use of words to signify their *ideas* to others. These verbal signs they sometimes borrow from others and sometimes make themselves, as one may observe among the new and unusual names children often give to things in the first use of language.

9. *Abstraction*. The use of words then being to stand as outward marks of our internal *ideas* and those *ideas* being taken from particular things, if every particular *idea* that we take in should have a distinct name, names must be endless. To prevent this, the mind makes the particular *ideas* received from particular objects become general, which is done by considering them as they are in the mind such appearances, separate from all other existences, and the circumstances of real existence, as time, place, or any other concomitant *ideas*. This is called abstraction, by which *ideas* taken from particular beings become general representatives of all of the same kind, and their names general names, applicable to whatever exists conformable to such abstract *ideas*. Such precise, naked appearances in the mind, without considering how, from where, or with what others they came there, the understanding lays up (with names commonly annexed to them) as the standards to rank real existences into sorts, as they agree with these patterns, and to *denominate* them accordingly. Thus the same color being observed today in chalk or snow which the mind yesterday received from milk, it considers that appearance alone, makes it a representative of all of that kind, and having given it the name *whiteness*, by that sound it signifies the same quality wherever to be imagined or met with; and thus universals, whether *ideas* or terms, are made.

17. *Dark room*. I pretend not to teach, but to inquire, and therefore cannot but confess here again that external and internal sensation are the only passages I can find of knowledge to the understanding. These alone, as far as I can discover, are the windows by which light is let into this *dark room*. For I think the *understanding* is not much unlike a closet wholly shut from light, with only some little openings left, to let in external visible resemblances or *ideas* of things without. Would the pictures coming into such a dark room but stay there and lie so orderly as to be found upon occasion, it would very much resemble the understanding of a man, in reference to all objects of sight and the *ideas* of them.

These are my guesses concerning the means by which the understanding comes to have and retain simple *ideas* and the modes of them with some other operations about them. I proceed now to examine some of these simple *ideas*, and their modes, a little more particularly.

Chapter XII. *Of Complex* Ideas.

1. *Made by the mind out of simple ones*. Up to now we have considered those *ideas* in the reception of which the mind is only passive, which are those simple ones received from *sensation* and *reflection* before mentioned, of which the mind cannot make one to itself, nor have any *idea* which does not wholly consist of them. But as the mind is wholly passive in the reception of all its simple *ideas*, so it exerts several acts of its own by which, out of its simple *ideas* as the materials and foundations of the rest, the others are framed. The acts of the mind, in which it exerts its power over its simple *ideas*, are chiefly these three: 1. Combining several simple *ideas* into one compound one, and thus all complex *ideas* are made. 2. The *second* is bringing two *ideas*, whether simple or complex, together, and setting them by one another, so as to take a view of them at once without uniting them into one—by which way it gets all its *ideas* of relations. 3. The *third* is separating them from all other *ideas* that accompany them in their real existence; this is called *abstraction*. And thus all its general *ideas* are made. This shows man's power and its ways of operation to be much the same in the material and intellectual world. For the materials in both being such as he has no power over, either to make or destroy, all that man can do is either to unite them together, or to set them by one another, or wholly separate them. I shall here begin with the first of these in the consideration of complex *ideas* and come to the other two in their due places. As simple *ideas* are observed to exist in several combinations united together, so the mind has a power to consider several of them united together as one *idea*; and that not only as they are united in external objects, but as itself has joined them. Ideas thus made up of several

simple ones put together I call *complex*—such as are *beauty, gratitude, a man, an army, the universe*—which though complicated of various simple *ideas* or *complex ideas* made up of simple ones, yet are, when the mind pleases, considered each by itself as one entire thing, and signified by one name.

2. *Made voluntarily.* In this faculty of repeating and joining together its *ideas* the mind has great power in varying and multiplying the objects of its thoughts infinitely beyond what *sensation* or *reflection* furnishes it with, but all this still confined to those simple *ideas* which it received from those two sources and which are the ultimate materials of all its compositions. For simple *ideas* are all from things themselves, and of these *the mind can* have no more, nor other than what are suggested to it. It can have no other *ideas* of sensible qualities than what come from without by the senses, nor any *ideas* of other kind of operations of a thinking substance than what it finds in itself; but when it has once gotten these simple *ideas*, it is not confined barely to observation and what offers itself from without. It can, by its own power, put together those *ideas* it has and *make new complex ones* which it never received so united.

3. *Are either modes, substances, or relations. Complex ideas*, however compounded and decompounded, though their number is infinite and the variety endless, with which they fill and entertain the thoughts of men, yet I think they may be all reduced under these three heads: 1. *Modes*, 2. *Substances*, 3. *Relations*.

4. *Modes.* First, *modes* I call such complex *ideas* which, however compounded, do not contain in them the supposition of subsisting by themselves, but are considered as dependences on or affections of substances, such as are the *ideas* signified by the words *triangle, gratitude, murder*, etc. And if in this I use the word *mode* in somewhat a different sense from its ordinary signification, I beg pardon, it being unavoidable in discourses differing from the ordinary received notions either to make new words or to use old words in somewhat a new signification. The latter of which, in our present case, is perhaps the more tolerable of the two.

