

An Essay Concerning Human Understanding

Book II: Ideas

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 on, between [brackets], in normal-sized type.

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Chapter i: Ideas in general, and their origin

1. Everyone is conscious to himself that he thinks; and when thinking is going on, the mind is engaged with *ideas* that it contains. So it's past doubt that men have in their minds various ideas, such as are those expressed by the words 'whiteness', 'hardness', 'sweetness', 'thinking', 'motion', 'man', 'elephant', 'army', 'drunkenness', and others. The first question, then, is *How does he acquire these ideas?* It is widely believed that men have ideas stamped upon their minds in their very first being. My opposition to this in Book I will probably be received more favourably when I have shown where the understanding *can* get all its ideas from—an account that I contend will be supported by everyone's own observation and experience.

2. Let us then suppose the mind to have no ideas in it, to be like *white paper* with nothing written on it. How then does it come to be written on? From where does it get that vast store which the busy and boundless imagination of man has painted on it—all the materials of reason and knowledge? To this I answer, in one word, from *experience*. Our understandings derive all the materials of thinking from *observations* that we make of •external objects that can be perceived through the senses, and of •the internal operations of our minds, which we perceive by looking in at ourselves. These two are the fountains of knowledge, from which arise all the ideas we have or can naturally have.

3. First, our senses when applied to particular perceptible objects convey into the mind many distinct perceptions of things, according to the different ways in which the objects affect them. That's how we come by the ideas we have of yellow, white, heat, cold, soft, hard, bitter, sweet, and all

so on—the so-called 'sensible qualities'. When I say the senses convey 'these ideas' into the mind, 'I don't mean this strictly and literally, because I don't mean to say that an idea actually *travels across* from the perceived object to the person's mind. Rather, I mean that through the senses external objects convey into the mind *something that produces there* those perceptions [= 'ideas']. This great source of most of the ideas we have I call SENSATION.

4. Secondly, the other fountain from which experience provides ideas to the understanding is the perception of the operations of our own mind within us. This yields ideas that couldn't be had from external things—ones such as 'the ideas of' perception, thinking, doubting, believing, reasoning, knowing, willing, and all the different things that our minds do. Being conscious of these actions of the mind and observing them in ourselves, our understandings get from them ideas that are as distinct as the ones we get from bodies affecting our senses. Every man has this source of ideas wholly within himself; and though it is not *sense*, because it has nothing to do with external objects, it is still very like sense, and might properly enough be called 'internal sense'. But along with calling the other 'sensation', I call this REFLECTION, because the ideas it gives us can be had only by a mind reflecting on its own operations within itself. By 'reflection' then, in the rest of this work, I mean the notice that the mind takes of *what* it is doing, and *how*. (I am here using 'operations' in a broad sense, to cover not only the *actions* of the mind on its ideas but also *passive states* that can arise from them, such as is the satisfaction or uneasiness arising from any thought.) So that's my thesis: all our ideas take their beginnings from

those two sources—external material things as objects of sensation, and the operations of our own minds as objects of reflection.

5. When we have taken a full survey of •the ideas we get from these sources, and of their various modes, combinations, and relations, we shall find they are •our whole stock of ideas; and that we have nothing in our minds that didn't come in one of these two ways. [Locke then challenges the reader to 'search into his understanding' and see whether he has any ideas other than those of sensation and reflection.]

6. If you look carefully at the state of a new-born child, you'll find little reason to think that he is well stocked with ideas that are to be the matter of his future knowledge. He gets ideas gradually; and though the ideas of obvious and familiar qualities imprint themselves before the memory begins to keep a record of when or how, ideas of unusual qualities are different. Some of *them* come so late that most people can remember when they first had them. And if we had reason to, we *could* arrange for child to be brought up in such a way as to have very few ideas, even ordinary ones, until he had grown to manhood. In actuality children are born into the world surrounded by bodies that perpetually affect them so as to imprint on their minds a variety of ideas: light and colours are busy everywhere, as long as the eyes are open; sounds and some tangible qualities engage the senses appropriate to them, and force an entrance into the mind. But I think you'll agree that if a child were kept in a place where he never saw any colour but black and white till he was a man, he would have no ideas of scarlet or green—any more than a person has an idea of the taste of oysters or of pineapples if he has never actually tasted either.

7. How many simple ideas a person has depends •for ideas

of sensation• on what variety there is among the external objects that he perceives, and •for ideas of reflection• on how much he reflects on the workings of his own mind. •The focussed intensity of the reflection is relevant, because:• someone who contemplates the operations of his mind can't help having plain and clear ideas of them; he won't have clear and distinct ideas of all the operations of his mind and everything that happens in them *unless he turns his thoughts that way and considers them attentively*; any more than he can have ideas of all the details of a landscape painting, or of the parts and motions of a clock, if he doesn't look at it and focus his attention on all the parts of it. The picture or clock may be so placed that he encounters them every day, but he'll have only a confused idea of all the parts they are made up of, until he applies himself with attention to consider each part separately.

8. That's why most children don't get ideas of the operations of their own minds until quite late, and why some people *never* acquire any very clear or perfect ideas of most of their mental operations. Their mental operations are there all the time, like floating visions; but until the understanding turns inward upon itself, reflects on them, and makes them the objects of its own thoughts, they won't make deep enough impressions to leave in the person's mind clear, distinct, lasting ideas. Children enter the world surrounded by new things that constantly attract their senses, beckoning to a mind that is eager to notice new things and apt to be delighted with the variety of changing objects. So the first years are usually spent in looking outwards •at the surroundings•; and so people grow up constantly attending to outward sensation, reflecting very little on what happens within them till they come to be of riper years—and some not even then.

9. When does a man first have any ideas? That is the same as asking: when does a man begin to perceive? For having ideas and perception are the same thing. I know that some philosophers hold that the soul [= 'mind'; no religious implications] *always* thinks, and that it has the actual perception of ideas in itself constantly as long as it exists. For them, •actual thinking is as inseparable from •the soul as •actual extension is from •the body, which implies that the question 'When do his ideas begin?' is equivalent to 'When does his soul begin?'. For on their view the soul and its ideas must begin to exist both at the same time. as do body and its extension [= 'its taking up space'].

10. How does •the soul's beginning to exist relate to •the first rudiments of organization—or to the beginnings of life—in the body? Before it, or at the same time, or later? I leave that question to be disputed by those who have thought harder about it than I have. •But I *do* have a view about how •the soul's beginning to exist relates to •its first having ideas, or at least to the view that the two must occur together because a soul can't exist except when it has ideas. I confess that I have one of those dull souls that doesn't perceive itself always to contemplate ideas; and I don't think it's any more necessary for the soul always to think than for the body always to move. In my view, *the perception of ideas* is to *the soul* as *motion* is to *the body*—not something that •is essential to it, but something that •it sometimes does. So even if thinking is an activity that is uniquely appropriate to the soul, that doesn't require us to suppose that the soul is always thinking, always in action. Perhaps that is a gift possessed by God, 'who never slumbers nor sleeps' [Psalm 121:3], but it isn't appropriate for any finite being, or at least not to the soul of man. We know by experience that we sometimes think; and from this we validly

infer that there is in us something—•some substance—that is able to think; but whether that substance perpetually thinks or not is a question we must answer on the basis of what experience informs us. To say that •experience is irrelevant because •actual thinking is *essential* to the soul and •thus conceptually •inseparable from it, is to assume the very thing that is in question. Such a claim needs to be supported by arguments, unless the claim is a self-evident proposition—and I don't think anyone will contend that *The soul always thinks* is self-evident. [The section continues with mockery of people who purport to prove something by assuming it among the premises of their argument; and with a reply to a critic who, misunderstanding something in the first edition of the *Essay*, had accused Locke of thinking that when you are asleep your soul doesn't exist.]

11. I grant that the soul in a waking man is never without thought, because that's what it *is* to be awake. But I suspect that in sleeping without dreaming, the whole man is asleep—his mind as well as his body—so that in that state no thought is occurring. If the soul thinks in a sleeping man without being conscious of it, I ask whether during such thinking •the soul has any pleasure or pain, or any ability to be happy or miserable? I am sure •the man does not, any more than •the bed he lies on has pleasure or pain. For to be happy or miserable without being conscious of it seems to me utterly inconsistent and impossible. If you say that •the soul might be in any of those states while the body is sleeping, and •the unsleeping man have no consciousness of them, I reply: In that case Socrates asleep and Socrates awake are not the same person, but two persons. [Locke elaborates this in the remainder of section **11** and on through **12**, relying on a view of his about personal identity that he'll develop more clearly and at greater length in xxvii.]

13. Thus, I think, every drowsy nod shakes the doctrine of those who teach that the soul is always thinking! Anyway, those who do at some time sleep without dreaming can never be convinced that their thoughts are for four hours busy without their knowing of it; and if they are taken in the very act, waked in the middle of those sleeping thoughts, they can give no account of it.

