add anything of our own to what *they* declare. An accurate interpretation of nature is the only sound and orthodox philosophy; anything we add to that is spurious and carries no authority.

All our ingenious *theories* about •the formation of the earth, •the generation of animals, •the origin of natural and moral evil, when they go further than what can be soundly derived from *facts*, are empty folly, as much so as the ‘vortices’ of Descartes and the ‘Archæus’ of Paracelsus. The philosophy of the •mind may have been as much adulterated by *theories* as has the philosophy of the •material world. The theory of ideas is indeed very ancient, and has been very widely accepted; but neither age nor acceptance can •give it authenticity, so they oughtn’t to •shelter it from being examined freely and frankly—especially at the present time, when the theory of ideas has produced a system of scepticism that seems to triumph over all science and even over the dictates of common sense.

All our knowledge of the ·human· body comes from anatomical dissection and observation; so if we are to discover the powers and principles [= ‘driving forces’] of the mind we must subject it to anatomical investigation. [From now on, when Reid uses ‘principle’ in that meaning—which was common in his day—this version will substitute ‘force’ or a phrase including ‘energy’. The equivalence may not be quite exact; on page 124, for instance, it has Reid speaking of the ‘inductive force’ as casting *light*. But ‘force’ is much nearer to his meaning than is ‘principle’ in our present sense of that word.]

2. Obstacles to our knowledge of the human mind

It is much harder to anatomize the mind than to anatomize the body; so it needn’t seem strange that mankind have made less progress with the former. To attend accurately to the operation of our minds—to think *about* them—is not easy even for thoughtful people, and for most of mankind it is next to impossible.

An anatomist may be fortunate enough to have opportunities to examine—accurately, •with his own eyes—bodies of different ages, sexes, and conditions, so that what is defective, obscure, or abnormal in one may be clearly seen in its most perfect state in another. But the anatomist of the mind can’t have the same advantage. All that he can examine with any degree of accuracy and clearness is *his own* mind. This is the only subject he can •look into. He may from outward signs infer what is going on in other minds; but these signs are mostly ambiguous, and must be interpreted in terms of what the anatomist perceives within himself.

No man has ever been able to set out for us, distinctly and methodically, all the operations of the thinking principle within him [here = ‘of whatever it is in him that drives his thought’]; but if some philosopher *did* achieve this feat, this would reveal only the anatomy of •one particular subject; and if applied to •human nature in general it would be both incomplete and wrong. For you don’t have to think very hard to realise that the differences amongst ·human· minds are greater than the differences amongst any other beings that we regard as belonging to the same species.

Some of our various powers and faculties seem to have been planted and developed by nature, with nothing left for human industry to do about them. Of this kind are the powers that we have in common with the brutes [= ‘nonhuman animals’]—the ones that are necessary for the preservation of the individual or the continuance of the kind. Of some other powers nature has only planted the seeds in our minds, leaving their growth to human care. The proper development of these powers is what makes us capable of all those improvements in intellectual power, taste, and morals that exalt and dignify human nature; while on the other hand the neglect or perversion of them make us degenerate and corrupt. The two-legged animal that

eats of nature's dainties what his taste or appetite asks for,
 satisfies his thirst at the crystal fountain,
 propagates his kind whenever he has the opportunity and the urge,
 fights back against injuries, and
 takes alternate labour and repose,

is, like a tree in the forest, purely of nature's growth. But this same savage has within him the seeds of the logician, the man of taste and breeding, the orator, the statesman, the man of virtue, and the saint. But these seeds, though planted in his mind by nature, are not developed and used and so must lie for ever buried and be hardly perceivable by himself or by others.

Even the most minimal kind of social life will bring to light some of those 'seeds' that lay hidden in the savage state; and—according to the person's training, the company he keeps, and his way of life—some of them will •thrive and grow up to great perfection, either through their native vigour or through being deliberately developed; others will •be perverted from their natural form; and yet others will •be checked or perhaps quite eradicated.

This makes human nature so diversified in the individuals who have it that it fills up all the moral and intellectual gap that we conceive to be between brutes and devils below and the celestial orders above. That is, some men are not much stupider or morally worse than the lowest angels, and some are not much brighter or morally better than the best of the lower animals. This enormous diversity of minds must make it extremely difficult to discover what is common to the workings of all human minds.

The language in which philosophers discuss the original faculties of the mind is so thoroughly designed to fit the

currently accepted theory that it can't fit any other; like a coat that fits the man for whom it was made and makes him look good though it sits very awkwardly on a differently shaped man, even one as handsome and as well proportioned as the man for whom it was made. It is hardly possible to present any new discovery in our philosophy concerning the mind and its operations without using new words and phrases, or taking terms that are already in use and giving them different meanings; and taking that liberty with language, even when it is necessary, creates prejudice and misunderstanding, so that it takes time for it to be generally accepted. For innovations in language, like innovations in religion and government, are always suspected and disliked by people in general until use has made them familiar and long-time acceptance has made them legitimate.

[In this paragraph and throughout the rest of the work, Reid uses 'reflection' as Locke did, to mean 'looking in on the events in one's own mind'.] If the original perceptions and notions of the mind made their appearance •single and unmixed, as we first received them from the hand of nature, someone who was accustomed to reflection would have less difficulty in tracking them; but before we are capable of reflection our perceptions and notions are so •mixed, combined and recombined by habits, associations and abstractions, that it is hard to know what they were originally. The mind may in this respect be compared to a pharmacist or a chemist: his materials are indeed provided by nature; but for the purposes of his art he mixes, compounds, dissolves, evaporates, and vaporises them until they have a quite different appearance, making it very hard to know what they were at first, and even harder to bring them back to their original and natural form. The mind doesn't do this work by deliberate acts of mature reason, which we might recollect, but by means of instincts, habits, associations, and other sources of mental energy that operate

before we come to the use of reason; so that it is extremely difficult for the mind to retrace its own steps and track down the operations that it has been busy with since it first began to think and to act.

If we could obtain a clear and full history of everything that has happened in the mind of a child, from the beginning of life and sensation until it grows up to the use of reason—how its infant faculties began to work, and how they brought out and ripened all the various notions, opinions, and feelings that we find in ourselves when we come to be capable of reflection—this would be a treasure of natural history, and would probably throw more light on the human faculties than all the theories of philosophers since the beginning of the world. But there's no point in wishing for something that nature hasn't put within our reach. Our only way of detecting the powers of the mind is *reflection*, and that comes too late to be of any use in observing the whole process through which nature brings the infant mind to maturity.

A man who has grown up in all the prejudices of education, fashion, and philosophy will need great caution and great concentration if he is to unravel his notions and opinions until he finds out the simple and original forces of his constitution, which can't be explained in their turn except in terms of the will of God our maker. This may be truly called an *analysis* of the human faculties; and until it is performed we have no chance of finding a sound theoretical account of the mind—that is, a list of the original powers and laws of our constitution, and an explanation in terms of them of the various phenomena of human nature.

Success in an inquiry of this kind isn't something we can just *choose* to have; but perhaps it is possible for us by caution and humility—which we *can* choose—to avoid error and delusion. The labyrinth may be too intricate and

the thread too fine to be traced through all its windings; but if we stop where we can trace it no further, and secure the ground we have gained, no harm is done; and at some later time someone with a quicker eye may trace it further.

What adulterates philosophy and fills it with error and false theory is high-level intellectual ability—not the lack of it! A creative imagination despises the low-level tasks of digging for a foundation, removing rubbish, and carrying materials for the new structure that is to be built. It leaves these lowly tasks to the drudges in science, while it plans a design and erects a structure. When more materials are needed, it *invents* them, and imaginatively adds colouring and every suitable ornament. The work pleases the eye; it has everything except solidity and a good foundation! It even seems to compete with the works of nature, until some later architect blows it into rubbish and builds in its place a structure of his own—one that is no worse than the other. It is a fortunate thing for us that the present-day builders of castles in the air are engaged more in writing fiction than in doing philosophy. The writing of romances is undoubtedly their province, and in those regions the children of the imagination are legitimate, whereas in philosophy they are all spurious.

3. The present state of this part of philosophy: Descartes, Malebranche and Locke

Even those who have never closely examined it have grounds for conjecturing that contemporary philosophy concerning the mind and its faculties is in a very low state. Are any principles regarding the mind *settled* with the clarity and evidentness that the principles of mechanics, astronomy and optics have? These really are sciences built on laws of nature that hold good always and everywhere. When such a law is

discovered it is no longer a matter of dispute: future ages may add to it, but once it has been established it can never be overturned—until the course of nature changes! But when we turn our attention in on ourselves and consider the phenomena of human thoughts, opinions, and perceptions, and try to bring them under the general laws and basic forces in our constitution, we are immediately involved in darkness and perplexity. And if our common sense or the results of our upbringing happen not to be stubborn, we are likely to end up in absolute scepticism.

In this part of philosophy Descartes found nothing established that could serve as a deep foundation; so he resolved not to believe in *his own existence* until he could give a good reason for it. He may have been the first person to make such a decision; but if he could have actually *done* what he resolved to do—if he could have become genuinely unsure that he existed—his case would have been deplorable, and there would have been no remedy for it from reason or philosophy. A man who disbelieves his own existence is surely as unfit to be reasoned with as a man who thinks he is made of glass. There may be physical disorders that can produce such absurdities, but they won't ever be cured by *reasoning*. Descartes wants us to think that he got out of this craziness through this logical argument: *Cogito, ergo sum* [= 'I think, therefore I exist']. But obviously he was in his right mind all the time, and never seriously doubted his own existence. That argument doesn't •prove his existence—it •takes it for granted. 'I am thinking', he says, 'therefore I am'; and isn't it just as good reasoning to say, 'I am sleeping, therefore I am'? or 'I am doing nothing, therefore I am'? If a body moves it must exist, no doubt; but if it is at rest it must exist then too.

Descartes's argument is an enthymeme [= 'an argument in which one or more premises are left unstated']. Perhaps what he

was relying on •as an unstated premise• was not •his own existence but rather •the existence of thought; and was inferring from that the existence of a mind, something that *had* the thought. But why didn't he prove the existence of his thought? You may say 'Consciousness assures him of that'. But who assures him that consciousness is truthful? Can any man *prove* that his consciousness can't deceive him? No man can; and we can't give a better reason for trusting consciousness than that every man, while his mind is sound, is caused by the constitution of his nature to believe it unquestioningly, and to laugh at or pity anyone who doubts its testimony. And isn't every sane man as firmly caused to take his existence on trust as his consciousness?

The other proposition assumed in this argument •that I am conjecturing Descartes had in mind•, namely that there can't be thought unless there is something that *has* it, is open to the same objection: not that it isn't evidently true, but that it isn't *more* clearly evident than the proposition that is supposed to be proved by it. And taking all these propositions together—

I think,
I am conscious,
everything that thinks exists,
I exist

—wouldn't every serious person form the same opinion of a man who seriously doubted any one of them? If he were your friend, wouldn't you hope for his cure from medicine and good food and exercise rather than from metaphysics and logic?

Furthermore, supposing it has been proved that my thought and my consciousness must be *had* by •something, and consequently that •I exist, how do I know that all the series of thoughts that I remember belong to one subject, and that the *I* of this moment is the very same individual *I*

of yesterday and of times past? Descartes didn't see fit to start this doubt; but Locke did, and in order to resolve it he solemnly laid it down that personal identity *consists in* consciousness; that is, if you are conscious that you did x a year ago, this consciousness makes you the very person that did x. Now, consciousness of what is past can only mean remembering it; so that Locke's principle must be that identity consists in remembering, and consequently a man must lose his personal identity with regard to everything he forgets.

These aren't the only cases where our currently accepted philosophy concerning the mind seems to be very fruitful in creating doubts while doing a miserable job of resolving them.

Descartes, Malebranche and Locke have all used their talents and skill to prove the existence of a material world; and with very little success! Poor uneducated folk believe unquestioningly that there is a sun, moon and stars; an earth that we inhabit; country, friends and relations that we enjoy; land, houses and furniture that we possess. But philosophers, pitying the credulity of the vulgar, resolve not to trust anything that isn't founded on *reason*. [Throughout this work, the 'vulgar' are just common folk with not much education; they needn't be guilty of 'vulgarity' in our sense.] These philosophers ask philosophy to supply them with reasons for believing things that all mankind have believed without being able to give any reasons for doing so. One might expect that in matters of such importance the proof would be easy; but in fact it is the most difficult thing in the world. For these three great men, with the best good will, have not been able to draw from all the treasures of philosophy *one argument* that is fit to convince a thinking man of the existence of anything other than himself. Admired Philosophy! daughter of light! parent of wisdom and knowledge! if that's what you

are, then surely you haven't yet risen and started to shine on the human mind, or blessed us with more of your rays than are sufficient to cast a 'darkness visible' on the human faculties, and to disturb the peace and security enjoyed by happier people who never approached your altar or felt your influence! But if indeed you aren't able to dispel those clouds and phantoms that you have revealed or created, withdraw this skimpy and malignant ray: I despise philosophy and renounce its guidance; let my soul dwell with common sense. [Reid was quoting from Milton's *Paradise Lost*, where hell has 'no light, but rather darkness visible'.]

4. In defence of those philosophers

But instead of despising the dawn of light, we ought rather to hope for its increase; instead of blaming the philosophers I have named for the defects and blemishes of their system, we ought rather to honour their memories as the first discoverers of a previously unknown region in philosophy. However lame and imperfect their system may be, they have opened the way to future discoveries and are entitled to a great share of the credit for them. They have removed a vast amount of dust and rubbish that had collected in the ages of bad reasoning by the scholastics [= 'the Roman Catholic Aristotelians'], and had blocked the path forward. They have put us on the right road, that of experience and accurate reflection. They have taught us to avoid the traps of ambiguous and ill-defined words, and have spoken and thought about this subject with a sharpness and clarity formerly unknown. They made many openings that may lead to the discovery of truths that they didn't reach, or to the detection of errors in which they were entangled.

It may be observed that of all the defects and blemishes in the accepted philosophy concerning the mind, the ones

that have most exposed it to the contempt and ridicule of sensible men have chiefly come from this:

The adherents of this philosophy, led by a natural prejudice in her favour, have tried to extend her jurisdiction beyond its proper limits by setting her up as a judge of the dictates of common sense.

But these dictates refuse to be judged in this way; they despise the trial of reasoning, and disown its authority; they don't look to reason for help or fear its attacks.

In this unequal contest between common sense and philosophy the latter will always come off with both dishonour and loss; nor can she ever prosper until this rivalry is dropped, philosophy gives up encroaching on the territory of common sense, and a cordial friendship is restored; for the fact is that common sense doesn't need philosophy's permission to say what it does, nor does it need philosophy's help. On the other side (if I may be permitted to change the metaphor), philosophy's only root is the principles of common sense; it grows out of them, and draws its nourishment from them; when it is cut off from this root its honours wither, its sap is dried up, it dies and rots.

The philosophers of the recent past whom I have mentioned did not attend to preserving this union and subordination as carefully as the honour and the interests of philosophy required; but philosophers of the present time have openly waged war with common sense, and hope to make a complete conquest of it through the subtleties of philosophy—as audacious and futile as the attempt of the giants to dethrone almighty Jove!

5. Bishop Berkeley. Hume's *Treatise of Human Nature*. Scepticism

I don't think that the present age has produced two more acute or more skillful workers in this part of philosophy than the Bishop of Cloyne and the author of the *Treatise of Human Nature*. [These are Berkeley and Hume respectively. Hume's *Treatise* had been published anonymously, and Reid accordingly writes of 'the author of the *Treatise of Human Nature*' without identifying him. This was a courtesy; he knew quite well who the author was. In this version Hume will be named often.] Berkeley was no friend to scepticism, and had that warm concern for religious and moral principles that was fitting for his rank in the church; yet the result of his inquiry was a serious belief that there is no such thing as a material world—nothing in nature but spirits [= 'minds'] and ideas—and that the belief in material substances and in abstract ideas are the chief causes of all our errors in philosophy, and of all disbelief and heresy in religion. His arguments are based on the principles that had been laid down by Descartes, Malebranche and Locke, and that have been very generally accepted. And the opinion of the ablest judges seems to be that his arguments haven't been and can't be blocked—that he has proved by unanswerable arguments things that no man in his senses can believe.

