OF IDEAS

John Locke

Dorset Court, United Kingdom

Originally Published March 1690

Abstract: In 1690 John Locke published 'An essay concerning human understanding'. The essay was pivotal in establishing western scientific thought. While philosophy and the sciences have improved our understanding of cognitive processes, many of Locke's insights concerning the nature of ideas are still valid and need to be brought back into the forefront of any science of ideas. Applications of Locke's foundational theories are as relevant today as they were hundreds of years ago, especially to the areas of artificial intelligence and expert systems. Captured here are parts of the 'Essay ...' which deal with faculties and operation of the mind, basic concepts of 'ideas' and activities on ideas. Locke's concept of simple ideas, combination of simple ideas into complex ideas, and aspects of retention of ideas are suggestive of the present track of memetics. **Keywords:** ideas, memory, mind, perception, cognition, meme, philosophy, epistemology, artificial intelligence, expert systems.

I. Of Ideas In General, and Their Original.

1. Every man being conscious to himself that he thinks; and that which his mind is applied about whilst thinking being the *ideas* that are there, it is past doubt that men have in their minds several ideas, - such as are those expressed by the words *whiteness, hardness, sweetness, thinking, motion, man, elephant, army, drunkenness,* and others: it is in the first place then to be inquired, *How he comes by them?*

I know it is a received doctrine, that men have native ideas, and original characters, stamped upon their minds in their very first being. This opinion I have at large examined already; and, I suppose what I have said in the foregoing Book will be much more easily admitted, when I have shown whence the understanding may get all the ideas it has; and by what ways and degrees they may come into the mind; - for which I shall appeal to every one's own observation and experience.

2. Let us then suppose the mind to be, as we say, white paper, void of all characters, without any ideas: - How comes it to be furnished? Whence comes it by that vast store which the busy and boundless fancy of man has painted on it with an almost endless variety? Whence has it all the *materials* of reason and knowledge? To this I answer, is one word, from EXPERIENCE. In that all our knowledge is founded; and from that it ultimately derives itself. Our observation employed either, about external sensible objects, or about the internal operations of our minds perceived and reflected on by ourselves, is that which supplies our understandings with all the *materials* of thinking. These two are the fountains of knowledge, from whence all the ideas we have, or can naturally have, do spring.

3. First, our Senses, conversant about particular sensible objects, do convey into the mind several distinct perceptions of things, according to those various ways wherein those objects do affect them. And thus we come by those *ideas* we have of *yellow, white, heat, cold, soft, hard, bitter, sweet,* and all those which we call sensible qualities; which when I say the senses convey into the mind, I mean, they from external objects convey into the mind what produces there those perceptions. This great source of most of the ideas we have, depending wholly upon our senses, and derived by them to the understanding, I call SENSATION.

4. Secondly, the other fountain from which experience furnisheth the understanding with ideas is, - the perception of the operations of our own mind within us, as it is employed about the ideas it has got; - which operations, when the soul comes to reflect on and consider, do furnish the understanding with another set of ideas, which could not be had from things without, and such are *perception, thinking, doubting, believing, reasoning, knowing, willing,* and all the different actings of our own minds; - which we being conscious of, and observing in ourselves, do from these receive into our understandings as distinct ideas as we do from bodies affecting our senses. This source of ideas every man has wholly in himself; and though it be not sense, as having nothing with external objects, yet it is very like it, and might properly enough be called *internal sense.* But as I call the other Sensation, so I call this REFLECTION, the ideas it affords being such only as the mind gets by reflecting on its own operations within itself. By reflection then, in the following part of this discourse, I would be understood to mean, that notice which the mind takes of its own operations, and the manner of them, by reason whereof there come to be ideas of these operations in the understanding. These two, I say, viz. external material things, as the objects of SENSATION, and the operations of our own minds within, as the objects of REFLECTION, are to me the only originals from whence all our ideas take their beginnings. The term *operations* here I use in a large sense, as comprehending not barely the actions of the mind about its ideas, but some sort of passions arising sometimes from them, such as is the satisfactions or uneasiness arising from any thought.

 1049-6335/91/0200-33 $3.00 1991 IMR

5. The understanding seems to me not to have the least glimmering of any ideas which it doth not receive from one of these two. *External objects* furnish the mind with the ideas of sensible qualities, which are all those different perceptions they produce in us; and *the mind* furnishes the understanding with ideas of its own operations.