14. It will perhaps be said that the soul thinks even in the soundest sleep but the memory doesn't retain those thoughts. ·This is utterly implausible·. . . . Who can imagine that most men, for several hours every day of their lives, think of something of which they could remember nothing at all, even if they were asked in the middle of these thoughts? Most men, I think, pass a great part of their sleep without dreaming. I knew a man who was bred a scholar, and had a pretty good memory, who told me that he had never dreamed in his life till he had a fever at the age of twenty-five. Everyone will have acquaintances who pass most of their nights without dreaming.

15. To think often, and never to retain it so much as one moment, is a very useless sort of thinking. The soul in such a state of thinking would be little better than a looking-glass which constantly receives a variety of images but retains none of them; they disappear and vanish without leaving a trace; the looking-glass is never the better for such images, nor the soul for such thoughts. ·We might also ask *why* it should be that all sleeping thoughts are forgotten, given that many waking ones are remembered. Here is a possible answer to that·:

In a waking man the materials of the body are used in thinking, and the memory of thoughts is retained by the impressions that are made on the brain and the traces left there after such thinking; but in the

thinking of the soul that isn't perceived in a sleeping man, the soul thinks apart, making no use of the organs of the body and so leaving no impressions on the body and consequently no memory of such thoughts.

. . . I answer that whatever ideas the mind can *receive and contemplate* without the help of the body it can also—it is reasonable to think—*retain* without the help of the body too. If not, then the soul gets little advantage by thinking. If •it has no memory of its own thoughts; if •it can't lay them up for its own use, and be able to recall them at need; if •it can't reflect on what is past, and make use of its former experiences, reasonings, and contemplations—then •what does it think *for*? Those who make the soul a thinking thing in *this* way don't make it much nobler than do those (whom they condemn) who claim it to be nothing but very finely ground matter. Words written on dust that the first breath of wind wipes out, or impressions made on a heap of atoms or bodily fluids, are every bit as useful and ennobling as the thoughts of a soul that perish in thinking—thoughts that once out of sight are gone for ever and leave no memory of themselves behind them. Nature never makes excellent things for trivial uses or for no use; and it's hardly to be conceived that our infinitely wise creator should bring it about that something as admirable as the power of thinking—the power ·of ours· that comes nearest to the excellence of his own incomprehensible being—is so idly and uselessly employed, at least a quarter of the time, that it thinks constantly without remembering any of those thoughts, without doing any good to itself or others or being any way useful to any other part of the creation. If you think about it, I doubt if you'll find that the motion of dull and senseless *matter* is ever, anywhere in the universe, made so little use of and so wholly thrown away.

[In section **16** Locke writes of thoughts that we do sometimes have in our sleep and remember after waking, pointing out that they are mostly 'extravagant and incoherent'. He says that his present opponents, faced with this evidence, will have to say that the soul thinks better when employing the body than when thinking 'apart' from the body. He evidently thinks that this is an intolerable conclusion.]

[In sections **17–22** Locke continues to urge the empirical implausibility of the thesis that the soul always thinks, and the unreasonable dogmatism of those who insist on it as necessarily true whatever experience may say. Much of the content of these sections repeats things said earlier in the chapter. The discussion gradually moves over to Locke's thesis that the soul thinks only when it has ideas to think with, and to his view about how ideas are acquired. And so the chapter circles back to where it was in section 9.]

23. When does a man begin to have any ideas? I think the true answer is: when he first has some sensation. Since there appear not to be any ideas in the mind before the senses have conveyed any in, I think that ideas in the understanding arise at the same time as sensation. Sensation is •an impression or motion made in some part of the body that produces •some perception in the understanding. It is about these impressions made on our senses by outward objects that the mind seems first to employ itself in such operations as we call perception, remembering, consideration,

reasoning, etc.

24. In time the mind comes to reflect on *its own dealing with* the ideas acquired from *sensation*, and thereby stores up a new set of ideas that I call ideas of *reflection*. . . . The first capacity of human intellect is that the mind is fitted to receive the impressions made on it, either through the senses by outward objects, or by its own operations when it reflects on them. This is the first step a man makes towards the discovery of anything, and the basis on which to build all the notions he will ever have naturally in this world. All those sublime thoughts that tower above the clouds and reach as high as heaven itself take off from here. . . .

25. In the getting of ideas the understanding is merely passive. It has no control over whether it will have these beginnings—these materials, so to speak—of knowledge. For many of the objects of our senses shove their particular ideas into our minds, whether we want them or not; and the operations of our minds won't let us be without at least *some* obscure notions of them. No man can be wholly ignorant of what he does when he thinks. The understanding can no more refuse to have these simple ideas when they are offered to it, or alter them once they have been imprinted, or blot them out and make new ones itself, than a mirror can refuse, alter, or obliterate the images or ideas that the objects placed in front of it produce on its surface. . . .

Chapter ii: Simple ideas

1. To get a better grasp of what our knowledge is, how it comes about, and how far it reaches, we must carefully attend to one fact about our ideas, namely that some of them are *simple*, and some *complex*.

The *qualities* that affect our senses are intimately united and blended in the things themselves, but it is obvious that the *ideas* they produce in the mind enter (via the senses) simple and unmixed. A single sense will often take in different ideas from one object at one time—as when a man *sees* motion and colour together, or the hand *feels* softness and warmth in a single piece of wax—and yet the simple ideas that are thus brought together in a single mind are as perfectly distinct as those that come in by different senses. The •coldness and hardness a man feels in a piece of ice are as distinct ideas in the mind as the •smell and whiteness of a lily, or as the •taste of sugar and smell of a rose. And nothing can be plainer to a man than the clear and distinct perception he has of those simple ideas, each of which contains nothing but one uniform appearance or conception in the mind, and is not distinguishable into different ideas.

2. These simple ideas, which are the materials of all our knowledge, are suggested and supplied to the mind only by sensation and reflection. Once the understanding has been stocked with these simple ideas, it is able to repeat, compare, and unite them, to an almost infinite variety, and so can make new complex ideas as it will. But no-one, however quick and clever, can invent one new simple idea that wasn't taken in by one of those two ways. Nor can any force of the understanding destroy those that are there. Man's power

over this little world of his own understanding is much like his power over the great world of visible things, where he can only compound and divide the materials that he finds available to him, and can't do anything towards making the least particle of new matter, or destroying one atom of what already exists. . . .

3. God could have made a creature with organs different from ours, and more ways than our five senses to give the understanding input from bodily things. But I don't think any of us could imagine any qualities through which bodies could come to our attention other than sounds, tastes, smells, and visible and tangible qualities. Had mankind been made with only four senses, the qualities that are now the objects of the fifth sense would have been as far from our notice, imagination, and conception as now any belonging to a sixth, seventh, or eighth sense can possibly be. (Actually, I think that perhaps we do have six senses; but I have been following the usual count, which is five; it makes no difference to my present line of thought.) Are there creatures in some other parts of this vast and stupendous universe who have more senses than we do? Perhaps. If you consider the immensity of this structure, and the great variety that is to be found in our little part of it, you may be inclined to think that there are somewhere different intelligent beings whose capacities are as unknown to you as are the senses or understanding of a man to a worm shut up in one drawer of a desk. Such variety and excellence would be suitable to the wisdom and power of our maker.

Chapter iii: Ideas of one sense

1. We shall get a better grasp of the ideas we receive from sensation if we classify them according to their different ways of getting into our minds.

First, some come into our minds by one sense only.

Secondly, others enter the mind by more senses than one.

Thirdly, yet others are had from reflection only.

Fourthly, some are suggested to the mind by all the ways of sensation and reflection.

We shall consider them separately, under these headings.

First, some ideas are admitted through only one sense, which is specially adapted to receive them. Thus •light and colours come in only by the eyes, all kinds of •noises, sounds, and tones only by the ears; the various •tastes and •smells by the nose and palate. If these organs, or the nerves that are the channels along which they communicate with the brain, become disordered so that they don't perform their functions, the associated ideas have no door through which to enter, no other way to bring themselves into view and be perceived by the understanding.

The main ones belonging to touch are •heat and cold, and •solidity. Most of the others have to do with perceptible •texture, like smooth and rough, or with more or less firm •hanging together of the parts, like hard and soft, tough and brittle.

2. I needn't enumerate all the simple ideas belonging to each sense. Indeed, I can't do so because there are many more of them than we have names for. Kinds of smell are at least as numerous as kinds of bodies in the world, and few of them have names. We use 'sweet' and 'stinking' for them, but this amounts to little more than calling them pleasing or displeasing; the smell of a rose differs greatly from that of a violet, though both are sweet. [Similarly—Locke goes on to say—with tastes, and with colours and sounds.] In my account of simple ideas, therefore, I shall pick out only a few—mainly ones that are most important for my over-all enquiry. I shall also discuss some that tend to be overlooked, though they are very frequently ingredients in our complex ideas. I think this is the case with *solidity*, which is my next topic.