Hume proceeds on the same principles, but takes them the whole way: as Berkeley undid the whole material world, Hume on the same grounds undoes the world of spirits, and leaves nothing in nature but ideas and impressions, without any subject on which they may be impressed [= 'without anything that can have them'].

It seems to be a peculiar streak of humour in this author to start off with an introduction in which he promises—keeping his face straight—nothing less than a complete system of the sciences, on an entirely new foundation,

namely •human nature; when the intention of the whole work is to show that there is no •human nature and no •science in the world. It may perhaps be unreasonable to complain of this conduct in an author who can't mean to disappoint his reader or laugh at his credulity, because he doesn't believe that he or his reader exists! Yet I can't imagine that the author of the *Treatise of Human Nature* is so sceptical that he would defend himself in this way. He believed, against his own principles, that he should be read and that he should retain his personal identity until he reaped the honour and reputation that his metaphysical skill entitled him to. Indeed he openly admits that it was only when he was alone in his study that he could accept his own philosophy; being in the company of others had the effect of daylight, dispelling the darkness and fogs of scepticism and making him give in to the rule of common sense. And I have never heard him being accused of doing anything, even in solitude, that indicated such a degree of scepticism as his principles maintain. Surely if his friends had feared that he would, they would have the kindness never to leave him alone!

Pyrrho of Elis, the father of this philosophy, seems to have embraced it more thoroughly than any of his successors; for it is reported. . . .that his life corresponded to his doctrine. Thus, if a cart ran against him or a dog attacked him. . . .he wouldn't stir a foot to avoid the danger, giving no credit to his senses. Luckily for him he had servants who weren't such great sceptics; they took care to keep him out of harm's way, so that he lived to be ninety years old. And it can't be doubted that Hume's friends would have been equally careful to keep him from harm, if ever his principles had taken too strong a hold of him.

The *Treatise of Human Nature* was probably all written in solitude; yet it contains clear indications that the author

every now and then relapsed into the faith of the vulgar, and could hardly keep up the sceptical character for half a dozen pages.

Similarly the great Pyrrho himself sometimes forgot his principles. He is said once to have been in such a rage with his cook—probably for not roasting his dinner to his liking—that he chased the cook even into the market-place, holding the spit with the meat on it.

It is a bold philosophy that unceremoniously rejects principles which irresistibly govern the belief and the conduct of all mankind in the common affairs of life—principles to which the philosopher himself must surrender after he imagines he has refuted them. Such principles are older than philosophy, and have more authority than she does; she is based on them, not they on her. If she *could* overturn them, she would inevitably be buried in their ruins; but all the siege-machines that philosophical subtlety can create are too weak for this purpose; and the attempt is just as ridiculous as it would be for a mechanic to construct a windlass for winching the earth out of its circuit, or for a mathematician to claim he could demonstrate that things equal to the same thing are not equal to one another.

Zeno tried to demonstrate the impossibility of motion; Hobbes, that there was no difference between right and wrong; and Hume, that no credit is to be given to our senses, to our memory, or even to demonstration. Such a philosophy is truly ridiculous, even to those who can't put a finger on *where* it has gone wrong. All it could succeed in is showing the acuteness of the sophist at the cost of disgracing reason and human nature, and turning mankind into Yahoos [brutish human-shaped creatures in Swift's *Gulliver's Travels*].

6. The *Treatise of Human Nature*

Even on a general view of this system of human nature ·of Hume's·, one forms some quick preliminary judgments that make one suspicious of it.

Descartes, Hobbes and Hume have each of them given us a ·supposedly complete· system of human nature, which is an undertaking too vast for any one man, no matter how able and creatively thoughtful he may be. Surely we have reason to suspect that many parts of human nature never came under their observation; and that others were stretched and distorted so as to fill up blanks and complete the system. Christopher Columbus. . . might almost as reasonably have undertaken to give us a complete map of America.

Nature's works have a certain character and style that is never attained in the most perfect imitation of them. This seems to be lacking in the systems of human nature I have mentioned, especially in Hume's. We see a puppet move and gesture in various ways, and at first we are impressed; but when we look more closely and analyse it our admiration ceases; we see exactly how the puppet-maker did it. How *unlike* a real man it is! What a poor piece of work compared with the •body of a man, about which this is true: the more we know of its structure, the more wonderful we find it to be, and the more aware we are of our ignorance! Is the mechanism of the •mind so easy to understand when that of the body is so difficult? Yet according to Hume's system, the whole mechanism of sense, imagination, memory, belief, and all the actions and passions of the mind are explained by three laws of association together with a few original feelings. Is *this* the man that nature made? I suspect it is not so easy to look behind the scenes in nature's work. This ·system of Hume's· is a puppet, surely, constructed by an over-bold apprentice of nature in mimicry of nature's own

work. It looks good by candle light, but when it is brought into daylight and taken to pieces it will appear to be a man made with bricks and mortar! The more we know of other parts of nature, the more we like and approve them. The little that I know of

the planetary system,
the earth that we inhabit,
minerals, vegetables and animals,
my own body, and
the laws that govern all these parts of nature

opens to my mind grand and beautiful scenes, and contributes equally to my happiness and power. But when I look into myself and consider the mind that makes me capable of all these views and pleasures, if it is indeed what the *Treatise of Human Nature* says it is then it turns out that I have merely been in an enchanted castle, deceived by spectres and apparitions. I blush inwardly to think how I have been deluded; I am ashamed of the kind of thing I am, and can hardly refrain from protesting against my destiny: Is this how you amuse yourself, O Nature, playing such tricks on a silly creature and then to taking off your mask and showing him how he has been fooled? If *this* is the philosophy of human nature, I tell my soul: don't enter into her secrets! It is surely the forbidden tree of knowledge; I no sooner taste of it than I see myself as naked, stripped of everything—even of my very *self*. I see myself and the whole universe shrink into fleeting ideas, dancing about in emptiness like Epicurus's atoms.

7. The system of all these authors is the same, and it leads to scepticism

But what if these profound investigations into the basic forces in human nature do naturally and necessarily plunge

a man into this abyss of scepticism? And can't we reasonably think that this *is* so, judging by what has happened? Descartes no sooner began to dig in this mine than scepticism was ready to break in on him. He did what he could to shut it out.

Malebranche and Locke, who dug deeper, found it even harder to keep out this enemy, but they honestly worked at doing so. Then the work was carried on by Berkeley, who despaired of saving everything but thought of a way out: give up the material world (which he thought would be no loss, and an advantage, he hoped), and set up an unbreakable wall to secure the world of spirits. But, alas! the *Treatise of Human Nature* recklessly undermined the foundation of this wall, and drowned everything in one universal flood of scepticism.

These facts, which are undeniable, do indeed give us reason to suspect that •Descartes's system of the human understanding, which with some improvements made by later writers is now generally accepted, had some defect right at the outset; that •this scepticism is embedded in the system •because of that defect• and has grown up with it; and, therefore, •that we'll have to open it up right down to its foundation and examine the materials •of which it is made• if we are to have any chance of raising any solid and useful fabric of knowledge on this subject. (In what follows, I shall call this system that derives from Descartes 'the ideal system', •because of its emphasis upon 'ideas'.)

8. We ought not to despair of finding a better system

But is this to be despaired of because Descartes and his followers have failed? By no means. To give up, feebly, would be injurious to ourselves and to truth. •And we shouldn't

be daunted by the undeniable ability of those philosophers. Useful discoveries *are* sometimes found by superior minds, but more frequently they come from the passage of time and from accidental events. A traveller who has good judgment may mistake his way, and be led unawares onto a wrong route; and for as long as the •wrong• road in front of him is open and passable he may go on without suspicion, and be followed by others; but when the road ends at a coal-pit, he doesn't need much judgment to know that he has gone wrong, and perhaps to find out what has led him astray.

This part of philosophy is in miserable state; and that has had an effect that might discourage one from trying to find the right road. . . . Sensible men, who won't ever be sceptics about everyday matters, are apt to treat with lordly contempt everything that has been or can be said on this subject. They say:

It's metaphysics—who listens to *that*? Let scholastic fallacy-mongers entangle themselves in their own cobwebs; I'm determined to take on trust my own existence and that of other things, and to believe that snow is cold and honey sweet, whatever they may say to the contrary. Someone who tried to •budge me from this position by argument would be trying to• reason me out of my reason and senses. He would have either to be a fool or to be wanting to make a fool out of me.

I don't know what answer a sceptic can make to this, or by what good argument he can plead even for a hearing; for either •his reasoning is fallacious, and so ought to be ignored, or •there is no truth in the human faculties, and then why should we reason? So if a man should find himself entangled in this metaphysical net and be unable to find any other way to escape, let him bravely •cut the knot that he can't •untie, and curse metaphysics. (And dissuade everyone from having anything to do with it. For if I have been led into

bogs and quagmires by following a will-o'-the-wisp, oughtn't I to warn others to beware of it?) If philosophy contradicts herself, makes fools of her devotees, and deprives them of every object worth pursuing or enjoying, let her be sent back to the infernal regions from which she must have started out.

But is it absolutely certain that this fair lady—philosophy, I mean—does belong to the scepticism party? Isn't it possible that she has been misrepresented? Haven't

brilliant men in earlier times often passed off their own dreams as philosophy's pronouncements? Should we, then, condemn her without any further hearing? This would be unreasonable. I have found her in all other matters to be an agreeable companion, a faithful counsellor, a friend to common sense and to the happiness of mankind. In fairness, this entitles her to have me stay in touch with her, and to trust her until I find infallible proofs that she is not to be trusted.

Chapter 2: Smelling

1. The order in which I shall take things. The medium of smelling and the organ of smell

It is so hard to unravel the operations of the human understanding, to sort them out into their elementary forces or drives, that we can't expect to succeed in this unless we start with the •simplest and proceed by very cautious steps to the more complex. So the five external senses can claim to be considered first in an analysis of the human faculties; and amongst those five we should start not with the noblest or the most useful but with the •*simplest*, the sense whose objects are least likely to be mistaken for other things. On this view, the clearest and easiest way of analysing our sensations is to take them in this order: smelling, tasting, hearing, touch, and, last of all, seeing. I shall give these a chapter each; chapter 6, on seeing, will constitute more than half of the book. The many facets of the human mind other than the senses are touched upon in the book's final paragraph.

Natural philosophy [= 'natural science'] tells us that all animal and vegetable bodies (and probably all or most other bodies) while exposed to the air are continually giving off effluvia—emanations of enormously finely divided matter—doing this not only when they are alive and growing but also when they are fermenting and rotting. These volatile particles probably repel each other, and so scatter themselves in the air until they meet with other bodies to which they have some chemical affinity, and with which they unite and form new combinations. All the smell of plants and of other bodies is caused by these volatile parts, and is smelled wherever they are scattered in the air; and the acuteness of smell in some animals shows us that these effluvia spread far, and that the particles making them up must be inconceivably small.

Some chemists think that each species of body has a *directing spirit*, a kind of soul, which causes the smell and all the properties of that species; the spirit is extremely

volatile, they think, and flies about in the air searching for a proper place to land. [For Reid and his contemporaries, 'soul' often meant simply 'mind', with no essential religious implications.] I shan't inquire into this. Like most other theories, this one perhaps comes more from imagination than from sound induction. But there is no reason to doubt that all bodies are smelled by means of effluvia that they give off and that are drawn into the nostrils along with the air. So there is a clear appearance of *design* in the fact that the organ of smell is placed inside the canal through which the air is continually passing when we breathe in and out.

Anatomy tells us that the wisdom of nature has assigned the mucus membrane, and the olfactory nerves that are run to the hairy parts of this membrane, to the sense of smell; so that a body can't be smelled when it doesn't emit any effluvia, or it does but they don't enter the nose, or they do enter but the mucus membrane or olfactory nerves have become unfit to do their work. Despite all this ·knowledge that we have·, it is obvious that neither the •organ of smell, nor the •medium, nor any •motions we can conceive to be caused in the mucus membrane or in the nerve or animal spirits, have the faintest resemblance to *the sensation of smelling*. That sensation could never by itself have led us to think of nerves, animal spirits, and effluvia. [The 'medium' to which Reid refers consists in the effluvia, the tiny particles of matter that the cheese (say) gives off, connecting the cheese with the nose—*mediating* between them. 'Animal spirits' were thought to be an extremely finely divided fluid or gas that acted as, so to speak, the body's hydraulic system.]

2. The sensation ·of smell· considered abstractly

Having set out these facts about the medium and organ of this sense, let us now attend carefully to what the mind is conscious of when we smell a rose or a lily. Because our

language provides no other name for this sensation, I'll call it a 'smell' or 'odour', being careful to use those names only for the sensation itself, at least until we have examined it.

Suppose that someone who has never had the sense of smell suddenly comes to have it, and to smell a rose: can he perceive any similarity or agreement between the smell and the rose? or indeed between the smell and any other object whatsoever? Certainly he cannot. He finds himself affected in a new way, and he doesn't know why or from what cause. Like a man who feels some pain or pleasure for the first time, he is conscious that *he* isn't the cause of it; but he can't from the nature of the thing work out whether it is caused by body or spirit, by something near or something distant. It isn't *like* anything else, so there is nothing to compare it with; and therefore he can't infer anything about it except perhaps that there must be some unknown cause of it.

It would obviously be ridiculous for him to think of the smell as having •figure [= 'shape'], •colour, •extension or any other quality of bodies. He can't give it a •place, any more than he can give a place to sadness or joy; and he can't conceive it to have any existence except while it is smelled. So it appears to be a simple and original [here = 'basic'] state or feeling of the mind, altogether inexplicable and unaccountable. It can't possibly be *in* any body: it is a sensation; and a sensation can only be in a sentient thing.

The various odours have each their different degrees of strength or weakness. Most of them are agreeable or disagreeable; and frequently those that are agreeable when weak are disagreeable when stronger. When we compare different smells with one another we can perceive very few resemblances or contrarieties (or indeed relations of any kind) between them. They are all so simple in themselves and so different from each other that it is hardly possible to divide them into genera and species. [This is meant to contrast smells

with (for example) *shapes*, which can be divided into genera and species: taking *closed plane figure* as a genus, it has the species *straight-sided* and *curved-sided*; the former of those divides further into *three-sided* and *four-sided* and so on; the last of those divides into *equal-sided* and *unequal-sided*, and so on. This goes with the fact that squareness (for example) is obviously a complex or compound property, not a simple one: for a thing to be square is for it to be plane *and* closed *and* four-sided *and* equilateral. Reid's point is that we seem to have no comparable way of saying of any smell that for a thing to have this smell is for it to be F and G and H; we can't break a smell down into its simpler constituents; each smell seems to be simple just in itself.] Most of the names we give to smells are particular—the smell 'of a rose', 'of jasmine', and the like. Yet they also have some general names—'sweet', 'stinking', 'musty', 'putrid', 'cadaverous', 'aromatic'. Some smells seem to refresh and animate the mind, others to deaden and depress it.

3. Sensation and memory: natural producers of belief

So far we have considered the sensation of smell abstractly. Let us next compare it with other things to which it has some relation. And first I shall compare this sensation with •remembering it and with •imagining it.