5. *Simple and mixed modes.* Of these modes, there are two sorts which deserve distinct consideration. First, there are some which are only variations or different combinations of the same simple *idea*, without the mixture of any other—as a dozen or score, which are nothing but the *ideas* of so many distinct units added together. And these I call *simple modes*, as being contained within the bounds of one simple *idea*. Secondly, there are others compounded of simple *ideas* of several kinds put together to make one complex one—e.g., *beauty*, consisting of a certain composition of color and figure causing delight to the beholder; *theft*, which being the concealed change of the possession of anything without the consent of the proprietor contains, as is visible, a combination of several *ideas* of several kinds. And these I call *mixed modes*.

6. *Substances single or collective.* Secondly, the *ideas* of *substances* are such combinations of simple *ideas* as are taken to represent distinct particular things subsisting by themselves, in which the supposed or confused *idea* of substance, such as it is, is always the first and chief. Thus if to substance is joined the simple *idea* of a certain dull whitish color, with certain degrees of weight, hardness, ductility, and fusibility, we have the *idea* of *lead* and a combination of the *ideas* of a certain sort of figure with the powers of motion. Thought and reasoning joined to substance make the ordinary *idea* of *a man*. Now of substances also there are two sorts of *ideas*: one of single substances, as they exist separately, as of *a man* or *a sheep*; the other of several of those put together, as an army of men or *flock* of sheep—which *collective* ideas *of* several *substances* thus put together are as much each of them one single *idea* as that of a man or a unit.

7. *Relation.* Thirdly, the last sort of complex *ideas*, is that we call *relation*, which consists in the consideration and comparing one *idea* with another. Of these several kinds we shall treat in their order.

8. *The most abstruse* ideas *from the two sources.* If we will trace the progress of our minds and with attention observe how it repeats, adds together, and unites its simple *ideas* received from sensation or reflection, it will lead us further than at first perhaps we should have imagined. And, I believe, we shall find, if we warily observe the origins of our notions that even

the most abstruse ideas, however remote they may seem from sense or from any operations of our own minds, are yet only such as the understanding frames to itself, by repeating and joining together *ideas* that it had either from objects of sense or from its own operations about them. So that those even large *and abstract* ideas *are derived from sensation or reflection*, being no other than what the mind, by the ordinary use of its own faculties, employed about *ideas* received from objects of sense, or from the operations it observes in itself about them, may and does attain unto. This I shall endeavor to show in the *ideas* we have of *space*, *time*, and *infinity*, and some few others that seem the most remote from those origins.

Chapter XIII. *Of Simple Modes and, First, of the Simple Modes of Space.*

1. *Simple modes.* Though in the foregoing part I have often mentioned simple *ideas*, which are truly the materials of all our knowledge, yet having treated of them there rather in the way that they come into the mind than as distinguished from others more compounded, it will not be perhaps amiss to take a view of some of them again under this consideration and examine those different *modifications of the same* idea—which the mind either finds in things existing or is able to make within itself without the help of any extrinsic object or any foreign suggestion.

Those *modifications of any one simple* idea (which, as has been said, *I call simple modes*) are as perfectly different and distinct *ideas* in the mind as those of the greatest distance or contrariety. For the *idea* of *two* is as distinct from that of *one* as *blueness* from *heat* or either of them from any number. And yet it is made up only of that simple *idea* of a unit repeated, and repetitions of this kind joined together make those distinct *simple modes*, of a *dozen*, a *gross*, a *million*.

2. Idea *of space*. I shall begin with the *simple idea of space*. I have showed above, chap. 4, that we get the *idea* of space both by our sight and touch; this, I think, is so evident that it would be as needless to go to prove that men perceive by their sight a distance between bodies of different colors, or between the parts of the same body, as that they see colors themselves; nor is it less obvious that they can do so in the dark by feeling and touch.

3. *Space and extension.* This space considered barely in length between any two beings without considering anything else between them is called *distance;* if considered in length, breadth, and thickness, I think it may be called *capacity*. The term extension is usually applied to it in whatever manner considered.

4. *Immensity*. Each different distance is a different modification of space, and *each* idea *of any different distance, or space, is a simple mode of this* idea. Men for the use and by the custom of measuring settle in their minds the *ideas* of certain stated lengths, such as are an *inch*, *foot*, *yard*, *fathom*, *mile*, *diameter of the earth*, etc., which are so many distinct *ideas* made up only of space. When any such stated lengths or measures of space are made familiar to men's thoughts, they can in their minds repeat them as often as they will without mixing or joining to them the *idea* of body or anything else, and frame to themselves the *ideas* of long, square, or cubic *feet*, *yards*, or *fathoms*, here among the bodies of the universe or else beyond the utmost bounds of all bodies; and by adding these still one to another, enlarge their *ideas* of space as much as they please. The power of repeating or doubling any *idea* we have of any distance and adding it to the former as often as we will, without being ever able to come to any stop or stint, let us enlarge it as much as we will, is that which gives us the *idea* of *immensity*.