Chapter iv: Solidity

1. We receive the idea of solidity by the sense of touch. It arises from our experience of a body's resisting the entrance of any other body into the place it occupies. There is no

idea that we receive more constantly from sensation than solidity. Whether moving or at rest, we always feel something under us that supports us and stops us from sinking further

downwards; and we have daily experience of how, when holding a body between our two hands, the body absolutely prevents the hands from touching one another. My name for the property whereby one body blocks two others from touching is *solidity*. (Mathematicians use that term in a different sense, but mine is close enough to ordinary usage to be acceptable. If you prefer to call the property *impenetrability*, go ahead; but I prefer *solidity* for two reasons. •It is close to common speech. •The term ‘impenetrability’ seems to refer not to the property itself but to a consequence of it, and a negative one at that; whereas ‘solidity’ means something positive and points to the property itself, not a mere consequence of it.) *Solidity* seems to be the idea that is most intimately connected with and essential to *body*. The senses notice it only in masses of matter that are big enough to cause a sensation in us; but once the mind has acquired this idea from such large bodies, it traces the idea further and considers it (as well as shape) in the minutest particle of matter that can exist. •Not only can we not imagine matter without solidity, but• we cannot imagine solidity to exist anywhere except in matter.

2. Solidity is the idea [here = ‘quality’] of body whereby we conceive body to *fill space*. The idea of filling of space is this: we imagine a space taken up by a solid substance which we conceive it to *possess* in such a way that all other solid substances are excluded from it. . . .

3. This resistance whereby a body keeps other bodies out of its space is so great that no force, however great, can overcome it. All the bodies in the world, pressing a drop of water on all sides, can never overcome its resistance until it is moved out of their way. This distinguishes our idea of solidity both from (a) pure space, which is not capable of resistance or motion, and from (b) the ordinary idea of hardness. •I shall

deal with (a) now, and with (b) in the next section. My target in (a) is Descartes, who held that whatever is extended is material, so that vacuum—understood as something extended and immaterial—is conceptually impossible. I shall discuss this at length in xiii, merely sketching my case against it here. • We can conceive two bodies at a distance as being able to meet and touch one another, without touching or displacing any other solid thing. This, I think, gives us a clear idea of space without solidity. Can we not have the idea of one single body moving without any other immediately taking its place? Clearly we can, for •the idea of motion in one body doesn’t include •the idea of motion in another—any more than •the idea of squareness in one body includes •the idea of squareness in another! I’m not asking whether in the actual state of the world it is *physically possible* for one body to move while no others do; answering this either way would be taking a side on the debate over whether there is a vacuum. All I am asking is whether we can have *the idea of* one body moving while no others do; and I think everyone will answer that we can. If so, then the place the body leaves gives us the *idea of* pure space without solidity, into which any other body can enter without being resisted and without displacing anything. If it is the case that *when the piston in a pump is pulled up, other matter has to take its place*, that comes from the world’s being full, not from the mere *ideas of* space and solidity. . . . The very fact that people argue about whether there actually is a vacuum shows that they have ideas of space without a body.

4. In contrast to solidity, . . . *hardness* consists in a firm cohesion of the parts of a mass of matter that is large enough to be perceptible, so that the whole thing doesn’t easily change its shape. Indeed, we call things ‘hard’ or ‘soft’ only in relation to the constitutions of our own bodies: we usually

call a thing 'hard' if it will cause us pain sooner than change its shape by the pressure of any part of our bodies; and 'soft' if an easy and unpainful touch by our bodies can make it change its shape.

The difference between hard and soft has nothing to do with solidity: the *hardest* stone isn't the least bit more *solid* than water. The flat sides of two pieces of marble will more easily approach each other when there is only water between them than when there is a diamond between them; but that is not because the parts of the diamond are more solid than those of water. Rather, it is because the parts of the water, being more easily separable from each other, can easily slide out of the way as the pieces of marble approach. If they could be kept from moving aside in that way, they would—just as much as the diamond—for ever stop these two pieces of marble. . . . If you think nothing but hard bodies can keep your hands from approaching one another, try that out with the air enclosed in a football. [Locke then describes an experiment confirming what he has been saying.]

5. This idea of solidity marks off the extension of body from the extension of space. •The extension of body is just the cohesion [= 'holding together'] or continuity of

solid, separable, movable parts;

and •the extension of space is the continuity

of unsolid, inseparable, and immovable parts.

It's also because bodies are solid that they can bang into

one another, resist one another, and change their shapes. Many of us think we have clear and distinct ideas, and that we can think of •pure space, without anything in it that resists or is pushed around by body. The idea of the distance between the opposite parts of a concave surface is just as clear *without* as *with* the idea of solid parts between. And we also think we have an idea of •something that *fills* space, and can bump other bodies around or be bumped by them. If there are others who don't have these two ideas distinct from one another but think they are just one idea, I don't know how to talk with them, because they and I have the same idea under different names or different ideas under the same name. . . .

6. If anyone asks me what solidity is, I send him to his senses to be informed. Let him put a flint or a football between his hands and then try to make the palms meet, and he'll know. If he isn't satisfied with this explanation of what •solidity is, I promise to tell him what it is when he tells me what •thinking is, or explains to me what •extension or •motion is—a seemingly easier task. The simple ideas we have are such as experience teaches to us. If we try to go further than that, and to make them clearer in our minds by giving verbal definitions, we shall have no more success than we would if we tried to *tell* a blind man what light and colours are, *talking* him into having ideas of them. I shall explain why this is so later on.

Chapter v: Simple ideas of different senses

The ideas we get by more than one sense are of space, or extension, shape, rest, and motion; for these are perceivable by sight and touch. And we can receive and convey into our

minds the ideas of bodies' extension, shape, motion, and rest both by seeing and feeling. I shall have more to say about these later.

Chapter vi: Simple ideas of reflection

1. After receiving ideas from outside, the mind looks in upon itself and observes its own dealings with the ideas it already has, and that gives it further ideas that are as fit to have a role in its thinking as any of those it received from outward things.

2. The main things the mind *does*, encountered so often that everyone who wants to can find them in himself, are

perception or thinking, and
volition or willing.

The power of *thinking* is called the *understanding*, and the power of *volition* is called the *will*; and these two powers or abilities in the mind are called 'faculties'. I shall later discuss some of the modes [= 'special kinds'] of these simple ideas of reflection, such as remembrance, discerning, reasoning, judging, knowledge, faith.

Chapter vii: Simple ideas of both sensation and reflection

1. Some other simple ideas convey themselves into the mind by all the ways of sensation and reflection—namely
pleasure or delight, and its opposite:
pain or uneasiness
power
existence
unity.

2. Nearly every other idea, whether of sensation or reflection, is accompanied by either delight or uneasiness. And almost any state of our senses caused from outside ourselves, and any thought of our mind within, can produce pleasure or pain in us. By the terms 'pleasure' and 'pain' I signify whatever delights or displeases us, whether it arises from the

thoughts of our minds or anything operating on our bodies. For whether we call it 'satisfaction', 'delight', 'pleasure', 'happiness', etc. on the one side; or 'uneasiness', 'trouble', 'pain', 'torment', 'anguish', 'misery', etc. on the other; they are merely different degrees of the same thing, and belong to the ideas of pleasure and pain, delight or uneasiness, these being the names I shall most commonly use for those two sorts of ideas.

3. The infinite wise author of our being has given us •the power to move or not move certain parts of our bodies, and through those movements to move other neighbouring bodies. And he has also given to our mind •a power often to choose which of its ideas it will think of, and which line of enquiry to pursue with consideration and attention. That is why he—God—has seen fit to accompany various thoughts and various sensations with a perception of delight. If delight were wholly separated from all our outward sensations and inward thoughts, we would have no reason to prefer one thought or action to another, prefer negligence to attention, or prefer movement to rest. And so we would neither stir our bodies nor employ our minds, but let our thoughts drift along without direction or design. . . . A man in that state, however equipped with understanding and will, would be a very idle, inactive creature, and pass his time in a lazy, lethargic dream. . . .

4. Pain is as effective as pleasure in making us active, because we will work as hard to avoid pain as to get pleasure. It is interesting to note that pain is often produced by the same objects and ideas as produce pleasure in us. . . . Heat is very agreeable to us in one degree, but becomes extraordinarily painful when the temperature goes up a little. And the most pleasant of all perceptible things, light itself, causes a very painful sensation if its intensity is too great for our

eyes. This shows the wisdom of our maker: when any object acts so intensely on our sense organs that it threatens to damage their delicate structures, pain warns us to withdraw before the organ is so damaged as to become useless. There is evidence that this is what pain is *for*. Although great light is insufferable to our eyes, yet the highest degree of darkness does them no harm and isn't accompanied by pain. In contrast with that: we are given pain by excess of cold as well as of heat, because the two extremes are equally destructive to the bodily condition that is necessary for the preservation of life and the proper functioning of the body. It is the condition of having a moderate degree of warmth—or, if you will, a motion of the imperceptible parts of our bodies that is not too fast and not too slow.

[Section 5 suggests another reason, a theological one, why 'God has scattered up and down various levels of pleasure and pain in all the things that surround and affect us'. Section 6 gives a theological reason for discussing this.]