I can think of the smell of a rose when I don't smell it; and I could think of it at a time when there was no rose or smell-of-a-rose anywhere in the universe. But when I smell it, I am forced to believe that the sensation really exists. This is common to all sensations: just as

they can't exist without being perceived,
so also

they can't be perceived unless they exist.

I could as easily doubt my own existence as the existence of my sensations. Even those profound philosophers who

have tried to disprove their own existence have still left their sensations to stand on their own feet with no that *has* them, rather than question whether they really exist.

So a sensation such as a smell can be presented to the mind in three different ways: it may be •smelled, it may be •remembered, it may be •imagined or thought of. In the •first case, it must be accompanied by a belief that it exists right now; in the •second, it must be accompanied by a belief that it did exist in the past; and in the •third it isn't accompanied by any belief, and is instead what the logicians call a 'simple apprehension'.

I don't think that any philosopher can give a shadow of a reason *why* sensation should compel our belief in the present existence of the thing, memory a belief in its past existence, and imagination no belief at all. All we can say is that such is the nature of these operations. They are all •simple and •original and therefore inexplicable acts of the mind. •If they weren't •simple, they might be 'explained' at least in the sense of being analysed into their constituent parts; and if they weren't •original—meaning *basic*—they might be explained by being traced back to the mental processes that underlay them.

Suppose that just once I smelled a tuberose in a certain room where it grew in a pot and gave off a very pleasant perfume. Next day I report what I saw and smelled. When I attend as carefully as I can to what happens in my mind when I do this, it seems evident that the very thing I saw yesterday, and the fragrance I smelled then, are now the *immediate* objects of my mind when I remember it. Furthermore, I can imagine this pot and flower carried to the room where I am now sitting and giving off the same perfume; and here again it seems that the individual thing that I saw and smelled is the *immediate* object of my imagination. •Here is why I stress 'immediate'.

Philosophers tell me that in a case like this the immediate object of my memory and imagination is not •the past sensation but •an idea of it, an image or ‘phantasm’ or ‘species’ of the odour I smelled: this idea now exists in my mind, or in my sensorium; and when the mind contemplates this pleasant idea it finds it to be a *representation of* •what is past or of •what may exist, and accordingly calls it ‘memory,’ or ‘imagination’.

[‘Phantasm’ and ‘species’ are technical terms in some philosophies; they don’t play a significant role in this work, though they are mentioned again on page 130. The ‘sensorium’ was supposed to be the part of *brain* where sensations are recorded and perhaps stored.] This is the doctrine of the ideal philosophy; I shan’t go into it now, because that would interrupt the thread of the present investigation. Memory, when I attend to it as carefully as I can, seems to me to have as its object *things that are past* rather than *present ideas of them*. I shall examine this system of ‘ideas’ later, and will try to convince you that •no solid proof has ever been advanced of the existence of ideas; that •they are a mere fiction and hypothesis invented to explain the phenomena of the human understanding; that •they don’t in fact explain anything; and that •this hypothesis of ideas or images of things in the mind or in the sensorium is the parent of those many paradoxes (so shocking to common sense) and of the scepticism that disgrace our philosophy of the mind and have brought on it the ridicule and contempt of sensible men.

In the meantime, permit me to join the vulgar in thinking that when I remember the smell of the tuberose, the immediate object of my memory is that very sensation that I had yesterday and that now doesn’t exist; and that when I imagine it as present, the object of my imagination is the sensation itself and not any idea of it. But though the •object

of my sensation, memory and imagination is in this case the same, these •acts or operations of the mind are as different and as easy to tell apart as are smell, taste and sound. I am conscious of a difference in kind between sensation and memory, and between both and imagination. I also find this: the sensation compels my belief in the present existence of the smell, and memory compels my belief in its past existence. The immediate testimony of sense is: *There is a smell*. The immediate testimony of memory is: *There was a smell*. ‘Why do you believe that the smell exists?’ The only answer I will ever be able to give is: ‘Because I smell it.’ ‘Why do believe that it existed yesterday?’ I can only answer: ‘Because I remember it.’

•Sensation and •memory therefore are simple, original, and perfectly distinct operations of the mind, and both are original generators of belief. Imagination is distinct from both, but doesn’t generate belief. Sensation implies the present existence of its object; memory its past existence; but imagination views its object nakedly, without any belief in its existence or its non-existence, so imagination is what the •Aristotle-influenced• universities call ‘simple apprehension’.

4. Sometimes judgment and belief precede simple apprehension

But here again the ideal system shoulders its way forward, and tells us that the mind’s first engagement with its ideas is *simple apprehension*—that is, the bare conception of a thing without any belief concerning it—and that after we have acquired simple apprehension we compare our ideas and perceive agreements or disagreements between them; and—according to Locke—that what we call ‘belief,’ ‘judgment’ or ‘knowledge’ is nothing but this perception of the agreement or disagreement of ideas. This whole story seems

to me to be fiction with no basis in nature, and here is why. [Reid's very compressed statement of the reason depends on two equations:

- (1) imagining x = (2) having a simple apprehension of x [see page 13], and
- (3) having a sensation of something = (4) being in a certain state that involves belief.

The second equation conflicts with much of what Reid says about sensation, but perhaps he thinks it follows from his recent statement that 'Sensation implies the present existence of its object'. Anyway, with those equations in hand, Reid argues

- You can't have (1) unless you first have (3) (everyone agrees about this), so
- You can't have (2) unless you first have (4).

In his words:] (4) apprehension accompanied by belief and knowledge must go before (2) simple apprehension, at least in the matters we are now speaking of. So that in the present context instead of saying that •we get belief or knowledge by putting together and inter-relating simple apprehensions, we ought to say that •simple apprehension is done by resolving and analysing a natural and original judgment. The operations of the mind in this context are like natural bodies. Bodies are compounded of simple elements, but nature doesn't exhibit these elements separately leaving it to us to make compounds of them; rather, she exhibits them mixed and compounded in concrete bodies, and it is only by art and chemical analysis that they can be separated.

5. Two theories of the nature of belief refuted. Conclusions.

But what is this *belief* or *knowledge* that accompanies sensation and memory? Every man knows what it is but no

man can define it. Does anyone claim to define *sensation* or to define *consciousness*? It's just as well that nobody does! And if no philosopher had ever tried to define and explain *belief*, some paradoxes in philosophy—more incredible than ever emerged from the most abject superstition, or the most frantic fanaticism—would never have seen the light. An example of this, surely, is that modern revelation of the ideal philosophy—specifically, in Hume's version of it—that •sensation, •memory, •belief and •imagination, when they have the same object, are only different degrees of strength and liveliness in the idea. Take the example of *the idea of a future state after death*. One man believes it firmly; this means merely that he has a strong and lively idea of it. Another man neither believes nor disbelieves, i.e. he has a weak and faint idea. Suppose now a third person believes firmly that there is no life after death; I am at a loss to know whether his idea is faint or lively: if it is faint, then there can be a firm belief where the idea is faint; if the idea is lively, then the belief in a future state and the belief that there is no future state must be one and the same! The same arguments that are used to 'prove' that •belief implies only a stronger idea of the object than •simple apprehension could just as well be used to 'prove' that •love implies only a stronger idea of the object than •indifference. And then what shall we say of hatred? On this hypothesis it must be a degree of love or a degree of indifference—which should we choose? You may say 'In love there is something more than an idea, namely an affection of the mind'; but then can't it be said with equal reason that in belief there is something more than an idea, namely an assent or conviction of the mind?

But perhaps it may be thought that arguing against this strange opinion is as ridiculous as maintaining it. If someone maintained that

a circle, a square and a triangle differ only in size and not in shape,

I don't think he would find anyone willing either to believe him or to argue against him; but it is at least as shocking to common sense to maintain that

sensation, memory and imagination differ only in degree and not in kind.

I know it is said that in a delirium or in dreaming men are apt to mistake one for the other. But does it follow from this that men who are *not* dreaming or in a delirium can't distinguish them? 'But *how* does a man know that he isn't in a delirium?' I can't tell, any more than I can tell *how* a man knows that he exists. But if any man seriously wonders whether he is in a delirium, I think it highly probable that he is, and that it's time to look for a cure—which I'm sure he won't find in the whole system of logic!

In section 4 I mentioned Locke's notion of belief or knowledge: he holds that it consists in a perception of the agreement or disagreement of ideas; and prides himself on this as a very important discovery. [Here and elsewhere, 'comparing' two ideas is attending to them both at once, setting them side by side, so to speak, not necessarily likening them to one another. We still use 'compare' in that sense in just one locution—'Let us get together and compare notes'.] We shall have occasion later to examine in more detail this grand principle of Locke's philosophy, and to show that it is one of the main pillars of modern scepticism, although he didn't *intend* to make that use of it. At present let us only consider •how it agrees with the instances of belief we are now considering, and •whether it throws any light on them. I believe that the sensation I have exists, and that the sensation I remember doesn't now exist but did exist yesterday. Here, according to Locke's system, I compare the idea of a sensation with the ideas of

past and present existence: at one time I perceive that this idea agrees with that of present existence, but disagrees with that of past existence; but at another time it agrees with the idea of past existence, and disagrees with that of present existence. Truly these ideas seem to be very capricious in their agreements and disagreements! Besides, I can't for the life of me conceive what is meant by either. I say *a sensation exists*, and I think I understand clearly what I mean. But you want to make the thing clearer, so you tell me that *there is an agreement between the idea of that sensation and the idea of existence*. To be candid about it, this conveys to me no light, only darkness. The only sense I can make of it is as a quaint long-winded way of saying that the sensation exists. I conclude, then, that the belief that accompanies sensation and memory is a simple act of the mind which can't be defined. It is in this respect like seeing and hearing, which can never be so defined as to be understood by those who can't see or hear; and to those who *can* see and hear no definition can make those operations clearer than they are already. Similarly, every man who has any belief (and it would be a strange man who had none!) knows perfectly well what belief is, but can never define or explain it. I conclude also that sensation, memory and imagination, even where they have the same object, are operations of quite different kinds, and are perfectly distinguishable by people who are sound and sober. Someone who is in danger of confusing them with one another is indeed to be pitied; but whatever relief he may find from another art •such as medicine•, he can get no help from logic or metaphysics. I conclude further that our believing in the •present existence of our •sensations and in the •past existence of what we •remember is as thoroughly built into the human constitution as is our believing that twice two make four. The evidence of the senses, the evidence of memory, and the evidence of the necessary relations of

things are all distinct and original kinds of evidence, equally grounded in our constitution; none of them depends on, or can be resolved into, any other. [In that sentence, 'evidence' means 'evidentness'. Reid is saying that these different faculties make things evident in different ways.] To reason against any of them is absurd; indeed, to reason *for* them is absurd! They are *basic* principles, and thus fall within the province not of reason but of common sense.

6. In defence of metaphysical absurdities. The theory of ideas implies that a sensation can exist without there being anything that *has* it. Consequences of this strange opinion

Having considered how the sensation of smelling relates to remembering and imagining it, I proceed to consider how it relates to a mind. . . . It is certain that no-one can conceive or believe smelling to exist by itself, without a mind or something that has the power of smelling—something *of* which the smelling is called a sensation, an operation or a feeling. But if you ask for a proof that sensation can't exist without a mind or sentient being, I confess that I can't give one, and that to purport to •prove this seems to me almost as absurd as to •deny it.

This might have been said without any apology before the *Treatise of Human Nature* appeared in the world. For until then no-one, as far as I know, ever thought of •calling in question the principle •that sensation can't exist without a mind•, or of •giving a reason for believing it. There were disputes about whether thinking beings are like gas or like fire, whether material or immaterial; but that thinking is an operation of some kind of being or other—•some *thing* that thinks—was always taken for granted as a principle that couldn't possibly be called into question.

However, Hume has treated it as a vulgar prejudice, and maintained that the mind is only a series of ideas and impressions without any *thing* that has them; and as he is undoubtedly one of the most acute metaphysicians that this or any age has produced, his opinion deserves respect, however contrary it is to what mankind commonly believes. So I make this plea here, once and for all: When I accuse this or that •metaphysical notion with being 'absurd', or with being 'contrary to the common sense of mankind', please don't take offence. I don't mean to disparage the intellects of those who invented •such opinions or those who maintain them. Indeed, the opinions or notions in question often come not from any defect of understanding, but rather from an excess of refinement: the reasoning that leads to them often throws new light on the subject, showing real genius and deep penetration in the author, and the •insights of the premises do more than compensate for the •absurdity of the conclusion.

I think that the constitution of our nature leads us to believe certain principles that we are compelled to take for granted in the common concerns of life, without being able to give a reason for them. If I am right about this, then *those* are what we call 'the principles of common sense', and we dismiss as obviously 'absurd' anything that obviously conflicts with them.

Indeed, if it is true, and to be accepted as a principle of philosophy, that sensation and thought can exist without a thinking being, we must recognize this as the most wonderful discovery that was ever made. The principle from which it is deduced is the accepted *doctrine of ideas*, and it does indeed seem to follow validly and smoothly from that. (It probably wouldn't have had to wait so long to be 'discovered' if it hadn't been so shocking, and so much in conflict with the common beliefs of mankind, that an uncommon degree

of philosophical courage was needed to introduce it to the world.) It is a fundamental principle of the ideal system that every object of thought must be either an impression or an idea, an idea being a faint copy of some earlier impression.

This principle is so commonly accepted that Hume, although his whole system is built on it, never offers the least proof of it. It is on this principle, as a fixed point, that he erects his metaphysical siege-engines to overturn heaven and earth, body and spirit; and so far as I can see it is altogether sufficient for that purpose. For if all we can think about are *impressions* and *ideas* then 'heaven' and 'earth', and 'body' and 'spirit', and anything else you care to add to the list, must either •signify only impressions and ideas or else •be words with no meaning. So it seems that this notion, however strange, is closely connected with the accepted doctrine of ideas, and that we must either accept the conclusion or challenge the premises.

Ideas seem to have something in their nature that is unfriendly to other existences! They were first introduced into philosophy in the humble role of *images* or *representatives* of things; and in this role they seemed not only to be inoffensive but to serve admirably well for explaining how the human mind works. But since men began to reason clearly and distinctly about them, they have gradually supplanted their constituents, and undermined the existence of everything but themselves. [Reid's word 'constituents' here is a little joke—pretending that in the preceding sentence the word 'representatives' was used in its political sense.] •First, they discarded all the secondary qualities of bodies—they 'showed' that fire isn't hot, or snow cold, or honey sweet; and in short that heat and cold, sound, colour, taste and smell are nothing but ideas or impressions. •Bishop Berkeley raised them a step higher, and 'discovered'—by valid reasoning from the

same principles—that extension, solidity, space, figure, and body are ideas, and that there is nothing in nature but ideas and spirits. •But the triumph of ideas was completed by the *Treatise of Human Nature*, which discards spirits also, leaving ideas and impressions as the only things in the universe. What if at last, having nothing else to battle against, they should come to blows with one another and leave *nothing at all* existing in nature? That would surely bring philosophy into danger, for what would it leave us to talk or to dispute about? However, these philosophers have so far acknowledged the existence of impressions and ideas; they accept certain laws of attraction, or rules of precedence, according to which ideas and impressions sort themselves into various forms and succeed one another; but they have found it to be a vulgar error to suppose that they belong to a mind as its proper goods and chattels. [The force of 'proper' here is this: a given idea belongs to one particular mind, and could not belong to any other.] These ideas are as free and independent as the birds of the air, or as Epicurus's atoms when they journeyed through the vastness of space.

Shall we conceive them as being like the 'films' of things in the Epicurean system? . . . Or do they rather resemble Aristotle's 'intelligible species' after they are shot out from the object and before they have reached the passive intellect? But why should we try to *compare* them with anything, since they are the only things that exist? They •constitute the entire content of the universe; they •come into existence and go out of existence without any cause; they •combine into packages that the vulgar call 'minds'; and they •follow one another according to fixed laws, without being at any time or in any place, and with no author of those laws.