These, when we have taken a full survey of them, and their several modes, [combinations, and relations,] we shall find to contain all our whole stock of ideas; and that we have nothing in our minds which did not come in one of these two ways. Let any one examine his own thoughts and thoroughly search into his understanding; and then let him tell me, whether all the original ideas he has there, are any other than of the objects of his senses, or of the operations of his mind, considered as objects of his reflections. And how great a mass of knowledge soever he imagines to be lodged there, he will, upon taking a strict view, see that he has not any idea in his mind but what one of these two have imprinted; - though perhaps, with infinite variety compounded and enlarged by the understanding, as we shall see hereafter.

6. He that attentively considers the state of a child, at his first coming into the world, will have little reason to think him stored with plenty of ideas, that are to be the matter of his future knowledge. It is *by degrees* he comes to be furnished with them. And though the ideas of obvious and familiar qualities imprint themselves before the memory begins to keep a register of time or order, yet it is often so late before some unusual qualities come in the way, that there are few men that cannot recollect the beginning of their acquaintance with them. And if it were worth while, no doubt a child might be so ordered as to have but a very few, even of the ordinary ideas, till he were grown up to a man. But all that are born into the world, being surrounded with bodies that perpetually and diversely affect them, variety of ideas, whether care be taken of it or not, are imprinted on the minds of children. Light and colours are busy at hand everywhere, when the eye is but open; sounds and some tangible qualities fail not to solicit their proper senses, and force an entrance to the mind; - but yet, I think, it will be granted easily, that if a child were kept in a place where he never saw any other but black and white till he were a man, he would have no more ideas of scarlet or green, than he that from his childhood never tasted an oyster, or a pine-apple, has of those particular relishes.

7. Men then come to be furnished with fewer or more simple ideas from without, according as the objects they converse with afford greater or less variety; and from the operations of their minds within, according as they more or less reflect on them. For, though he that contemplates the operations of his mind, cannot but have plain and clear ideas of them; yet, unless he turn his thoughts that way, and considers them *attentively,* he will no more have clear and distinct ideas of all the operations of his mind, and all that may be observed therin, than he will have all the particular ideas of any landscape, or of the parts and motions of a clock, who will not turn his eyes to it, and with attention heed all the parts of it. The picture, or clock may be so placed, that they may come in his way every day; but yet he will have but a confused idea of all the parts they are made up of, till he applies himself with attention, to consider them each in particular.

8. And hence we see the reason why it is pretty late before most children get ideas of the operations of their own minds; and some have not any very clear or perfect ideas of the greatest part of them all their lives. Because, though they pass there continually, yet, like floating visions, they make not deep impressions enough to leave in their mind clear, distinct, lasting ideas, till the understanding turns inward upon itself, reflects on its own operations, and makes them the objects of its own contemplations. Children [when they come first into it, are surrounded with a world of new things, which, by constant solicitations of their senses, draw the mind constantly to them; forward to take notice of new, and apt to be delighted with the variety of changing objects. Thus the first years are usually employed and diverted in looking abroad. Men's business in them is to acquaint themselves with what is to be found without;] and so growing up in a constant attention to outward sensations, seldom make any considerable reflection on what passes within them, till they come to be of riper years; and some scarce ever at all.

9. To ask, at what *time* a man has first any ideas, is to ask, when he begins to perceive; - *having ideas,* and *perception,* being the same thing. I know it is an opinion, that the soul always thinks, and that it has the actual perception of ideas in itself constantly, as long as it exists; and that actual thinking is as inseparable from the soul as actual extension is from the body; which if true, to inquire after the beginning of a man's ideas is the same as to inquire after the beginning of his soul. For, by this account, soul and its ideas, as body and its extension, will begin to exist both at the same time.

