

The Conduct of the Understanding

John Locke

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[Brackets] enclose editorial explanations. Small ·dots· enclose material that has been added, but can be read as though it were part of the original text. Occasional •bullets, and also indenting of passages that are not quotations, are meant as aids to grasping the structure of a sentence or a thought. Every four-point ellipsis indicates the omission of a brief passage that seems to present more difficulty than it is worth. Longer omissions are reported between brackets in normal-sized type.—Locke wrote this in 1697, seven years before his death, but he didn't revise or publish it, and in a few places the text is evidently jumbled. The present version will omit some of those passages and will sort out the others as best it can. Most of the section-headings are Locke's.

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Glossary

Important general note: In this work Locke writes of ideas as being ‘determined’, ‘distinct’ or ‘clear’. All of these can safely be read as ‘clear’. The phrase ‘clear and distinct’ is taken over from Descartes, via a mistranslation, and needn’t be taken very seriously. See the glossary note on ‘clear and distinct’ in the version of Descartes’s *Meditations* on the website from which this version of this work was taken.

animal spirits: Elements in a physiological theory popularised by Descartes. This stuff was supposed to be even more finely divided than air, able to move extremely fast, seep into tiny crevices, and affect the environment *within* the nerves.

application: ‘assiduous effort, attention, diligence’ (OED).

art: In early modern English an ‘art’ was any human activity that involves techniques or rules of procedure. ‘Arts’ in this sense include medicine, farming, painting, and conducting logical arguments.

civil: Pertaining to human society. The phrase ‘civil and natural knowledge’ on page 14 refers to (on the one hand) history, politics, sociology etc. and (on the other) physics, chemistry etc.

deceive, deceit: These are regularly used to replace Locke’s ‘impose’ and ‘imposition’.

demonstration: This means ‘strictly logically rigorous proof, knock-down proof’.

faculty: Someone’s ‘faculty’ for doing A is his ability to do A, usually (but not always) a *basic* ability that closes off any enquiry into what enables him to do A.

indifferent: To be indifferent with regard to a range of competing propositions is to *have no preference* for one rather than another to turn out to be true.

observation: When in **13** Locke speaks of ‘making observations on particular facts’ he means: making something *of* them, drawing general conclusions from them; and that sense of ‘observation’ is at work in some (not all) of its other occurrences.

orthodoxy: Locke here uses this term, especially in **34**, just to mean ‘whatever is believed by almost everyone in the community’, with no restriction to religious beliefs. Correspondingly, ‘apostasy’ (falling away from. . .) and ‘heresy’ (believing something contrary to. . .) are deprived of their usual religious sense.

partiality: Lack of impartiality, bias.

prejudice: In Locke’s usage a ‘prejudice’ is an untested but confidently held opinion, probably false. It doesn’t have to be a prejudice *against* anything, e.g. against some race, religion, sexual orientation, or the like.

schools: This refers to philosophy departments that were pretty entirely under Aristotle’s influence.

speculative: This means ‘having to do with non-moral propositions’. Ethics is a ‘practical’ discipline, chemistry is a ‘speculative’ one.

vulgar: On page 21 ‘vulgar opinion’ means ‘opinion of the man in the street’. The emphasis is on sheer commonness, rather than (as often with ‘vulgar’) on lack of social rank or education.

What is so rash and unworthy of the earnestness and constancy of a philosopher as to defend outright something that he either thinks to be false or hasn't sufficiently looked into and understood? (Cicero, *De Natura Deorum* I:1)

1. Introduction

In working back through the causes of a man's acting in a certain way, we are brought to a halt at his *understanding*. We distinguish the faculties [see Glossary] of the mind, and give the supreme command to the *will*, as though it were an agent—i.e. as though it were what performs the action—but it is really *the man* who is the agent, and he gets himself to act in this or that way on the basis of the knowledge (or seeming knowledge) that is already in his understanding. No man ever tries to do something except on the basis of some view or opinion that serves as his reason for what he does; and whatever faculties he employs, the understanding constantly leads, doing so with whatever light it has; and all his operative powers are directed by that light, whether it is true or false. The will may be thought to be absolute and uncontrollable, but in fact it never fails in its obedience to the dictates of the understanding. There are sacred images *in temples*, and we see what influence they have always had over much of mankind. But really the invisible powers that constantly govern men are the ideas and images *in their minds*, and they never hesitate to submit to these. So it is enormously important to take great care of the understanding, to conduct it rightly in its search for knowledge and in the judgments it makes.

The logic now in use has for so long been dominant—as the only art [see Glossary] taught in the universities for the direction of the mind in the study of the arts and sciences—that the suggestion that *rules that have served the learned world for over two thousand years without any complaints of defects are not sufficient to guide the understanding* might

be thought a pretentious attempt to come up with something new. And no doubt it *would* be dismissed as vanity or arrogance if it didn't have the support of the great Francis Bacon. He didn't slavishly think that because learning had made no advances for many ages it couldn't be advanced any further; he didn't relax back into lazy approval and applause for what was, because it *was*! Rather, he enlarged his mind to what it *might be*. In the Preface to his *New Organon* he says this about logic:

Those who attributed so much to logic were quite right in holding that it wasn't safe to trust the understanding to itself without the guard of any rules. But the 'remedy' didn't fix the trouble but became a part of it, because the logic that supplied the rules, though it might do well enough in the talk and opinion of everyday life and the arts, is a crude instrument for dealing with the real performances of nature, where—snatching at what it cannot reach—the received logic has confirmed and established errors rather than opening a way to truth. [Actually, this is from the preface to *Instauratio magna* = 'The Great Fresh Start', an intended work of which *New Organon* was to have been Part 2.]

And therefore a little later he says that 'it is absolutely necessary that a better and more perfect use and employment of the mind and understanding be introduced'.

2. Basic abilities

There is obviously great variety among men's understandings. The natural constitutions of some men put such a wide intellectual difference between them and some others that

art and industry could never overcome it; and their very natures seem to lack a foundation on which to build things that other men easily manage. There is great inequality of basic ability among men of equal education, e.g. among inhabitants of the forests of America, among men—disciples of the great philosophers—in the schools of ancient Athens. Still, I think that most men fall far short of what they could achieve at their different levels, through neglect of their understandings. A few rules of logic are thought sufficient in this case for those who claim to have the highest improvement; whereas I think that a great many natural defects in the understanding can be amended but are overlooked and wholly neglected. And it is easy to see that men are guilty of a great many faults in the use and improvement of this faculty of the mind, which hinder them in their progress and keep them in ignorance and error all their lives.

In the present work I shall discuss some of these defects and faults, and try to point out proper remedies for them.

3. Reasoning

Besides the lack of determined ideas, and of skill and practice in finding out intermediate ideas and laying them out in order, there are three misuses of their reason that men are guilty of by which this faculty is hindered from doing them the service it could do and was designed for. If you think about how people act and talk you'll have no trouble seeing that such defects are very frequent.

(1) Some people seldom reason at all, but act and think on the basis of the example of parents, neighbours, ministers, or whomever else they choose to have an implicit faith in so as to save themselves the strain and trouble of thinking and examining for themselves.

(2) Others put passion in the place of reason, and decide that *that* shall govern their actions and arguments; so they don't use their own reason or listen to anyone else's except when it suits their mood, interest, or party to do so. Such people commonly content themselves with words that have no distinct ideas to them, though in other matters that they approach with unbiased impartiality they are quite able to hear reason and to talk on the basis of it, having no secret inclination that pulls them away from it.

(3) Then there are those who readily and sincerely follow reason, but who lack what you might call *large, sound, roundabout sense* [Locke's phrase]; so they don't have a full view of everything that relates to the question and may be important to deciding it. We're all short-sighted, and often see only one side of a topic, not taking in everything that has a connection with it. I don't think anyone is free from this defect. We see only in part, and we know only in part, so it's no wonder that we draw wrong conclusions from our partial views. This might alert you, however proud you are of your own basic abilities, to how useful it is to talk and consult with others—even ones who aren't up to your level in capacity, quickness and penetration. No-one sees everything, and we generally have different views of the same thing according to our different angles on it; so it's not unreasonable to think that someone else may have notions of things that have escaped you and that your reason would use if they came into your mind. The faculty of reasoning seldom or never deceives those who trust to it; its *inferences from* what it builds on are evident and certain; but what misleads us is usually (if not always) that the principles or grounds on which we base our reasoning are only a part of what is needed; we omit something that should go into the inference to make it just and exact. (Here we can imagine a vast advantage that angels and unembodied spirits may

have over us: at their various levels above us they may have faculties that are more comprehensive than ours, and some of them perhaps •have perfect and exact views of all finite beings that come under their consideration, and •can in the twinkling of an eye (so to speak) collect together all their scattered and almost limitless relations. When a mind is equipped in that way, what a reason it has to accept the certainty of its conclusions!)

This shows us why some men of study and thought, who reason rightly and are lovers of truth, make no great advances in their discoveries of it. Error and truth are blended, jumbled, in their minds; their decisions are lame and defective, and they are often mistaken in their judgments. Why? Because they talk with only one sort of men, and read only one sort of books, so that they are exposed to only one sort of notions. They carve out for themselves a little province in the intellectual world, where light shines and (they think) daylight blesses them; and they write off everything else—that vast territory—as covered by night and darkness, and take care to avoid coming near any part of it. They have an agreeable commerce with known correspondents in some little **creek**; they confine themselves to that, and are nimble enough managers of the wares and products of the corner •of the intellectual world• with which they content themselves; but they won't venture out into the great **ocean** of knowledge, to survey the riches that nature has stored in other parts of it—riches that are as genuine, solid and useful as what they have come across in the admired plenty and sufficiency of their own little spot, which they see as containing whatever is good in the universe. These people. . . .won't look out beyond the boundaries that chance, conceit, or laziness has set to their enquiries; they live separate from the notions, discourses and attainments of the rest of mankind. They can be fairly compared with

the inhabitants of the Marianne islands who, being isolated by a large tract of sea, thought themselves the only people in the world. They didn't even have the use of fire until the Spaniards brought it to them not long ago; and yet, in their lack and ignorance of almost everything, they looked on themselves—even after the Spaniards had brought them news about the variety of nations rich in sciences, arts and conveniences of life—as the happiest and wisest people in the universe. But nobody will imagine them to be deep scientists or solid metaphysicians; nobody will regard even the quickest-sighted of them as having very enlarged views in ethics or politics, nor can anyone grant even the most capable of them to be so far advanced in his understanding that. . . .he has no need for the comprehensive enlargement of mind that adorns a soul devoted to truth, assisted with writings and a free consideration of the various views and sentiments of thinking men of all sides.

So if you want—what everyone claims to want—a sight of truth in its full extent, don't narrow and blind your own view. Don't think there is no truth except in the sciences you study, or the books you read. To prejudge other men's notions before you have looked into them is not to show their darkness but to put out your own eyes. "Try all things, hold fast that which is good" [*Thessalonians 5:21*] is a divine rule coming from the Father of light and truth; and it is hard to know how men can lay hold of truth if they don't dig and search for it, as for gold and hidden treasure; but anyone who does this will have to remove much earth and rubbish before he gets the pure metal; sand and pebbles usually lie blended with it, but the gold is still gold and will enrich the man who takes the trouble to seek and separate it. And there's no risk of his being deceived by the mixture. Every man carries a touchstone—namely, natural reason—to distinguish substantial gold from superficial glitterings, truth

from appearances. The use and benefit of this touchstone is spoiled and lost only by prejudices, intellectual arrogance, and narrowing our minds. What weakens and extinguishes this noble faculty in us the failure to use it across the whole range of intellectual topics. Trace it, and see whether I'm right. The day-labourer in a country village commonly has only a small pittance of knowledge, because his ideas and notions have been confined within the narrow limits of poor conversation and employment; the low mechanic in a country town does somewhat better; porters and cobblers of great cities surpass them both. Now consider a country gentleman who leaves Latin and learning in the university, moves to his mansion house and associates with neighbours of the same kind (who enjoy nothing but hunting and a bottle); they are the only ones he talks with, spends time with; he can't get anywhere with people whose conversation goes beyond what claret and dissoluteness inspire. [Locke continues with a sarcastic account of what a good judge and statesman this 'patriot' will be when he buys his way into such a position, and concludes that actually he is less fit for public life than 'an ordinary coffee-house gleaner', i.e. someone who picks up casual snatches of knowledge and ideas in coffee-house conversations. Then:] Compare these two men:

- One is muffled up in the zeal and infallibility of his own sect, and won't touch a book or enter into debate with a person who questions any of the things that are sacred to him.
- The other surveys our differences in religion with fair impartiality, concluding that probably no religion is flawless in every detail. These divisions and systems were made by men, and so are fallible; and in the ones he differs from and had (until he opened his eyes) a general prejudice against he finds more to be said for many things than he could have imagined before.

Which of these two is more likely to judge rightly in our religious controversies, and to be most stored with truth, the mark that all claim to aim at? All these men I have taken as examples, though unequally stocked with truth and advanced in knowledge, I'm supposing to be equal in their basic natural abilities; they differ only in the *scope* they have given their understandings to range in, for gathering information and equipping their heads with ideas, notions and observations [see Glossary] on which to employ their minds and form their understandings.