Yet, after all, these self-existent and independent ideas look pitifully naked and destitute when in this way they are left alone in the universe; they seem on the whole to

be in a worse condition than they were before. Descartes, Malebranche and Locke made much use of ideas, and in return treated them handsomely, providing them with decent accommodation—in the pineal gland, or in the pure intellect, or even in the divine mind. They moreover clothed them with a commission [= ‘rescued them from their “nakedness” by giving them a job’] and made them *representatives* of things, which gave them some dignity and character. But the *Treatise of Human Nature*, though no less indebted to ideas, seems to have repaid them poorly by giving them this independent existence. Because of that they are turned out of house and home, and set adrift in the world without friend or connection, without a rag to cover their nakedness; and who knows whether the whole system of •ideas will perish through the indiscreet zeal of their friends to exalt •them?

However this may be, it is certainly a most amazing ‘discovery’ that thought and ideas can exist without any thinking being: a discovery full of consequences that can’t easily be followed by those deluded folk who think and reason in the ordinary way. We were always apt to imagine that thought presupposes a thinker, and love a lover, and treason a traitor: but it seems that this was all a mistake; and it has been ‘discovered’ that there can be treason without a traitor, love without a lover, laws without a legislator, punishment without a sufferer, succession without time, and motion without anything that moves or space for it to move in; or if in these cases ideas *are* the lover, the sufferer, the traitor, I wish the author of this ‘discovery’ had done us the favour of telling us whether ideas can converse together and be under obligations of duty or gratitude to each other; whether they can make promises and enter into leagues and covenants, and fulfil or break them, and be punished for the breach? If one set of ideas makes a covenant, another breaks it, and a third is punished for it, there is reason to think that this

system doesn’t have the virtue of justice built into it!

It seemed very natural to think that the *Treatise of Human Nature* required an author, and a very ingenious one at that; but now we learn that it is only a set of ideas that came together and arranged themselves by certain associations and attractions.

After all, this curious system seems not to be appropriate to the present state of human nature. How far it may suit some •rare spirits who have been cleansed of the dregs of common sense I can’t say. I think it is agreed that even •these can go along with this system only at times when they are intensely theorizing, when they soar so high in pursuit of those self-existent ideas that they lose sight of everything else. But when they condescend to mingle again with the human race, and to chat with a friend, a companion or a fellow citizen, the ideal system vanishes; common sense like an irresistible torrent sweeps them along; and, in spite of all their reasoning and philosophy they believe in their own existence and in the existence of other things.

Indeed, it’s just as well that they do so; for if they *did* take their closet belief with them out into the world, the rest of mankind would think them diseased and send them to a hospital. Therefore, just as Plato required certain previous qualifications for those who entered his school, I think it would be prudent for the teachers of this ‘ideal’ philosophy to do the same: they should refuse to admit anyone who is so weak as to think that •he ought to have the same beliefs in company as in solitude, or that •his principles ought to have some influence on his conduct. For this philosophy is like a child’s toy horse which a man who is in bad health (•and so unable to ride a real horse•) may ride in his bedroom without hurting his reputation; but if he rode it to church or the stock-market or the theatre his heir would immediately call a jury •to declare the man insane• and seize his estate.

7. The conception of and belief in a sentient being or mind is suggested by our constitution. The notion of relations is not always acquired by comparing the related ideas

Leaving this philosophy to those who have occasion for it, and can use it discreetly as a private exercise, we can still ask:

How have the rest of mankind—and even the ‘ideal’ philosophers themselves, except in some solitary moments—come to have such a strong and irresistible belief that thought must have a subject, must be the act of some thinking thing? How does it happen that every man believes *himself* to be something distinct from *his ideas and impressions*; something that continues to be the same identical self when all his ideas and impressions are changed?

It is impossible to trace the origin of this opinion in history, for all languages have it interwoven in their original construction. All nations have always believed it. The constitution of all laws and governments, as well as the common transactions of life, presuppose it.

It is equally impossible for any man to recollect when he himself came by this notion; for as far back as we can remember we already had it, and were as fully convinced of our own existence and the existence of other things as we were that one and one make two. So it seems that this opinion preceded all •reasoning and •experience and •instruction; and this is the more probable because we couldn’t get it by any of •these means. It appears, then, to be an undeniable fact that all mankind, constantly and invariably from the first dawning of reflection, infer from •thought or sensation that there is a •power or faculty of thinking and a permanent •thing or mind which *has*

that power; and that, just as invariably, we ascribe all the various sensations and thoughts we are conscious of to one individual mind or self.

But by what rules of logic we make these inferences it is impossible to show. Indeed, it isn’t even possible to show how our sensations and thoughts can so much as *give us the notion and conception of* either a mind or a •power or •faculty. The •faculty of smelling is something very different from the actual •sensation of smelling; for the faculty can remain when we have no sensation. [The next sentence corrects what was evidently a slip on Reid’s part; he writes of the mind’s being different from ‘the faculty’, but that is not what his line of thought requires.] And the •mind is just as different from the •sensation; for it continues to be the same individual thing when the sensation ceases. Yet this sensation *suggests* to us both a faculty and a mind; and as well as suggesting the notion of them it creates a belief in their existence; although it is impossible to discover by reason any tie or connection between one and the other.

What shall we say, then, about those inferences that we draw from our sensations, namely the existence of a mind and of powers or faculties belonging to it? Are they (1) prejudices of philosophy or education, mere fictions of the mind, which a wise man should throw off as he does the belief in fairies? or (2) judgments of nature, judgments that don’t come from setting ideas side by side and perceiving agreements and disagreements, but are immediately inspired by our constitution?

If (2) is the case, as I think it is, it will be impossible to shake off those opinions, and we must eventually give in to them even if we struggle hard to get rid of them. And if we *could* through determined obstinacy shake off the principles of our nature, doing this would be the act not of a philosopher but of a fool or madman. Those who think that these are *not* natural principles have an obligation to show •how else

we can have acquired the notion of a mind and its faculties, and •how we come to deceive ourselves into the opinion that sensation can't exist without a sentient being.

It is the accepted doctrine of philosophers that our notions of relations can only be had by comparing the related ideas [see the explanation of 'compare' on page 16]; but our present topic seems to provide be a counterexample to that. It is not by first having the notions of •mind and •sensation and then comparing them together that we perceive that

mind involves the relation of a subject or substratum of. . . , and

sensation involves the relation of an act or operation of. . . .

On the contrary, *one* of the related things, namely sensation, •suggests to us both the other thing and the relation between them. Let me use the word •'suggestion', because I don't know of a more suitable one to express a power of the mind that seems entirely to have escaped the notice of philosophers—a power to which we owe many of our simple notions that are neither impressions nor ideas, as well as many original principles of belief. I shall try to illustrate what I mean by this word through an example. We all know that a certain kind of sound suggests immediately to the mind *a coach passing in the street*; and it makes us not only •imagine a coach passing but also •believe that a coach is passing. But this belief doesn't come from any comparing of ideas, or perception of agreements or disagreements. •If it did, it would have to be an •*agreement*•; but there isn't the slightest •likeness between the sound we hear and the coach we imagine and believe to be passing.

It is true that this suggestion isn't natural and original; it is the result of experience and habit. But I think it appears from what I have said that there are also natural suggestions, •of which the following three are notable•:

- Sensation suggests the notion of present existence, and the belief that what we perceive or feel does now exist;
- memory suggests the notion of past existence, and the belief that what we remember did exist at a past time; and
- our sensations and thoughts also suggest the notion of a mind, and the belief that it exists and relates in a certain way to our thoughts.

A similar natural thought brings it about that

- something's coming into existence or altering in some way suggests to us the notion of a cause, and forces us to believe in its existence.

Similarly, as I'll show when we come to the sense of touch, our nature is so constituted that certain sensations of touch suggest to us extension, solidity and motion, which are in no way *like* sensations though they have been hitherto confused with them.

8. There is a quality or virtue in bodies which we call their smell. How this is connected in the imagination with the sensation

[Here and later, Reid uses 'virtue' in a sense in which it means about the same as 'power'. He presumably sees *some* difference, because three times he writes of 'power or virtue'.] We have considered smell as signifying a sensation, feeling or impression on the mind, and in this sense it can only be in a mind or sentient being; but obviously mankind give the name 'smell' much more often to something that they think of as external, as being a quality of a body. They understand by 'smell' something that doesn't at all imply a mind, and they have no difficulty in conceiving the air perfumed with aromatic odours in the deserts of Arabia or on some island where human feet never trod. . . .

Suppose that an ordinary person meets with a modern philosopher and asks: 'What is the smell in plants?' The philosopher answers: 'There isn't any smell in plants, or in anything but the mind. There couldn't possibly be smell anywhere except in a mind; and all this has been demonstrated by modern philosophy.' The plain man will probably think he is joking; but if he finds that he is serious, his next conclusion will be that the philosopher is mad; or that philosophy, like magic, puts men into a new world and gives them different faculties from common men. In this way philosophy is set at variance with common sense. But who is to blame for it?

In my opinion the philosopher is to blame. For if he means by 'smell' what the rest of mankind usually mean, he is certainly mad. But if he gives the word a different meaning without abiding by it himself or warning others, he is misusing language and disgracing philosophy, without doing any service to truth; like someone who switches the meaning of the words 'daughter' and 'cow', and tries to prove to his plain neighbour that his cow is his daughter, and his daughter his cow. I believe there is not much more wisdom than *that* in many of the paradoxes of the ideal philosophy that strike plain sensible men as obvious absurdities, but are counted by the devotees as profound discoveries. For my part, I am determined always to pay a great regard to the dictates of common sense, and not to depart from them unless I absolutely have to; so I'm inclined to think that in the rose or lily there really is something that the vulgar call 'smell' and that continues to exist when it isn't smelled; and I shall proceed to inquire what this is, how we come by the notion of it, and what relation this •quality of smell has to the •sensation that we also call 'smell' for lack of another name for it.

So let us return to our supposition of a person who has just begun to exercise the sense of smell. A little experience will reveal to him that the nose is the organ of this sense, and that the medium of it is the air or something in the air. And finding by further experience that when a rose is nearby he has a certain sensation, and when it is moved away the sensation goes, he finds a connection in nature between the rose and this sensation. He considers the rose as a cause, occasion or antecedent of the sensation; and considers the sensation as an effect or consequent of the presence of the rose. They are associated in the mind, and constantly found conjoined in the imagination. [In the phrase 'cause [or] occasion or antecedent' Reid goes from the strong 'x caused y' to the weaker 'x occurred before y' through the intermediate 'x was the occasion of y'. This use of 'occasion' expresses this idea: it wasn't x but *God* that caused y, but God was prompted to do this by the occurrence of x, which provided him with an *occasion* for producing y. This makes x less than a cause but more than a mere antecedent.]

But we should pay attention to this fact:

The sensation may seem more closely related to •the mind (that has it) or to •the nose (its organ) than to •the rose (which accompanies it); but it's the third of those connections—the connection with the rose—that operates most powerfully on the imagination.

This seems to be because the sensation's connection with the mind is more •general, and doesn't distinguish it from other smells, or even from tastes, sounds and other kinds of sensations. Its relation to the organ, the nose, is also •general, and doesn't distinguish it from other smells. But its connection with the rose is •special, and also constant, so that the sensation and the rose become almost inseparable in the imagination as do thunder and lightning, freezing and cold.

9. There is a force at work in human nature from which the notion of a body's smell is derived, along with all other natural virtues or causes

In order to illustrate further how we acquire the concept of a quality or virtue in the rose that we call 'smell', and what this smell is, we should bear in mind that the ·human· mind begins very early to thirst after principles that can direct it in the use of its powers. The smell of a rose is a certain state or feeling of the mind; it isn't constant, but comes and goes, so we want to know when and where to expect it, and are uneasy until we find something whose presence brings this feeling along with it and whose absence removes it. When we find this we call it the 'cause of' the smell, not meaning 'cause' in a strict and philosophical sense implying that feeling was really effected or produced by that cause, but in a popular sense meaning only that there is a constant conjunction between them. Such 'causes' are in reality nothing but laws of nature, but the mind is satisfied with them. Having found the smell thus constantly conjoined with the rose, the mind is at peace, without considering whether this conjunction is due to a *real effectiveness* or not—that being a philosophical question that doesn't matter in ·everyday· human life. But every discovery of such a constant conjunction is really important in life, and makes a strong impression on the mind.

We earnestly want to connect everything that we observe to happen with something else as its cause or occasion; so much so that we are apt on *very* slender evidence to think that we have found connections. This weakness is most clearly to be seen in ignorant people who know least of the real connections established in nature. A man meets with an unlucky accident on a certain day of the year, and knowing no other cause of his misfortune he is apt to think there is something unlucky about that day of the calendar; and

if he has bad luck on a second occurrence of that date he will be strongly confirmed in his superstition. [Reid then gives an example.] However silly and ridiculous this opinion was, it grew from the root in human nature from which all natural philosophy grows—namely, an eager desire to discover connections in things, and a natural, basic and inexplicable tendency to believe that the connections that we have observed in times past will continue in the future. **(1)** Omens, portents, good and bad luck, palmistry, astrology, all the numerous arts of divination and of interpreting dreams, false hypotheses and systems are all built on the same foundation in the human constitution as **(2)** true principles in the philosophy of nature. All that distinguishes them is that in **(1)** we conclude rashly from too few instances whereas in **(2)** we conclude cautiously from a sufficient induction.

As it is only experience that reveals to us these connections between natural causes and their effects, we without further inquiry credit the 'cause' with having some vaguely and unclearly conceived power or virtue to produce the effect. In many cases the concerns of ·everyday· life don't make it necessary to give different names to the cause and the effect; and so it comes about that one name is used for both, because although they are very unlike one another they are closely connected in the imagination. (In ordinary talk the common name is most frequently applied to the one of the two that happens to be the main object of our attention.) This leads to an ambiguity in many words, a kind of ambiguity that turns up in all languages, because the causes of it are present in all. This kind of ambiguity is apt to be overlooked even by philosophers. Some instances will serve both to illustrate and confirm what I have been saying about it. 'Magnetism' signifies both •the tendency of the iron toward the magnet, and •the power of the magnet to produce that tendency. If we were asked 'What is magnetism—a quality of

the iron or a quality of the magnet?’ we would perhaps be puzzled at first; but a little attention would reveal to us that we conceive a •power or virtue in the magnet as the cause, and a •motion in the iron as the effect; and although these things are quite unlike, they are so united in the imagination that we give the common name ‘magnetism’ to both. The same thing may be said of ‘gravitation’, which sometimes signifies the tendency of bodies toward the earth, sometimes the attractive power of the earth that we conceive as the cause of that tendency. We may observe the same ambiguity in some of Sir Isaac Newton’s definitions—even in words that he himself coined. In three of his definitions he explains very clearly what he understands to be

the absolute quantity of a centripetal force,
the accelerative quantity of a centripetal force, and
the motive quantity of a centripetal force.

The first of these three definitions makes ‘centripetal force’ name the •cause, which we think of as some power or virtue in the central body; in the second and third definitions the same phrase is used to name the •effect of this cause, in producing velocity or in producing motion toward the centre.

‘Heat’ signifies a sensation, and ‘cold’ a contrary one. But ‘heat’ *also* signifies a quality or state of bodies that has no contrary but does have different degrees. When a man feels the same water hot to one hand and cold to the other, this gives him occasion to distinguish the feeling from the heat of the body; and although he knows that the •sensations are contrary, he doesn’t imagine that the •body can have contrary qualities at the same time. And when he finds that the same body tastes different when he is sick from how it tastes when he is well, he is easily convinced that the quality in the •body called ‘taste’ is the same as before although the •sensations he has from it—which are also called ‘taste’—are perhaps opposite.