5. *Figure*. There is another modification of this *idea*, which is nothing but the relation which the parts of the termination of extension, or circumscribed space, have among themselves. This the touch discovers in sensible bodies whose extremities come within our reach, and the eye takes both from bodies and colors whose boundaries are within its view, where observing how the extremities terminate either in straight lines which meet at discernible angles, or in crooked lines in which no angles can be perceived, by considering these as they relate to one another in all parts of the extremities of any body or space, it has that *idea* we call *figure*, which affords to the mind infinite variety. [. . .]

or the simple *ideas* which are introduced into any subject by the exerting of that power, are called *effects*. The *efficacy* by which the new substance or *idea* is produced is called, in the subject exerting that power, *action*; but in the subject in which any simple *idea* is changed or produced, it is called *passion*. This efficacy however various, and the effects almost infinite, yet we can, I think, conceive it in intellectual agents to be nothing else but modes of thinking and willing; in corporeal agents, nothing else but modifications of motion. I say, I think we cannot conceive it to be any other but these two. For whatever sort of action, besides these, produces any effects, I confess myself to have no notion nor *idea* of, and so it is quite remote from my thoughts, apprehensions, and knowledge, and as much in the dark to me as five other senses, or as the *ideas* of colors to a blind man. And therefore *many words which seem to express some action* signify nothing of the action or *modus operandi* at all, *but* barely *the effect*, with some circumstances of the subject wrought on, or cause operating—e.g., creation, annihilation, contain in them no *idea* of the action or manner by which they are produced, but barely of the cause, and the thing done. And when a countryman says the cold freezes water, though the word freezing seems to import some *action*, yet truly it signifies nothing but the effect, namely that water that was before fluid has become hard and consistent, without containing any *idea* of the action by which it is done.

12. *Mixed modes, made also of other* ideas. I think I shall not need to remark here that though power and action make the greatest part of mixed modes, marked by names, and familiar in the minds and mouths of men, yet other simple *ideas* and their several combinations are *not* excluded. Much less, I think, will it be *necessary for me* to enumerate all the mixed modes, which have been settled, with names to them; that would be to make a dictionary of the greatest part of the words made use of in divinity, ethics, law, and politics, and several other sciences. All that is requisite to my present design is to show what sort of *ideas* those are which I call *mixed modes*, how the mind comes by them, and that they are compositions made up of simple *ideas* gotten from sensation and reflection—which I suppose I have done.

Chapter XXIII. *Of Our Complex Ideas of Substances.*

1. Ideas *of substances, how made*. The mind being, as I have declared, furnished with a great number of the simple *ideas*, conveyed in by the *senses*, as they are found in exterior things, or by *reflection* on its own operations, takes notice also that a certain number of these simple *ideas* go constantly together, which being presumed to belong to one thing, and words being suited to common apprehensions, and made use of for quick dispatch, are called, so united in one subject, by one name. This, by inadvertence, we are apt afterward to talk of, and consider as one simple *idea*, which indeed is a complication of many *ideas* together, because, as I have said, not imagining how these simple *ideas* can subsist by themselves, we accustom ourselves to suppose some *substratum* in which they do subsist and from which they do result, which therefore we call *substance*.

2. *Our* idea *of substance in general*. Thus, if anyone will examine himself concerning his *notion of pure substance in general*, he will find he has no other *idea* of it at all, but only a supposition of he knows not what support of such qualities, which are capable of producing simple *ideas* in us—which qualities are commonly called accidents. If anyone should be asked what is the subject in which color or weight inheres, he would have nothing to say, but the solid extended parts. And if he were demanded what is it that solidity and extension adhere in, he would not be in a much better case than the *Indian* before mentioned who, saying that the world was supported by a great elephant, was asked what the elephant rested on—to which his answer was a great tortoise. But being again pressed to know what gave support to the broad-backed tortoise, replied, something he knew not what. And thus here, as in all other cases where we use words without having clear and distinct *ideas*, we talk like children who, being questioned what such a thing is, which they do not know, readily give this satisfactory answer, that it is *something*; in truth this signifies no more, when so used either by

children or men, but that they know not what; and that the thing they pretend to know and talk of is what they have no distinct *idea* of at all, and so are perfectly ignorant of it, and in the dark. The *idea* then we have, to which we give the general name substance, being nothing but the supposed, but unknown support of those qualities we find existing, which we imagine cannot subsist, "*sine re substante*," without something to support them, we call that support *substantia*; which, according to the true import of the word, is in plain English, *standing under* or *upholding*.

3. *Of the sorts of substances.* An obscure and relative *idea* of substance in general being thus made, we come to have the *ideas of particular sorts of substances*, by collecting such combinations of simple *ideas* as are by experience and observation of men's senses, taken notice of to exist together, and are therefore supposed to flow from the particular internal constitution or unknown essence of that substance. Thus we come to have the *ideas* of a man, horse, gold, water, etc., of which substances, whether anyone has any other clear *idea* further than of certain simple *ideas* coexistent together, I appeal to everyone's own experience. It is the ordinary qualities observable in iron, or a diamond, put together that make the true complex *idea* of those substances, which a smith or a jeweler commonly knows better than a philosopher, who, whatever substantial forms he may talk of, has no other *idea* of those substances than what is framed by a collection of those simple *ideas* which are to be found in them; only we must take notice that our complex *ideas* of substances, besides all those simple *ideas* they are made up of, have always the confused *idea* of *something* to which they belong and in which they subsist. And therefore, when we speak of any sort of substance, we say it is a *thing* having such or such qualities. As body is a *thing* that is extended, figured, and capable of motion; spirit, a *thing* capable of thinking; and so hardness, friability, and power to draw iron, we say, are qualities to be found in a lodestone. These and the like fashions of speaking intimate that the substance is supposed always *something* besides the extension, figure, solidity, motion, thinking, or other observable *ideas*, though we do not know what it is.