10. But whether the soul be supposed to exist antecedent of, or coeval with, or some time after the first rudiments of organization, or the beginnings of life in the body, I leave to be disputed by those who have better thought of that matter. I confess myself to have one of those dull souls, that doth not perceive itself always to contemplate ideas; nor can conceive it any more necessary for the soul always to think, than for the body always to move: the perception of ideas being (as I conceive) to the soul, what motion is to the body; not its essence, but one of its operations. And therefore, though thinking be supposed never so much the proper action of the soul, yet it is not necessary to suppose that it should be always thinking, always in action. That, perhaps, is the privilege of the infinite Author and Preserver of all things, who 'never slumbers nor sleeps'; but is not competent to any finite being, at least not to the soul of man. We know certainly, by experience, that we *sometimes* think; and thence draw this infallible consequence, - that there is something in us that has a power to think. But whether that substance *perpetually* thinks or no, we can be no further assured that experience informs us. For, to say that actual thinking is essential to the soul, and inseparable from it, is to beg what is in question, and not to prove it by reason; - which is necessary to be done, if it be not a self-evident proposition. But whether this, 'That the soul always thinks,' be a self-evident proposition, that everybody assents to at first hearing, I appeal to mankind. [It is doubted whether I thought at all last night or no. The question being about a matter of fact, it is begging it to bring, as a proof for it, an hypothesis which is the very thing in dispute: by which way one may prove anything, and it is but supposing that all watches, whilst the balance beats, thinks, and it is sufficiently proved, and past doubt, that my watch thought all last night. But he that should not

deceive himself, ought to build his hypothesis on matter of fact, and make it out by sensible experience, and not presume on matter of fact, because of his way of proving amounts to this, that I must necessarily think all last night, because another supposes I always think, though I myself cannot perceive that I always do so.

But men in love with their opinions may not only suppose what is in question, but allege wrong matter of fact. How else could any one make it an inference of mine, that a thing is not, because we are not sensible of it in our sleep? I do not say there is no *soul* in a man, because he is not sensible of it in his sleep; but I do say he cannot *think* at any time, waking or sleeping, without being sensible of it. Our being sensible of it is not necessary to anything but to our thought; and to them it is; and to them it always will be necessary, till we can think without being conscious of it.]

11. I grant that the soul, in a waking man, is never without thought, because it is the condition of being awake. But whether sleeping without dreaming be not an affection of the whole man, mind as well as body, may be worth a waking man's consideration; it being hard to conceive that anything should think and not be conscious of it. If the soul doth think in a sleeping man without being conscious of it, I ask whether, during such thinking, it has any pleasure or pain, or be capable of happiness or misery? I am sure the man is not; no more than the bed or earth he lies on. For to be happy or miserable without being conscious of it, seems to me utterly inconsistent and impossible. Or if it be possible that the *soul* can, whilst the body is sleeping, have its thinking, enjoyments, and concerns, its pleasures or pain, apart, which the *man* is not conscious of nor partakes in, - it is certain that Socrates asleep and Socrates awake is not the same person; but his soul when he sleeps, and Socrates the man, consisting of body and soul, when he is waking, are two persons: since waking Socrates has no knowledge of, or concernment for that happiness or misery of his soul, which it enjoys alone by itself whilst he sleeps, without perceiving anything of it; no more than he has for the happiness or misery of a man in the Indies, whom he know not. For, if we take wholly away all consciousness of our actions and sensations, especially of pleasure and pain, and the concernment that accompanies it, it will be hard to know wherin to place personal identity.

12. The soul, during sound sleep, thinks, say these men. Whilst it thinks and perceives, it is capable certainly of those of delight or trouble, as well as any other perceptions; and *it* must necessarily be *conscious* of its own perceptions. But it has all this apart: the sleeping *man*, it is plain, is conscious of nothing of all this. Let us suppose, then, the soul of Castor, while he is sleeping, retired from his body; which is not impossible supposition for the men I have here to do with, who so liberally allow life, without a thinking soul, to all other animals. These men cannot then judge it impossible, or a contradiction, that the body should subsist and think, or have perception, even perception of happiness or misery, without the body. Let us then, I say, suppose the soul of Castor separated during his sleep from his body, to think apart. Let us suppose, too, that it chooses for its scene of thinking the body of another man, v.g. Pollux, who is sleeping without a soul. For, if Castor's soul can think, whilst Castor is asleep, what Castor is never conscious of, it is no matter what *place* it chooses to think in. We have here, then the bodies of two men with only one soul between them, which we will suppose to sleep and wake by turns; and the soul still thinking in the waking man, whereof the sleeping man is never conscious, has never the least perception. I ask, then, whether Castor and Pollux, thus with only one soul between them, which thinks and perceives in one what the other is never conscious of, nor is concerned for, are not two as distinct *persons* as Castor and Hercules, or as Socrates and Plato were? And whether one of them might not be very happy, and the other very miserable? Just by the same reason, they make the soul and the man two persons, who make the soul think apart what the man is not conscious of. For, I suppose nobody will make identity of persons to consist in the soul's being united to the very same numerical particles of matter. For if that be necessary to identity, it will be impossible, in that constant flux of the particles of our bodies, than any man should be the same person two days, or two moments, together.