The vulgar are commonly accused by philosophers of absurdly imagining the smell in the rose to be somehow *like* the sensation of smelling: but the accusation is unfair, I think, because the vulgar don’t give the same name to both the objective smell and the sensation, nor do they reason in the same manner from them. •What is smell in the rose? It is a quality or virtue of the rose, or of something given off by the rose, which we perceive through the sense of smelling; and this is all we know of the matter. •What is smelling? It is an act of the mind, but is never imagined to be a quality of the mind. Again, the sensation of smelling is conceived to imply necessarily a mind or sentient being; but smell in the rose implies no such thing. We say ‘This body smells sweet’, ‘That body stinks’; but we *don’t* say ‘This mind smells sweet’ or ‘That mind stinks’. So •smell in the rose and •the sensation that it causes are not thought of, even by the vulgar, as things of the same kind, although they have the same name.

From what I have said we can learn that ‘the smell of a rose’ signifies two things:

- (1) A sensation, which can’t exist except when it is perceived, and can exist only in a sentient being or mind.
- (2) Some power, quality or virtue in the rose, or in effluvia that it gives off, which has a permanent existence independently of the mind and which by the constitution of nature produces the sensation in us.

We are fundamentally so built that we are •led to believe that there is a permanent cause of the sensation, and are •prompted to look for it; and experience leads us to locate it in the rose. The names of all smells, tastes and sounds, as well as heat and cold, are similarly ambiguous in all languages; but we should note that in common languages these names aren’t *often* used to signify (1) the sensations;

for the most part they signify (2) the external qualities that are indicated by the sensations. Here is what I think to be the cause of this phenomenon.

Our sensations vary greatly in strength. Some are so quick and lively that they give us a great deal of pleasure or of discomfort. When this is the case, we are compelled to attend to the sensation itself—to think and talk about *it*—so we give it a name that stands for the sensation and nothing else; and in this case we accept that what the name stands for is only in the mind and not in anything external. Examples include the various kinds of pain, sickness, and the sensations of hunger and other appetites. But where the sensation doesn't matter to us in such a way that we need to think about *it*, our constitution leads us to consider it as a sign of something external that is constantly conjoined with it; and when we have found the item of which it is a sign we give a name to *that*; and the sensation, having no name to itself, falls into place as an accessory to the thing it signifies, and is confusingly given the same name. So the name may indeed be applied to the sensation, but most properly and commonly is applied to the thing that the sensation indicates. The sensations of smell, taste, sound and colour are of infinitely less importance •in themselves than they are •as signs or indications; like the words of a language, where our attention is focussed not on •the sound but on •the sense.

10. In sensation is the mind active or passive?

One question remains to be investigated: In smelling and in other sensations, is the mind active or passive? This may strike you as a merely verbal question, or at least as a very unimportant one; but if it leads us to attend to the operations of our minds more accurately than we usually do,

that alone makes it worth looking into. Modern philosophers, I think, hold that in sensation the mind is entirely passive. This is undoubtedly true to this extent: •we can't *have* any sensation in our minds just by willing it ·in the way you can raise your arm just by willing it·; and on the other hand •it seems hardly possible to *avoid* having the sensation when the object is presented. Yet it seems likewise to be true that a sensation is more or less thoroughly perceived and remembered depending on how much *attention* is given to it. Everyone knows that very intense pain can be diverted by a surprise, or by anything that entirely occupies the mind. When we are engaged in earnest conversation, the clock may strike nearby without being heard; at least, a moment later we don't remember having heard it. The noise and tumult of a great trading city isn't heard by those who have lived in it all their life, but it stuns visitors to the city who have lived in the peaceful retirement of the country. Can there be *any* sensation where the mind is purely passive? I shan't answer this, but I don't think we ever *remember* any sensation—even a very recent one—without being conscious of having given it some *attention* when it occurred.

No doubt when the impulse is strong and unusual it's hard to withhold attention from it—as hard as it is to keep from crying out in racking pain, or jumping when suddenly frightened. In each of these ·reactions· it might be possible through strong resolution and practice to do better, but it isn't easy to find out how far one can go with this. The ancient Aristotelians had no good reason to suppose that we have an active intellect and a passive intellect, because *attention* can quite well be accounted an act ·not of the intellect but· of the will; and yet I think they came nearer to the truth in holding that in sensation the mind is partly passive and partly active than the moderns do in affirming it to be purely passive. The vulgar have always thought of

sensation, imagination, memory and judgment as acts of the mind. The way they are referred to in all languages shows this. When the mind is very busy in them we say it is very *active*; whereas if they were merely impressions [= 'effects'] (as the ideal philosophy would have us think) we ought rather to say that the mind is very *passive*; for I suppose no-one would attribute great activity to the paper I write on just because it receives a variety of words.

How the sensation of smell relates to remembering and imagining it, and to a mind or subject that *has* the sensa-

tion, is the same as for all our sensations, and indeed for all the operations of the mind; how it relates to the will is the same as for all the powers of understanding; and how it relates to the quality or virtue of bodies that it indicates is the same as for the sensations of taste, hearing, colour, heat and cold; so that what I have said about this sense may easily be applied to our various other senses and to other operations of the mind; and this, I hope, excuses my spending so long on it.

Chapter 3: Tasting

Much of what I have said about the sense of smelling is so easily applied to those of tasting and hearing that I shall leave it to the reader to re-apply it to those senses, and save myself the trouble of a tedious repetition.

Probably everything that affects the sense of taste is to some degree soluble in saliva. It is not conceivable how anything should enter easily—as though it *wanted* to—into the pores of the tongue, palate and upper throat unless it had some chemical affinity to the fluid with which these pores are always filled. So it is an admirable device of nature's to keep the organs of taste always moist with a fluid that is such a universal solvent. This fluid deserves more study than it has so far received, both as a solvent and as a medical salve. Nature teaches dogs and other animals to use it as a salve, and its use in taste and digestion shows its effectiveness as a solvent.

The organ of taste—the tongue—guards the entrance to the alimentary canal, just as the organ of smell guards the entrance to the canal for breathing. These arrangements are obviously suitable, and obviously designed. From the fact that these organs are so placed that everything that enters the stomach must first be checked by both senses it is plain that they were intended by nature to distinguish good food from bad. The brutes haven't any other means of choosing their food, and nor would mankind if it were in the savage state. Our senses of smell and taste have probably been impaired, and made less fit to do their natural work, by the unnatural kind of life men commonly lead in society. If they *weren't* at all impaired by luxury or bad habits, they would probably seldom if ever lead us to a wrong choice of food among natural products, though the artificial compositions of refined and luxurious cookery, or of chemistry and drug-preparation, may often deceive

both senses by producing things that taste and smell good although they are bad for our health.

These ·two· senses are also very useful for distinguishing bodies that can't be told apart by our other senses, and to detecting the changes that a body undergoes and that are often detected by taste and smell sooner than by any other means. There are ever so many things in the market, the eating-house and the tavern, as well as in shops where drugs and medicines are sold, that are known to be what they are claimed to be, and are perceived to be good or bad of their kind, only by taste or smell. It's not easy to determine how much our judgment of things through our senses might be improved by accurate attention to small differences in taste and smell. ·How things taste and smell are among their so-called 'secondary qualities', but we shouldn't infer from this that they are unimportant·. In a noble effort of his great genius, Sir Isaac Newton tried to work out from •the colour (·secondary quality·) of opaque bodies •what the size (·primary quality·) is of the minute non-opaque parts of which they are made up; and who knows what new lights natural philosophy may yet receive from other secondary qualities when they are properly examined?

Some tastes and smells stimulate the nerves and raise the spirits; but such an artificial •raising of the spirits is followed—in accordance with the laws of nature—by a •lowering of them; and this can be relieved only by the passage of time or by taking more of the same stimulant. By using such things we create an appetite for them that is very like a natural appetite and has all the latter's force. This is how men acquire an appetite for snuff, tobacco, strong liquors, opium and the like.

It seems, indeed, that nature has carefully set limits to the pleasures and pains we have through smell and taste, confining them within very narrow limits so that we shan't

let any part of our happiness depend on them. For there is hardly any smell or taste so nasty that we don't find it tolerable, and eventually perhaps even agreeable, after we have become used to it; and none so agreeable that it doesn't lose its attractiveness through constant use. Nor is there any pleasure or pain of these ·two· senses that isn't introduced or followed by some degree of its contrary, which nearly balances it. So that we may here apply the beautiful allegory of the divine Socrates: although pleasure and pain are contrary in nature, and their faces look in different directions, yet Jupiter has tied them together so that whoever takes hold of one of them pulls the other along with it.

Of •smells that appear to be simple and uncompounded there's a great variety—they aren't just unlike but some of them are contrary to others. And the same can be said of •tastes—it seems that one taste is just as different from another taste as it is from a smell. So how do all smells come to be considered as one genus, and all tastes as another? What marks off each genus? Is it only **(1)** that the nose is the organ of one, and the palate of the other? or is it rather that **(2)** there is in the sensations themselves—never mind the organs—something common to all smells, and something else common to all tastes, and *this* is what distinguishes one from the other? It seems most probable that **(2)** is right, and that these sensations have a certain complexity although on the surface they appear to be utterly simple.

Considering the matter abstractly, it would seem that a number of sensations—or indeed a number of individuals of any kind—which are perfectly simple and uncompounded can't be sorted into genera and species [= 'classes and sub-classes'], because if some •individuals belong to a •species it must be the case that

each has something that only it has, to mark it off from the others,

and

they all have something in common, making them one species.

The same may be said of •species that belong to one •genus. Does this imply that there is something composite about each species? I leave that to metaphysicians to answer. The sensations of smell and of taste do undoubtedly vary in an enormous number of ways that no language can express. You could try five hundred different wines and hardly find

two with precisely the same taste, and the same thing holds for cheese and many other things. Yet of •five hundred different tastes in cheese or wine, we can hardly find •twenty that we could *describe* so as to give a clear notion of them to someone who hadn't tasted them.

In 1675 Dr. Nehemiah Grew, a most judicious and hard-working naturalist, . . . tried to show that there are at least sixteen different *simple* tastes, which he enumerated. It's easy to see how many compound ones could be made out of all the various combinations of two, three, four, or more of these simple ones. . . . And it is beyond doubt that if smells were examined with the same accuracy they would turn out to have as much variety as tastes.

Chapter 4: Hearing

1. The variety of sounds. Their place and distance is learned by custom, without reasoning

Sounds probably vary as much as tastes and odours do. For one thing, sounds differ in *pitch*. The ear is capable of perceiving four or five hundred variations of pitch in sound, and probably as many different degrees of *strength*; by combining these we get more than twenty thousand simple sounds that differ either in pitch or strength, supposing every pitch to be perfect. But note this:

To make a perfect pitch a great many waves in elastic air are required, all with the same wave-length and the same duration; they have to follow one another with perfect regularity; and each wave must be made of the

up and down movements of innumerable particles of elastic air, whose motions all have the same direction, force, and speed.

So we can easily conceive of an enormous variety in the same pitch, arising from irregularities brought into it by •the constitution, shape, situation or manner of striking the sounding body, by •the constitution of the elastic medium, •the air, or its being disturbed by other motions, or by •the constitution of the ear on which the effect is had. A flute, a violin, an oboe and a French horn may all sound a note of the same pitch and yet be easily distinguishable. Indeed, if twenty human voices sound the same note with the same strength there will still be some difference. An individual person's voice can, while continuing to be recognisably *that*

voice and no other, be varied many ways by sickness or health, youth or age, leanness or fatness, good or bad mood. We can tell whether words—the very same words—are being spoken by a foreigner or by a native—indeed by whether they are spoken by someone from this *province* rather than that.

Such an immense variety of sensations of smell, taste, and sound was surely given to us for some purpose. They are •signs by which we know external things and tell them apart, and it was appropriate that the variety of the signs should correspond to some extent with the variety of things •signified by them.

It seems to be by *custom* that we learn to use the sounds things make to tell us where they are located and what kinds of things they are. It is probably by *experience* that we learn to tell that this noise is in the street, that is in the room above me; that this is a knock at my door, that is someone walking upstairs. I remember an occasion when I was lying in bed, having been frightened by something; I heard my own heart beating, but I thought it was someone knocking at the door and I got up and opened the door. This happened more than once, until I eventually discovered that the sound was in my own chest. It is probable that if we didn't have •relevant• experience we wouldn't know whether a sound came from the right or left, from above or below, from nearby or far away, any more than we could know without experience whether it was the sound of a drum, or a bell, or a cart. Nature is not wasteful in her operations; she won't put herself to the expense of a particular instinct to give us knowledge that experience will soon produce through a general drive in human nature.

For human nature is so constituted that a little experience ties together in our imagination and also in our belief things that were in their nature unconnected. When I hear a certain sound, I conclude immediately—without thinking

about it—that a coach is passing by. There are no premises from which this conclusion is inferred by any rules of logic. It is the effect of a natural drive that we have in common with the brutes.

Although it is hearing that enables us to perceive harmony and melody and all charms of music, it seems that these •also• require a higher faculty, which we call 'a musical ear'. Two people whose hearing is perfect may, it seems, have this 'musical ear' in very different degrees; so it ought not to be classed with •the external senses but regarded as being •a faculty• of a higher order.

2. Natural language

One of the noblest purposes of sound undoubtedly is language, without which mankind would hardly be able to rise higher than the brutes. The usual view is this:

Language is purely an invention of men, who *by nature* are as speechless as the brutes. What they have done, using their superior degree of invention and reason, is to contrive *artificial* signs of their thoughts and purposes and to establish them—that is, their meanings—by common consent.

But the origin of language deserves to be looked into more carefully. Doing this •may be of importance for the improvement of language, and •it bears on my present subject, and will tend to reveal some of the basic drives in human nature. So I shall offer some thoughts on this subject.

By *language* I understand *all the signs that mankind use in order to communicate to others their thoughts and intentions, their purposes and desires*. Such signs can be divided into two kinds, artificial and natural. An artificial sign has no meaning except what is attached to it by contract or agreement among those who use it; a natural sign is one

which (independently of any contract or agreement) has a meaning that every man understands through the drives in his nature. Language can be called 'artificial' to the extent that it consists of artificial signs, and 'natural' to the extent that it consists of natural signs.

On the basis of these definitions I think it can be proved that if mankind had no natural language they could never have invented an artificial one through their reason and ingenuity. For all artificial language supposes some contract or agreement to attach a certain meaning to certain signs; so there must be contracts or agreements before the use of artificial signs; but there can't be any contract or agreement when there are no signs and no language; therefore there must be a natural language before any artificial language can be invented—Q.e.d.

If language were entirely a human invention, like writing and printing, we would find whole nations as speechless as the brutes. Indeed the brutes do have some natural signs by which they express their own thoughts, affections and desires, and understand those of others. A newly hatched chick understands the different sounds whereby its mother calls it to food or warns it of danger. A dog or a horse understands *by nature* when the human voice is kind and when it is threatening. But as far as we know brutes have no notion of contracts or covenants, or of a moral obligation to keep them. If nature had given them these notions, she would probably have given them natural signs to express them. And where •nature has withheld these notions they can't be acquired by •art—that is, through an exercise of skill—any more than a blind man can in that way acquire the notion of colours. Some brutes have a sense of honour or disgrace; they have resentment and gratitude; but as far as we know none of them can make a promise or swear to be faithful, because no such notions are built into their

constitution. If it weren't the case that mankind have these notions by nature and have natural signs to express them by, not all their sharpness and ingenuity would have enabled them to invent language.