You may object: 'Who is sufficient for all this?' I answer: more people than you might think! Everyone knows what his proper business is, and what the world can fairly expect of him, given what he presents himself as being; and he'll find that he *does* have enough time and opportunity to meet that expectation, if he doesn't narrow-mindedly deprive himself of the helps that are available. I don't say that to be a good geographer a man should visit every mountain, river, promontory and creek on the face of the earth, view the buildings, and survey the land everywhere, as if he were going to make a purchase. But everyone must agree that •someone who often ventures into a country and travels up and down in it knows it better than •someone who like a mill-horse keeps going around the same track or keeps within the narrow bounds of a field or two that he especially likes. Anyone who is willing to seek out the best books in every science, and inform himself of the most significant authors of the various sects of philosophy and religion, won't find it an infinite work to acquaint himself with mankind's views on the most weighty and comprehensive subjects. If he exercises the freedom of his reason and understanding as broadly as this, his mind will be strengthened, his capacity enlarged, his faculties improved; and the light that the scattered parts of truth give to one another will assist his

judgment so that he will seldom be far off the mark or fail to give proof of a clear head and comprehensive knowledge. At least, this is the only way I know to give the understanding its due improvement to the full extent of its capacity, and to distinguish a logical trickster from a man of reason, the two most different things I know in the world. But someone who plans to set his mind free to roam the world in pursuit of truth must •be sure to conduct all his thoughts with *determined* ideas, and •never fail to judge *himself* and judge impartially everything that he receives from the writings or discourses of others. Reverence or prejudice mustn't be allowed to make any of their opinions beautiful or ugly.

4. Practice and habits

We are born with faculties and powers that are capable of almost anything, or at least that could take us further than can easily be imagined; but it is only the *use* of those powers that gives us ability and skill in anything and leads us towards perfection.

A middle-aged ploughman will hardly ever be brought to walk and speak like a gentleman, though his body is as well-proportioned, his joints as supple, and his natural basic abilities in no way inferior. The legs of a dancing-master and the fingers of a musician fall as it were naturally, without thought or effort, into regular and admirable motions. If they switched roles, they would get nowhere trying to produce one another's movements in legs and fingers not used to them; it would take a long time and much practice to attain anything like a similar ability. What incredible and astonishing actions we find rope dancers and tumblers performing. In fact all the manual arts involve movements that are as wonderful; I merely pick on the ones that the world sees as wonderful and therefore pays to see. All these amazing

motions—beyond the reach and almost the conception of unpractised spectators—are merely the effects of practice and hard work by men whose bodies have nothing special that marks them off from the bodies of the amazed onlookers.

As with the body, so with the mind: practice makes it what it is; and the excellences that are regarded as *natural* endowments will mostly be found, when examined more closely, to be the product of exercise and to be raised to that level only by repeated actions. Some men are noted for wit in conversational teasing; others for moral fables and interesting illustrative stories. This is apt to be regarded as an effect of pure nature, especially because it isn't achieved by rules, and those who excel in either of these never purposely set out to study it as an art to be learned. But what really happened is that at first some lucky hit gave the man a social success, which encouraged him to try again and inclined his thoughts and efforts in that direction, until eventually he became good at this without realising how; and something is attributed wholly to •nature which was much more an effect of •use and practice. I don't deny that a man's natural disposition often leads him into his first success; but it never takes him far without use and exercise, and it's practice alone that brings the powers of the mind—as well as those of the body—to their perfection. Many a good aptitude for poetry is buried under a trade, and never produces anything because nothing is made of it. We see that •men at court talk and think very differently—even on the same topics—from •men at the university; and if you'll just go from •the law courts to •the financial district you'll find a different intellectual attitude and turn in their ways of talking; but one can't think that all who ended up in the financial district were born with different basic abilities from those who were bred at the university or the law-courts!

Why am I saying all this? To show that the observable

difference in men's understandings and basic abilities arises less from their natural faculties than from acquired habits. You would be laughed at if you tried to make a fine dancer out of a country hedger in his 50s. And you won't have much better success if you try to make a man in his 50s reason well or speak handsomely if he has never been used to it, even if you lay before him a collection of all the best precepts of logic or oratory. Nobody is made *anything* by hearing and remembering rules; what is needed is to perform without thinking about the rule, and *that* comes from practice. You may as well hope to make a good painter or musician on the spot by a lecture and instruction in the arts of music and painting as to make someone a coherent thinker or strict reasoner by a set of rules, showing him what right reasoning consists in.

Thus, defects and weakness in men's understandings as well as other faculties come from their not rightly using their minds; . . . there is often a complaint of lack of basic abilities when the fault lies in the lack of a proper improvement of them. We often encounter men who are nimble and sharp enough in making a bargain but appear perfectly stupid if you argue with them about religion.

5. Ideas

In writing about the right conduct and improvement of the understanding, I shan't repeat here what I have said at sufficient length in another place [*Essay Concerning Human Understanding*] about the need to get clear and determined ideas, to employ our thoughts about •them rather than about •sounds that stand for them, and to fix the meanings of the words we use with ourselves in the search of truth or with others in discoursing about it.

6. Principles

I have also written about another fault that blocks or misleads men in their knowledge, but I need to take it up again here so as to examine it to the bottom and see the root it springs from. It is the custom of allying oneself with principles that are not self-evident and often not even true. It is not unusual to see men base their opinions on foundations that are no more certain and solid than the propositions built on them and accepted because of them. I mean foundations like these:

- The founders (or leaders) of my party are good men, so their tenets are true;
- Proposition P is the opinion of a sect that is erroneous, so P is false;
- P has long been accepted in the world, so it is true; or P is new, and therefore false.

These and many like them, which are by no means the measures of truth and falsehood, are taken by the general run of men as standards by which they accustom their understanding to judge. Falling thus into a habit of determining truth and falsehood by such wrong measures, it's no wonder that they embrace error for certainty and are very positive in opinions they have no ground for.

If someone accepts any of these false maxims and is confronted with an open challenge to them, then he must admit that they are fallible and not something he would allow an opponent to use in argument; but after he is convinced of this you'll see him go on using them as bases for argument on the very next occasion that presents itself. If someone uses such wrong measures even after he sees that they can't be relied on, wouldn't you be inclined to see him as willing to deceive [see Glossary] himself and mislead his own understanding? But perhaps he is not as blameworthy as

may be thought at first sight; for I think that a great many men argue thus in earnest, not doing it to deceive themselves or others. They are convinced of what they say, and think there is weight in it, although in a similar case they have been convinced there is none; but men would be intolerable to themselves and contemptible to others if they were to accept opinions without any ground, and believe something they could give no reason for. True or false, solid or sandy, the mind must have *some* foundation to rest on; and, as I have remarked in another place [*Essay* I.iv.24–7], it no sooner considers a proposition but it frequently rushes to some hypothesis to base it on; and until then it is unquiet and unsettled. So much do our own temperaments incline us to a *right* use of our understandings if only we followed, as we should, the inclinations of our nature.

In some important matters, especially concerning religion, men are not permitted to be always wavering and uncertain; they must accept and profess some tenets or other; and it would be a shame—indeed, a contradiction too heavy for anyone’s mind to bear constantly—for someone to claim seriously to be convinced of the truth of a religion yet not to be able to give any reason for his belief. . . . So they must make use of some principles or other, and it has to be principles that they •have and •can manage. . . .

Then why (you will ask) don’t they make use of sure and unquestionable principles, rather than relying on grounds that may deceive them and that obviously will support error as well as truth?

I answer that they don’t use better and surer principles because they cannot; but this inability doesn’t come from lack of natural basic abilities but from lack of use and exercise. Few men are from their youth accustomed to strict reasoning, tracing the dependence of any truth back along a chain of consequences to its remote principles, seeing how

they are connected; and if someone hasn’t had frequent practice in this way of using his understanding, it’s no wonder that he can’t as an adult bring his mind to it; just as it’s no wonder that a man can’t, all of a sudden with no previous practice, be able to carve or draw, dance on the ropes, or write fine calligraphy.

Indeed, most men are so wholly strangers to this way of using their understanding that they don’t even see that they lack it. They handle the ordinary business of their trades or professions as they have learned it (‘by rote’, as we say); and when something goes wrong they explain it in terms of anything rather than lack of thought or skill, because they think (knowing no better) that *that* is something they have in perfection. And if there’s something that interest or fancy has drawn to their attention, they still reason about it in their own way; whether it’s good or bad, it suits *them* and is the best they know. So when it leads them into mistakes, with the effects you’d expect on their business, they impute this failure to bad luck or the fault of others rather than to their own lack of understanding. *That* is what nobody finds or complains of in himself! Whatever made his business go wrong it wasn’t a lack of right thought and judgment in himself. . . . Being thus content with this short and very imperfect use of his understanding, he never troubles himself to look for ways to improve his mind, and he lives all his life with no notion of

close reasoning in a long connected chain of inferences
from sure foundations,

such as is needed for understanding and proving most of the speculative [see Glossary] truths that most men claim to believe and regard as most important. And there’s another point that I shall deal with at more length later on, namely that in many cases arriving at a right judgment involves not merely •one chain of inferences but •examining and

comparing many different and opposing deductions. What, then, can be expected from men who don't see the need for any such reasoning as this, and wouldn't be able to do it if they did see the need? . . .

What should be done in such a case? I answer: we should always remember what I said earlier, that the faculties of our minds are improved and made useful to us in the same way that our bodies are. If you want a man to write, paint, dance or fence well, or perform any other manual operation nimbly and easily, no-one expects him to be able to do this—however much vigour, activeness, suppleness and skill he has naturally—unless he has been used to it, and has employed time and trouble in adapting the relevant parts of his body to these motions. So it is with the mind. If you want a man to reason well, you must •get him used to reasoning *early*, •exercise his mind in observing the connection of ideas and following them in sequence. Nothing does this better than mathematics, which I think should be taught to all who have the time and opportunity, not so much to make them mathematicians as to make them reasonable creatures; for though we all call ourselves reasonable, the fact is that nature gives us only the seeds of rationality; we are born to be rational creatures if we choose to be, but what makes us so is use and exercise—we're only as rational as far as hard work and application [see Glossary] has taken us. . . .

This hasn't been widely recognised because everyone in his private affairs uses some sort of reasoning or other, enough to call him 'reasonable'. The mistake is that anyone who is found to be reasonable in one thing is concluded to be reasonable in everything, and to think or say that he isn't is thought to be such a mean insult, such a senseless criticism, that nobody ventures to do it. . . . Well, it's true that someone who reasons well on one topic has a mind naturally capable of reasoning well on others—just as strongly and clearly, and

perhaps more so—if his understanding were so employed. But it's equally true that someone who can reason well today on one topic can't reason at all today on others, though he may be able to in a year's time. . . .

Try in men of low and poor education who have never raised their thoughts above the spade and the plough, or looked beyond the ordinary drudgery of a day-labourer. Take the thoughts of such man out of the narrow range he has been confined to all his life and you'll find him no more capable of reasoning, almost, than a perfect natural [= 'a severely mentally defective person']. You will find that most men have governed all their thoughts by just one or two rules on which their conclusions **immediately** depend; these rules, true or false, have been the maxims they've been guided by; take them away and these men are totally at a loss, their compass and pole-star gone, their understanding not knowing which way to turn; so they either •go straight back to their old maxims as their bases for all truth, despite what can be said to show their weakness, or •abandon them and abandon all truth and further enquiry, thinking that there's no such thing as certainty. If you try to broaden their thoughts and settle them on principles that are **more remote** and more sure, they either can't easily grasp them or, if they can, they don't know what use to make of them; for long deductions from remote principles is what they haven't been used to and can't manage.

I don't say that grown men can never be improved or broadened in their understandings; but I think I may say that this won't be done without hard work and application, which will require more time and trouble than adult men—settled in their course of life—will allow to it; which is why it seldom is done. . . .

Anyone engaged in teaching the young, especially in teaching mathematics, can see how their minds open

gradually, and how it is exercise alone that opens them. Sometimes they will be stuck for a long time at one part of a demonstration, not from lack of will and application, but from their failure to see the connection between two ideas—a connection that is, to one whose understanding is more exercised, as visible as anything can be. It would be the same with a grown man beginning to study mathematics. . . .

7. Mathematics

When I mention mathematics as a way to give the mind a settled habit of reasoning closely and in sequence, it's not that I think all men should be deep mathematicians; it's just that when they have learned the way of reasoning that mathematics inevitably brings the mind to, they might be able to transfer it to other parts of knowledge. In every sort of reasoning, each separate argument should be managed as a mathematical demonstration; the connection and dependence of ideas should be followed until the mind is brought back to the source on which the train of thought is ultimately based, and observes its coherence all the way along; though in proofs of probability one such train is not enough to settle the matter, as it is in demonstrative knowledge.

When a truth is made out by one demonstration [see Glossary] there's no need for further enquiry; but in probabilities, where there isn't a demonstration to establish the truth beyond doubt, it's not enough to run one argument back to its source and observe its strength and weakness; rather, all the arguments, for and against, must be examined and laid in balance against one another, so that the understanding can reach its conclusion on the basis of that whole picture.

The understanding should be accustomed to this way of reasoning, which is so different from what the illiterate are used to that even learned men often seem to have little

or no notion of it. That isn't surprising, because the way of disputing in the universities leads them right away from it by insisting—in their degree examinations—on a single argument by the outcome of which the truth or falsehood of the question is to be determined and victory given to the opponent or the defendant; which is on a par with balancing an account by looking at *one* charged-and-discharged entry, when there are a hundred others to be taken into consideration.

So it would be good if men's minds were accustomed, *early*, to the way of reasoning that I am recommending, so that they don't base their opinions on one single view when so many others are needed to make up the account and must come into the calculation before a man can form a right judgment. This would enlarge their minds, and give an appropriate freedom to their understandings, so that they aren't led into error by intellectual arrogance, laziness or haste; for I don't think anyone can approve a conduct of the understanding—however fashionable it may be—that would lead it away from truth.