7. *Existence* and *unity* are two other ideas that are suggested to the understanding by every object outside us and every idea within. When ideas are in our minds, we consider them as being actually there, i.e. as *existing*; and whatever we can consider as one thing, whether a real being or an idea, suggests to the understanding the idea of *unity*, i.e. *oneness*.

8. *Power* is another simple idea that we receive from sensation and reflection. For we get the idea of power in two ways: •by observing in ourselves that we can at pleasure move various parts of our bodies that were at rest, and •by our constantly observing through our senses the effects that natural bodies can have on one another.

9. Another idea that is suggested by our senses but is more constantly offered to us by what happens in our minds, is

the idea of *succession*. If we look into ourselves and reflect on what we observe there, we'll find our ideas following one another with no interruptions throughout our waking hours.

10. I think that these are all—or anyway the most important—of the mind's simple ideas, out of which all its other knowledge is made. They are all received through sensation and reflection.

Don't think that sensation and reflection are too narrow to supply all the materials of the capacious mind of man,

which takes its flight beyond the stars, roaming beyond the world of matter out into incomprehensible empty space. It won't seem so strange to think that these few simple ideas suffice for the quickest thought, or largest mental capacity, if we consider how many words we can make by putting together various selections from twenty-four letters, or if we consider how the mathematicians can get an inexhaustible and truly infinite stock of material out of just one of the simple ideas I have mentioned, namely *number*. [In fact Locke hasn't mentioned it yet. It will be the topic of xvi.]

Chapter viii: Some further points about our simple ideas

1. If something in nature can so affect the mind as to cause some perception in it, that perception will present itself to the mind as a *positive* idea, even if it is caused by a *negative* feature of the object.

2. Thus the ideas of heat and cold, light and darkness, white and black, motion and rest, are equally clear and positive ideas in the mind; though perhaps some of the causes producing them are mere privations [= 'absences', 'negativenesses'] in the things from which our senses derive those ideas. Looking into those causes is an enquiry that belongs not •to the idea as it is in the understanding but •to the nature of the things existing outside us. These are two very different things, and we should be careful to distinguish them. It is one thing to perceive and know the idea of white or black, and quite another to examine what kind of surface texture is needed to make an object appear white or black.

[In section **3** Locke develops this point a little further. In section **4** he offers a suggestion about *why* a negative cause sometimes 'produces a positive idea'.]

5. I won't try to settle here whether this suggestion is right. As for my point about the idea itself, as distinct from its cause, I appeal to everyone's own experience: the shadow of a man consists of nothing but the absence of light, but doesn't it cause in an observer as clear and positive an idea as does the man whose shadow it is, even though he is bathed in sunshine? And the picture of a shadow is a positive thing. We do have negative names that stand directly not for positive ideas but for their absence. For example 'insipid', 'silence', 'nothing', and their like denote positive ideas (taste, sound, being) together with a signification of their absence.

6. So a person can be truly said to see darkness. . . . The causes I have here assigned for certain positive ideas are

privative [= 'negative'] according to the common opinion, and so I have called them; but really it is hard to be sure whether there really are any ideas from a privative cause, until we have settled *whether rest is any more a privation than motion is*.

7. To reveal the nature of our ideas better, and to talk about them intelligibly, it will be convenient to distinguish them •as they are ideas or perceptions in our minds, and •as they are states of matter in the bodies that cause such perceptions in us. That may save us from the belief (which is perhaps the common opinion) that the ideas are exactly the images and resemblances of something inherent in the object. •That belief is quite wrong. Most ideas of sensation are (in the mind) no more *like* a thing existing outside us than the names that stand for them are *like* the ideas themselves.

8. Whatever the mind perceives in itself—whatever is the immediate object of perception, thought, or understanding—I call an *idea*; and the power to produce an idea in our mind I call a *quality* of the thing that has that power. Thus a snow-ball having the power to produce in us the ideas of white, cold, and round, the powers to produce those ideas in us, as they are in the snow-ball, I call *qualities*; and as they are sensations or perceptions in our understandings, I call them *ideas*. If I sometimes speak of 'ideas' as in the things themselves, please understand me to mean to be talking about the *qualities* in the objects that produce them in us.

9. Qualities thus considered in bodies are of two kinds. First, there are those that are utterly inseparable from the body, whatever state it is in. Qualities of this kind are the ones that a body doesn't lose, however much it alters, whatever force is used on it, however finely it is divided. Take a grain of wheat, divide it into two parts, each part has still solidity, extension, shape, and mobility; divide it again, and

it still retains those qualities; go on dividing it until the parts become imperceptible, each part must still retain all those qualities. . . . I call them original or *primary qualities* of body, which I think we may observe to produce simple ideas in us, viz. solidity, extension, shape, motion or rest, and number.

10. Secondly, there are qualities that are, in the objects themselves, really nothing but *powers to produce various sensations in us by their primary qualities*, i.e. by the size, shape, texture, and motion of their imperceptible parts. Examples of these are colours, sounds, tastes, and so on. I call these *secondary qualities*. To these we can add a third sort, an example of which is the power of fire to change the colour or consistency of wax and clay. This would ordinarily be said to be *only a power in* •rather than *a quality of*• the object; but it is just as much a real quality as the powers that I have called 'secondary qualities'. (I call them 'qualities' so as to comply with the common way of speaking, and add 'secondary' to mark them off from the rest.) The primary qualities of fire—that is, the size, texture, and motion of its minute parts—give it a power to affect *wax and clay* etc.; and those same primary qualities give it a power to produce in *me* a sensation of warmth or burning; if the latter is a quality in the fire, why not the former also?

11. The next question is: How do bodies produce ideas in us? Obviously they do it by impact; we can't conceive bodies to operate in any way but that.

12. External objects are not united [= 'directly connected'] to our mind when they produce ideas in it, and yet we do somehow perceive qualities in the objects. Clearly there has to be some motion that •goes from the object to our sense-organs, and• from there is continued by our nerves or our animal spirits to the brains or the seat of sensation, there to produce in our mind the particular ideas

we have of them. [Locke held the then-common view that human physiology involves ‘animal spirits’. These constitute the body’s hydraulic system (Bernard Williams’s phrase)—an *extremely* finely divided fluid that transmits pressures through tiny cracks and tunnels.] Since the extension, shape, number, and motion of visible bodies can be seen from a distance, it is evident that some bodies that are too small to be seen individually must travel from those bodies across to the eyes, and thereby convey to the brain some motion that produces in us these ideas that we have of them.

13. We may conceive that the ideas of secondary qualities are also produced by the operation of insensible particles on our senses. Plainly there are plenty of bodies that are so small that we can’t, by any of our senses, discover the size, shape, or motion of any one of them taken singly. The particles of the air and water are examples of this, and there are others still smaller—perhaps as much smaller than particles of air and water as the latter are smaller than peas or hail-stones. Let us suppose in the meantime that the different motions and shapes, sizes and number of such particles, affecting our various sense-organs, produce in us the different sensations that we have of the colours and smells of bodies. . . . It is no more impossible to conceive that God should attach such ideas to motions that in no way *resemble* them than it is that he should attach the idea [= ‘feeling’] of pain to the motion of a piece of steel dividing our flesh, which in no way resembles the pain.

14. What I have said about colours and smells applies equally to tastes and sounds, and other such sensible qualities. Whatever reality we mistakenly attribute to them, they are really nothing in the objects themselves but powers to produce various sensations in us. These powers depend, as I have said, on those primary qualities, namely size, shape,

texture, and motion of parts.

15. From this we can easily infer that the ideas of the primary qualities of bodies resemble them, and their patterns really do exist in the bodies themselves; but the ideas produced in us by secondary qualities don’t resemble them at all. There is nothing *like* our ideas of secondary qualities existing in the bodies themselves. All they are in the bodies is *a power to produce those sensations in us*. What is sweet, blue, or warm in idea is nothing but the particular size, shape, and motion of the imperceptible parts in the bodies that we call ‘sweet’, ‘blue’, or ‘warm’.

16. Flame is called ‘hot’ and ‘light’; snow ‘white’ and ‘cold’; and manna ‘white’ and ‘sweet’—all from the ideas they produce in us. [We know that Locke sometimes calls qualities ‘ideas’, but that seems not to be enough to explain the oddity of the next sentence down to its first comma. The passage as given here is almost verbatim Locke; all of the oddity is there in what he wrote.] Those qualities are commonly thought to be the same in those bodies as those ideas are in us, the one perfectly resembling the other; and most people would think it weird to deny this. But think about this: a fire at one distance produces in us the sensation of •warmth, and when we come closer it produces in us the very different sensation of •pain; what reason can you give for saying that the idea of *warmth* that was produced in you by the fire *is actually in* the fire, without also saying that the idea of *pain* that the same fire produced in you in the same way *is in* the fire? Why are whiteness and coldness in snow, and pain not, when it produces each idea in us, and can do so only through the size, shape, number, and motion of its solid parts?