The elements of this natural language of mankind, i.e. the signs that naturally express our thoughts, may I think be brought down to these three kinds: •modulations of the voice, •gestures, and •facial expressions. By means of these, two savages who have no artificial language in common can converse together, can communicate their thoughts well enough, can ask and refuse, affirm and deny, threaten and beg; can trade, enter into agreements, and swear to be faithful. This could be confirmed by unquestionable historical facts if there any need to do so.

So mankind have in common a natural language, though a scanty one that is fitted only for the necessities of nature. Given this language, no great ingenuity was required to improve it by adding artificial signs to do things that the natural signs don't. As the arts of life are further developed and as knowledge increases, these artificial signs inevitably multiply. The articulations of the voice seem to be the signs that work best for artificial language ; and because all mankind have always used them for that purpose, we can reasonably conclude that that's what nature intended them for. But nature probably doesn't intend that we should stop using the natural signs; it is enough that we make up for their shortcomings by adding artificial ones. A man who always rides in a chariot gradually loses the use of his legs; and someone who used only artificial signs would lose both the knowledge and use of natural ones. Dumb people retain much more of the natural language than others, because they *have to* use it; and for the same reason savages have much more of it than civilized nations do. It is mainly through natural signs that we give force and energy

to language; and the less language has of them the less expressive and persuasive it is. Thus,

- writing is less expressive when read silently than when read aloud;
- reading aloud is less expressive than speaking without a written text;
- speaking without the proper and natural modulations, force, and variations of the voice is frigid and dead compared with what you have when those things are used;
- speech is still more expressive when we add the language of the eyes and facial features; and
- speech is even better when to all the above we add the force of physical gestures.

It is in this last case, and *only* there, that speech is in its perfect and natural state, and produced with its proper energy.

When speech is natural, it will involve using not only the voice and lungs but also all the muscles of the body; like the speech of dumb people and of savages, whose language has more of nature in it than ordinary speech, and is accordingly more expressive and more easily learned. Isn't it a pity that the refinements of a civilized life, instead of making good for the defects of natural language, should root it out and replace it by dull and lifeless sequences of unmeaning sounds or the scrawling of meaningless letters? It is commonly thought that the perfection of language

consists in expressing human thoughts and feelings clearly by means of these dull signs; but if this is artificial language made perfect, it is surely natural language turned rotten.

Artificial signs *signify*, but they don't *express*; they speak to the understanding, as the letters in algebra may also do; but the passions, the affections and the will don't hear them. They stay quiet and inactive until we speak to them in the language of nature, and then they are all attention and obedience!

It would be easy to show that the fine arts of the musician, the painter, the actor and the orator are natural to the extent that they are expressive. The *knowledge* of those arts requires in us a delicate taste, precise judgment and much study and practice; but the arts themselves are merely the language of nature, which we brought into the world with us but have unlearned through disuse, and so find the greatest difficulty in getting it back.

Abolish the use of articulate sounds and writing among mankind for a century, and every man would be a painter, an actor *and* an orator. I don't mean that this is practicable; or that if it were done the advantage would outweigh the loss. But I do say that as men are led by nature and necessity to converse together, they will use every means in their power to make themselves understood; and when they can't do this by artificial signs they will do it as far as possible by natural ones; and that the best judge in all the expressive arts must be he who best understands the use of natural signs.

Chapter 5: Touch

1. Heat and cold

The senses we have been considering are alike in two fundamental ways. (1) They are all very simple and uniform: each of them presents only one kind of sensation, thereby indicating only one quality of bodies. We perceive sounds and nothing else by the ear, tastes by the palate, odours by the nose. (2) The qualities that they indicate are also all of one basic kind, being all secondary qualities. In contrast with this, what we perceive by *touch* is (1) not just one quality but many, and (2) they are of very different kinds because some are primary qualities and others secondary. The main ones are heat and cold, hardness and softness, roughness and smoothness, shape, solidity, motion, and extension. I shall consider these in order.

As to heat and cold, it will easily be accepted that they are secondary qualities, of the same basic kind as smell, taste and sound; and therefore that what I have said about smell is easily applicable to them. Namely, that each of the words 'heat' and 'cold' has two meanings: they sometimes signify certain sensations of the mind, which can't exist except when they are felt and can't exist anywhere but in a mind or sentient being; but more frequently they signify a quality of bodies which, by the laws of nature, leads to the sensations of heat and cold in us. This quality, though connected by custom so closely with the sensation that we can't easily think of them as distinct from one another, isn't in the slightest like the sensation, and can continue to exist when there is no sensation at all.

The sensations of heat and cold are perfectly known, for they aren't and couldn't be other than what we feel them

to be; but the qualities in bodies that we also call 'heat' and 'cold' are unknown. Our only conception of them is as *unknown causes or occasions of the sensations to which we give the same names*. But though common sense tells us nothing about the nature of these qualities, it plainly dictates that they do exist; and to say that there can be heat and cold only when they are felt is such a gross absurdity that it isn't worth arguing against. What could be more absurd than to say that the thermometer can't rise or fall unless some person is present, or that the coast of Guinea would be as cold as Nova Zembla if no-one lived there?

It is the business of philosophers to investigate, through proper experiments and induction, what heat and cold are in bodies. Is heat a particular kind of stuff that is spread through nature and present in a concentrated form in a hot body, or is it rather a certain vibration of the parts of the hot body? Are heat and cold contrary qualities, as the sensations of heat and cold undoubtedly are contrary, or is it rather that only heat is a quality, and cold is merely the absence of it? These questions fall within the province of philosophy [still = 'science'], for common sense says nothing on either side of either of them.

But whatever be the nature of the quality of bodies that we call 'heat', we certainly know *this* much about it: it can't in the least resemble the sensation of heat. To suppose that the sensation of heat resembles the quality of heat is as absurd as to suppose that the pain of gout resembles a square or a triangle. *Nobody* who has common sense imagines that the fire has in it the sensation of heat or something that resembles that sensation. What the plain man thinks is merely that there is in the fire *something* that

makes him and other sentient beings feel heat. But because the word 'heat' in common language signifies this unknown something in the fire more frequently and more properly than it does the sensation occasioned by it, he rightly laughs at philosophers who deny that there is any heat in the fire and thinks that they speak contrary to common sense.

2. Hardness and softness

Let us next consider hardness and softness—by which words I always understand real properties or qualities of bodies of which we have a distinct conception. When the parts of a body adhere so firmly that it can't easily be made to change its shape, we call it 'hard'; when its parts are easily moved we call it 'soft'. This is the notion that all mankind have of hardness and softness: they aren't sensations, and they aren't *like* sensations; they were real qualities before they were perceived by touch, and continue to be so when they are not perceived; for if anyone claimed that diamonds weren't hard until they were handled, who would think it worthwhile to reason with him?

There is no doubt a sensation by which we perceive a body to be hard or soft. It is easy to get this sensation of hardness by pressing one's hand against the table, and attending to the feeling that results, setting aside as far as possible all thought of the table and its qualities, or of any other external thing. But it is one thing to have the sensation, and another to attend to it and make it a distinct object of reflection. The former is very easy, whereas the latter is usually extremely difficult.

We are so accustomed to using the sensation as a sign, and passing immediately to the hardness signified, that it seems never to have been made an object of thought, either by the vulgar or by philosophers; and it has no name in any

language. No sensation is more distinct, or more frequent; yet we never *attend* to it, letting it pass through the mind instantaneously, serving only to introduce the quality of bodies which, by a law of our constitution, it suggests to us. Sometimes it is easy enough to attend to the sensation occasioned by the hardness of a body—for instance when it is so violent as to occasion considerable pain. In that case nature calls our attention to it, and we then acknowledge that it is a mere sensation that can't exist except in a sentient being. If a man violently bangs his head against a pillar, I ask him: Does the pain you feel resemble the hardness of the stone? Can you conceive of an inanimate piece of matter containing anything like what you feel?

The attention of his mind is here entirely turned toward the painful feeling. He feels nothing in the stone, but—to speak in the common language of mankind—he feels a violent pain 'in his head'. It is quite different when he leans his head gently against the pillar; for then he will tell you that he feels nothing in his head but feels hardness 'in the stone'. Doesn't he have a sensation in this case too? Undoubtedly he has; but it is a sensation that nature intended only as a sign of something in the stone; and accordingly our man instantly fixes his attention on the thing signified, and would find it extremely difficult to attend to his sensation enough to be convinced that there *is* any such thing distinct from the hardness it signifies. But however hard it may be to attend to this elusive sensation, to stop it from whipping past and pull it apart from the external quality of hardness in whose shadow it is apt immediately to hide itself, this is what a philosopher or scientist must become able to do, through effort and practice. Otherwise he won't be able to think soundly about this subject, or even to understand what I am saying here. For in subjects like this the final appeal must be to what a man feels and perceives in his own mind.

This is indeed a strange thing:

A sensation that we have every time we feel a body to be hard, and which consequently we can have as often and for as long as we wish, a sensation as distinct and definite as any other, is so *unknown* •that it has never been made an object of thought and reflection, and never honoured with a name in any language; and •that philosophers as well as the vulgar have entirely overlooked it, or muddled it with the quality of bodies that we call ‘hardness’—a quality to which it doesn’t have the faintest likeness.

Can’t we infer from this that our knowledge of the human faculties is still in its infancy? That we haven’t yet learned to *attend* to the mental operations of which we are conscious every hour of our lives? That very early in our lives we acquire habits of *inattention* that are as hard to overcome as other habits? •As regards this last point•, I think it is probable that this is the case:

The novelty of this sensation will get children to pay it some attention at first; but because the sensation is in no way interesting in itself, as soon as it becomes familiar it is overlooked, and the child’s attention is turned solely to what the sensation signifies, •namely the hardness of some external thing•. Analogously, when someone is learning a language he attends to the sounds; but when he is fluent in the language he attends only to the sense of what he wants to express.

If this is the case, we must become as little children again if we want to be philosophers. We must overcome this habit of *inattention* that has been gathering strength ever since we began to think—a habit that is useful enough in common life to make up for the difficulty it creates for the philosopher who is trying to discover the fundamental forces at work in the human mind.

The firm holding together of the parts of a body is no more *like* that sensation by which I perceive the body to be hard than the vibration of a booming body is *like* the sound I hear; and I can’t possibly perceive through my *reason* any connection between them. No man can give a reason why the vibration of a body might not have given the sensation of smelling, and the effluvia of bodies affected our hearing, if it had so pleased •God•, our maker. Similarly, no man can give a reason why hardness should not have been indicated not by the sensation that *does* indicate it (because that is how we are built) but rather by sensations of smell or taste or sound. Indeed no man can conceive *any* sensation to resemble *any* known quality of bodies. Nor can any man show by any good argument that all our sensations couldn’t have been just as they are with no body or quality of body having ever existed.

So here is a phenomenon of human nature that presents itself for explanation. Hardness in bodies is something that we conceive as distinctly, and believe as firmly, as anything in nature. Our only route to this conception and belief is through a certain sensation of touch, •and there is a problem about how that relates to hardness•. The sensation hasn’t the faintest similarity to hardness, nor can we by any rules of reasoning infer the quality from the sensation. The question is: How *do* we come by this conception and belief?

First, the conception: shall we call it an idea of sensation, or an idea of reflection? It won’t be classified as ‘of reflection’—•that is obvious•. But if we count it as ‘of sensation’, we are calling something an idea ‘of sensation’ when it has no resemblance to any sensation! Thus, the origin of this idea of hardness—one of our commonest and clearest ideas—can’t be found anywhere in our systems of the mind, not even in the ones that have tried so hard to derive all our notions from sensations and reflection.

Secondly, taking it as given that we do have the *conception* of hardness, how do we come to have our *belief* in it? Do we find some relation between the *idea* of that kind of sensation and the *idea* of hardness-in-an-external-body—a relation making it self-evident to us that such a sensation couldn't be felt unless such a quality of bodies existed? No. Can it be established by •probable or certain arguments? No, it can't. Then have we acquired this belief through •tradition, upbringing, or experience? No, it isn't achieved in any of these ways. Shall we then get rid of this belief, as having no reasonable basis? Alas! the belief isn't in our power; it triumphs over reason, and laughs at all the arguments of a philosopher. Even ·Hume·, the author of the *Treatise of Human Nature*, though he saw no reason *for* this belief and many *against* it, could hardly suppress it when he was all alone and thinking theoretically; and at other times he openly gave way to it, and admits to finding that he *had to* do so.

What shall we say of this •conception and this •belief, which are so hard to explain and hard to do anything with? The only way out I can see is to conclude that some basic force or source of energy in our make-up brings it about that a certain sensation of touch both •suggests to the mind the conception of hardness and •creates the belief in it; or, in other words, to conclude that this sensation is a natural sign of hardness. I shall now try to explain this more fully.

3. Natural signs

With •artificial signs there is often neither similarity between the sign and the thing signified, nor any necessary connection between them arising from the nature of the things; and the same holds true for •natural signs. The word 'gold' has no resemblance to the substance signified by it; nor is it

intrinsically better fitted to signify this substance than to signify any other; and yet through habit and custom this word suggests that substance and no other. Similarly, a sensation of touch suggests hardness, although it doesn't resemble hardness and, so far as we can see, doesn't have any necessary connection with it. The difference between these two signs—i.e. between how 'gold' signifies and how the sensation of hardness signifies—is just this: in the former, the suggestion is the effect of habit and custom, while in the second it is the effect not of habit but of the basic constitution of our minds.

It seems evident from what I have said about language that there are natural signs as well as artificial ones, and in particular

- that the thoughts, purposes, and dispositions of the mind have their natural signs in the features of the face, the modulation of the voice, and the motion and attitude of the body;
- that without a natural knowledge of the connection between these signs and the things they signify, language could never have been invented and established among men; and
- that the fine arts are all based on this connection, which we may call the 'natural language of mankind'.

Now it is time for me to remark that there are different *orders* ·or basic kinds· of natural signs, and to point out the ·three· different classes into which they may be sorted. This will help us to get a clearer conception of the relation between our sensations and the things they suggest, and of what it means to call sensations 'signs of external things.'

(1) First comes the class of natural signs such that **the connection of the sign with the thing signified is established by nature, but discovered only by experience.** The whole of genuine philosophy consists in discovering

such connections and bringing them under general rules. The great Francis Bacon perfectly understood this when he called it ‘an interpretation of nature’. No man ever had a clearer understanding than Bacon did of the nature and basis of scientific endeavour, and no man ever described it better. Everything that we know of mechanics, astronomy and optics—what is it but •connections established by nature and discovered by experience or observation, and •consequences deduced from them? All our knowledge of agriculture, gardening, chemistry and medicine is built on the same foundation. And if ever our study of the human mind is get far enough to deserve to be called ‘science’ (which ought never to be despaired of), it will have to be by observing facts, bringing them under general rules, and drawing sound conclusions from them. [Reid here uses ‘science’ in the special sense—current in his day—of ‘discipline that is rigorous, sharp, and highly organized under strong general principles’.] What we commonly call ‘natural causes’ might more accurately be called ‘natural signs’; and what we call ‘effects’ would be better called ‘the things signified’. The causes have no effectiveness or causality of their own, as far as we know; and all we can say with certainty is that nature has established a *constant conjunction* between them and the things we call their ‘effects’, and has given to mankind a disposition to notice those connections, to trust them to continue, and to use them for the improvement of our knowledge and increase of our power.

(2) Then there is the class of natural signs such that the connection of the sign with the thing signified is established by nature, and revealed to us through a natural force within us, without reasoning or experience on our part. Of this kind are the natural signs of human thoughts, purposes, and desires, which I have already mentioned as ‘the natural language of mankind’. An infant may be frightened by an

angry face and soothed again by smiles. A child that has a good musical ear can be put to sleep or to dance, can be made cheerful or sad, by the modulations of musical sounds. The principles of all the fine arts, and of what we call a ‘fine taste’, come down to connections of this kind. A fine taste can be •improved by reasoning and experience, but it couldn’t be •acquired in the first place if its basic drivers weren’t planted in our minds by nature. Indeed, I have already shown that much of this knowledge that we have by nature is lost when we leave natural signs unused and put artificial ones in their place.