You may want to **object** that to manage the understanding in the way I propose would require every man to be •a scholar, •equipped with all the materials of knowledge, and •exercised in all the ways of reasoning. I reply that I am mainly addressing those who have time and the means to acquire knowledge, and I say that it would be shameful for *them* to lack any available helps or assistance for the improvement of their understandings. Those who by the hard work and abilities of their ancestors have been set free from a constant drudgery to their backs and their bellies should, I think, devote some of their spare time to their heads, and open their minds by trying, in an exploratory way, all the sorts and topics of reasoning. I have mentioned mathematics, in which algebra gives new helps and views

to the understanding. I don't (I repeat) aim to make every man a thorough mathematician or a deep algebraist, but I think the study of these is infinitely useful even to adults. For one thing, a man's applying himself to mathematical demonstrations gets his mind accustomed to long chains of inferences; but I have mentioned that already, and shan't go on about it now. Here are more two examples.

(1) Studying mathematics will show a man, from his own experience, that for him to reason well he needs more than the basic abilities that he is satisfied with and that serve him well enough in his everyday life. From those studies he will see that, however good he may think his understanding to be, it may fail him in many things—very visible things! This will make him less apt to think—as most men do—that his mind doesn't need help to enlarge it, that nothing could be added to the acuteness and penetration of his understanding.

(2) The study of mathematics will show him how necessary it is in reasoning •to separate all the different ideas, •to see how all the relevant ones are related to one another and •to set aside those that are not relevant to the proposition in hand. This is absolutely essential to sound reasoning in subjects other than mathematics, though in those others it is not so easily observed or so carefully practised. In the parts of knowledge where demonstration is thought not to have a place, men reason as it were *in the lump*; and if on a summary and confused view or on a partial consideration they can create the appearance of a probability, they usually settle for that; especially if they're in a dispute where every little straw is grasped and everything that can be shaped to add plausibility to the argument is noisily paraded. But a mind isn't in a posture to find the truth if it doesn't clearly take all the elements apart, omit what is not to the point, and draw a conclusion from the upshot of all the relevant particulars.

As for men with less money and less time, what they need is not as vast in extent as may be imagined, so the **objection** doesn't apply to them.

Nobody is under an obligation to know everything. Knowledge and science in general is the business only of those who are at ease and have leisure. Those who have particular callings—i.e. trades or professions—ought to understand them; and it is not unreasonable to want them to think and reason properly about their daily employment. . . .

8. Religion

Besides his particular calling to earn a livelihood, everyone has a concern in a future life and is bound to pay attention to that. This turns his thoughts to religion; and it's extremely important for him to understand and reason rightly about that. So men can't be excused from properly understanding the words and properly forming the general notions that relate to religion. The one day out of seven in the christian world allows time enough for this, •if only men would use these breaks from their daily labour and apply themselves to acquiring religious knowledge with as much diligence as they often do to a great many other things that are useless, and •if only they had teachers that would help them to do this. The basic structure of their minds is like that of other men, and they would be found to have the understanding needed to receive the knowledge of religion if they were a little encouraged and helped in it as they should be. For there are instances of people very far down the social and educational scale who have raised their minds to a great sense and understanding of religion. . . . If I'm not mistaken the peasantry recently in France (a class of people under a much heavier pressure of deprivation and poverty than the day-labourers in England) understood the reformed religion

much better, and could say more for it, than those of a higher social condition among us. . . .

9. Ideas

Physical objects that constantly act on our senses and captivate our appetites also fill our heads with lively and lasting ideas of that kind. The mind doesn't need to be urged to get a greater store of ideas; they offer themselves fast enough, and are usually absorbed in such numbers and so carefully lodged in the mind that it doesn't have room or attention for others that it has more use for and need of. To equip the understanding for reasoning such as I have been speaking of, therefore, care should be taken to fill it with moral and more abstract ideas. These don't reach us through the senses, but have to be formed in the understanding; so people generally neglect a faculty that they are apt to think doesn't lack anything—so neglectful that I fear most men's minds are more poorly provided with such ideas than is imagined. They often use the *words*, so how (·you may ask·) can they be suspected of lacking the *ideas*? What I have said in *Essay* III.ix–xi will excuse me from any other answer to this question. But to convince you of how much it matters to people to have their understandings equipped with such abstract ideas steady and settled in them, let me ask you:

How can anyone know whether he is *obliged to be just* if he doesn't have ideas of *obligation* and of *justice* established in his mind, given that knowledge ·about this· consists in nothing but the perceived agreement or disagreement of those ideas?

—and similarly with all other propositions concerning our lives and our behaviour. And if men find it hard to see the agreement or disagreement of two angles that they are looking straight at **in a diagram**, how utterly impossible it

will be to perceive in it ideas that have no sensible objects to represent them except sounds—the words that name them—which are in no way like them! If we are to make any clear judgment about such ideas, we'll need to have them clearly settled **in our minds**. So this is one of the first things the mind should be busy with in the right conduct of the understanding; without it the mind can't reason correctly about those ·abstract and moral· matters. But with these and all other ideas we must take care that they don't contain lurking inconsistencies, and that when we have an idea that implies a corresponding real existence there really *is* such a thing and a not mere chimera with a supposed existence.

10. Prejudice

Everyone complains loudly about the prejudices [see Glossary] that mislead other men or parties, as if he had none of his own. Clearly everyone agrees that prejudices are a fault and a hindrance to knowledge, but what is the cure? Just this, that each man should leave others' prejudices alone and examine his own. Nobody is convinced by the accusation of someone else that he is prejudiced. . . . The only way to clear the world of this great cause of ignorance and error is for everyone impartially to examine himself. If others won't deal fairly with their own minds, does that turn my errors into truths, or ought it to make me in love with them and willing to mislead myself? If others love cataracts on their eyes, should that stop me from having my own cataracts removed as soon as possible? Everyone declares against blindness, yet who isn't fond of that which dims his sight and keeps out of his mind the clear light that would lead him into truth and knowledge? When people build confidently on false or doubtful positions, they keep themselves in the dark from truth. Such are usually the prejudices imbibed

from education, party, reverence, fashion, interest, etc. This is the mote that everyone sees in his brother's eye, but never regards the beam in his own [this refers to *Matthew* 7:5]. It's not often that someone fairly examines his own principles to see whether they can stand examination; yet this should be one of the first things that everyone aims at and scrupulously does—I mean everyone who wants to conduct his understanding rightly in the search for truth and knowledge.

I am writing only to those who are willing to get rid of this great hindrance to knowledge, those who

want to shake off this great and dangerous impostor *prejudice*, which dresses up falsehood to look like truth, hoodwinking a man's mind so dexterously as to keep him in the dark with a belief that he is more in the light than any who don't see with *his* eyes.

I offer those readers this one mark by which prejudice can be recognised. Someone who strongly holds a certain opinion must suppose

- that his conviction is built on good grounds,
- that his assent is no stronger than is required by the evidence he has, and
- that *arguments* are what make him so confident and positive in his belief, not inclination or fancy.

Now if he can't bear any opposition to his opinion, if he can't give a patient hearing to the arguments on the other side, let alone examining and weighing them, doesn't he plainly admit that it's prejudice that governs him? . . . If his opinion is (as he claims) well defended with evidence, and if he *sees* it to be true, why should he be afraid to put it to the proof? . . . Someone whose assent is stronger than his evidence warrants owes this extra strength only to prejudice; he admits as much, in effect, when he refuses to hear what is offered against his opinion, thus declaring that what he

seeks is not evidence but the quiet enjoyment of an opinion he is fond of, with a condemnation of all that may oppose it, unheard and unexamined; which is prejudice. . . . Someone who wants to acquit himself in this case as a lover of truth, not giving way to any preoccupation or bias that may mislead him, must do two things that are neither common nor easy.

11. Wanting things to be true

First, he must not be in love with any opinion, mustn't *want* it to be true, until he knows it to be so, and then he won't need to want it. Why is it wrong to want P to be true in advance of knowing it to be true? Because nothing that is false can deserve our good wishes nor a desire that it should have the place and force of truth. Yet nothing is more frequent than this! Men are fond of certain tenets on no 'evidence' but respect and custom, and think 'I must maintain these or all is lost!'; though they have never examined the ground they stand on, haven't justified their tenets to themselves and can't justify them to others. We should contend earnestly for the truth, but we should first be sure that it *is* truth. Otherwise we •fight against God, who is the God of truth, and •do the work of the devil, who is the father and propagator of lies; and the warmth of our zeal won't excuse us, for it is plainly prejudice.

12. Self-examination

Secondly, he must do something that he'll be very reluctant to try, thinking that **(i)** it's unnecessary or that **(ii)** he isn't capable of doing it. It is: exploring whether his principles are certainly true or not, and how far he can safely rely on them. I shan't determine whether reluctance to try this comes more from people not having **(i)** the heart to do it

or from their not having **(ii)** the skill; but I'm sure that it's something that *ought* to be done by everyone who claims to love truth and doesn't want to mislead himself—which is a surer way to be made a fool of than by being exposed to the bad arguments of others. [Locke's next sentence is obscure, and seems out of place. What he needs here is something saying that when people think that they **(ii)** *can't* properly examine the credentials of their own beliefs, they are, in a way, right. Then:] This inability is not any natural defect that makes men incapable of examining their own principles; very few have any such defect, and it's no use giving *them* rules for conducting their understandings. The great number have been disabled from self-examination not by any natural defect but by the bad habit of never exerting their thoughts; the powers of their minds are starved by disuse, and have lost the reach and strength that nature fitted them to receive from being used. Those who are fit to learn the first rules of plain arithmetic and could be brought to do ordinary arithmetical sums could also do this self-examination if only they had accustomed their minds to reasoning; but if they have wholly neglected the exercise of their understandings in this way, they will at first be far from being able to do it—as unfit for self-examination as someone unpractised in arithmetic is for keeping the accounts of a business. But there is no denying that it is a *wrong* use of our understandings to build our tenets (on topics where it matters to us to believe the truth) on principles that may lead us into error. We take our principles haphazardly on trust without ever examining them, and then erect a whole system of beliefs on the presumption that those principles are true and solid; and what is all this but childish, shameful, senseless credulity?

So two things constitute the freedom of the understanding that is necessary for a rational creature, and are things with-

out which it can't qualify as truly an *understanding*. They are **(11)** indifference with regard to all truth, i.e. accepting it in the love of it *as truth*, but not loving it for any other reason before we know it to be true; and **(12)** examination of our principles, and not accepting or building on them until we as rational creatures are fully convinced that they are solid, true and certain. If the 'understanding' is under the constraint of accepting and retaining opinions by the authority of anything but its own (not fancied, but) perceived evidence, then it's not *understanding* at all, but mere whim, fancy, extravagance, what you will. This was rightly called *deceit*, and it is the worst and most dangerous sort of deceit. Why? Because in it we deceive ourselves, which is the strongest of all deceits; and we deceive ourselves over things that ought with the greatest care to be kept free from all deception. A source of great error and worse consequences is the world's tendency to *blame* people who are indifferent [see Glossary] with regard to opinions, especially in religion. To be indifferent as to which of two opinions is true is the right frame of mind; it keeps the mind from being deceived, and disposes it to examine opinions with that indifference—that even-handedness—until it has done its best to find the truth, this being the only direct and safe route to it. But to be indifferent as to whether an opinion we hold is true or false is the great road to error. Those who are guilty of this suppose *without examination* that what they hold is true, and then think they ought to be zealous for it. Their warmth and eagerness shows that they are not indifferent regarding their own opinions, but I think they are indifferent as to whether they are true or false, since they can't bear to have any doubts raised or objections made against them and clearly haven't raised any themselves. . . .

These are the most common misconducts that I think men should avoid or rectify in a right conduct of their understandings, and that should be particularly taken care of in education. It shouldn't be the aim of education to make the pupil a perfect learner in all the sciences, or indeed in any one of them, but to give his mind the freedom, disposition, and habits that can enable him to acquire any knowledge that he wants or needs in the future course of his life.

This is the only way for someone to become well principled; you can't make him so by instilling in him a reverence and veneration for certain dogmas bearing the glittering label 'principles', which are often so far from the truth and evidentness of genuine principles that they ought to be rejected as false. Those who are 'educated' in the latter way, when they come out of school and into the world and find they can't defend the principles they have taken up and settled for in that way, often cast off all principles and become perfect sceptics with no concern for knowledge and virtue. [That's the only occurrence of 'virtue' in this work.]

There are several weaknesses and defects in the understanding, either from the mind's natural temperament or from bad acquired habits, which hinder it in its progress to knowledge. If the mind were thoroughly studied we might find as many of these as there are diseases of the body; each of them clogs and disables the understanding to some extent, and therefore deserves to be studied and cured. I shall describe some of them in the hope of causing men, especially those whose business is knowledge, to look into themselves and see whether they don't permit themselves some weakness, allow some misconduct in the management of their intellectual faculty, which is prejudicial to them in the search of truth.

13. Observation

Particular matters of fact are the undoubted foundations on which our civil [see Glossary] and natural knowledge is built; they benefit the understanding because it draws from them conclusions that may serve as standing rules of knowledge and consequently rules of practice. The mind often fails to get the benefit it should from the information it receives from the accounts of civil or natural historians because it is too rushed or too slow in making observations [see Glossary] on the particular facts recorded in them.

Some people are assiduous in reading, but don't advance their knowledge much by it. They are delighted with the stories they read and perhaps can repeat them, taking all that they read to be nothing but history, narrative; but they don't reflect on it, don't make observations to themselves on the basis of what they read; so they are little improved by all that crowd of particulars that either lodge in their understandings or pass straight through. They dream on in a constant course of reading and cramming themselves, but the upshot is nothing but a heap of raw undigested stuff. If they have good memories one may say that they have the *materials* of knowledge; but, like building materials, they bring no benefit if they are simply left to lie in a heap.