17. The particular size, number, shape, and motion of the parts of fire or snow are really in them, whether or not anyone’s senses perceive them. So they may be called *real*

qualities, because they *really* exist in those bodies; but light, heat, whiteness or coldness are no more really in them than sickness or pain is in manna. Take away the sensation of them—

let the eyes not see light or colours, or the ears hear sounds; let the palate not taste, or the nose smell—

and all colours, tastes, odours, and sounds vanish and cease, and are reduced to their causes, i.e. size, shape, and motion of parts.

18. A big enough piece of manna can produce in us the idea of a round or square shape, and, by being moved, the idea of motion. This idea of motion represents motion as it really is in the moving manna; a circle or square is the same •in idea as •in existence—the same •in the mind as •in the manna—and this motion and shape really are in the manna, whether or not we notice them. Everybody agrees with this. On the other hand, manna by virtue of the size, shape, and motion of its parts has a power to produce in us the sensations of sickness and sometimes of acute pains. And everyone agrees also that •these ideas of sickness and pain are *not* in the manna, are only effects of its operations on us, and are *nowhere* when we don't feel them. Yet it is hard to get people to agree that •sweetness and whiteness aren't really in manna either, and are also merely the effects of the operations of manna by the motion, size, and shape of its particles on the eyes and palate. . . . It would be hard for them to explain why the •ideas produced by the eyes and palate should be thought to be really in the manna, while •those produced by the stomach and guts are not; or why •the pain and sickness caused by the manna should be thought to be nowhere when they aren't felt, while •the sweetness and whiteness of it should be thought to exist in the manna even when they aren't seen or tasted.

19. Consider the red and white colours in porphyry. Prevent light from reaching the stone, and its colours vanish, it no longer produces any such ideas in us; when light returns, it produces these appearances in us again. Can anyone think that any real alterations are made in the porphyry by the presence or absence of light; and that those ideas of whiteness and redness are really in porphyry in the light, when it obviously has no colour in the dark? The porphyry has at *every* time a configuration of particles that is apt to produce in us the idea of redness when rays of light rebound from some parts of that hard stone, and to produce the idea of whiteness when the rays rebound from some other parts; but at *no* time are whiteness or redness in the stone.

20. Pound an almond, and the clear white colour will be altered into a dirty one, and the sweet taste into an oily one. What real alteration can the beating of the pestle make in any body other than an alteration of the texture of it?

21. We are now in a position to explain how it can happen that the same water, at the same time, produces the idea of cold by one hand and of heat by the other; whereas the same water couldn't possibly be at once hot and cold if those ideas were really in it. If we imagine warmth in our hands to be nothing but a certain sort and degree of motion in the minute particles of our nerves or animal spirits, we can understand how it is possible for the same water at the same time to produce the sensations of heat in one hand and of cold in the other (which shape never does; something never feels square to one hand and spherical to the other). If the sensation of heat and cold is nothing but the increase or lessening of the motion of the minute parts of our bodies, caused by the corpuscles of some other body, we can easily understand that if motion is greater in one hand than in the other, and the two hands come into contact with a body that

is intermediate between them in temperature, the particles in one hand will be slowed down while those of the other will speed up, thus causing different sensations.

22. In what I have been saying I have gone a little further than I intended into physical enquiries. [That is, into questions about the biology/psychology of ideas, questions about what *actually happens in the world* when ideas of a certain kind occur.] But I had to throw a little light on the nature of sensation, and to provide a firm grasp of how qualities in bodies differ from the ideas they produce in the mind; for without this I couldn't write intelligibly about ideas. I hope I shall be pardoned this little detour into natural science. . . .

23. So the qualities that are in bodies are of three sorts. First, the size, shape, number, position, and motion or rest of their solid parts; those are in them, whether or not we perceive them; and when they are big enough for us to perceive them they give us our idea of what kind of thing it is—as clearly happens with artifacts. For example, we recognize a clock or a coach from how its visible parts are assembled, without need for guesswork about its submicroscopic features. I call these *primary qualities*.

Secondly, the power that a body has, by reason of its imperceptible primary qualities, to operate in a special way on any of our senses, thereby producing in us the different ideas of various colours, sounds, smells, tastes, etc. These are usually called *sensible qualities*. I call them secondary qualities.

Thirdly, the power that a body has, by virtue of the particular set-up of its primary qualities, to change the size, shape, texture or motion of another body so as to make the latter operate on our senses differently from how it did before. Thus the sun has a power to make wax white, and fire to

make lead fluid. These are usually called *powers*.

The first of these, I repeat, may be properly called real, original, or primary qualities, because they are in the things themselves, whether or not they are perceived. It is upon different modifications of them that the secondary qualities depend. [A 'modification' of a quality is a special case of it, a quality that involves it and more. Squareness is a modification of shapedness, which is a modification of extendedness.]

The other two are only powers to act differently on other things, which powers result from the different modifications of those primary qualities.

24. But though the two latter sorts of qualities are merely powers, nothing else, one of the two sorts are generally thought of as something else. The second sort, namely the powers to produce ideas in us by our senses, are looked on as real qualities in the things thus affecting us. The third sort are regarded as mere powers: when we consider the sun in relation to wax that it melts or blanches, we look on the wax's whiteness and softness not as qualities in the sun but as effects produced by powers in the sun. This correct understanding of the third sort of qualities is also right for the second sort. If rightly considered, the qualities of light and warmth that are perceptions in me when I am warmed or lit up by the sun are no more *in the sun* than are the changes made in the wax when it is blanched or melted. . . .

[Section **25** is a fairly long and somewhat complex explanation of why people are apt to think correctly about powers and incorrectly about secondary qualities. Section **26** winds up the chapter without adding anything except the suggestion that the second sort of qualities 'may be called secondary qualities, immediately perceivable', and the third sort 'secondary qualities, mediately perceivable'.]

Chapter ix: Perception

1. Just as perception is the mind's first way of engaging with ideas, the idea of it is the first and simplest idea we have from reflection. Some call it *thinking*, but that is a misnomer, because in correct English 'thinking' stands only for operations on ideas in which the mind is *active*, coming to bear on something with some degree of voluntary attention. In bare naked perception, on the other hand, the mind is mostly passive, perceiving only what it can't avoid perceiving.

2. What is *perception*? you'll know the answer to that better by reflecting on what *you* do when you see, hear, feel, etc. or think, than by listening to anything I say. Whoever reflects on what happens in his own mind can't miss it; and if he doesn't reflect, all the words in the world can't make him have any notion of it.

3. This much is certain: whatever alterations occur in the body, if they don't reach the mind there is no perception. Whatever impressions are made on the outward parts, if they aren't taken notice of within there is no perception. Fire may burn our bodies with no other effect than it makes on a piece of wood, unless the motion is continued to the brain, and there the sense of heat, or idea of pain, is produced in the mind. In that consists actual perception.

4. Your own experience will tell you that quite often your mind, while intently focussed on some things and on the ideas they involve, takes no notice of the effects that other things are having on the organ of hearing, although these effects are just like ones that ordinarily produce the idea of sound. There may be a sufficient impact on the organ, but because it isn't observed by the mind no perception ensues. The motion that ordinarily produces the idea of sound is

made in the ear, yet no sound is heard. In this case the lack of sensation doesn't come from any defect in your organ of hearing, or from your ears' being less affected than at other times when you do hear. Rather, it is that the physical effects aren't *taken notice of in the understanding*, and so they don't imprint any idea on the mind, and so they cause no sensation. Whenever there is sense or perception, some idea is actually produced and present in the understanding.

5. So I am sure that children, by the exercise of their senses on objects that affect them in the womb, receive a few ideas before they are born. . . . If I may risk a guess on a matter that isn't very open to investigation, I think the ideas of hunger and warmth are among them—probably among the first that children have, and hardly ever part with.

6. But though we can reasonably suppose that children receive some ideas before they are born, these simple ideas are nothing like the innate principles that I have rejected. The former come from states that the child's body is in, or events that its body undergoes, while it is in the womb; which means that they depend on something exterior to the mind. In their way of being produced they differ from other sense-based ideas *only* in that they occur earlier. As against this, innate principles are supposed to be of an entirely different sort—not coming into the mind through any particular events in the body, but original characters stamped onto it from the outset.

7. As there are some ideas—like the feelings of hunger and warmth—that we can reasonably suppose to be introduced into the minds of children in the womb, reflecting the necessities of their life in that situation, so the first ideas that

are imprinted on them after they are born are the sensible qualities that first impinge on them. *Light* is a powerful example. Newly born children always turn their eyes in the direction from which the light comes, which is some evidence of how greedy the mind is to get as many ideas as it can, so long as they aren't accompanied by pain. But children's circumstances vary, and so the order in which they acquire ideas varies too; and this isn't something we have much need to enquire into.