(3) A third class of natural signs contains ones such that: even if we never before had any notion or conception of the thing signified, the signs do suggest it—conjure it up, as it were, by a natural kind of magic—and at once give us a conception of it and create in us a belief in it. I showed earlier that our sensations suggest to us a sentient being or mind to which they belong, a being which

- exists permanently although the sensations are transient and brief;
- remains the same while its sensations and other operations are varied ten thousand ways;
- relates in the same way to all the endless variety of thoughts, purposes, actions, affections, enjoyments and sufferings that we are conscious of or can remember.

This conception of a *mind* is not an idea either of sensation or of reflection, for it isn’t *like* any of our sensations or anything we are •reflectively• conscious of. The first •conception of it and of the common relation it bears to everything we are conscious of or remember, and the •belief in it, are suggested to every thinking being—*we don’t know how*.

We get the notion of hardness in bodies in the same way as we get our belief in it, namely through a basic

force in our nature associated with the sensation that we have when we feel a hard body. The sensation conveys the notion of hardness and the belief in it so naturally and unstoppably that until now they have been confused with one another—the sensation has been identified with the property of hardness—by the sharpest investigators of the workings of human nature, despite the fact that when you think about them carefully you'll see that they are not merely •different things but •as unlike as pain is unlike the point of a sword.

It may be observed that •the first class of natural signs I have mentioned is the basis for real philosophy, •the second is the basis of the fine arts, or of taste, and •the third is the basis of common sense—a part of human nature that has never been explained. I take it for granted that the notion of hardness and the belief in it are first acquired through the particular •kind of• sensation that has invariably suggested it as far back as we can remember; and that if we had never had a feeling of that kind we would never have had any notion of hardness. I think it is obvious that reasoning from our sensations won't enable us to infer so much as the *existence* of bodies, let alone any of their *qualities*. This has been proved by unanswerable arguments by Berkeley and Hume. It appears equally obvious that this connection between our sensations and the conception of and belief in things existing outside us can't be produced by habit, experience, upbringing or any •other• force in human nature that has been admitted by philosophers. At the same time, it is a fact that such sensations *are* invariably connected with the conception of and belief in external things. Thus, by all the rules of sound reasoning we must conclude that this connection is the effect of our constitution, and ought to be considered as a basic force in human nature until we find some more general force of which it is a special case.

4. Hardness and other primary qualities

I add that *hardness* is a quality of which we have as clear and distinct a conception as of anything whatsoever. We perfectly understand

the cohesion [= 'holding together'] of the parts of a body with more or less force,

though we don't understand its cause. We know what it *is*, as well as how it affects the •sense of• touch. So hardness is a quality of a quite different order from the secondary qualities I have discussed—qualities of which we know no more, naturally, than that they cause certain sensations in us. If hardness were a quality of that sort, it would be appropriate for philosophers to ask 'What *is* hardness?', and we would have various hypotheses about that, as we do about colour and heat. But obviously any such hypothesis would be ridiculous. If someone said that hardness in bodies is a certain vibration of their parts, or that it is certain effluvia [see page 11] emitted by bodies that affect our •sense of• touch in the manner we feel, this would shock common sense, because we all know that *if the parts of a body hold together strongly, it is hard* even if it doesn't vibrate or emit effluvia. But no-one can deny that effluvia, or the vibration of the parts of a body, *could* have affected our •sense of• touch in just the way that hardness now does, if the author of our nature, •God•, had chosen such an arrangement; and if either of these hypotheses is used to explain a secondary quality such as smell or taste or sound or colour or heat, there seems to be no obvious absurdity in this.

The distinction between primary and secondary qualities has had its ups and downs. Democritus and Epicurus and their followers maintained it. Aristotle and the Peripatetics abolished it. Descartes, Malebranche and Locke revived it and were thought to have thrown bright light onto it. But

Berkeley again discarded this distinction on the basis of arguments that must be convincing to people who hold the accepted doctrine of ideas. Yet, after all, there seems to be a real foundation for it in the workings of our nature.

What I have said about •hardness is so easily applicable not only to its opposite, •softness, but also to •roughness and •smoothness, to •shape and •motion, that I may be excused from actually applying it to them, as this would only be a repetition of what I have said about hardness. All these qualities are presented to the mind, through certain corresponding sensations of touch, as real external qualities; the conception of and the belief in them are invariably connected with the corresponding sensations, the connection being made by a basic force in human nature. Their sensations have no name in any language; they have been overlooked not only by the vulgar but also by philosophers and scientists; or if these sensations have been at all taken notice of, they have been confused with the external qualities that they suggest.

5. Extension

Notice also that hardness and softness, roughness and smoothness, figure and motion *all* presuppose *extension* and can't be conceived without it. But on the other hand *it* can't be conceived without *them*: it must be granted that if we had never felt anything hard or soft, rough or smooth, shaped or moved, we would never have had a conception of extension. Thus, just as it is certain that the notion of extension couldn't be *posterior* to the notions of any of those other qualities, because it is necessarily implied in them all, so also there is good ground to believe that the notion of extension couldn't be *prior* to the notions of the other primary qualities either.

Extension, therefore, seems to be a quality that is suggested to us by the very same sensations that suggest the other qualities I have mentioned. When I grasp a ball in my hand, I perceive it at once as •hard, •shaped and •extended. The feeling is very simple, and it doesn't in the least resemble any quality of body; yet it suggests to us three primary qualities that are perfectly distinct from one another as well as from the sensation that indicates them. When I move my hand along the table, the feeling is so simple that I can't easily sort out different natures in it; yet it immediately suggests •hardness, •smoothness, •extension and •motion—things of very different natures, and all of them as clearly understood as the feeling that suggests them.

Philosophers commonly tell us that *we get the idea of extension by feeling along the edges of a body*, leaving it at that as though there were no sort of difficulty about this. I confess to having tried *very* hard to find out how this idea can be acquired through feeling, but I haven't succeeded. And yet it is one of the clearest and most distinct notions we have; and the human understanding can—in the science of geometry—conduct more long and rigorous arguments about extension than about anything else whatsoever. The notion of extension is so familiar to us from infancy, and so constantly pushed forward by everything we see and feel, that we are apt to think it obvious how it comes into the mind; but when we look more closely we'll find it utterly inexplicable. We do have feelings of touch which every moment present extension to the mind; but the question is: *How* do they do this? Those feelings don't resemble extension any more than they resemble justice or courage! And the existence of extended things can't be inferred from those feelings by any rules of reasoning. So the feelings we have by touch can't explain how we get the notion of extension or how we come by the belief that there are extended things.

What has misled philosophers in this matter is the fact that the feelings of touch which suggest primary qualities don't have names and are never thought about. They pass through the mind instantaneously, and serve only to introduce the notion of and belief in external things, which by our constitution are connected with them. They are natural signs, and the mind immediately passes to the thing signified without giving the least thought to the sign, or even noticing that there *was* any such thing. Hence it has always been taken for granted that the ideas of extension, figure and motion are ideas of sensation, which enter into the mind by the sense of touch in the same way that sensations of sound and smell enter by the ear and nose. . . . If we want to reason clearly on this subject we should give names to the feelings of touch, and should get used to attending to them and reflecting on them, so that we may become able to separate them from—and set them side by side in our minds with—the qualities they signify or suggest. The habit of doing this can't be attained without effort and practice; and until a man has acquired the habit he won't be able to think clearly or judge soundly on this subject.

Let a man press his hand against the table: *he feels it hard*. But what does that mean? The meaning undoubtedly is that he has a certain feeling of touch from which he concludes, without any reasoning or inter-relating of ideas, that there is really existing external to him something whose parts stick together so firmly that they can't be displaced without considerable force.

There is here a •feeling and a •conclusion inferred from it or in some way suggested by it. In order to inter-relate these we must view them separately, and then consider what tie there is that connects them, and in what respects they resemble one another. The hardness of the table is the conclusion, the feeling is what leads us to that conclusion.

Attend carefully to the feeling and to the conclusion, and you'll perceive them to be as unlike as any two things in nature.

- One is a sensation of the mind, which can't exist except in a sentient being, and can't exist for a moment longer than it is felt;
- the other is in the table, and we easily conclude that it was in the table before it was felt and continues there after the feeling is over.
- One implies no kind of extension, or parts, or cohesion;
- the other implies all of these. It is true that the sensation and the quality both admit of *degrees*, but within that likeness there is another dissimilarity:
- when the feeling gets beyond a certain degree it is a sort of pain; but
- absolute rock-hardness doesn't imply the least pain.

And just as the feeling has no resemblance to hardness, so neither can our reason perceive the least tie or connection between them; nor will the logician ever be able to show a reason why we should infer hardness from this feeling, rather than softness or any other quality whatsoever. But in reality all mankind are *led by their constitution* to conclude hardness from this feeling. The •sensation of heat and the •sensation we have by pressing a hard body are equally *feelings*, and we can't by reasoning draw any conclusion from one that couldn't be drawn from the other; but our constitution makes us conclude •from the first an obscure or hidden quality of which we have only the relative conception of *something that is capable of causing us to have the sensation of heat*, and •from the second a quality of which we have a clear and distinct conception, namely the hardness of the body.

6. More on extension

To throw light on this matter from another angle, it may be worthwhile to see whether from sensation alone we can pick up any notion of extension, shape, motion and space. I take it for granted that a blind man has the same notions of extension, shape, and motion as a man who sees; that Dr. Saunderson had the same notion of a cone, a cylinder and a sphere, and of the motions and distances of the heavenly bodies, as Sir Isaac Newton.

So sight isn't needed for acquiring those notions, and I shall leave it right out of my inquiry into the first origin of them. Let us consider a blind man who has some strange illness that has caused him •to lose all the experience and habits and notions he has acquired through touch, and •to have not the least conception of the existence, shape, dimensions, or extension of his own body or of anything else. We are to suppose that he still has the complete power of reason; and it is from *reason* and *sensation* that he has to regain all his knowledge of external things. I shall look into this in six stages, in the first five of which his body is fixed immovably in one place, so that he can have feelings of touch only from other bodies that move in and touch it.

(1) He is pricked with a pin. This will no doubt give him a smart sensation, a pain, but what can he infer from it? Nothing, surely, with regard to the existence or shape of a pin. From a pain of this sort he can't infer anything that he couldn't just as well infer from gout or sciatica. Common sense may lead him to think that this pain has a cause; but is this cause body or spirit? extended or unextended? shaped or not shaped? He can't possibly form the least conjecture about any of this from any principles we are supposing him to have. Having formerly had no notion of body or of extension, he can't get one from the prick of a pin. (2) A

blunt body is applied to his body with gradually increasing force, until it bruises him. What has this given him but another sensation or sequence of sensations, from which he can't infer anything more than he could from the pin-prick? A hard cancer anywhere inside his body may, by pressing on the adjacent parts, give the same kind of sensation as the pressure of an external body, without conveying any notion but that of pain, which surely has no resemblance to extension.

(3) The body applied to him touches a larger or a smaller part of his body. Can this give him any notion of its extension or its size? To me it seems impossible for it to do so unless he already has some notion of the size and shape of his own body to serve him as a measure. When my two hands touch the ends of a body; if I know them to be a foot apart I easily infer that the body is a foot long; and if I know them to be five feet apart, that it is five feet long; but if I don't know how far apart my hands are, I can't know the length of the object they are holding; and if I don't even have a *notion* of hands or of distance between hands, I can't ever get that notion by my hands' being touched.

((4) A body is drawn across his hands or face while they remain at rest. Can this give him any notion of space or motion? No doubt it gives a new feeling; but I can't conceive how it could convey a notion of space or motion to someone who previously had no such notion. Blood moves along the arteries and veins, and when this motion is violent it is felt; but I don't think that a man who had no conception of space or motion could get it from this feeling. Such a motion may give a certain sequence of feelings, as colic may do; but no feelings or combination of feelings can ever resemble space or motion.

(5) The man makes some instinctive *effort* to move his head or his hand, but no motion follows (his head or hand

is blocked, or he is paralysed). Can this effort convey the notion of space and motion to someone who never had it before? Surely it cannot.

(6) Finally: he moves a limb by instinct, without having had any previous notion of space or motion. He has here a new sensation which accompanies the flexing of joints and the swelling of muscles. But how this sensation can bring into his mind the idea of space and motion is still altogether mysterious and unintelligible. The motions of the heart and lungs are all performed by the contraction of muscles, but they don't give any conception of space or motion. An embryo in the womb has many such motions, and probably the feelings that accompany them, without any idea of space or motion.

Summing up: it seems that our philosophers have deceived themselves and us in claiming to deduce from sensation the first origin of our notions of external existing things, of space, motion, and extension, and all the primary qualities of body—that is, the qualities of which we have the most clear and distinct conception. These qualities don't at all fit with any theory of the human faculties that anyone has put forward. They don't resemble any sensation or any operation of our minds; so they can't be ideas either of sensation or of reflection. The very conception of them can't be reconciled with the principles of any of our philosophical theories of the understanding. Still less can the belief in them.

7. The existence of a material world

When and in what order did we come by our notions of these primary qualities? We don't know. When we trace the operations of our minds as far back as memory and reflection can take us, we find these qualities to be already dominating our imagination and belief, and quite familiar to the mind;

but the questions

How did they first come into contact with the mind?
 What gave them such a strong hold on our belief? and
 How much respect should we have for them?

are no doubt very important questions in the philosophy and science of human nature.

Shall we join Berkeley, the Bishop of Cloyne, in serving them with a *Quo warranto*—a legal challenge to their rights and powers—and have them tried at the bar of philosophy on the strength of the laws of the ideal system? In this trial they seem to have come off very pitifully. They had very able counsel, learned in the law—namely Descartes, Malebranche and Locke—who said everything they could on behalf their clients; but the Bishop of Cloyne, believing them to be aiders and abettors of heresy and schism, prosecuted them with great vigour, fully answered everything that had been pleaded in their defence, and silenced their ablest advocates, who seem for the past half-century to have abandoned argument and trusted to the favour of the jury rather than to the strength of their pleadings!

Thus, the wisdom of philosophy is set up against the common sense of mankind. Philosophy claims to demonstrate *a priori* that there can't be any such thing as a material world; that sun, moon, stars and earth, and vegetable and animal bodies can't be anything but sensations in the mind, or copies of those sensations in the memory and imagination; that like pain and joy they can't exist when they are not thought of. Common sense can't avoid regarding this as a kind of metaphysical lunacy. It concludes that too much learning is apt to make men mad, and that anyone who seriously entertains this belief, though in other respects he may be a very good man. . . .surely has a soft place in his understanding, and has been hurt by thinking too much.

This opposition between philosophy and common sense tends to have a bad effect on the philosopher himself. He sees human nature in an odd, unfriendly and humiliating light. He considers himself and philosophers in general as •born under a necessity of believing countless absurdities and contradictions, and as •endowed with a niggardly ration of reason that is just sufficient to make this miserable discovery—and that's all he gets from his profound speculations. Such notions of human nature tend to slacken every nerve of the soul, to embarrass every noble purpose and feeling, and to spread a melancholy gloom over the whole face of things.

If this is wisdom, let me be deluded with the vulgar! I find something within me that recoils against it, and inspires more respectful opinions about mankind and about the universal administration of God. Common sense and reason both have one author; that almighty author in whose other works—all of them—we observe a consistency, uniformity and beauty that charm and delight the understanding; so there must be some order and consistency in the human faculties as well as in other parts of God's output. A man who has a deeply respectful view of his own kind, and who values true wisdom and philosophy, won't be fond of such strange and paradoxical opinions as those of Berkeley; indeed he will be very suspicious of them. If they are false, they disgrace philosophy; and if they are true, they degrade the human species and make us rightly ashamed of being as we are.