Others lose by a quite contrary conduct the improvement they should make from matters of fact. They are apt to draw general conclusions, raising 'axioms', from every particular they meet with. These bring as little true benefit as the other, and indeed do more harm, because it's worse to steer one's thoughts by a wrong rule than to have no rule—error doing much more harm to busy men than ignorance does to the slow and sluggish ones. Those seem to do best who get significant and useful hints from matters of fact, carry them in their minds to be judged of by what they find in

history to confirm or reverse these imperfect observations; and when they are justified by a sufficient and cautious induction of particulars they may be established into reliable rules. Someone who makes no such reflections on what he reads merely loads his mind with a mish-mash of tales fit for the entertainment of others on winter nights; and someone who wants to polish every matter of fact into a maxim will abound in contrary observations that can only perplex him if he sets them side by side or else misguide him if he gives himself up to the authority of the one which for some silly reason pleases him best.

14. Bias

Next to these we may place those who allow their natural temperaments and passions to influence their judgments, especially regarding men and things that relate in some way to their present circumstances and interests. Truth is all simple, all pure, and can't be mixed with anything else. It is rigid, not to be bent by any side-interests, and the same should be true of the understanding, whose use and excellency lies in conforming itself to the truth. Although it's not what always happens, the proper business of the understanding is to think of everything just as it is in itself. Nobody will flout common sense so openly as to deny that we should try to know and think of things as they are in themselves, yet men very often make no such attempt. They are apt to excuse themselves and say they have a reason for their way of thinking, namely that it is for 'God' or 'a good cause', these being labels people commonly use for their own persuasion or party or self-interest. But God doesn't require men to misuse their faculties for him, or to lie to others or themselves for his sake, which is what men deliberately do when they don't allow their understandings to have right

conceptions of the things proposed to them. . . . And as for a good cause: that doesn't need such crooked helps; if the cause really is good, truth will support it and it has no need of fallacy or falsehood.

15. Arguments

Very like bias is hunting after arguments to make good one side of a question while wholly neglecting and rejecting those that favour the other side. When someone accepts opinions that best fit with his power, profit, or credit, and then looks for arguments to support them, what is this but wilfully misguiding the understanding? Far from giving truth its due value, it wholly debases it. Even if he happens upon truth, it will do him no more good than error would, because what he takes up in this way may as well be false as true, and he hasn't done his duty by thus stumbling on truth en route to profit or promotion.

Another way of collecting arguments is more innocent though still not satisfactory, namely the familiar practice of bookish men who furnish themselves with the arguments they meet with, pro and con, in the questions they study. Having arguments gathered from other men's thoughts merely floating in their memory doesn't help them to judge rightly or argue strongly, but only to talk copiously on either side with some appearance of reason, without being steady and settled in their own judgments. Such a variety of arguments only distract the understanding that relies on them, unless it goes further than such a superficial way of examining. . . . The sure way—the *only* way—to get true knowledge is to form in our minds clear settled notions of things, with names attached to those determined ideas. We should consider these, and their various interrelations, and not waste our time with floating names, words with unsettled

meanings which we can use in different senses according to our purposes. Real knowledge consists in the perception of the relations our ideas have to one another; and once a man perceives how far they agree or disagree with one another he'll be able to make judgements about what other people say, and won't need to be led by the arguments of others, many of which are nothing but plausible trickery. This will teach him to state the question properly, and see where its crux is; and thus he will stand on his own legs and know by his own understanding. Whereas by collecting arguments and learning them by heart he will be merely a servant to others, and when anyone questions the foundations the arguments are built on he'll be at a loss and will have to give up his claim to knowledge.

16. Haste

Labour for labour's sake is against nature. The understanding, like our other faculties, always chooses the shortest route to its goal; it would like to get the knowledge it is pursuing quickly, and then embark on some new inquiry. But this—whether it's laziness or haste—often misleads it, and makes it content itself with improper ways of searching that won't serve its purposes. Sometimes, in a case where testimony is irrelevant, the understanding relies on testimony because it is easier to •believe than to •be scientifically instructed. Sometimes it contents itself with one argument, settling for that as though it were a demonstration [see Glossary], when the thing in question can't be settled by demonstration and therefore must be submitted to the trial of probabilities in which all the relevant arguments pro and con are examined and weighed against one another. In some cases where demonstration *can* be had, the mind is determined by considerations of probability. Men are led by

laziness, impatience, habit, and lack of use and attention into these and various other kinds of misconduct; they are all misapplications of the understanding in the search for truth. To make our inquiry into any question such as it should be, we should start by considering what kind of proof it is capable of. This would often save a great deal of useless trouble and lead us sooner to whatever discovery and possession of truth is possible for us. Multiplying the variety of arguments, especially frivolous ones such as those that are merely verbal, is not only lost labour but clutters the memory to no purpose, serving only to hinder it from seizing and holding the truth in cases that are capable of demonstration. In demonstration the truth and certainty is seen, and the mind •takes full possession of it; whereas in the other way of assent it only •hovers about it and is confused with uncertainties. In this superficial •hasty way the mind is indeed capable of a greater variety of plausible •talk, but it isn't enlarged as it should be in its •knowledge. It's because of this same haste and impatience of the mind that men fail to trace arguments back to their true foundations; they see a little, presume a great deal, and so jump to the conclusion. This is a short way to intellectual frivolity and (if firmly embraced) to opiniatry [= 'obstinate and unreasonable adherence to one's own opinion'], but it is certainly the longest way to knowledge. If you want to *know*, you must by the connection of the proofs see •the truth and •the ground it stands on; so if haste makes you skip over what you should have examined, you'll have to start again or you'll never come to knowledge.

17. Jumping around

Another fault that has results as bad as haste does, and that also comes from laziness (with a mixture of vanity), is skipping from one sort of knowledge to another. Some men's

temperaments are quickly weary of any one thing. They can't bear constancy and assiduity; sticking for long at the same study is as intolerable to them as appearing for long in the same clothes or fashion is to a court lady.

18. Smattering

Others, wanting to seem to know everything, get a little smattering of every thing. Both these may fill their heads with superficial notions of things but they are far from being en route to attaining truth or knowledge.

19. Universality

I'm not here speaking against taking a taste of every sort of knowledge. That is certainly very useful and necessary to form the mind, but then it must be done in the right way and for the right purpose, *not* to fill the head with shreds of all kinds for purposes of talk and vanity. Someone who does *that* may be able to keep his end up in every conversation he finds himself in, as if...his head were so well stored that nothing could be proposed that he wasn't master of... It is an excellency indeed—a *great* excellency—to have real and true knowledge in all or most of the topics that can be thought about. But one man can hardly achieve this; and so few people have come anywhere near it that I don't know whether they should be held out as examples in the ordinary conduct of the understanding. For a man to understand fully the business of

- his particular ·trade or profession·, his calling in the commonwealth, and of
- religion, which is his calling as he is a man in the world,

is usually enough to take up his whole time; and not many people inform themselves about these as deeply as they should. But although very few men extend their thoughts towards universal knowledge, I'm sure that if the right way were taken and the methods of enquiry were ordered as they should be, men who have great leisure might go much further in this than is usually done. What makes it worthwhile for a man to have a little insight in parts of knowledge that are not his proper business is that this accustoms his mind to all sorts of ideas and to the right ways of examining their interrelations... Also, this universal taste for *all* the sciences, viewed impartially before the mind comes to fall in love with one of them in particular, will prevent another evil that is commonly to be observed in those who have from the beginning had exposure to only one part of knowledge. If man is given up to the contemplation of one sort of knowledge, it will become *everything* for him. His mind will be so coloured by his familiarity with that topic that everything else, however remote, will be brought into the picture. A metaphysician who has thoughts about ploughing and gardening will immediately bring them up into the realm of abstract notions; natural history will mean nothing to him. An alchemist will go the opposite way, bringing divinity down to the maxims of his laboratory, explaining morality by salt, sulphur and mercury, and treating the sacred mysteries of Scripture itself as allegories regarding the philosopher's stone [a mythical substance that would turn base metals into gold]. And I once heard a man who was notably knowledgeable about music seriously accommodate Moses' seven days of the first week to the notes of the scale, as if *that* had dictated the measure and method of the creation! The best way to keep •the mind from this kind of thing (which it's quite important to do) is to give •it a fair and equal view of the whole intellectual world, letting it see the order, rank, and

beauty of the whole, and give a just allowance to the distinct provinces of the various sciences. . . .

If this is something that old men won't think necessary or be easily brought to do, it should at least be practised in the breeding of the young. The business of education, as I remarked on page 14, is not to make them perfect in any one of the sciences, but to open and dispose their minds so as to make them capable of any one science if they apply themselves to it. If men are for a long time accustomed only to one sort of thought or one way of thinking, their minds grow stiff in it and don't easily turn to anything else. It is to give them this freedom that I think they should be made to look into all sorts of knowledge, and exercise their understandings in a wide variety and stock of knowledge. But I don't propose this as a variety and stock of knowledge, but as a variety and freedom of thinking—as an increase of the mind's powers and activity, not as an enlargement of its possessions.

20. Reading

This is something that I think people who read a great deal are apt to be wrong about. Those who have read about everything are thought also to understand everything; but it is not always so. Reading provides the mind only with materials of knowledge; *thinking* makes what we read *ours*. It is not enough to cram ourselves with a great load of literary collections; unless we chew them over again—like a cow chewing its cud—they won't give us strength and nourishment. There are indeed in some writers visible instances of deep thoughts, close and acute reasoning, and ideas well pursued. The light these could give would be very useful if their readers observed and imitated them; all the rest are, at best, merely particulars fit to be turned into

knowledge, but *that* can be done only by our own meditation, our examining the reach, force, and coherence of what is said. As far as we grasp and see the connection of ideas, to that extent it is ours; without that it's merely loose matter floating in our brain. The memory may be stored, but the judgment is little better and the stock of knowledge not increased by our being able to repeat what others have said or produce the arguments we have found in them. This is mere 'knowledge' by hearsay, and displaying it is at best only talking by rote, and very often on weak and wrong principles. For what is found in books is not all built on true foundations, nor always rightly deduced from the principles it is claimed to be built on. Many readers are not eager to make the examination that is needed to discover that, especially those who have given themselves up to a *party* and hunt only for what they can scrape together that may favour and support its tenets. Such men wilfully exclude themselves from truth and from all true benefit that reading could bring them. Others are less hindered by bias but aren't willing to stay focused and to work hard. The mind is inherently reluctant to take the trouble to trace every argument back to see what its basis is and how firmly it stands on it; but this is what gives one man so much more benefit than another in reading. The mind should be tied down by severe rules to this initially unwelcome task; use and exercise will make the task easier. Those who are accustomed to it will readily—at a glance, so to speak—take a view of the argument, and in most cases see right away what its ultimate basis is. Those who have developed this faculty have, one may say, acquired •the true key of books and •the thread to lead them through the labyrinth of opinions and authors to truth and certainty. Young pupils should be introduced to this and shown how useful it is, so that they'll profit by their reading. Those who are strangers to it will be apt to think that it's too great a

clog in the way of men's studies; they'll suspect that they will make little progress if in the books they read they must stop to examine and unravel every argument and follow it step by step back to its source.

I answer that this is a good objection, which ought to weigh with those whose reading is designed for much talk and little knowledge, and I have nothing to say against it. But my present topic is the conduct of the understanding in its progress towards knowledge; and to those who aim at *that* I can say that someone who goes softly and steadily forward in the right direction will reach his journey's end sooner than someone who runs after everything he encounters, even if he gallops all day at full speed. And I would add this: my recommended way of thinking about and profiting by what we read will be a clog and hindrance to anyone only at the beginning; when custom and exercise have made it familiar, it will usually be done without stopping or interrupting our reading. . . . I shall return to reading in **24[E]**.

21. Intermediate principles

To avoid the need to go back to remote and first principles in every case, the mind should provide that backward journey with several *stages*, i.e. •intermediate principles that it can have recourse to in examining propositions that come its way. These won't be •self-evident principles, but if they have been derived from self-evident ones by a cautious and unquestionable deduction they can be depended on as certain and infallible truths, and can serve as unquestionable truths from which to prove •others that depend on them by a chain of reasons shorter than the one that links •them to remote and general maxims. (These intermediate principles can also serve as landmarks to show what lies on the straight road to the truth and what is off in the wrong direction.)

Mathematicians use them; they don't in every new problem go right back to the first axioms through the whole sequence of intermediate propositions. . . . In other sciences great care should be taken that any intermediate principles are established with as much caution, exactness, and impartiality as mathematicians use in settling any of their great theorems. When this is not done, and men take up the principles in a science on credit, inclination, interest etc., or in haste and without due examination and unquestionable proof, they lay a trap for themselves and make their understandings captive to mistake, falsehood, and error.

22. Partiality

Just as there is a partiality [see Glossary] to opinions, which (I repeat) is apt to mislead the understanding, so there is often **[A]** a partiality to fields of study, which is also prejudicial to knowledge and improvement. A man is apt to praise the science he is particularly trained in, as if it were the only part of knowledge worth having, all the rest being idle and empty pastimes. . . . This is an effect of ignorance, not of knowledge. . . . There's nothing wrong with a man's enjoying the science that he has made his special study; a view of its beauties and a sense of its usefulness adds to a man's delight and warmth in the pursuit and improvement of it. But contempt for all other knowledge, as if it were nothing in comparison with one's own favoured field, not only •is the mark of a vain or little mind but •harms the conduct of the understanding by cooping it up within narrow bounds and hindering it from looking into other provinces of the intellectual world that might be more beautiful and more fruitful than one's own, and might provide—besides new knowledge—ways or hints whereby one might be better able to cultivate one's own.