8. Speaking of adults now: the ideas we receive by *sensation* are often altered by *judgment* without our noticing it. When we see a round uniformly coloured globe—say of gold or alabaster or polished coal—it is certain that the idea it imprints on our mind is of a flat circle variously shadowed, with various degrees of light and brightness coming to our eyes. But we know how convex bodies customarily appear to us, how the reflections of light are altered by the shapes of bodies; and so our judgment acquires a habit of immediately *altering the appearances into their causes*. Faced with something that is really a variety of shadow or colour, it infers what the shape is; takes that variety to be a mark of that shape; and forms for itself the perception of *a convex figure and a uniform colour*, although the idea we receive is only a plane variously coloured, as is evident in painting.

A propos of that, I shall here insert a problem that was put to me by the learned and worthy Mr. Molineux. . . .:

Suppose a man born blind, now adult, who has learned how to distinguish by touch between a cube and a sphere of the same metal and about the same size, so that he can tell when he handles them which is the cube and which the sphere. Now suppose the cube and sphere to be placed on a table, and the blind man be made to see. Can he by his sight, before touching

them, tell which is the globe, which the cube?

To this Mr Molineux answers No. For though the man has obtained the experience of how a globe affects his sense of touch and how a cube does, he still has no experience telling him that something that affects his touch *thus* must affect his sight *so*. I agree. . . . I leave this with you, to prompt you to consider how much you owe to experience, learning, and acquired notions, where you have thought you hadn't the least help from them! I especially want to include this question here because Mr Molyneux tells me that when the first edition of my book appeared he proposed this question to various very able men, and found hardly any that gave what he thinks is the right answer until he convinced them of it by giving reasons.

9. This mistake doesn't happen much, I think, with ideas other than those received by sight. Here is why it happens with them. Sight, which is the most comprehensive of all our senses, conveys to our minds the ideas of light and colours, which we get only from that sense; and it conveys also the very different ideas of space, shape, and motion, the variations in which bring with them changes in the appearances of light and colours; and so we become accustomed to judging one by the other. When this is done with things of which we have frequent experience, it is performed so constantly and so quickly that we take an idea formed by our judgment to be a perception of our sensation; so that the latter serves only to trigger the former, and is hardly noticed in itself. Similarly, a man who reads or hears with attention and understanding takes little notice of the letters or sounds, attending only to the ideas that they rouse up in him.

[In section **10** Locke comments on our generally not noticing that we are making such a substitution. He explains it partly

as resulting from •the speed with which the substitution is performed (‘As the mind is thought to take up no space, so its actions seem to require no time’) and from •its habitualness. He compares it with our unawareness of blinking.]

11. The faculty of perception seems to me to be what distinguishes the animal kingdom from the inferior parts of nature, •that is, from plants•. A good many plants are capable of motion: when other bodies are applied to them they briskly alter their shapes and motions, which leads to their being called ‘sensitive plants’ because their movements somewhat resemble those that an animal makes because of some sensation that it has. But in plants it is (I suppose) all bare mechanism, produced in the same kind of way as. . . .water produces the shortening of a rope—which is done without any sensation in the subject or any having or receiving of ideas.

12. I believe that perception occurs to some extent in animals of every sort, though it may be that in some animals the inlets that nature provides for receiving sensations are so few, and the perception they are received with is so dark and dull, that it falls far short of the sharpness and variety of sensation in other animals. Still, it is sufficient for, and wisely adapted to, the state and condition of animals of that sort. So the wisdom and goodness of the Maker plainly appear in all the parts of this stupendous structure, and at all the different levels of creatures in it.

13. Judging by an oyster’s structure, I think we can reasonably conclude that it doesn’t have as many senses—or ones as keen—as men and many other animals have; and because of its immobility it wouldn’t be better off if it did. What good would sight and hearing do to a creature that couldn’t move itself towards benefit or away from harm even if it could see them at a distance? And wouldn’t keenness of sensation be an inconvenience to an animal that must lie still, where chance has once placed it, and be washed over by whatever water—cold or warm, clean or foul—that happens to come its way?

14. Still, I can’t help thinking that oysters have some small dull perception that distinguishes their state from perfect insensibility. [Locke goes on to liken this conjectured state of an oyster to the state of an extremely old man who has lost most of his memories, and is blind, deaf, and without a sense of smell.]

15. Because perception is the first step towards knowledge, and is the inlet through which all its materials come into the mind, the following is the case. •The fewer senses any man (or other creature) has, •the fewer and duller the impressions are that his senses make; and •the duller the faculties are that he brings to bear on them, •the more remote he is from having the sort of knowledge that is to be found in some men. But there are so many different levels of this (even amongst men) that we can’t know for sure where a given species of animals stands in this respect, much less where an individual animal stands. . . .

Chapter x: Retention

1. The next faculty of the mind by which it moves closer towards knowledge is one that I call 'retention'—the mind's ability to *keep* simple ideas it has received from sensation or reflection. This is done in two ways. In the first, the idea is *kept actually in view* for some time—this is called 'contemplation'.

2. The second kind of retention is the power to *revive again* in our minds ideas that have come to us and then disappeared. This is *memory*, which is the store-house (so to speak) of our ideas. Because the narrow mind of man couldn't keep many ideas in view and under consideration at once, it needed a repository in which to store ideas that it might want to use later on. But our ideas are nothing but actual perceptions in the mind, and cease to be anything when they aren't perceived; so that this 'storing of ideas in the repository of the memory' really means only that the mind has a power in many cases to revive perceptions that it has once had, with attached to them the additional perception *that it has had them before*. It is in this sense that our ideas are said to be 'in our memories', when they are actually nowhere. . . .

3. Attention and repetition help in fixing ideas in the memory; but the ones that at first make the deepest and most lasting impression are the most likely to be remembered. And they are those that are accompanied by pleasure or pain. The great business of the senses is to alert us to what hurts the body or brings advantage to it; so nature has wisely brought it about that pain accompanies the reception of certain ideas. That does the work of thinking and reasoning in children, and acts faster than thinking in adults; and so it

leads both young and old to avoid painful objects, doing this with the speed that is necessary for their preservation—and settling in the memory a caution for the future.

[In section 4 Locke discusses ideas that the mind doesn't retain in memory—because •the idea was too brief or weak or uninteresting, or •the memory itself is weak, or •the person wasn't paying attention, or •through the condition of the body, or some other fault'. The section concludes:] In all these cases ideas in the mind quickly fade, and often vanish from the understanding altogether, leaving no more signs of themselves than the shadows of clouds do in flying over fields of corn; and the mind is as empty of them as if they had never been there.

5. Thus many of the ideas that were produced very early in the minds of children. . . .if in the future course of their lives they aren't repeated they are quite lost, with not a glimpse of them remaining. This can be observed in those who had the bad luck to lose their sight when very young, in whom the ideas of colours having been only slightly taken notice of, and have quite worn out because they haven't been repeated. . . . There seems to be a constant decay of all our ideas, even of those that are most deeply embedded in the most retentive minds, so that if they aren't sometimes renewed by repeated exercise of the senses, or reflection on the kinds of objects that at first produced them, the print wears out, and at last there remains nothing to be seen. . . . The pictures drawn in our minds are laid down in fading colours, and if they aren't sometimes refreshed they vanish and disappear. I shan't here go into the question of how far the structure of our bodies and the constitution of our animal

spirits are concerned in this, and whether the state of the brain makes the difference between good memories and bad, so that in some people the memory retains the characters drawn on it like •marble, in others like •sandstone, and in others little better than •sand. It may seem probable that the constitution of the body sometimes influences how well the memory functions, since we often find that a disease can strip the mind of all its ideas, and the flames of a fever can within a few days burn down to dust and confusion the images which had seemed to be as lasting as if engraved in marble.

6. But concerning the ideas themselves as distinct from questions about the efficacy of memory, it is easy to see that the ideas that fix themselves best in the memory and remain clearest and longest in it are the ones that are oftenest refreshed by a frequent return of the objects or events that produce them. These include the ideas that are conveyed into the mind by more ways than one. And so it is that •ideas that are of the original qualities of bodies, namely solidity, extension, shape, motion, and rest, and •ideas of qualities that almost constantly affect our bodies, such as heat and cold, and •ideas that are applicable to beings of all kind, such as existence, duration, and number, which come along with almost every object that affects our senses and every thought that occupies our minds—ideas like *these* are seldom quite lost except by a mind that loses all its ideas.

7. In this secondary perception, so to call it, this viewing again of ideas that are lodged in the memory, the mind is often quite active, for the appearance of those dormant pictures sometimes depends on the will. The mind often sets to work searching for some hidden idea, and turns the eye of the soul (so to speak) upon it [= upon the soul and the ideas it contains?] . But sometimes ideas start up of their own accord

in our minds, and present themselves to the understanding; and very often they are aroused and tumbled out of their dark cells into daylight by turbulent and tempestuous passions, because our various states bring to our memory ideas that would otherwise have lain quiet and unnoticed.

A further point should be noted concerning ideas that are lodged in the memory and later revived by the mind. It is that not only are they *not new* ideas, but they are *not taken to be new* by the mind. On the contrary, it takes notice of them as *of* a former impression, and renews its acquaintance with them as with ideas it had known before. . . .