4. *No clear* idea *of substance in general.* Hence, when we talk or think of any particular sort of corporeal substances, as *horse*, *stone*, etc., though the *idea* we have of either of them is but the complication or collection of those several simple *ideas* of sensible qualities which we used to find united in the thing called *horse* or *stone*, yet because we cannot conceive how they should subsist alone, nor one in another, we suppose them existing in and supported by some common subject; *this support we denote by the name substance*, though it is certain we have no clear or distinct *idea* of that *thing* we suppose a support.

5. *As clear an* idea *of spirit as body.* The same thing happens concerning the operations of the mind, namely, thinking, reasoning, fearing, etc., which we concluding not to subsist of themselves, nor apprehending how they can belong to body or be produced by it, we are apt to think these the actions of some other *substance*, which we call *spirit*; yet by this it is evident that having no other *idea* or notion of matter but *something* in which those many sensible qualities which affect our senses do subsist, by supposing a substance in which *thinking*, *knowing*, *doubting*, and a power of moving, etc., do subsist, *we have as clear a notion of the substance of spirit, as we have of body*—the one being supposed to be (without knowing what it is) the *substratum* to those simple *ideas* we have from without, and the other supposed (with a like ignorance of what it is) to be the *substratum* to those operations we experiment in ourselves within. It is plain then that the *idea* of corporeal *substance* in matter is as remote from our conceptions and apprehensions as that of spiritual *substance* or *spirit*; and therefore from our not having any notion of the substance of spirit we can no more conclude its nonexistence than we can for the same reason deny the existence of body, it being as rational to affirm there is no body, because we have no clear and distinct *idea* of the *substance* of matter, as to say there is no spirit, because we have no clear and distinct *idea* of the *substance* of a spirit.

6. *Of the sorts of substances.* Whatever therefore is the secret, abstract nature of *substance* in general, all *the* ideas *we have of particular distinct sorts of substances* are nothing but several combinations of

simple *ideas*, coexisting in such, though unknown, cause of their union as makes the whole subsist of itself. It is by such combinations of simple *ideas* and nothing else that we represent particular sorts of *substances* to ourselves. Such are the *ideas* we have of their several species in our minds, and such only do we, by their specific names, signify to others, e.g., *man*, *horse*, *sun*, *water*, *iron*. Upon hearing these words, everyone who understands the language frames in his mind a combination of those several simple *ideas* which he has usually observed or fancied to exist together under that denomination; all this he supposes to rest in and be, as it were, adherent to that unknown common subject, which does not inhere in anything else. Though in the meantime it is manifest, and everyone upon inquiry into his own thoughts will find that he has no other *idea* of any *substance*, e.g., let it be *gold*, *horse*, *iron*, *man*, *vitriol*, *bread*, but what he has barely of those sensible qualities which he supposes to inhere, with a supposition of such a *substratum*, as gives, as it were, a support to those qualities or simple *ideas* which he has observed to exist united together. Thus the *idea* of the *sun*—what is it but an aggregate of those several simple *ideas*, bright, hot, roundish, having a constant regular motion, at a certain distance from us, and perhaps some other? As he who thinks and discourses of the *sun* has been more or less accurate in observing those sensible qualities, *ideas*, or properties, which are in that thing which he calls the sun.

7. *Powers a great part of our complex* ideas *of substances*. For he has the most perfect *idea* of any of the particular sorts of *substances* who has gathered and put together most of those simple *ideas* which do exist in it; among these are to be reckoned its active powers and passive capacities, which, though not simple *ideas*, yet in this respect for brevity's sake may conveniently enough be reckoned among them. Thus the power of drawing iron is one of the *ideas* of the complex one of that substance we call a *lodestone*; and a power to be so drawn is a part of the complex one we call *iron*—which powers pass for inherent qualities in those subjects. Because every *substance*, being as apt by the powers we observe in it to change some sensible qualities in other subjects as it is to produce in us those simple *ideas* which we receive immediately from it, does, by those new sensible qualities introduced into other subjects, discover to us those powers which do as a result mediately affect our senses as regularly as its sensible qualities do it immediately—e.g., we immediately by our senses perceive in *fire* its heat and color, which are, if rightly considered, nothing but powers in it to produce those *ideas* in us—we also by our senses perceive the color and brittleness of *charcoal*, by which we come by the knowledge of another power in fire, which it has to change the color and consistency of wood. By the former, fire immediately, by the latter, it mediately discovers to us these several powers, which therefore we look upon to be a part of the qualities of fire, and so make them a part of the complex *idea* of it. For all those powers that we take cognizance of, terminating only in the alteration of some sensible qualities in those subjects on which they operate, and so making them exhibit to us new sensible *ideas*; therefore it is that I have reckoned these powers among the simple *ideas* which make the complex ones of the sorts of *substances*, though these powers, considered in themselves, are truly complex *ideas*. And in this looser sense I crave leave to be understood, when I name any of these *potentialities among the simple ideas* which we recollect in our minds when we think *of particular substances*. For the powers that are severally in them are necessary to be considered, if we will have true distinct notions of the several sorts of substances.

8. *And why*. Nor are we to wonder that *powers make a great part of our complex* ideas *of substances*; since their secondary qualities are those which in most of them serve principally to distinguish substances one from another and commonly make a considerable part of the complex *idea* of the several sorts of them. For our senses failing us in the discovery of the bulk, texture, and figure of the minute parts of bodies, on which their real constitutions and differences depend, we are inclined to make use of their secondary qualities as the characteristic notes and marks by which to frame *ideas* of them in our minds and distinguish them one from another. All these secondary qualities, as has been shown, are nothing but bare powers. For the color and taste of *opium* are, as

well as its soporific or anodyne virtues, mere powers depending on its primary qualities, by which it is fitted to produce different operations on different parts of our bodies.