23. Theology (an aside)

There is indeed one science (as they are now classified) that is incomparably above all the rest, namely theology. This contains the knowledge of God and his creatures, our duty to him and our fellow-creatures, and a view of our present and future state; so it takes in all other knowledge that is directed to its true end, i.e. the honour and veneration of the Creator and the happiness of mankind. (I'm talking here about theology that hasn't been corruptly narrowed into a trade or faction, for mean or ill ends and secular interests.) This noble study is every man's duty, and everyone who can be called a rational creature is capable of it. The works of nature and the words of revelation display it to mankind in characters so large and visible that those who aren't entirely blind can read them and see the first principles and most necessary parts of theology; and from there they may be able—time and energy permitting—to go on to the more abstruse parts of it, and penetrate into those infinite depths filled with treasures of wisdom and knowledge. This is the science that would truly enlarge men's minds if it were studied—or permitted to be studied—everywhere with the •freedom, •love of truth and •charity that it teaches, and were not made, contrary to its nature, the occasion of strife, faction, malignity, and narrow impositions. All I'll say about this here is that it's undoubtedly a wrong use of my understanding to make *it* the rule and measure of another man's—a use that it is neither fit for nor capable of.

24. Partiality (resumed)

This partiality, even when it isn't allowed the authority to declare all other studies insignificant or contemptible, **[B]** is often allowed to make itself felt in other realms of

knowledge to which it doesn't belong and with which it has no kind of affinity. Some men have made their heads so accustomed to mathematical figures that. . . they introduce lines and diagrams into their study of divinity or politics, as if nothing could be known without them; and others, accustomed to meditative theorising, run natural philosophy into metaphysical notions and the abstract generalities of logic; and we often see religion and morality being discussed in the terms of the laboratory, and thought to be improved by the methods and notions of chemistry. But anyone who wants to take care of the conduct of his understanding, to steer it directly to the knowledge of things, must •avoid those inappropriate mixtures and •not let his fondness for what he has found useful and necessary in one science lead him to transfer it to another where it serves only to perplex and confound the understanding. . . . Things themselves are to be considered as they are in themselves, and then they will show us in what way they are to be understood. For to have right conceptions about them, we must bring our understandings to the inflexible natures and unalterable relations of things, and not •go in the opposite direction, i.e. •try to bring things to any preconceived notions of our own.

[C] Another partiality that is commonly seen in studious men, and is just as prejudicial and ridiculous as **[B]**, is the fantastical and wild attributing of all knowledge to the ancients alone, or to the moderns alone. In one of his satires •the Latin poet• Horace has wittily described and exposed this raving on antiquity in matters of poetry. The same sort of madness can be found in reference to all the other sciences. Some people won't accept any opinion not authorised by men of old, who were then all giants in knowledge; nothing is to be put into the treasury of truth or knowledge that doesn't have the stamp of Greece or Rome on it; and these people will hardly allow that since ancient times men have been able

to see, think, or write! Others, equally extravagantly, hold in contempt all that the ancients have left us; they are so taken with modern inventions and discoveries that they set aside everything that went before, as though whatever is called old must have the decay of time upon it and even truth were liable to mould and rottenness. I don't think men have differed much in their natural endowments down the centuries. Fashion, discipline, and education have created striking differences in the ages of various countries, making one generation very different from another in arts and sciences; but truth is always the same; time doesn't alter it, and it isn't better or worse for being of ancient or modern tradition. In earlier centuries many men were eminent for their discovery and delivery of truth; but although the knowledge they have left us is worth our study, they didn't exhaust all truth's treasure; they left a great deal for the industry and ability of later times, and so shall we. What was once new to them is *now* received with veneration for its antiquity; it was none the worse *then* for appearing as a novelty, and what is now embraced for its newness will to posterity be old, but no less true or less genuine for that. There's no occasion here to oppose the ancients and the moderns to one another, or to take one side against the other. Anyone who wisely conducts his mind in the pursuit of knowledge will gather what lights and get what helps he can from either of them. . . ., without adoring the errors or rejecting the truths that he may find mixed in with them.

[Da] Some people are partial to vulgar [see Glossary] opinions because they are vulgar. They are apt to conclude that

- what is the common opinion cannot but be true;
- so many men's eyes cannot see wrongly;
- so many men's understandings of all sorts can't be deceived;

so they won't venture to look beyond the accepted notions of

their place and time, won't presumptuously think themselves wiser than their neighbours. They're content to go with the crowd, so they go easily, and they think that this is going right or at least serves them as well as going right. But however much *Vox populi vox Dei* [Latin: 'The voice of the people is the voice of God'] has prevailed as a maxim, I don't remember God delivering his oracles by the multitude, or nature delivering truths by the herd! **[Db]** On the other side, some people shy away from all common opinions as either false or frivolous. The title 'many-headed beast' is for them a sufficient reason to conclude that no truths of weight or consequence can be lodged there. Vulgar opinions are suited to vulgar abilities (they think), and are shaped to suit the goals of those who govern; if you want to know the truth of things you must leave the common and beaten track that only weak and servile minds are satisfied to go on trudging along. Such selective palates don't like the taste of anything but strange out-of-the-way notions; whatever is commonly accepted has the mark of the beast on it, and they think it would be degrading to them to listen to it or accept it; their mind runs only after paradoxes; these are what they seek, what they embrace, and are the only things they publicly announce, thinking that this will distinguish them from the vulgar. The multitude don't reason well, and therefore may be well suspected, can't be relied on, and shouldn't be followed as a sure guide; but philosophers who have left the orthodoxy [see Glossary] of the community and the popular doctrines of their countries have fallen into opinions as extravagant and absurd as any that were ever commonly accepted. It would be madness to refuse to breathe the common air, or quench one's thirst with water, because 'the rabble' use them for these purposes. . . .

Neither *common* nor *uncommon* is a marker for either truth or falsity; so neither should bias us in our enquiries.

We should not judge of things by men's opinions, but of opinions by things!

[E] A man shows another sort of partiality if he makes use of the opinions of writers, and stresses his authorities whenever he finds them to favour his own opinions. People who do this deceive themselves and deprive their reading of almost all the usefulness it might have had.

Hardly anything has done more harm to men dedicated to literary pursuits than giving the label 'study' to reading, and equating 'a man of great reading' with 'a man of great knowledge', or at least regarding it as a title of honour. All that can be recorded in writing are only facts or reasonings. Facts are of three sorts:

- (1) Facts about natural agents, observable in the ordinary interactions of bodies—in the visible course of things left to themselves or in experiments where men made things interact in specially contrived ways.
- (2) Facts about voluntary agents, especially the actions of men in society, which constitute civil and moral history.
- (3) Facts about opinions.

These three seem to me to comprise what commonly counts as 'learning'. Some people may want to add a fourth category, *critical writings*, which do basically concern nothing but matters of fact—facts about what men used what words or phrases in what senses, i.e. what sounds they used as marks of such-and-such ideas.

Under 'reasonings' I include all the discoveries of •general truths made by human reason, whether found by intuition, demonstration, or probable deductions. And this is most properly the business of those who claim that their reading improves their understandings and gives them knowledge (though we must also make room for the truth or probability of •particular propositions, because they too can be known).

Books and reading are regarded as the great helps of the understanding and instruments of knowledge, and so indeed they are; but I beg leave to suggest that they are a hindrance to many, and keep various bookish men from acquiring solid and true knowledge. I think I may be permitted to say this much: there is no activity in which the understanding needs to be more careful and wary than it does in the use of books; otherwise they'll be innocent pastimes, bringing only small additions to our knowledge, rather than profitable employments of our time.

Even among those who aim at knowledge there are many who with unwearied industry spend their whole time on books, hardly allow themselves time to eat or sleep, but read and read and read on, yet make no great advances in real knowledge although there's no defect in their intellectual faculties that might explain this. The mistake here is to suppose—as people usually do—that when someone reads, the author's knowledge is transfused into his understanding; and so it is, but not by bare reading, but by reading *and understanding* what he wrote. I don't mean merely grasping what is affirmed or denied in each proposition (though even that is something that avid readers don't always think they need to do), but seeing and following the train of his reasonings, observing the strength and clearness of their connection, and examining what they are ultimately based on. Without this, a man may read the discourses of a very rational author, written in a language and in propositions that he very well understands, and yet acquire not one jot of the author's knowledge. That knowledge consists in the perceived connections—certain or probable—of the ideas the author used in his reasonings; so the reader's knowledge is increased only by perceiving those connections; the more he sees of them the more he knows of the truth or probability of the author's opinions.

When he relies on something without this perception, he is simply taking the author's word for it, without any *knowledge* of it. So I am not surprised to see some men provide so many citations, and build so much on authorities, this being the sole foundation on which they base most of their own tenets; so that in effect they have only second-hand knowledge, i.e. are right in asserting P only if the writer they borrowed P from was right in asserting it—which indeed is not knowledge at all. Writers of the present or past may be good witnesses to the matters of fact that they report, which we may do well to accept on their authority; but their credit can't go further than this; it can't at all affect the truth and falsehood of opinions that can be tested only by reason and proof, which they themselves used to acquire knowledge, as must others who want to partake in that knowledge. It does indeed bring us benefit that they have taken the trouble to find out the proofs and present them in a way that can show the truth or probability of their conclusions; and for this we owe them thanks for saving us the trouble of searching out those proofs for ourselves, proofs that we might not have found or been able to present as clearly as those predecessors did. So we owe a lot to judicious writers of all ages for the discoveries and discourses they have left behind them for our instruction, if we know how to use them properly; which is not •to skim through them and perhaps memorise their opinions or some remarkable passages, but •to enter into their reasonings, examine their proofs, and then judge the truth or falsehood, probability or improbability, of what they assert. . . . Knowing is seeing, and it's madness to think we see by another man's eyes, however many words he uses to tell us that what he asserts is very visible! Till we see it with our own eyes and perceive it by our own understandings we're as much in the dark and as empty of knowledge as we were before. . . .

It is agreed that Euclid and Archimedes had knowledge, and demonstrated what they said; but anyone who reads their writings without seeing how their proofs hold together and seeing what they show won't acquire any knowledge of his own, however well he understands all their words. He may *believe* what they say but he doesn't *know* it; so all his reading of those approved mathematicians doesn't advanced him an inch in mathematical knowledge. . . .

25. Haste

The mind's eagerness to acquire knowledge is often a hindrance if it isn't cautiously regulated. It presses on into further discoveries and new topics, snatches at the varieties of knowledge, and therefore often doesn't stay with what is in front of it for long enough to look into it properly because it's in a rush to pursue what is still out of sight. Someone who gallops through a country may be able to tell how in general its parts lie, to give a loose description of a mountain here and a plain there, a morass here and a river there; but the more useful observations of the soil, plants, animals, and inhabitants, with their various sorts and properties, must escape him. Men seldom discover rich mines without some digging! Nature commonly lodges her treasure and jewels in rocky ground. If a topic is knotty and the sense lies deep, the mind must stop and knuckle down to labour and thought and close contemplation, not leaving it till it has mastered the difficulty and come to possess the truth. But care must be taken to avoid the other extreme; a man mustn't stick at every little detail, expecting mysteries of science in every trivial question he may raise. Someone who stops to pick up and examine every pebble that comes in his way is as unlikely to return enriched and loaded with jewels as the man who travelled at full speed. Truths are not

better or worse for their obviousness or difficulty; their value is to be measured by their usefulness and consequences. Insignificant observations should not take up any of our minutes, whereas observations that enlarge our view and give light towards further and useful discoveries should not be neglected, even though they stop us and make us spend some of our time concentrating on them.

There's another way in which the mind, if not disciplined, will mislead itself by being too hasty. The understanding is naturally eager not only •to have variety in its knowledge (which makes it skip over one part of knowledge to get speedily to another), but also •to enlarge its views by running too fast into general observations [see Glossary] and conclusions without properly examining the particulars on which to base them. This seems to enlarge their stock, but they are adding fancies and not realities; such theories built on narrow foundations aren't stable, and if they don't simply *fall* they're at least hard to support against the assaults of opposition. . . . General observations drawn from particulars are the jewels of knowledge, containing a great deal in a small space; but for just that reason they should be made with great care and caution. . . . A few particulars may suggest hints of enquiry, and men do well to take those hints; but if they turn them into conclusions and quickly make them into general rules, they're moving along fast but only in deceiving themselves by propositions assumed as truths without sufficient warrant. To make a store of such particulars is to have a head stocked with materials that can hardly be called knowledge, but only a collection of lumber not reduced to use or order; and someone who makes everything a ·general· observation has the same useless plenty and much more falsehood mixed with it. Both extremes are bad; it's best to keep one's understanding on the middle road between them.

26. First comers

Many men give themselves up to the first anticipations of their minds, and hold tenaciously to the opinions that first possess them; they're often as fond of their first conceptions as of their first born, and refuse to back off from a judgment they have once made, or from any conjecture or conception they have once entertained. (This may come from a love of what brings the first light and information to their minds, and lack of vigour and industry to enquire; or it may be that men content themselves with any appearance of knowledge, right or wrong, and once they have it they hold on tightly.) This is a fault in the conduct of the understanding, because this firmness—or rather *stiffness*—of the mind comes not from adherence to truth but from submission to prejudice. It is an unreasonable homage paid to first comers, in which we show a reverence not to •truth (which is what we claim to seek) but •whatever *happens* to have come our way, whatever it is. This is obviously a preposterous use of our faculties, an outright prostituting of the mind, to put it in this way under the power of the first comer. This would be a right way to knowledge only if the understanding (whose actual business it is to conform itself to what it finds outside itself) could change the world so as to make it fit its own hasty determinations; and of course this it can never do. Whatever we fancy, things keep their course and their interrelations stay the same.