8. In a thinking creature, memory is second in importance only to perception. It matters so much that when it is lacking all our other faculties are largely useless. In our thoughts, reasonings, and knowledge we couldn't move beyond present objects if we didn't have the help of our memories. This help may be defective, in either of two ways.

First, the memory can't find the idea at all, and to that extent produces perfect ignorance. For since we can know a thing only so far as we have the idea of it, when that is gone we are in perfect ignorance about the thing in question.

Secondly, the memory moves slowly, and doesn't retrieve the stored idea quickly enough to serve the present purpose. When this happens a lot, that is stupidity; and someone who through this defect in his memory doesn't have easy access to the ideas that really are preserved in his mind—doesn't have them ready at hand when he needs them—is hardly better off than he would be without them in his 'store', for they give him no service. . . . It is the business of the memory to provide the mind with those dormant ideas that it needs at a given moment. Having them ready at hand on all occasions is what we call 'invention', 'fancy', and mental agility.

[In section 9 Locke writes about how men differ from one another in the strength of their memories, citing Pascal, who in his prime 'forgot nothing of what he had done, read, or thought at any time since he reached the years of reason'. He also speculates that probably all men differ in this respect from angels. He continues:] Mr. Pascal's memory still had the narrow limits within which human minds are confined here on earth, having a great variety of ideas only in succession and not all at once. Different grades of angels may have broader views, some of them being able to retain together, and constantly set before them as in one picture, all their past knowledge at once. This would be a great advantage to the knowledge of a thinking man; so it may be one of the ways in which the knowledge of unembodied Spirits greatly surpasses ours.

10. Various non-human animals seem to have to a great degree this capacity for laying up and retaining the ideas that are brought into the mind. To take one example out of several: when birds learn tunes, the attempts one can

observe in them to get the notes right convinces me that they have perception and retain ideas in their memories, and use them as patterns. It seems to me impossible that they should try to conform their voices to notes (as they plainly do) of which they had no ideas. Admittedly, a sound might affect a bird's behaviour in a purely mechanical manner, without involving anything mental, e.g. any perception. For example, a sound might mechanically cause a certain motion of the animal spirits in the brains of those birds while the tune is actually playing; and that motion might be continued on to the muscles of the wings, so that the bird is mechanically driven away by certain noises, because this tends to its preservation. But that mechanistic, non-mental approach couldn't explain why a sound should mechanically cause a motion of the bird's vocal organs that would reproduce the notes of a sound it had heard earlier; for such imitation couldn't be conducive to the bird's preservation. [Locke adds another bit of supposed evidence that in learning a tune a bird relies on its memory.]

Chapter xi: Discerning, and other operations of the mind

1. Another faculty we may take notice of in our minds is that of *discerning* and distinguishing ideas from one another. It isn't enough to have a confused perception of some thing in general—that is, taking in nothing beyond the bare fact of its being *a thing*. If the mind didn't have different perceptions of different objects and their qualities, it would be capable of very little knowledge, even if the bodies affecting us were

as busy as they actually are, and the mind were continually employed in thinking. This capacity for distinguishing one thing from another is the source of the obvious and certain truth of various propositions, including some very general ones, that have been taken for innate truths. Innatists have been led to their view for want of any other explanation of why those propositions are universally accepted. I am

undercutting them by providing another explanation, an alternative to the hypothesis of innate imprinting. The acceptance of those propositions depends on the mind's ability to *discern* or *distinguish*—its ability to perceive two ideas to be the same, or to be different. . . .

2. I won't go into the question of how far failures in accurately discriminating ideas from one another comes from •defects in the organs of sense, or •lack of sharpness, nimbleness or focus in the understanding, or •the way some people are apt to blunder hastily to conclusions. I merely note that this is one of the operations that the mind can observe in itself when it looks inward. It is so important to other knowledge that to the extent that *this* faculty is dull, or isn't rightly used for distinguishing one thing from another, to that extent our notions are confused and our reason and judgment are disturbed or misled. Whereas •having our ideas in the memory ready at hand is having *mental agility*, •having them unconfused, and being able to tell one thing from another even when the difference is small, is much of what makes up *exactness of judgment and clearness of reason*. From this we can perhaps give some reason for the well known fact that people with a great deal of wit and prompt memories don't always have the clearest judgment or deepest reason. •Wit lies mostly in nimbly putting one idea together with another idea that it resembles or in some other way *goes with*, thereby making up pleasant pictures and agreeable visions in the imagination; whereas •judgment lies quite on the other side, carefully separating from one another ideas that differ from one another, however slightly, so as not to be misled by a similarity into mistaking one thing for another. [Locke develops this contrast, saying that the appreciation of wit does not require, and indeed is inimical to, examination 'by the severe rules of truth and good reason'.]

3. The chief aid to our distinguishing well amongst our ideas is their being clear and determinate. When they are so, we won't be led into confusion or mistake when, as sometimes happens, the senses convey ideas from the same object differently on different occasions, and so seem to err. Sugar may taste sweet to a man when he is healthy, and bitter when he is in a fever; but the idea of *bitter* in his mind is as clear, and as distinct from the idea of *sweet*, as if he had tasted only gall. [The section continues with other examples.]

4. *Comparing* ideas with one with another, in respect of extent, degrees, time, place, or any other details, is another operation that the mind performs with its ideas. On it are based all the many ideas that fall under the heading *relation*. I shall return to them later [xxv]. [For Locke, a 'comparison' of one thing with another needn't be a *likening* of them; often it is some other kind of *considering them together*.]

5. It isn't easy to determine how far non-human animals have this capacity for comparing. I imagine they don't have it any great degree; for though they probably have various ideas that are distinct enough, yet it seems to me to be the prerogative of human understanding, when it has distinguished any pair of ideas well enough to perceive them to be perfectly different and therefore to be *two*, to cast about and consider how and in what respects they can be compared—that is, how they can be related to one another. I think, therefore, that non-human animals compare their ideas only in coping with their physical environment. We are probably safe in conjecturing that they don't at all have the *other* power of comparing—the one that men have, and that belongs to general ideas and is useful only in abstract reasonings.

6. The next operation we can observe the mind performing with its ideas is *composition*, in which the mind puts together

several simple ideas it has received from sensation and reflection, combining them into a complex one. Under the heading 'composition' we may also include *enlarging*, in which we put together several ideas of the same kind. Thus by adding several units together, we make the idea of a dozen; and putting together the repeated ideas of yards, we make that of a mile.

7. In composition also, I suppose, lower animals come far short of man. They do take in and retain *together* various combinations of simple ideas. The shape, smell, and voice of a man may make up his dog's complex idea of him, or rather are so many distinct marks by which it recognizes him; but I don't think that the dog puts these ideas together to make a complex idea. Even where we think a non-human animal has a complex idea, perhaps it is only one simple idea that directs the animal in the knowledge of various things that it doesn't distinguish visually as much as we imagine it does. I have been credibly informed that a bitch will nurse, play with, and be fond of young foxes, *as much as* of her puppies and *in place of* them, if only you can get them just once to suckle from her long enough for her milk to go through them. [The section adds evidence that lower animals can't count.]

8. When children have through repeated sensations got some ideas fixed in their memories, they gradually begin to learn the use of signs. And when they acquire the skill to apply their organs of speech to producing articulate sounds, they begin to use words to signify their ideas to others. They *borrow* some of these verbal signs from others; but they also *make* some of their own, as we can observe from the new and unusual names children often give to things when they first use language.

9. So words are used to stand as outward marks of our internal ideas, which are taken from particular things; but

if every particular idea that we take in had its own special name, there would be no end to names. To prevent this, the mind makes *particular* ideas received from *particular* things become *general*; which it does by considering them as they are in the mind—mental appearances—separate from all other existences, and from the circumstances of real existence, such as time, place, and so on. This procedure is called *abstraction*. In it, an idea taken from a particular thing becomes a general representative of all of the same kind, and its name becomes a general name that is applicable to any existing thing that fits that abstract idea. Such precise naked appearances in the mind, without considering •how or •from where or •in company with what others it acquired them, the understanding stores away for use as *standards*: it will classify real things into •sorts on the basis of their agreement with these patterns •or standards•. The abstract ideas have names commonly attached to them, so that they also serve as patterns for applying •words, labels, to the things that they enable us to sort. Thus you observe the same colour today in chalk or snow that you yesterday saw in milk; your mind considers that appearance alone, makes it a representative of all of that kind and gives it the name 'whiteness'; and by that sound you signify the same quality, wherever it is imagined or met with. This is how *universals*, whether ideas or words, are made.

10. It is *doubtful* that non-human animals compound their ideas *much*; I am *sure* that they have no power of abstracting *at all*, and that the having of general ideas is what sharply distinguishes humans from other animals, and is an excellence of which the others are in no way capable. Obviously, we see no traces in their behaviour of their using general signs •to stand• for universal ideas; which gives us reason to think they can't abstract, or make general ideas.