9. *Three sorts of* ideas *make our complex ones of substances. The* ideas *that make our complex ones of corporeal substances* are of these three sorts. *First*, the *ideas* of the primary qualities of things, which are discovered by our senses, and are in them even when we do not perceive them—such are the bulk, figure, number, situation, and motion of the parts of bodies, which are really in them, whether we take notice of them or not. *Secondly*, the sensible secondary qualities, which, depending on these, are nothing but the powers those substances have to produce several *ideas* in us by our senses; these *ideas* are not in the things themselves otherwise than as anything is in its cause. *Thirdly*, the aptness we consider in any substance to give or receive such alterations of primary qualities, as that the substance so altered should produce in us different *ideas* from what it did before; these are called active and passive powers. All these powers, as far as we have any notice or notion of them, terminate only in sensible simple *ideas*. For whatever alteration a *lodestone* has the power to make in the minute particles of iron, we should have no notion of any power it had at all to operate on iron, did not its sensible motion discover it. And I do not doubt but there are a thousand changes that bodies we daily handle have a power to cause in one another, which we never suspect, because they never appear in sensible effects.

10. *Powers make a great part of our complex* ideas *of substances.* Powers therefore justly *make a great part of our complex* ideas *of substances*. He who will examine his complex *idea* of gold will find several of its *ideas* that make it up to be only powers—as the power of being melted, but of not spending itself in the fire, of being dissolved in *aqua regia*, are *ideas* as necessary to make up our complex *idea* of gold as its color and weight, which, if duly considered, are also nothing but different powers. For to speak truly, yellowness is not actually in gold, but is a power in gold to produce that *idea* in us by our eyes, when placed in a due light; and the heat, which we cannot leave out of our *ideas* of the sun, is no more really in the sun than the white color it introduces into wax. These are both equally powers in the sun operating, by the motion and figure of its sensible parts, so on a man, as to make him have the *idea* of heat, and so on wax, as to make it capable to produce in a man the *idea* of white.

11. *The now secondary qualities of bodies would disappear, if we could discover the primary ones of their minute parts.* Had we senses acute enough to discern the minute particles of bodies, and the real constitution on which their sensible qualities depend, I do not doubt but they would produce quite different *ideas* in us, and that which is now the yellow color of gold would then disappear, and instead of it we should see an admirable texture of parts of a certain size and figure. This microscopes plainly discover to us; for what to our naked eyes produces a certain color is, by thus augmenting the acuteness of our senses, discovered to be quite a different thing; and the thus altering, as it were, the proportion of the bulk of the minute parts of a colored object to our usual sight produces different *ideas* from what it did before. Thus sand or pounded glass, which is opaque and white to the naked eye, is pellucid in a microscope; and a hair seen this way loses its former color, and is in a great measure pellucid, with a mixture of some bright sparkling colors, such as appear from the refraction of diamonds and other pellucid bodies. Blood to the naked eye appears all red, but by a good microscope, in which its lesser parts appear, shows only some few globules of red, swimming in a pellucid liquor. And how these red globules would appear, if glasses could be found that could yet magnify them a thousand or ten thousand times more, is uncertain.

12. *Our faculties of discovery suited to our state.* The infinitely wise contriver of us, and all things about us, has fitted our senses, faculties, and organs, to the conveniences of life, and the business we have to do here. We are able, by our senses, to know and distinguish things, and to examine them so far as to apply them to our uses, and several ways to accommodate the exigencies of this life. We have insight enough into their admirable contrivances and wonderful effects to admire and magnify the wisdom,

power, and goodness of their author. Such a knowledge as this, which is suited to our present condition, we do not want faculties to attain. But it does not appear that God intended we should have a perfect, clear, and adequate knowledge of them; that perhaps is not in the comprehension of any finite being. We are furnished with faculties (dull and weak as they are) to discover enough in the creatures, to lead us to the knowledge of the Creator and the knowledge of our duty. And we are fitted well enough with abilities to provide for the conveniences of living. These are our business in this world. But were our senses altered and made much quicker and more acute, the appearance and outward scheme of things would have quite another face to us, and, I am apt to think, would be inconsistent with our being, or at least well-being, in this part of the universe which we inhabit. He who considers how little our constitution is able to bear a remove into parts of this air, not much higher than that we commonly breathe in, will have reason to be satisfied that in this globe of earth allotted for our mansion, the all-wise Architect has suited our organs, and the bodies that are to affect them, one to another. If our sense of hearing were but one thousand times quicker than it is, how would a perpetual noise distract us? And we should in the quietest retirement be less able to sleep or meditate than in the middle of a sea fight. No, if that most instructive of our senses, seeing, were in any man a thousand or a hundred thousand times more acute than it is by the best microscope, things several millions of times less than the smallest object of his sight now would then be visible to his naked eyes, and so he would come nearer to the discovery of the texture and motion of the minute parts of corporeal things, and in many of them probably get *ideas* of their internal constitutions. But then he would be in a quite different world from other people. Nothing would appear the same to him and others; the visible *ideas* of everything would be different. So that I doubt whether he and the rest of men could discourse concerning the objects of sight, or have any communication about colors, their appearances being so wholly different. And perhaps such a quickness and tenderness of sight could not endure bright sunshine, or so much as open daylight, nor take in but a very small part of any object at once, and that too only at a very near distance. And if by the help of such microscopic eyes (if I may so call them) a man could penetrate further than ordinary into the secret composition and radical texture of bodies, he would not make any great advantage by the change, if such an acute sight would not serve to conduct him to the market and exchange; if he could not see things he was to avoid, at a convenient distance, nor distinguish things he had to do with by those sensible qualities others do. [. . .]