27. Last comers

There is also a dangerous excess in the other direction, by those who always resign their judgment to the last man they heard or read. Truth never sinks into these men's minds or has any effect on them; they are like chameleons, taking

the colour of whatever is laid before them, and losing it as soon as something different happens to come in their way. [in Michael Frayn's *the Tin Men* there is a character who 'had an open mind. It was open at the front, and it was open at the back. Opinions, beliefs, philosophies entered, sojourned briefly, and were pushed out at the other end by the press of incoming convictions and systems.'] The order in which opinions are proposed or received by us is no rule of their rightness and oughtn't to be a cause of their preference! First or last is a matter of chance and not the measure of truth or falsehood. . . . For a man to •accept something because of its novelty, or retain it because it had his first assent and he never changed his mind about it, would be as reasonable as •regulating his beliefs by throws of dice. Judgment should be determined by well-weighed reasons; the mind should always be ready to listen and submit to *them*, going by their testimony and their vote in accepting or rejecting any proposition, whether it's a perfect stranger or an old acquaintance.

[This next paragraph appears in the original at the end of **28**, where it is obviously quite out of place. It can go here as a kind of commentary on 'old acquaintance' and an afterthought to section **26**.] It is not strange that methods of learning that scholars have been accustomed to since their entrance into the sciences should influence them all their lives, and be settled in their minds by an overruling reverence, especially if they are ones that universal use has established. Learners must at first be believers, and once their masters' rules have been made *axioms* to them it's no wonder if they—the rules in question—keep that dignity, and mislead those who think that the rules' authority is sufficient to excuse them if they go astray from a well-beaten track.

28. Practice

Though the faculties of the mind are improved by exercise, they mustn't be put to a stress beyond their strength. Anyone who wants not only to perform well but to keep up the vigour of his faculties and not stump his understanding by what is too hard for it must keep in mind *What the shoulders are strong enough for and what they refuse to bear* [Locke quotes this in Latin from the poet Horace]. When the mind is engaged in a task beyond its strength, like a body strained by trying to lift a weight that is too heavy for it, its force can be broken, leaving it reluctant or unwilling ever again to make any vigorous attempt. A cracked sinew seldom recovers its previous strength, or at least the tenderness of the sprain remains for a good while and the memory of it lasts longer, leaving the man cautious about giving that part of his body any hard work to do. It's like that with a mind that has been worn out by an attempt above its power: either •it is disabled for the future, or else •it shies away from any vigorous undertaking from then on, or at least is hard to persuade to exert its force again on any subject that requires thought and meditation. The understanding should be brought *very gradually* to the difficult and knotty parts of knowledge that require strength of thought and a full bent of the mind; and then nothing is too hard for it. . . . However, although putting unusual stress on the mind without preparation may discourage or damp it for the future and ought to be avoided, it mustn't be allowed, through an undue shyness over difficulties, to spend time lazily sauntering over ordinary and obvious things that demand no thought or application. This debases and enervates the understanding, makes it weak and unfit for labour. . . . Someone who has for some time accustomed himself to thinking only about what easily offers itself at first view has reason to fear he'll never reconcile himself to

the fatigue of turning and tumbling things in his mind to discover their less obvious and more valuable secrets. . . .

29. Words

The sciences are full of misuses of words; but I have dealt fully enough with this topic in another place [*Essay* III.x-xi], and shall here merely offer a warning: if you want to conduct your understanding rightly, don't take any term—however much authorised by the language of the schools [see Glossary]—to stand for anything until you have an idea of it. Even if a word is frequently used by various authors as though it stood for some real being, if the reader can't form any distinct idea of that being then *to him* that word is a mere empty sound without any meaning. . . . Those who want to advance in knowledge, and not deceive and swell themselves with a little articulated air, should lay down this as a fundamental rule: don't take words for things; don't suppose that names in books signify real entities in nature until you can form clear and distinct ideas of those entities. [Locke goes on about this for a further indignant page, emphasising and dramatising what he has just said, but not adding to its content. He cites the expressions 'substantial forms' and 'intentional species'—popular in 'the schools'—as not having corresponding ideas and thus as being meaningless. He throws in a joke: if a writer says of something that it's an *I know not what* then we should attend to what he says about it *I know not when*.]

30. Wandering

There is a constant succession and flux of ideas in our minds, and everyone can observe this in himself. Our care in the conduct of our understandings ought to include care

regarding this flux; it may be greatly to our advantage, I think, if we can get a power over our minds that will let us *direct* that sequence of ideas in such a way that

- when new ideas keep coming into our thoughts (as they perpetually will), we can ensure that all that come into view are relevant to our present enquiry and are in the order that will be most useful to the discovery we are aiming at; or at least
- if some foreign and unsought ideas do present themselves, we can reject them, keep them from distracting our mind from its present pursuit. . . .

This may harder to do than you might think; yet this may be one of the great differences that carry some men in their reasoning so far beyond others who seem to be their equals in basic ability. I would be glad to find an effective remedy for this wandering of thoughts; that would do great service to the studious and contemplative part of mankind, and perhaps help unthinking men to become thinking. So far, I admit, I have discovered no way to keep our thoughts close to their business except •trying as hard as we can and •by frequent attention and application getting the *habit* of attention and application. If you observe children you'll find that even when they try their hardest they can't keep their minds from straggling. The way to cure this is not by angry scolding or beating, for that immediately fills their heads with all the ideas that fear or confusion can offer to them. It has a better long-term effect on them to bring their wandering thoughts back *gently*, leading them into the path they should follow and going ahead of them along it, without any rebuke. . . .

31. Distinguishing

Distinguishing and dividing are very different things; the former being •the perception of a difference that nature

has made between things, the latter being •our making a division where there is yet none. [He means: *introducing* a pointless classificatory line corresponding to some qualitative difference, e.g. dividing some pebbles into ‘ovicalculi’ and ‘spherocalculi’ according to whether they are egg-shaped or spherical.] (I think I’m right about the meanings of ‘distinguishing’ and ‘dividing’, but anyway let me use them in these senses for purposes of my discussion.) Of these two,

- distinguishing is necessary and conducive to true knowledge; nothing could be more so; whereas
- dividing, when too much made use of, serves only to puzzle and confuse the understanding.

Observing every least difference between things shows quick and clear sight, and this keeps the understanding steady and straight in its way to knowledge. But though it’s useful to notice every variety that is to be found in nature, it is not helpful to divide things into distinct *classes* on the basis of every difference between them. If we do this we’ll end up with classes that have only one member each (because every individual has something that differentiates it from everything else), and we shan’t be able to establish any general truths, or at least we’ll be apt to puzzle the mind about them. The collection of things into *classes* gives the mind more general and larger views; but we must take care not to overdo this. [Locke expands on this, aiming at some of his favourite targets—words with no distinct ideas attached to them, ‘scholastic’ terminology, and so on. In some learned men’s writings, he says, the topic is] so divided and subdivided that the most attentive reader’s mind loses sight of it, as the writer himself probably did; for in things crumbled into dust it’s useless to claim order or expect clarity. To avoid confusion by having too few or too many divisions is a great skill in thinking (as well as in writing, which is merely the copying of our thoughts); but what are the boundaries

of the middle way between those two excesses? That is hard to set down in words; the best I can do is the phrase ‘clear and distinct ideas’. [As for sorting out different senses of common words, Locke says, that is ‘the business of criticism and dictionaries rather than of real knowledge’, because] knowledge consists in perceiving the interrelations among ideas, which is done without words; the intervention of a sound is no help with it. That is why we see that there is least use of distinctions where there is most knowledge; I mean in mathematics, where men have determined ideas with known names to them; and so because there is no room for equivocations there is no need for distinctions. [In combative arguments, Locke continues (in a notably unclear passage), each combatant uses as many ambiguous words as possible, and makes as many distinctions as he can as a defence against his opponent’s ambiguities. These tactics, he says contemptuously,] constitute a way in which victory can be had without truth and without knowledge. This seems to me to be the art of disputing. . . . There seems to me to be no other rule for behaving properly in this respect but an appropriate and correct consideration of things as they are in themselves. Someone who has determined ideas settled in his mind, with words linked to them, will be able both •to discern their differences from one another (which is really distinguishing) and, where there aren’t enough words to have one for every distinct idea, •to apply proper distinguishing terms to the comprehensive and equivocal names he is forced to make use of. So far as I know, that is all the need there is to distinguish terms; and in such verbal distinctions one is simply providing a distinct name for each distinct idea. . . .

A tendency to lump together things that are alike in *any* way is a fault in the understanding on the other side; it is certain to mislead it, preventing the mind from getting distinct and accurate conceptions of things.

32. Similes

Another fault in the understanding, which is like the one last mentioned, is

when the mind encounters a new notion, letting that prompt it to run immediately after similes to make the notion clearer to itself.

That may be useful in explaining our thoughts •to others, but it's far from being a right method to settle true notions of anything •in ourselves, because similes are never perfect and always fall short of the exactness that our conceptions should have to things if we are to think aright. Similes do indeed make men plausible talkers; for hearers prefer speakers who know how to let their thoughts into other men's minds with the greatest ease and smoothness; few men care to be instructed in a way they find difficult. Those who in their discourse strike the imagination, taking the hearers' conceptions along with them as fast as their words flow, are the applauded talkers—whether or not their thoughts are well formed and correspond with things—and count as the only men with clear thoughts! Nothing contributes so much to this as similes, through which men think that *they understand* better because their hearers or readers *understand them* better. But it is one thing to think rightly and another thing to know the right way to lay our thoughts—whether right or wrong—before others with advantage and clearness [Locke's phrase]. Well-chosen similes, metaphors and allegories, handled with method and order, do this better than anything else. Why? Because they are taken from objects that are already known and familiar to the understanding, so they are conceived as fast as they are spoken, and the thing they are brought to explain and elucidate is thought to be understood too. Thus imagination passes for knowledge, and what is prettily said is mistakenly thought to be solid. I'm not saying

this to decry metaphor, wanting to take away that ornament of speech; my business here is not with •rhetoricians and orators but with •philosophers and lovers of truth. Allow me to offer *them* this one rule by which to discover whether, in applying their thoughts to anything for the improvement of their knowledge, they really do comprehend the matter before them such as it is in itself:

Observe whether, in laying x before yourself or others, you use only borrowed representations and ideas that are foreign to x and are applied to it merely as a matter of convenience because they have some proportion or imagined likeness to x.

Figurative and metaphorical expressions do well to illustrate more abstruse and unfamiliar ideas that the mind is not yet thoroughly accustomed to; but then they must be used to illustrate ideas that we already have, not to present us with new ideas. Such borrowed and allusive ideas may follow real and solid •truth, to highlight it when it is found, but they mustn't be set in •its place and taken to *be* •it. If all our search still hasn't reached further than simile and metaphor, we may assure ourselves that we *imagine* rather than *know*, and haven't yet penetrated into the inside and reality of the thing, whatever it is, but have to settle for what is provided by our imaginations and not by things themselves.

[Editors have noted that this complaint against similes could be aimed at Locke's own famous comparison of the unexperienced mind to 'white paper' (*Essay* II.i.2). The preparer of the present text can't resist the temptation to quote this:

Mr Stelling concluded that Tom's brain, being peculiarly impervious to etymology and demonstrations, was peculiarly in need of being ploughed and harrowed by these patent implements; it was his favourite metaphor, that the classics and geometry constituted that culture of the mind which prepared it for the reception of any subsequent crop. I say nothing against Mr Stelling's theory; if we are to have one regimen for all minds, his seems to me as good as any other. I only know it turned out

as uncomfortably for Tom Tulliver as if he had been plied with cheese in order to remedy a gastric weakness which prevented him from digesting it. It is astonishing what a different result one gets by changing the metaphor! Once call the brain an intellectual stomach, and one's ingenious conception of the classics and geometry as ploughs and harrows seems to settle nothing. But then it is open to someone else to follow great authorities, and call the mind a sheet of white paper or a mirror, in which case one's knowledge of the digestive process becomes quite irrelevant. (George Eliot, *The Mill on the Floss* Bk. 2, ch. 1)

A little earlier in the same chapter Eliot makes one of the most elegant philosophical jokes in English literature: 'Perhaps it was because teaching came naturally to Mr Stelling, that he set about it with that uniformity of method and independence of circumstances which distinguish the actions of animals understood to be under the immediate teaching of nature.']

33. Assent

Nothing in the conduct of the understanding is more important than to know when, and where, and how far to give assent, and possibly nothing is harder. It is easy to say—and nobody questions it—that **(a)** whether we give or withhold our assent, and **(b)** how firmly we assent, should be regulated by the evidence that things carry with them; yet men are no better for this rule. **(a)** Some firmly embrace doctrines on slight grounds, some on no grounds, and some contrary to appearance. **(b)** Some are certain of some things and are not to be moved in what they hold; others waver in everything, and there are some who reject everything as uncertain. Then what is a novice, an enquirer, a stranger, to do about assent? I answer, *use his eyes*. There is a correspondence in things, and agreement and disagreement in ideas, discernible in very different degrees, and men have eyes to see these if they please. But their eyes may be **(i)** dazzled or **(ii)** dimmed, and the discerning sight in them impaired or lost.

(i) Self-interest and passion dazzle; and **(ii)** the practice of arguing on any side, even against our convictions, dims the understanding and makes it gradually lose the ability to distinguish clearly between truth and falsehood. . . . It is not safe to play with error and dress it up—to ourselves or to others—in the shape of truth. The mind gradually loses its natural liking for real solid truth, becoming reconciled to anything that can be dressed up into some pretended appearance of truth; and if the imagination is allowed to take the place of judgment at first •in sport, it later comes to usurp it •seriously•, and what is recommended by this flatterer [the imagination] is accepted as true. This court dresser, the imagination, has so many ways of deceiving, such arts of giving plausibility, appearances and resemblances, that you are certain to be caught by it unless you're careful to admit nothing but *truth itself*, not making your mind subservient to anything else. Someone who is inclined to believe has half assented already; and someone who by often arguing against his own convictions imposes falsehoods on others is not far from believing himself. This takes away the great distance between truth and falsehood; it brings them almost together and stops it from mattering much which you accept, given that they are so close to one another. . . . [Throughout this section 'imagination' replaces Locke's word 'fancy'.]