What is the point of philosophy's deciding against common sense on this or any other topic? The belief in a material world is older, and has more authority, than any principles of philosophy. It rejects the tribunal of reason, and laughs at all the artillery of the logician. It keeps its supreme authority in spite of all the edicts of philosophy, and

reason itself must bow down and obey its commands. Even the philosophers who have disowned the authority of our notions of an external material world admit that they find themselves having to submit to the power of those notions. So I think it would be better to make a virtue of necessity! Since can't get rid of the vulgar notion of and belief in an external world, let us reconcile our reason to it as well as we can; for Reason *can't* throw off this yoke, however resentful and fretful it makes her; if she refuses to be the •servant of Common Sense she will have to be her •slave.

In order to reconcile reason to common sense in this matter, I venture to offer two thoughts for philosophers to consider.

(1) In all this debate about the existence of a material world, it has been taken for granted on both sides that •if there is a material world it must be *exactly like* our sensations; that •we can't have any conception of a material thing that isn't like some sensation in our minds; and in particular that •the sensations of touch are *like* extension, hardness, shape and motion. All Berkeley's and Hume's arguments against the existence of a material world presuppose this. If this presupposition is true, their arguments are conclusive and unanswerable; but if it isn't true, there is no shadow of argument left. Well, then, have those philosophers given any solid proof of this hypothesis on which rests the whole weight of the strange system according to which there is no material world? No. They haven't even *tried* to do it, and have merely taken it for granted because ancient and modern philosophers have accepted it. But let us do what philosophers *should* do—set aside appeals to authority. Surely we don't need to consult Aristotle or Locke to know whether pain is like the point of a sword! I have as clear a conception of •extension, hardness and motion as I have of the point of a sword; and if I work at it and practice,

I can form as clear a notion of •the other sensations of touch as I have of pain. When I do so, and compare them together—i.e. survey in my thought •those qualities and •the sensations that signify them—it appears to me clear as daylight that the qualities are not kindred to the sensations and don't resemble them in any respect. They are as unlike one another—indeed, as certainly and plainly unlike—as are pain and the point of a sword. It may be true that those sensations first brought the material world to our knowledge; it may be true that it seldom or never appears except in company with them; but still they are as unlike as the passion of anger is unlike the facial expressions that go with it.

So that when those philosophers have passed sentence on the material world, there has been a case of mistaken identity [Reid uses the Latin legal term *error personae*]. Their proof doesn't get to matter or to any of its qualities, and strikes directly against an idol of their own imagination, a 'material world' made of ideas and sensations—a world that never did and never can exist.

(2) Our conceptions of extension, shape and motion are not ideas of sensation or of reflection, so the mere fact that they exist overturns the whole ideal system by which the material world has been tried and condemned; so that in this sentence •that Hume and Berkeley have passed on the material world• there is an error in law [Reid: *an error juris*]. Locke made a very fine and sound observation, namely that just as •no human skill can create a single particle of matter, and our only power over the material world is a power to compound, combine and disconnect the matter that comes to our hands, so •in the world of thought the materials are all made by nature and can only be variously connected and disconnected by us. It follows from this that it is impossible for reason or prejudice, true or false philosophy, to produce

one simple notion or conception that isn't the work of nature and a result of how we are built. The conception of extension, motion and the other attributes of matter *can't* be the effect of error or prejudice; it *must* be the work of nature. And the power or faculty through which we acquire those conceptions must be something other than any power of the human mind that has been explained •by philosophers up to now•, because it isn't sensation and isn't reflection.

I humbly propose this as a decisive test by which the ideal system must stand or fall, settling this argument before it drags on for too long. Either they—our conceptions of the qualities of matter—are ideas of sensation, or they are not. •If even *one* of them can be shown to be an idea of sensation, or to have some slight resemblance to any sensation, I'll lay my hand on my mouth, give up all attempts to reconcile reason with common sense in this matter, and allow the scepticism of the ideal system to triumph. But •if they are not ideas of sensation and not *like* any sensation, then the ideal system is a rope of sand and all the laboured arguments of the sceptical philosophy—against a material world and against the existence of everything but impressions and ideas—are based on a false hypothesis.

If our philosophy concerning the mind is so feeble regarding the origin of our notions of the clearest, simplest and most familiar objects of thought and the powers from which they are derived, can we expect it to do better in its account of the origin of our opinions and belief? We have seen already examples of its imperfection in this respect. Perhaps the same •human• nature that •enables us to *conceive* things that are altogether unlike any of our sensations or any operation of our minds •has likewise provided for our *belief* in them, through some part of our constitution that hasn't yet been explained.

Bishop Berkeley has proved beyond the possibility of reply that we cannot by reasoning infer the existence of •matter from our sensations; and Hume has proved no less clearly that we cannot by reasoning infer the existence of •our own or other minds from our sensations. Are we then to accept nothing but what can be proved by reasoning? If so, we must be sceptics indeed, and believe nothing at all. Hume seems to me to be only a half sceptic, because he hasn't followed his principles as far as they go. With unparalleled boldness and success he combats vulgar prejudices; then, when he has only one last one blow to strike, his courage fails him and he openly lays down his arms and surrenders himself as a captive to the most common of all vulgar prejudices, I mean *the belief in the existence of his own impressions and ideas*.

Please let me have the honour of adding something to the sceptical system—something without which I don't think it can hang together. I affirm that *the belief in the existence of impressions and ideas is not supported by reason any more than is the belief in the existence of minds and bodies*. No man ever did—no man ever *could*—give any reason for this belief. Descartes took it for granted that he •thought and •had sensations and ideas; so have all his followers done. Even •Hume• the hero of scepticism has followed suit, I beg leave to say, weakly and imprudently. I say this because I am convinced that no principle of his philosophy obliged him to make this concession •that impressions and ideas exist•. And what makes impressions and ideas so formidable that this all-conquering philosophy •of Hume's•, after triumphing over every other kind of existent, should pay homage to *them*? As well •as being weak and imprudent• the concession is dangerous; for it's just a fact about belief that if you leave any root it will spread; and you'll find it easier to pull it up altogether than to say: 'You may go this far, but no further; I

concede to you the existence of impressions and ideas, but see to it that you don't claim anything else!' So a thorough and consistent sceptic will never concede the existence of ideas and impressions; and as long as he refuses to do so you can never oblige him to concede anything else.

To such a sceptic I have nothing to say; but I ask the semi-sceptics: 'Why do you believe in the existence of your impressions and ideas?' The true reason I take to be *because they can't help it*; •but if they give that reason, they should stop being even semi-sceptics, because• that same reason will lead them to believe many other things.

All reasoning must be from first principles; and the only reason that can be given for •accepting• a first principle is that because of how we are constituted we *can't help* assenting to it. Such principles are as much parts of our constitution as is our power of thinking; reason can't make them or destroy them. And it can't do anything without them: it is like a telescope, which can help a sighted man to see further, but can't show anything to a man who has no eyes. A mathematician can't prove the truth of his axioms, and he can't prove anything else unless he takes his axioms for granted. We can't prove the existence of our minds, or even the existence of our thoughts and sensations. An historian or a witness can't prove anything unless it is taken for granted that memory and the senses can be trusted. A natural philosopher can't prove anything unless it is taken for granted that the course of nature is steady and uniform.

How and when did I first get such first principles, on which I build all my reasoning? I don't know, because I had them further back than I can remember; but I am sure they are parts of my constitution and that I can't discard them. That our thoughts and sensations must have a subject—•must be the thoughts and sensations of something•—which we call *ourselves* is not, therefore, an

•opinion acquired through reasoning, but a •natural principle. That our sensations of touch indicate something external, extended, shaped, hard or soft, is not something inferred by reason but a natural principle. The •belief in it—i.e. in an external material world—and the very •conception of it are equally parts of our constitution. If we are deceived about it, we are deceived by •God, him who made us, and there is no remedy.

I don't mean to say that in a newborn baby the sensations of touch suggest the same notions of body and its qualities that they do when we are grown up. Perhaps nature is frugal—sparing—in this, as in her other operations. The passion of love, with all its associated feelings and desires, is naturally suggested by the perception of beauty in the other sex. But this perception doesn't suggest the tender passion until one has reached a certain age. A blow given to an infant creates grief and wailing; but when he grows up it equally naturally arouses resentment and prompts him to resist. Perhaps a child in the womb, or for some short period after birth, is merely a *sentient* being and not a *thinking* one. Perhaps the faculties by which it •perceives an external world, by which it •reflects on its own thoughts and existence and relation to other things, as well as its reasoning and moral faculties, unfold themselves gradually; so that it is inspired with the various principles of common sense—as it is with the passions of love and resentment—*when it has occasion for them*.

8. The systems of philosophers concerning the senses

All the systems of philosophers concerning our senses and their objects have split on the same rock—namely, not properly distinguishing •sensations that can't exist except

when they are felt from the •things suggested by them. Aristotle, who was as given to making distinctions as anyone who ever tackled philosophical problems, confuses these two. He holds that every sensation is the *form* without the *matter* of the thing that is perceived through it. Just as the impression of a seal on wax has the •form of the seal but nothing of its •matter, so our sensations (Aristotle thought) are impressions on the mind which bear the image, likeness or •form of the external thing that is perceived, without the •matter of it. According to him:

- Colour, sound and smell, as well as extension, shape and hardness are various forms of matter; and
- Our sensations are the same forms imprinted on the mind, and perceived in its own intellect.

It is obvious from this that Aristotle didn't distinguish between primary and secondary qualities of bodies, although that distinction was made by Democritus, Epicurus and others of the ancients. Descartes, Malebranche and Locke revived the distinction between primary and secondary qualities. But they made the secondary qualities mere sensations, and the primary ones resemblances of our sensations. They maintained that colour, sound and heat are not anything in bodies, but are sensations of the mind; at the same time they acknowledged that •some particular texture or state of the body is the cause or occasion of those sensations; but they didn't give •it a name. In contrast with what these philosophers have said, the vulgar seldom apply the names 'colour', 'heat' and 'sound' to their sensations, usually applying them to those unknown causes of them (as I explained in chapter 2, section 8). We are so constituted that we are more apt to attend to •the things signified by a sensation than to •the sensation itself, and to give a name to the former rather than to the latter. Thus we see that with regard to secondary qualities, these philosophers *thought* with the vulgar and

with common sense. Their paradoxes were only a misuse of *words*. For when they maintain, as an important modern discovery, that *there is no heat in the fire* they mean only that *the fire doesn't feel heat*, which everyone knew already! They actually agree with the vulgar that there *is* in the fire something that causes sensations of heat.

With regard to primary qualities these philosophers erred more grossly. They did believe in the existence of those qualities; but they paid no attention to the sensations that suggest the qualities—sensations which, because they have no names, have been ignored as though they also had no existence. The philosophers were aware that shape, extension and hardness are perceived by means of sensations of touch, and this led them to the rash conclusion that these sensations must be images and *resemblances* of shape, extension and hardness. The accepted hypothesis of ideas naturally led them to this conclusion; indeed it can't be made consistent with any other; for, according to that hypothesis, external things must be perceived by means of images [= 'likenesses'] of them in the mind; and what can those images of external things in the mind *be* if not the sensations by which we perceive them?

But they were drawing a conclusion from an hypothesis that is *against fact*. We don't need to consult any hypothesis to know what our sensations *are* or what they *resemble*. By appropriately reflecting and paying attention we can understand them perfectly, and be as certain that they aren't like any quality of body as we can be that a toothache isn't like a triangle. How can a sensation instantly make us conceive an external thing altogether unlike it, and believe in the thing's existence? I don't claim to know; and when I say that one 'suggests' the other, I don't mean this as explaining *how* they are connected, but only to express a *fact* of which everyone can be conscious, namely that by

a law of our nature such a conception and belief constantly and immediately *follow* the sensation.

Bishop Berkeley threw new light on this subject when he showed that the qualities of an inanimate thing, such as matter is thought of as being, can't resemble any sensation; that it is impossible to conceive anything *like* the sensations of our minds except the sensations of other minds. Everyone who attends properly to his sensations must agree with this, yet it had escaped all the philosophers who came before Berkeley; it had escaped even the ingenious Locke, who had reflected so much on the operations of his own mind. That shows how hard it is to attend properly even to our own feelings. We are so accustomed to their passing through the mind unobserved, instantly making way for whatever nature intended them to signify, that it is extremely difficult to stop them and attend to them; and when we think we have become able to do this, perhaps the mind still fluctuates between the sensation and its associated quality, so that they mix together and present to the imagination something compounded of both. Thus in a globe or cylinder whose opposite sides are quite unlike in colour, if you turn it slowly the colours are perfectly distinguishable, and their unlikeness to one another is obvious; but if you turn it quickly the colours lose their differences and seem to be all the same. That is one example of the general fact that *speed* tends to mask differences.

No succession can be faster than the way in which thoughts of tangible qualities succeed the sensations with which nature has associated them. But once you have acquired the knack of making them separate and distinct objects of thought, you will then clearly perceive that the above-mentioned maxim of Berkeley's is self-evident. . . .

But look at how Berkeley uses this important discovery! He concludes that we can have no conception of an inanimate

substance such as matter is conceived to be, or of any of its qualities; and that there is the strongest reason to believe that nothing exists in nature but minds, sensations and ideas. If there exists any other kind of thing, it must be something that we don't *and can't* have any conception of. But how does this follow? This is how:

- We can have no conception of anything except what resembles some sensation or idea in our minds;

- the sensations and ideas in our minds can resemble nothing but the sensations and ideas in other minds;

therefore. . . and so on. This argument, we see, has two premises. The second of them the ingenious author has indeed made obvious to all that understand his reasoning and can attend to their own sensations; but he never attempts to prove the first premise. It is taken from the doctrine of ideas that has been so universally accepted by philosophers that it was thought not to need any proof.

I would point out, yet again, that this acute writer argues from a hypothesis *that is* against *fact* and against *the common sense of mankind*. The opinion that we can have no conception of anything unless our minds contain some impression, sensation or idea that resembles it has indeed been very generally accepted among philosophers; but it isn't self-evident, nor has it been clearly proved; so calling *it* in question would have been more reasonable than discarding the material world, thereby exposing philosophers to the ridicule of everyone who refuses to offer up common sense as a sacrifice to metaphysics.

But we ought in fairness to grant to Berkeley and Hume that their conclusions are soundly drawn from the doctrine

of ideas, which has been so universally accepted. On the other hand, judging by the *personal* character of Berkeley and of his predecessors Descartes, Locke and Malebranche, I venture to say that if they had seen all the consequences of this doctrine as clearly as Hume did, they would have been thoroughly suspicious of it and would have examined it more carefully than they appear to have done.

The theory of ideas, like the Trojan horse, appeared superficially to be both innocent and beautiful; but if those philosophers had known that in its belly it carried death and destruction to all science and common sense, they wouldn't have broken down their walls to let it in.

We have clear and distinct conceptions of extension, shape, motion and other attributes of body, attributes that are neither sensations nor *like* any sensation

—that is a *fact* of which we can be as certain as we are of the fact that we have sensations. Furthermore:

All mankind have a fixed belief in an external material world, a belief that is not acquired through reasoning or upbringing, a belief that we can't shake off even when we seem to have strong arguments against it and no shadow of argument for it

—that is another *fact*, for which we have all the evidence that the nature of the thing admits. These facts are phenomena of human nature, from which we may soundly argue against any hypothesis, however generally accepted. But to argue *not* from *facts* against a *hypothesis* but *from* a *hypothesis* against *facts* is contrary to the rules of true philosophy.