14. *Complex* ideas *of substances*. But to return to the matter in hand, the *ideas* we have of substances, and the ways we come by them, I say, our *specific* ideas *of substances* are nothing else but *a collection of a certain number of simple* ideas, *considered as united in one thing*. These *ideas* of substances, though they are commonly simple apprehensions and the names of them simple terms, yet in effect are complex and compounded. Thus the *idea* which an Englishman signifies by the name *swan* is white color, long neck, red beak, black legs, and whole feet, and all these of a certain size, with a power of swimming in the water, and making a certain kind of noise. And perhaps, to a man who has long observed this kind of bird, some other properties which all terminate in sensible simple *ideas*, all united in one common subject.

15. Idea *of spiritual substances as clear as of bodily substances*. Besides the complex *ideas* we have of material sensible substances, of which I have last spoken, by the simple *ideas* we have taken from those operations of our own minds, which we experiment daily in ourselves, as thinking, understanding, willing, knowing, and power of beginning motion, etc., coexisting in some substance, we are able to frame *the complex* idea *of an immaterial spirit*. And thus, by putting together the *ideas* of thinking, perceiving, liberty, and power of moving themselves and other things, we have as clear a perception and notion of immaterial substances as we have of material. For putting together the *ideas* of thinking and willing, or the power of moving or quieting corporeal motion, joined to substance, of which we have no distinct *idea*, we have the *idea* of an immaterial spirit; and by putting together the *ideas* of coherent solid parts,

and a power of being moved, joined with substance, of which likewise we have no positive *idea*, we have the *idea* of matter. The one is as clear and distinct an *idea* as the other, the *idea* of thinking and moving a body being as clear and distinct *ideas* as the *ideas* of extension, solidity, and being moved. For our *idea* of substance is equally obscure, or none at all, in both; it is but a supposed I know not what, to support those *ideas* we call accidents. It is for want of reflection that we are apt to think that our senses show us nothing but material things. Every act of sensation, when duly considered, gives us an equal view of both parts of nature, the corporeal and spiritual. For while I know, by seeing or hearing, etc., that there is some corporeal being without me, the object of that sensation, I do more certainly know that there is some spiritual being within me that sees and hears. This, I must be convinced, cannot be the action of bare insensible matter, nor ever could be, without an immaterial thinking being.

16. *No* idea *of abstract substance*. By the complex *idea* of extended, figured, colored, and all other sensible qualities, which is all that we know of it, we are as far from the *idea* of the substance of body as if we knew nothing at all. Nor after all the acquaintance and familiarity, which we imagine we *have* with matter, and the many qualities *men* assure themselves they perceive and know in bodies, will it perhaps upon examination be found that they have any *more, or clearer, primary* ideas *belonging to body than they have belonging to immaterial spirit*.

17. *The cohesion of solid parts and impulse, the primary* ideas *of body*. *The primary* ideas *we have peculiar to body*, as contradistinguished to spirit, *are the cohesion of solid*, and consequently separable, *parts, and a power of communicating motion by impulse*. These, I think, are the original *ideas* proper and peculiar to body, for figure is but the consequence of finite extension.

18. *Thinking and motivity the primary* ideas *of spirit*. The *ideas* we have belonging and *peculiar to spirit are thinking and will*, or a power of putting body into motion by thought, and which is consequent to it, liberty. For as body cannot but communicate its motion by impulse to another body, which it meets with at rest, so the mind can put bodies into motion, or refrain to do so, as it pleases. The *ideas* of existence, duration, and mobility are common to them both.

19. *Spirits capable of motion*. There is no reason why it should be thought strange that I make *mobility belong to spirit*. For having no other *idea* of motion but change of distance with other beings that are considered as at rest, and finding that spirits, as well as bodies, cannot operate but where they are, and that spirits do operate at several times in several places, I cannot but attribute change of place to all finite spirits (for of the infinite spirit I do not speak here). For my soul, being a real being as well as my body, is certainly as capable of changing distance with any other body, or being, as body itself—and so is capable of motion. And if a mathematician can consider a certain distance, or a change of that distance between two points, one may certainly conceive a distance, and a change of distance between two spirits, and so conceive their motion, their approach or removal, one from another.

20. Everyone finds in himself that his soul can think, will, and operate on his body in the place where that is, but cannot operate on a body, or in a place a hundred miles distant from it. Nobody can imagine that his soul can think or move a body at *Oxford*, while he is at *London*, and cannot but know that, being united to his body, it constantly changes place all the whole journey between *Oxford* and *London*, as the coach or horse does that carries him, and I think may be said to be truly all that while in motion. Or if that will not be allowed to afford us a clear *idea* enough of its motion, its being separated from the body in death, I think, will; for to consider it as going out of the body, or leaving it, and yet to have no *idea* of its motion, seems to me impossible. [. . .]