34. Indifference

I said on page 12 that we should keep a perfect indifference [see Glossary] for all opinions, not •want any of them to be true or •try to make any of them appear true; that our acceptance of them should depend on, and *only* on, what evidence there is for their truth. Those who do in this way keep their minds indifferent to opinions, to be determined only by evidence, will always find that their understanding can see

the difference between evidence and no-evidence, between plain and doubtful; and if they give or refuse their assent only by that standard, they will be safe in the opinions they have. Perhaps they don't have many opinions; but this caution may also do good by getting them to **consider**, and teaching them the necessity to **examine** more than they do; without which the mind is a mere receptacle of inconsistencies, not the storehouse of truths. . . . I'm not saying that everyone should perfectly adhere to that standard, or that men should be perfectly kept from error; that is an unattainable privilege, more than human nature can possibly be advanced to. I am speaking only of what someone should do if he wants to deal fairly with his own mind and make a right use of his faculties in the pursuit of truth. We fail our faculties a great deal more than they fail us. It is •mismanagement more than •lack of ability that men have reason to complain of (and it's what they *do* complain of in those who differ from them). Someone who has no preference except for the truth won't allow his assent to get ahead of his evidence; he'll learn to **examine** fairly instead of **presuming**; and he won't be in danger of not believing the truths that are necessary in his station and circumstances. If any way but this is followed, all the world are born to orthodoxy [see Glossary]; they imbibe from the outset the allowed opinions of their country and party, never questioning their truth, and not one in a hundred ever **examines**. They are applauded for **presuming** that they're in the right. Anyone who **considers** is a foe to orthodoxy because he may deviate from some of the doctrines accepted in that place. And thus men *inherit* local 'truths' without doing any work or making any discoveries, and so become accustomed to assenting without evidence. (I say *local* because what counts as the truth is not the same everywhere.) . . . What one in a hundred of the zealous bigots in all parties ever **examined** the tenets he holds to

so rigidly, or ever thought it his business or his duty to do so? Anyone who set out to do this would be suspected of a tendency to apostasy. And if a man can bring his mind once to be positive and fierce for positions whose evidence he has never once examined, doing this in matters of the greatest importance to him, what is to keep him from this short and easy way of 'being in the right' in less important cases? Thus we are taught to clothe our minds (as we do our bodies) after the current fashion, and not doing so is regarded as eccentricity or something worse. This custom (as far as it prevails) turns short-sighted people into bigots, and more cautious ones into sceptics; and those who break from it are thought to be in danger of heresy. [The rest of this paragraph is needlessly difficult. The thrust of it is that what is accepted in any part of the world is decided by 'the infallible orthodoxy of the place', with *truth* playing no part. Locke also throws in a joke, saying of orthodoxy that it 'has the good luck to be everywhere'.]

35. Three cases of knowledge-lack

Men lacking in knowledge are usually either

- (1) wholly ignorant, or
- (2) in doubt regarding some proposition that they used to accept or are now inclined to; or
- (3) confident in their acceptance of some proposition without having examined and been convinced by well grounded arguments.

The first of these are in the best state of the three: having their minds still in perfect freedom and indifference, they'll pursue truth better because they have no bias to mislead them.

That is because (1) ignorance with an indifference for truth is nearer to truth than (2) ungrounded inclination,

which is the great source of error. Someone marching under the conduct of a guide, ·inclination·, that it is 100:1 will mislead him is more in more danger of going astray than someone who hasn't yet taken a step and is likelier to be prevailed on to enquire after the right way. And **(3)** is the worst condition of all; for if a man can be fully convinced of something as a truth when he hasn't examined it, what is there that he may *not* accept as true?As for the other two, let me say that as **(1)** he who is ignorant is in the better state of the two, so he should pursue truth in a method suitable to that state, i.e. by enquiring directly into the nature of the thing itself, to see what he himself can find out by sincerely searching after truth, and not minding the opinions of others or troubling himself with their questions or disputes. . . . For example, if it were my business to understand medicine, wouldn't the safer and readier way be to consult nature itself and inform myself in the history of diseases and their cures, rather than espousing the principles of some system, engaging in all the disputes about it, and supposing it to be true until I have explored what they can say to beat me out of it. Supposing that ·the work of· Hippocrates infallibly contains the whole art of medicine, wouldn't the direct way be

- to study, read and consider *that book*, weigh and compare the parts of it to find the truth, rather than
- to espouse the doctrines of *some party* who, though they acknowledge the authority of Hippocrates, have already 'interpreted' and extrapolated his text in the direction of their views?

Once I have taken in their 'interpretation' I am more in danger of misunderstanding his true meaning than if I had come to him with a mind not taken up by my party's doctors and commentators. After I have become used to *their* reasonings, interpretation and language, any other

statement of Hippocrates' doctrines—including perhaps the correct one—will sound harsh, strained and uncouth to my ears. Words don't *naturally* have any meaning; so the meaning they have for the hearer is the meaning he has been accustomed to give them, whatever the speaker or writer means by them. If I am right about this (and I think it's obvious that I am), then someone who begins to doubt any of the tenets that he accepted without examination—i.e. someone who is in category **(2)** of the above trio—should do his best to •put himself wholly into this state of ignorance in reference to that question, •throw out all his former notions and the opinions of others, and •examine with perfect indifference the question in its source, without any inclination to either side or any regard for anyone's unexamined opinions. This is hard to do, I admit, but my topic is not •the easy way to opinion but •the right way to truth, which must be followed by anyone who wants to deal fairly with his own understanding and his own soul.

36. Stating the question

The indifference that I am here proposing will also enable men, when they are in doubt about something, to state *the question* properly. If they don't do that, they can never come to a fair and clear decision regarding it.

37. Perseverance

Another benefit from this indifference—from considering things in themselves, setting aside our own opinions and other men's notions and discourses regarding them—will be that each man will pursue his thoughts in the way that will fit best with the nature of the thing and with his grasp of what it suggests to him; and he ought to *go on in that way*, with

regularity and constancy, until he comes to a well-grounded resolution that he can accept. Someone may object: 'This will require every man to be a scholar, to drop all his other affairs and devote himself wholly to study.' I answer that I am I proposing no more to anyone than he has time for. Some men's state and condition requires no great extent of knowledge; earning a living takes most of their time. But one man's lack of leisure is no excuse for the laziness and ignorance of those who *do* have time to spare; everyone has enough time to get as much knowledge as is required and expected of him; and anyone who doesn't do that is in love with ignorance and is to blame for that.

38. Presumption

There's as much variety in the mind's ways of being unwell as there are in the body's. Some are epidemic, infecting nearly everyone; and if you look into yourself you'll find some defect in your particular intellect. There's hardly anyone who doesn't suffer from some idiosyncrasy. Here for example is a man who *presumes* that his basic abilities won't fail him at time of need, and so thinks he needn't make any provision in advance. His understanding is to him like the fictional Fortunatus's purse, which will always meet his needs though he never puts anything into it; and so he **sits still**, satisfied, without trying to stock his understanding with knowledge. It is the spontaneous product of the country, so why work at cultivation? Such men may spread their native riches before the ignorant; but they had better not come to stress and trial with the skillful! We are born ignorant of everything. Negligent people receive impressions from the surfaces of things that surround them, but nobody penetrates into the inside without labour, attention, and hard work. Stones and timber grow of themselves, but work and effort are required

to make a house—a uniform structure with symmetry and convenience to live in. God has made the intellectual world harmonious and beautiful outside us; but it will never come into our heads all at once; we must bring it home piecemeal, and there set it up by our own industry; otherwise we'll have nothing but chaos and darkness within, whatever order and light there is in things outside us.

39. Despondency

On the other side there are men who depress their own minds, become despondent at the first difficulty, and conclude that getting insight in any of the sciences—or making any progress in knowledge beyond what they need for their everyday lives—is above their capacities. These **sit still** because they think they have no legs to walk on, whereas the others I last mentioned do so because they think they have wings with which they can soar on high when they please. The despondent ones should be reminded of the proverb 'Use legs and have legs'. Nobody knows what strength of basic abilities he has till he has tried them. And it's very true of the understanding that its force is generally greater than it thinks it is before it tries. . . .

So the proper remedy here is just to set the mind to work, and apply one's thoughts vigorously to the business; for it holds in the struggles of the mind as in those of war: *They conquered as long as they believed they were conquering* [quoted in Latin, from Virgil]; a conviction that we shall overcome any difficulties we meet with in the sciences seldom fails to carry us through them. Nobody knows the strength of his mind and the force of steady and regular application, until he has tried. This much is certain: someone who sets out on weak legs will go further and grow stronger than someone who, with a vigorous constitution and strong legs, **sits still**.

Men can observe in themselves something related to this, when the mind is frightened by something it thinks about

- in gross,
- transiently,
- confusedly and
- at a distance.

Things offered to the mind in that way seem to offer nothing but difficulty, and are thought to be wrapped in impenetrable obscurity. But really these are nothing but spectres that the understanding creates to soothe its own laziness. Seeing nothing distinctly in things that are distant and all lumped together, it concludes that there is nothing clearer to be discovered in them. We have only to come closer and the mist that *we* have surrounded them by will dissipate; and things that in the mist appeared as hideous giants, not to be grappled with, will be found to have ordinary and natural sizes and shapes. Things that seem very obscure in a remote and confused view must be approached by gentle and regular steps; and what is most visible, easy, and obvious in them should be first considered. Break them down into their distinct parts; and then in their due order bring everything that should be known about each part into plain and simple questions; and then what was thought obscure, perplexing and too hard for our weak abilities will lay itself open to the understanding. . . . Has this never happened to you, especially when you have briefly reflected on one thing while busy on another? Have you never thus been scared by a sudden opinion of mighty difficulties which then vanished when you seriously and methodically applied yourself to considering this seemingly terrible subject. . . .? This experience should teach us how to deal with such bugbears at another time; they should arouse our vigour rather than enervate our industry.

In this as in all other cases the surest way for a learner is not to advance by jumps and large strides; at each stage what he sets himself to learn next should be what *is* next, i.e. as nearly conjoined as possible with what he knows already; let it be distinct from it but close; let it be new, something he doesn't already know (so that his understanding advances), but let it be as little as possible at a time (so that its advances are clear and sure). . . . This distinct gradual growth in knowledge is firm and sure; it carries its own light with it every step of the way, in an easy and orderly sequence; and there's nothing more useful to the understanding than that. . . . The greatest part of true knowledge lies in a distinct perception of things that are in themselves distinct. Some men give more clear light and knowledge by the bare distinct stating of a *question* about something than others do by talking about it—the whole topic, in a lump—for whole hours together. In stating the question in that way all they do is to separate and disentangle the topic's parts and lay them, when so disentangled, in their proper order. In many cases this immediately resolves the doubt and shows the mind where the truth lies. [The rest of the paragraph repeats what has already been said.]

40. Analogy

Analogy is of great use to the mind in many cases, especially in natural philosophy, and most especially in the part of it that consists in successful experiments. But we must take care to keep ourselves within the bounds of genuine analogy. For example:

The acid oil of vitriol is found to be good in such-and-such a case; therefore the spirit of nitre or vinegar may be used in this similar case.

If the good effect was wholly due to the oil's acidity, the trial may be justified; but if the good result in the first case came from something in the oil of vitriol other than its acidity, we are taking to be analogy something that isn't, and allowing our understanding to be misguided by a wrong supposition of analogy where there is none.

41. Association of ideas

I have treated of the association of ideas in Book II of my *Essay concerning Human Understanding*; but there my treatment was purely descriptive; I was giving a view of the understanding in this as well as its various other ways of operating, not enquiring into the remedies that ought to be applied to it. The question of remedies is a further topic to be explored by anyone who wants to instruct himself thoroughly in the right way to conduct his understanding; especially given that the association of ideas is (I think) as frequent a cause of mistake and error in us as anything else that can be named, and is a disease of the mind as hard to cure as any—because it's hard to convince anyone that how things constantly appear to him is not how they are, how they *naturally* are.

By this one easy and unnoticed misconduct of the understanding, sandy and loose foundations become 'infallible' principles that mustn't be touched or questioned; such unnatural connections become by custom natural to the mind; fire and warmth customarily go together, and so seem to carry with them as natural an evidence as self-evident truths themselves. And where then shall one with hopes of success begin the cure? Many men firmly embrace falsehood for truth; not only because they never thought otherwise, but also because—thus blinded, as they have been from the beginning—they never *could* think otherwise. To be able

to do so, a man would need a mind with enough vigour to **challenge the dominance of habit and look into its own principles**. Few men even have the notion of such conduct in themselves; and fewer still are allowed by others to engage in it, because it's the great art and business of the teachers and guides in most sects to suppress, as much as they can, this fundamental duty that every man owes himself—this first steady step towards right in his actions and truth in his opinions. This gives one reason to suspect that such teachers are conscious to themselves [Locke's phrase] of the falsehood or weakness of the doctrines they teach, since they won't allow the grounds they are built on to be examined; whereas those who seek only the truth, and don't want to possess or propagate anything else, •freely expose their principles to the test, •are pleased to have them examined, •allow men to reject them if they can, and if there's anything weak and unsound in them •are willing to have it detected. They don't want any accepted proposition to get, from them or anyone else, more stress on it than is warranted by the evidence of its truth.