11. Their having no use or knowledge of general words can't be explained as resulting from their lack of appropriate vocal organs; for we find that many of the lower animals *can* make such sounds, and pronounce words distinctly enough, but they never mean anything general by them. And conversely, men who through some physical defect can't utter words still manage to express their universal ideas by signs that they use instead of general words; and we see that non-human animals can't do that. I think we may take *this* to be what essentially differentiates men from other animals, a difference that wholly separates them by what eventually comes to be a vast distance. It has often been thought that the crucial difference is that men alone can *reason*, but that isn't right. For if lower animals have any ideas at all and aren't bare machines (as some think they are), we can't deny that they have some reason. It seems to me as obvious that some of them sometimes reason as that they have sense; but when they reason it is only with particular ideas, just as they received them from their senses and not subjected to abstraction. . . .

[Sections **12–13** discuss the relations between the mental capacities discussed in this chapter and different kinds of mental deficiency in humans. The following passage in **13** will be referred to in xxxiii.4:] A man who is very level-headed and has a good mind most of the time may *in one kind of context* be as frantic as any in the mad-house. This can happen because—either through •some sudden very strong impression, or through •his long fixing his mind on thoughts of one kind—incoherent ideas have been cemented together in his mind so powerfully as to remain united there. [The section concludes:] The difference between *idiots* and *madmen* seems to be this: madmen put wrong ideas together and so make wrong propositions, but argue

and reason correctly from them; but idiots make few if any propositions, and reason hardly at all.

14. The faculties and operations of the mind that I have described in this chapter are exercised on •all the mind's ideas, of whatever kind, but my examples have mainly involved •simple ideas. I have gone from my account of simple ideas in chapters ii-viii directly to my account in chapters ix-xi of these faculties of the mind, before coming to what I have to say about •complex ideas. I have three reasons for taking the topics in that order.

First, some of these faculties are at first employed principally on simple ideas; so in following my order we can follow nature in its ordinary method, and thereby track and reveal the faculties in their rise, progress, and gradual improvements.

Secondly, simple ideas are usually much more clear, precise, and distinct than complex ones; so by observing how the faculties of the mind operate on *them* we can •better grasp how the mind abstracts, names, compares and employs its other operations—•better, that is, than if we also brought in complex ideas, with which we are much more liable to make mistakes.

Thirdly, these very operations of the mind relating to ideas received from sensations are themselves, when reflected on, another set of ideas—some of them simple ideas—derived from that other source of our knowledge which I call •reflection; which makes it appropriate to deal with them immediately after the simple ideas of •sensation. As for compounding, comparing, abstracting, etc., I have said very little about them, because I shall have occasion to treat them at more length in other places [in III].

15. I have given a short and (I think) true account of the first beginnings of human knowledge: where the mind gets its

first objects [here = 'ideas'] from, and how it goes about storing those ideas out of which all the knowledge it is capable of is to be made. I must appeal to experience and observation to decide whether my account is right. The best way to reach truth is to examine things as they really are, and not to steer by fancies that we have worked up for ourselves or have been taught by others to imagine.

16. Reverting now to my thesis that ideas enter the mind only through sensation and reflection: This is the only way I can find for ideas to be brought into the understanding. If other men are sure that *they* have innate ideas, the rest of us can't deny them the privilege that they have over us, namely, of knowing what goes on in their own minds. I can only speak of what I find in myself, which fits the account I have given. If we examine the whole course of men in their various ages, countries, and educations, what we shall find seems to depend on the foundations that I have laid.

17. I don't claim to *teach*, only to *enquire*. So let me say it again: external and internal sensation [= 'sensation and reflection'] are the only routes *I can find* for knowledge to enter the understanding. These alone, as far as I can discover, are the windows through which light is let into this dark room. The understanding strikes me as being like a closet that is wholly sealed against light, with only some little openings left to let in external visible resemblances or ideas of things outside. If the pictures coming into such a dark room stayed there, and lay in order so that they could be found again when needed, it would very much resemble the understanding of a man, as far as objects of sight and the ideas of them are concerned.

Those are my guesses concerning the means by which the understanding comes to •have and •retain simple ideas and their modes, along with •some other operations on them. I now proceed to examine some of these simple ideas and their modes in more detail.

Chapter xii: Complex ideas

1. So far we have considered only •ideas that the mind receives passively, namely •the simple ones that come to it from sensation and reflection. The mind can't make any such simple idea for itself, and can't have any idea that doesn't wholly consist of them. But while the mind is wholly *passive* in the reception of all its simple ideas, it *acts* in various ways to construct other ideas out of its simple ones, which are the materials and foundations of all the rest. The acts in which the mind exerts its power over its simple ideas are

chiefly these three: **1** Combining several simple ideas into one compound one; that is how all complex ideas are made. **2** Bringing together two ideas, whether simple or complex, setting them side by side so as to see them both at once, without uniting them into one; this is how the mind gets all its ideas of relations. **3** Separating them from all other ideas that accompany them in their real existence; this is called abstraction, and it is how all the mind's general ideas are made.

This shows that the power a man has, and his exercise of it, are pretty much the same in the intellectual world as in the material one. In neither realm has he any power to make or destroy any raw materials; all he can do is either to •unite them together, or •set them side by side, or •wholly separate them. (For example, he cannot make or destroy rocks, but he can assemble them to make a wall, or dismantle a wall that has been made from them.) I shall begin with *uniting*, and shall come to the other two in due course.

As simple ideas are observed to exist in various combinations united together, so the mind has a power to consider several of them united together as one idea; not only in combinations that exist in external objects, but also in ones the mind makes up. Ideas thus made up of several simple ones I call *complex*. Examples are the ideas of beauty, gratitude, a man, an army, the universe. These are all complex ideas made up of simple ones, but the mind can if it wishes treat each of them by itself as one unified thing, signified by one name.

2. By being able to repeat and join together its ideas, the mind has great power to vary and multiply the objects of its thoughts, infinitely beyond what sensation or reflection provides it with. . . . The basic raw materials of all its compositions are simple ideas received from those two sources—the mind has no other way of getting any—but once it has acquired these simple ideas it can by its own power put together the ideas it has, making new complex ones that it never received united in that way.

3. Complex ideas, however compounded and decomposed, are infinitely numerous and endlessly various. Still, I think they can all be brought under three headings: **1** Modes. **2** Substances. **3** Relations.

4. First, *modes* are complex ideas that don't contain within them the supposition of •existing by themselves, but are considered as •dependences on or states of substances. Examples are the ideas signified by the words 'triangle', 'gratitude', 'murder', etc. (These words stand for dependences on substances because: if there is a triangle that is because *something* is triangular, if gratitude occurs that is because *someone* is grateful, if there is a murder that is because *someone* murders someone.) Forgive me if I am here using the word 'mode' in somewhat a different sense from its ordinary one. When presenting a view that involves notions different from any that people commonly have, one must either invent new words or use old ones with somewhat new meanings; and in the present case the latter is perhaps the more tolerable of the two procedures.

5. Two sorts of modes deserve to be considered separately. •Some are only variations or different combinations of the same simple idea, not mixed in with any other. For example, the ideas of *dozen* and *score* are nothing but the ideas of so many distinct units added together. I call these *simple modes*, because they are contained within the bounds of one simple idea. It should be remembered that a *simple mode* is, like all modes, a *complex idea*. •Others are made up of simple ideas of different kinds, put together to make one complex one. Examples are *beauty* (a certain composition of colour and figure, causing delight to the beholder), and *theft* (the concealed change of the possession of something without its owner's consent, which obviously combines several ideas of different kinds). I call these *mixed modes*.

6. Secondly, the ideas of *substances* are combinations of simple ideas that are taken to represent distinct particular things existing by themselves. In such combinations the supposed or confused idea of *substance*, such as it is, is

always the first and chief. Thus if to the idea of *substance* we join the simple idea of a certain dull whitish colour, and ideas of certain degrees of weight, hardness, ductility, and fusibility, we have the idea of *lead*; and a combination of the ideas of a certain shape with mobility, thought, and reasoning, joined to *substance*, makes the ordinary idea of a *man*. Ideas of substances also fall into two sorts: ideas of single substances as they exist separately, for example the idea of a man or of a sheep; and ideas of several of those put together, such as the idea of an army of men, or of a flock of sheep. An idea of the latter collective kind—an idea, that is, of several substances put together—is as much one single idea as is the idea of a man.

7. Thirdly, the last sort of complex idea is the one we call *relation*, which consists in considering and comparing one idea with another. I shall discuss these different kinds in their order, taking simple modes in chapters xii-xxi, complex or 'mixed' modes in xxii, substances in xxiii-xxiv, and relations in xxv-xxviii.

[In section 8 Locke makes some wind-up remarks about the intellectual riches that we can get by operating, in the ways he has described, on the simple ideas we get from our outer and inner senses. He remarks that he'll illustrate this in his treatments of 'the ideas we have of space, time, and infinity and a few others that seem the most remote from' simple sense-based ideas.]