22. Idea *of soul and body compared*. Let us *compare* then our complex *idea* of an immaterial spirit with our complex *idea* of body, and see whether there is any more obscurity in one than in the other, and in which most. Our *idea* of body, as I think, is an extended solid substance, capable of communicating motion by impulse. And our *idea* of soul, as an immaterial spirit, is of a substance that thinks, and has a power of exciting motion in body, by willing

or thought. These, I think, are *our complex* ideas *of soul and body, as contradistinguished;* and now let us examine which has most obscurity in it, and difficulty to be apprehended. I know that people whose thoughts are immersed in matter, and have so subjected their minds to their senses that they seldom reflect on anything beyond them, are apt to say, they cannot comprehend a thinking thing, which perhaps is true. But I affirm, when they consider it well, they can no more comprehend an extended thing.

23. *Cohesion of solid parts in body as hard to be conceived as thinking in a soul.* If anyone says he does not know what it is that thinks in him, he means he does not know what the substance is of that thinking thing. No more, say I, does he know what the substance is of that solid thing. Further, if he says he does not know how he thinks, I answer, neither does he know how he is extended, how the solid parts of body are united or cohere together to make extension. [. . .]

25. I allow it is usual for most people to wonder how anyone should find a difficulty in what they think they every day observe. Do we not see, will they be ready to say, the parts of bodies stick firmly together? Is there anything more common? And what doubt can there be made of it? And the like, I say, concerning *thinking* and *voluntary motion*. Do we not every moment experiment it in ourselves, and therefore can it be doubted? The matter of fact is clear, I confess; but when we would a little nearer look into it, and consider how it is done, there I think we are at a loss, both in the one and the other, and can as little understand how the parts of body cohere, as how we ourselves perceive or move. I would have anyone intelligibly explain to me how the parts of gold, or brass (that but now in fusion were as loose from one another as the particles of water or the sands of an hourglass), come in a few moments to be so united and adhere so strongly one to another that the utmost force of men's arms cannot separate them. A considering man will, I suppose, be here at a loss to satisfy his own or another man's understanding. [. . .]

28. *Communication of motion by impulse, or by thought, equally intelligible.* Another *idea* we have of body is the power of *communication of motion by impulse*, and of our souls the power of *exciting motion by thought*. These *ideas*, the one of body, the other of our minds, every day's experience clearly furnishes us with. But if here again we inquire how this is done, we *are equally in the dark*. For to the communication of motion by impulse, in which as much motion is lost to one body as is gotten to the other, which is the most ordinary case, we can have no other conception but of the passing of motion out of one body into another. This, I think, is as obscure and inconceivable as how our minds move or stop our bodies by thought, which we every moment find they do. The increase of motion by impulse, which is observed or believed sometimes to happen, is yet harder to be understood. We have by daily experience clear evidence of motion produced both by impulse and by thought, but the manner how hardly comes within our comprehension. We are equally at a loss in both, so that, however we consider motion and its communication, either from body or spirit, the *idea* which belongs to spirit is at least as clear as that which belongs to body. And if we consider the active power of moving, or, as I may call it, *motivity*, it is much clearer in spirit than body, since two bodies, placed by one another at rest, will never afford us the *idea* of a power in the one to move the other, but by a borrowed motion, whereas the mind, every day, affords us *ideas* of an active power of moving of bodies, and therefore it is worth our consideration, whether active power is not the proper attribute of spirits, and passive power of matter. Hence may be conjectured that created spirits are not totally separate from matter, because they are both active and passive. Pure spirit, namely, God, is only active; pure matter is only passive; those beings that are both active and passive we may judge to partake of both. [. . .]

30. Ideas *of body and spirit compared*. So that, in short, *the idea* we have *of spirit, compared with the idea* we have *of body*, stands thus: the substance of spirits is unknown to us, and so is the substance of body equally unknown to us. Two primary qualities or properties of body, namely, solid coherent parts and impulse, we have distinct clear *ideas* of. So likewise we know and have distinct clear *ideas* of two primary qualities or properties of spirit, namely, thinking and

a power of action, i.e. a power of beginning or stopping several thoughts or motions. We have also the *ideas* of several qualities inherent in bodies, and have the clear distinct *ideas* of them; these qualities are but the various modifications of the extension of cohering solid parts and their motion. We have likewise the *ideas* of the several modes of thinking, namely, believing, doubting, intending, fearing, hoping, all which are but the several modes of thinking. We have also the *ideas* of willing and moving the body consequent to it, and with the body itself too; for, as has been shown, spirit is capable of motion.

31. *The notion of spirit involves no more difficulty in it than that of body*. Lastly, if this notion of immaterial spirit may have, perhaps, some difficulties in it not easily to be explained, we have therefore no more reason to deny or doubt the existence of such spirits than we have to deny or doubt the existence of body, because the notion of body is encumbered with some difficulties very hard, and perhaps impossible to be explained or understood by us. For I would gladly have instanced anything in our notion of spirit more perplexed, or nearer a contradiction, than the very notion of body includes in it. The divisibility *in infinitum* of any finite extension involving us, whether we grant or deny it, in consequences impossible to be explicated or made in our apprehensions consistent—consequences that carry greater difficulty, and more apparent absurdity, than anything can follow from the notion of an immaterial knowing substance.