There's a widespread approach to teaching which amounts to no more than making the pupils imbibe their teachers' notions and tenets by an implicit faith, and adhere firmly to them whether true or false. I shan't discuss what case may be made for this as a way of teaching the vulgar, who are destined for a life dominated by the need to earn a living. But as for the part of mankind whose social and financial condition allows them leisure, and scholarship, and enquiry after truth, the only right way that I can see is **(a)** when they are young, to try to bring it about that ideas that aren't naturally connected don't come to be united in their heads; and **(b)** throughout the whole course of their lives and studies, to get them to be guided by this rule:

- never allow any ideas to be joined in your understanding in any way other (or in any combination stronger) than what the ideas' own nature and correspondence give them; and
- often examine ideas that you find joined together in your mind, asking whether this comes from the visible agreement between the ideas themselves or rather from the mind's habit of joining them in this way.

This is to caution you against this evil before custom thoroughly rivets it in your understanding; but once habit has established it, if you want to cure it you must keep an alert eye on the very quick and almost imperceptible motions of the mind in its habitual actions. What I said in *Essay* II.ix.8 about the change of the •ideas of sense into •ideas of judgment may be proof of this. Let someone who is not skilled in painting be shown bottles, tobacco-pipes etc. painted in the *trompe-l'œil* manner we see in some places; you won't be able to convince him that he isn't seeing three-dimensional objects except by letting him touch the painting; he won't believe that one idea is substituted for the other by an instantaneous sleight of hand of his own thoughts. We meet with this in the arguings of the learned, when they substitute one idea for another that they have been accustomed to join with it in their minds, often (I suspect) without perceiving that that's what they are doing. . . . This confusion of two ideas. . . fills their heads with false views and their reasonings with false consequences.

42. Colourful language

[Locke starts this section (which he puzzlingly labels 'Fallacies') by re-introducing the theme of bias, partiality, *wanting* it to be the case that P and cheating in order to make it

seem so. A sign of such bias in a writer is his] changing the ideas of the question, either by changing the terms or adding others to them so that the ideas under consideration are varied in a way that makes them serve his purposes better. . . . I am far from thinking that this is always done with the intent of deceiving and misleading the readers. In many cases the writer's prejudices and inclinations mislead *him*. . . . Inclination suggests to him (and slides into his discourse) favourable terms, which introduce favourable ideas, until eventually he reaches a conclusion that seems clear and evident when thus dressed up; though in its native state, using only precise determined ideas, it would not be admitted into his mind. [This malpractice, Locke continues, yields what are admired as well-written, 'handsome, easy, and graceful' expositions; so that it's not likely that any author could be persuaded to give it up in favour of what he characterises (with tongue in cheek) as] a more thin and dry way of writing, keeping the same terms precisely annexed to the same ideas—a sour and blunt stiffness tolerable only in mathematicians, who force their way and make truth prevail by irresistible demonstration.

If •authors can't be prevailed on to give up the looser though more insinuating ways of writing, . . . •readers should take care not to be imposed on by fallacies and the prevailing ways of insinuation. The surest and most effective way to do this is to fix in the mind the clear and distinct ideas of the question, stripped of words. . . . He who does this will be able to throw aside everything superfluous; he will see what is relevant, what is coherent, what is directed to the question, and what slides past it. . . .

[Admittedly, Locke continues, this discipline is 'hard and tedious for those who aren't accustomed to it'; but he presses his case for the need for it, saying that even honest writers can be guilty of writing that is colourful, attractive, and

potentially misleading. He then addresses readers for whom it is not merely hard but impossible:] If they don't have the skill to represent the author's sense to themselves by pure ideas separated from sounds, thereby divesting it of the false lights and deceitful ornaments of speech, they should

keep the precise topic steadily in their minds, carry it along with them through the whole discourse, and not allow the least alteration in the terms, whether by adding, subtracting, or substituting any others.

This can be done by anyone who wants to do it; and anyone who doesn't want to do it clearly makes his understanding a mere warehouse of other men's lumber—i.e. false and inconclusive reasonings, rather than a repository of truth for his own use that will prove substantial and useful to him when he has occasion for it. . . .

43. Basic truths

The human mind is narrow, and is so slow in making acquaintance with things and taking in new truths that even if we lived much longer than we do no-one could know all truths; so it is prudent for us in our search for knowledge to employ our thoughts on fundamental and material topics, carefully avoiding ones that are trivial and not allowing ourselves to be diverted from our main purpose by ones that are merely incidental. How much of many young men's time is thrown away in purely logical enquiries! This is no better than if a man who was to be a painter spent all his time examining the threads of the canvases he is to paint on and counting the hairs of each brush he intends to use in laying on his colours. Indeed it's *worse* than that; because a young painter who spent his apprenticeship in such useless details would end up realising that this is not painting, doesn't help painting, and so is really pointless. Whereas men who

are to become scholars often have their heads so filled and warmed with disputes on logical questions that they take those airy useless notions for real and substantial knowledge, and think their understandings are so well furnished with science that they needn't look any further into the nature of things or descend to the mechanical drudgery of experiment and inquiry. . . . What particular faults of this kind every man may be guilty of—the list would go on for ever! It suffices to have shown that superficial and slight discoveries and observations—containing nothing significant in themselves and not serving as clues to lead us to further knowledge—should be lightly passed over and not thought worth searching for.

There are fundamental truths that lie at the bottom, the base that a great many others rest on and are held together by. These are teeming with content with which they furnish the mind, and—like the lights of heaven—are not only beautiful and entertaining in themselves but bring to light other things that without them couldn't be seen or known. An example is Newton's admirable discovery that **all bodies gravitate towards one another**, which may be counted as the basis of natural philosophy. He has astonished the learned world by showing how much this helps us to understand the great frame of our solar system; we don't yet know how much further it would guide us in other things if rightly pursued. Our Saviour's great rule that **we should love our neighbour as ourselves** is a fundamental truth for regulating human society—so fundamental that I think that by it alone we might easily settle all the cases and doubts in social morality. These and their like are the truths we should try to find out and store our minds with. Which leads me to something else that is equally necessary in the conduct of the understanding, namely. . .

44. Getting to the bottom

... getting the habit, with any topic we propose to examine, of finding out what it bottoms on [Locke's verb]. Most of the difficulties we encounter, when well considered and traced, lead us to some proposition which when known to be true clears up the doubt and easily solves the problem; whereas superficial arguments (of which there are plenty on both sides of any question) fill the head with a variety of thoughts and fill the mouth with torrents of words, serving only to distract the understanding. . . . without getting to the bottom of the question—the only place of rest and stability for an inquiring mind that is drawn only to truth and knowledge.

Consider for example the question *Can the grand seignior lawfully take what he wants from any of his people?* This can't be answered without coming to a certainty about whether **All men are naturally equal**; because that is what it depends on; and that truth, when well settled in the understanding and carried in the mind through the various debates about the rights of men in society, will go a long way towards putting an end to them and showing which side the truth is on.

45. Control of one's thoughts

Hardly anything contributes more to the improvement of knowledge, the ease of life, and the dispatch of business, than the ability to *manage* one's own thoughts; and in the whole conduct of the understanding there is hardly anything harder than getting a full mastery over it. A waking man's mind always applies itself to something; and when we are lazy or unconcerned we can easily change, choosing to transfer our thoughts to something else, and then to a third thing that has no relation to either of the first two. This leads

men to think—and often to say—that nothing is as free as thought. If only it were so! But the contrary will often be found to be true; there are many cases where there's nothing more sluggish and ungovernable than our thoughts; they refuse to be told what objects to pursue, won't be taken off from those they have fixed on, and run away with a man in pursuit of the ideas *they* have in view, whatever *he* tries to do about it. . . .

If something is recommended to our thoughts by any of our passions, it takes possession of our minds with a kind of authority, refusing to be kept out or dislodged. It's as if that ruling passion were, for the time, the sheriff of the place and came with all the posse; the understanding is arrested and made to focus on the object the passion introduces, as if it alone had a legal right to be considered there. [In that sentence, 'arrested' replaces Locke's 'seized'; but 'sheriff' and 'posse' are his.] There is hardly anyone, I think, whose temperament is so calm that he hasn't sometimes found his understanding to be subject to this tyranny, and suffered under the inconvenience of it. Who is there whose mind hasn't at some time been fastened to some clog by love or anger, fear or grief—fastened so tightly that it *can't* turn itself to any other object? I call it a 'clog' because it •hangs on the mind so as to hinder its vigour and activity in the pursuit of other topics of thought and •advances itself little if at all in the knowledge of the thing that it so closely hugs and constantly pores on.

When men are in this state it's as though they lay under the power of an enchantment. They don't see what passes before their eyes; they don't hear the audible conversation of the company; and when by some strong application to them they are roused a little, they are like men brought to themselves from some remote region; whereas in fact they come only from their secret little room within, where they

have been wholly taken up with the puppet that has for that time been appointed for their entertainment. The shame that this brings to well-bred people, when it carries them away from the company where they should have a part in the conversation, is a sufficient reason for thinking that it is a *fault* in the conduct of our understanding not to have the power over it to use it for those purposes and on those occasions in which we need its assistance. The mind should be always free and ready to turn itself to the variety of objects that occur, and allow them as much consideration as shall for that time be thought fit. To be so engrossed by one object that it can't be induced to leave that for something else that we judge fitter for our contemplation—that isn't the mind's being useful to us! If someone remained permanently in this state of mind, no-one would hesitate to say that he was completely mad. . . .

Of course something must be allowed to legitimate passions and to natural inclinations. Every man, besides occasional affections, has beloved studies, and the mind will stick to those more closely; but it should always be at liberty to act at the man's direction—regarding •how it acts and •what it acts on. . . .

But before good remedies for this disease can be thought of, we must know its various causes and thereby regulate the cure. . . .

(i) •Driven by passion•: I have already cited one cause, which is so widely known—and indeed experienced—by thoughtful people that nobody doubts of it. A prevailing passion so pins down our thoughts to the object and the feeling of it that •a man passionately in love can't bring himself to think of his ordinary affairs, •a kind mother, drooping under the loss of a child, can't take part as she used to do in conversation with her friends.

But although passion is •the most obvious and general

cause that binds up the understanding and confines it for the time to one object from which it refuses to budge, it isn't •the only one.

(ii) •Worked into a gallop•: We may often find that the understanding, when it has been employed for a while on a subject that happened to come its way without being driven by any passion, works itself into a warmth and gradually into a gallop in which—like a boulder coming down a hillside—it accelerates and won't be stopped or diverted, although when the heat is over it sees that all this earnest application was about a trifle not worth a thought, and that all the trouble taken with it was lost labour.

(iii) •Playing with dolls•: A third sort of cause strikes me as still lower than **(ii)**. It is (allow me the phrase) a sort of childishness of the understanding, in which it plays with and dandles some insignificant puppet to no end, having no aim or purpose and yet hard to distract from it. For example, some trivial sentence or a scrap of poetry will get into a man's head, and chime away there so that there's no stilling it, no peace to be obtained, no attention to anything else, because this impertinent guest insists on occupying the mind and possessing the thoughts in spite of all attempts to get rid of it. I don't know whether everyone has experienced this troublesome intrusion of some striking ideas that bully the understanding and stop it from being better employed. But I have heard more than one very able person complain of its happening to them. [Locke now turns to something 'like this but much odder', a kind of outright hallucination which not everyone has experienced and which he regards as pathological—'This odd phenomenon seems to have a mechanical cause, and to depend on the matter and motion of the blood or animal spirits' [see Glossary]. It doesn't belong in here, and Locke doesn't seriously try to show that it does.]

·REMEDIES·

(i) When the imagination is held by passion, the only way I know of to set the mind free—at liberty to pursue whatever thoughts the man chooses—is to allay the present passion, or to counterbalance it with a different one, which is an art requiring study and acquaintance with the passions.

(ii) Those who find themselves apt to be carried away by the spontaneous current of their own thoughts, not driven by any passion or interest, must be very wary and careful every time this occurs to *stop it*, and never humour their minds in being trivially busy in this way. Men know the value of their bodily freedom, and are therefore not willing to have fetters and chains put on them. Having the mind captivated is (while it lasts) an even greater evil; we should devote our utmost care and efforts to preserving the freedom of our better part. In this case our pains will not be lost; striving and struggling *will* prevail if we constantly make use of it on *all* such occasions. We should never indulge these trivial attentions of thought; as soon as we find the mind busying itself with a mere *nothing*, we should immediately disturb and check it, introduce into it new and more serious considerations, and not stop until we have beaten it off from the pursuit it was engaged in. This may be hard to do at first, if we have let the bad practice grow to a habit; but if we keep at it we'll gradually prevail, and at last make it easy. And when a man is pretty well advanced in this, and

can at his pleasure command his mind to stop incidental and undesigned pursuits, it would be good for him to go on further, and make attempts on meditations of greater significance, so that eventually he comes to have a full power over his own mind, becoming fully the master of his own thoughts—so much so that he can transfer them from one subject to another as easily as he can put down something he holds in his hand and pick up something else. This liberty of mind is useful in business and in study, and anyone who has it will have no small advantage of ease and quickness in the employment of his understanding.

(iii) The chiming of some particular words or sentence in the memory, making something like a noise in the head, seldom happens except when the mind is lazy or very loosely and negligently employed. ·Even at those times· it would be good to be without such irrelevant and useless repetitions; any obvious idea, when it is roving randomly with no cause, is more useful and more apt to suggest something worth consideration than the insignificant buzz of purely empty sounds. But in most cases rousing the mind and setting the understanding to work with some level of vigour quickly sets it free from these idle companions; so whenever we find ourselves troubled with them it would be worthwhile to make use of this profitable and easily available remedy.

THE END