32. *We know nothing beyond our simple* ideas. Which we are not at all to wonder at since, we having but some few superficial *ideas* of things discovered to us only by the senses from without, or by the mind, reflecting on what it experiments in itself within, have no knowledge beyond that, much less of the internal constitution and true nature of things, being destitute of faculties to attain it. And therefore experimenting and discovering in ourselves knowledge, and the power of voluntary motion, as certainly as we experiment or discover in things without us the cohesion and separation of solid parts, which is the extension and motion of bodies, *we have as much reason to be satisfied with our notion of immaterial spirit as with our notion of body, and the existence of the one as well as the other*. For, it being no more a contradiction that thinking should exist separate and independent from solidity than it is a contradiction that solidity should exist separate and independent from thinking, they being both but simple *ideas*, independent one from another; and having as clear and distinct *ideas* in us of thinking as of solidity, I do not know why we may not as well allow a thinking thing without solidity, i.e., *immaterial*, to exist, as a solid thing without thinking, i.e., *matter*, to exist—especially since it is not harder to conceive how thinking should exist without matter than how matter should think. For whenever we would proceed beyond these simple *ideas* we have from sensation and reflection, and dive further into the nature of things, we fall presently into darkness and obscurity, perplexity and difficulties, and can discover nothing further but our own blindness and ignorance. But whichever of these complex *ideas* is clearest, that of body, or immaterial spirit, this is evident that the simple *ideas* that make them up are no other than what we have received from sensation or reflection. And so is it of all our other *ideas* of substances, even of God himself.

33. Idea *of God*. For if we examine the *idea* we have of the incomprehensible supreme being, we shall find that we come by it the same way, and that the complex *ideas* we have both of God and separate spirits are made of the simple *ideas* we receive from *reflection*: e.g., having, from what we experiment in ourselves, gotten the *ideas* of existence and duration, of knowledge and power, of pleasure and happiness, and of several other qualities and powers, which it is better to have than to be without. When we would frame an *idea* the most suitable we can to the supreme being, we enlarge every one of these with our *idea* of infinity, and so putting them together make our complex *idea of God*. For that the mind has such a power of enlarging some of its *ideas*, received from sensation and reflection, has been already shown. [. . .]

37. *Recapitulation*. And thus we have seen *what kinds of* ideas *we have of substances of all kinds*, in what they consist, and how we came by them. From this, I think, it is very evident,

First, that all our *ideas* of the several sorts of substances are nothing but collections of simple *ideas*, with a supposition of something to which they belong, and in which they subsist, though of this supposed something we have no clear distinct *idea* at all.

Secondly, that all the simple *ideas*, that thus united in one common *substratum* make up our complex *ideas* of several sorts of substances, are no other but such as we have received from *sensation* or *reflection*, so that even in those which we think we are most intimately acquainted with, and that come nearest the comprehension of our most enlarged conceptions, we cannot go beyond those simple *ideas*. And even in those which seem most remote from all we have to do with, and do infinitely surpass anything we can perceive in ourselves by reflection, or discover by sensation in other things, we can attain to nothing but those simple *ideas*, which we originally received from sensation or reflection, as is evident in the complex *ideas* we have of angels and particularly of God himself.

Thirdly, that most of the simple *ideas* that make up our complex *ideas* of substances, when truly considered, are only powers, however we are apt to take them for positive qualities—e.g., the greatest part of the *ideas* that make our complex *idea* of *gold* are yellowness, great weight, ductility, fusibility, and solubility in *aqua regia*, etc., all united together in an unknown *substratum*. All these *ideas* are nothing else but so many relations to other substances, and are not really in the gold, considered barely in itself, though they depend on those real and primary qualities of its internal constitution, by which it has a fitness differently to operate, and be operated on by several other substances.

Chapter XXVII. *Of Identity and Diversity*.

1. *In what identity consists*. Another occasion the mind often takes of comparing is the very being of things, when, considering anything as existing at any determined time and place, we compare it with itself existing at another time, and upon it form the *ideas* of *identity* and *diversity*. When we see anything to be in any place in any instant of time, we are sure (be it what it will) that it is that very thing, and not another, which at that same time exists in another place, however like and indistinguishable it may be in all other respects. And in this consists *identity*, when the *ideas* it is attributed to vary not at all from what they were that moment in which we consider their former existence, and to which we compare the present. For us never finding, nor conceiving it possible, that two things of the same kind should exist in the same place at the same time, we rightly conclude that whatever exists anywhere at any time, excludes all of the same kind and is there itself alone. When therefore we demand whether anything is the same or not, it refers always to something that existed such a time in such a place, which it was certain at that instant was the same with itself, and no other. From this it follows that one thing cannot have two beginnings of existence, nor two things one beginning, it being impossible for two things of the same kind to be or exist in the same instant, in the very same place, or one and the same thing in different places. That, therefore, that had one beginning is the same thing; and that, which had a different beginning in time and place from that, is not the same, but diverse; that which has made the difficulty about this relation has been the little care and attention used in having precise notions of the things to which it is attributed.

2. *Identity of substances. Identity of modes*. We have the *ideas* but of three sorts of substances: 1. God. 2. Finite intelligences. 3. *Bodies*. First, God is without beginning, eternal, unalterable, and everywhere, and therefore concerning his identity there can be no doubt. Secondly, finite spirits having had each its determinate time and place of beginning to exist, the relation to that time and place will always determine to each of them its identity, as long as it exists. Thirdly, the same will hold of every particle of matter, to which no addition or subtraction of matter being made, it is the same. For though these three sorts of substances, as we term them, do not exclude one another out of the same place, yet we cannot conceive but that they must necessarily each of them exclude any of the same kind out of the same place. Or else the notions and names of identity and diversity would be in vain, and there could be no such distinctions of substances, or anything else one from