13. Thus, methinks, every drowsy nod shakes their doctrine, who teach that the soul is always thinking. Those, at least, who do at any time *sleep without dreaming*, can never be convinced that their thoughts are sometimes for four hours busy without their knowing of it; and if they are taken in the very act, waked in the middle of that sleeping contemplation, can give no manner of account of it.

14. It will perhaps be said, - That the soul thinks even in the soundest sleep, but the *memory* retains it not. That the soul in a sleeping man should be this moment busy a thinking, and the next moment in a waking man not remember nor be able to recollect one jot of all those thoughts, is very hard to be conceived, and would need some better proof than bare assertion to make it be believed. For who can without any more ado, but being barely told so, imagine that the greatest part of men do, during all their lives, for several hours every day, think of something, which if they were asked, even in the middle of these thoughts, they could remember nothing at all of? Most men, I think, pass a great part of their sleep without dreaming. I once knew a man that was bred a scholar, and had no bad memory, who told me he had never dreamed in his life, till he had that fever he was then newly recovered of, which was about the five or six and twentieth year of his age. I suppose the world affords more such instances: at least every one's acquaintance will furnish him with examples enough of such as 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; and the soul, in such a state of thinking, does very little, if at all, excel that of looking-glass, which constantly receives variety of images, or ideas, but retains none; they disappear and vanish, and there remain no footsteps of them; the looking-glass is never the better for such ideas, nor the soul for such thoughts. Perhaps it will be said, that in a waking *man* the materials of the body are employed, and made use of, in thinking; and that the memory of thoughts is retained by the impressions that are made on the brain, and the traces there left after such thinking; but that in the thinking of the *soul*, which is not perceived in a sleeping man, there the soul thinks apart, and making no use of the organs of the body, leaves no impressions on it, and consequently no memory of such thoughts. Not to mention again the absurdity of two distinct persons, which follows from this supposition, I answer, further, - That whatever ideas the mind can receive and contemplate without the help of the body, it is reasonable to conclude it can retain without the help of the body too; or else the soul, or any separate spirit, will have but little

advantage by thinking. If it has no memory of its own thoughts; if it cannot lay them up for its own use, and be able to recall them upon occasion; if it cannot reflect upon what is past, and make use of its former experiences, reasonings, and contemplations, to what purpose does it think? They who make the soul a thinking thing at this rate, will not make it a much more noble being than those do whom they condemn, for allowing it to be nothing but the subtilist parts of matter. Characters drawn on dust, that the first breath of wind effaces; or impressions made on a heap of atoms, or animal spirits, are altogether as useful, and render the subject as noble, as the thoughts of a soul that perish in thinking; that, once out of sight, are gone for ever, and leave no memory of themselves behind them. Nature never makes excellent things for mean or no uses: and it is hardly to be conceived that our infinitely wise Creator should make so admirable a faculty as the power of thinking, that faculty which comes nearest the excellency of his own incomprehensible being, to be so idly and uselessly employed, at least a fourth part of its time here, as to think 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 we will examine it, we shall not find, I suppose, the motion of dull and senseless matter, any where in the universe, made so little use of and so wholly thrown away.

16. It is true, we have sometimes instances of perception whilst we are asleep, and retain the memory of those thoughts: but how extravagant and incoherent for the most part they are; how little comformable to the perfection and order of a rational being, those who are acquainted with dreams need not be told. This I would willingly be satisfied in, - whether the soul, when it thinks thus apart, and as it were separate from the body, acts less rationally than when conjointly with it, or no. If its separate thoughts be less rational, then these men must say, that the soul owes the perfection of rational thinking to the body: if it does not, it is wonder that our dreams should be, for the most part, so frivolous and irrational; and that the soul should retain none of its more rational soliloquies and meditations.

17. Those who so confidently tell us that the soul always actually thinks, I would they would also tell us, what those ideas are that are in the soul of a child, before or just at the union with the body, before it hath received any by sensation. The dreams of sleeping men are, as I take it, all made up of the waking man's ideas; though for the most part oddly put together. It is strange, if the soul has ideas of its own that it derived not from sensation or reflection, (as it must have, if it thought before it received any impressions from the body,) that it should never, it its private thinking, (so private, that the man himself perceives it not,) retain any of them the very moment it wakes out of them, and then make the man glad with new discoveries. Who can find it reason that the soul should, in its retirement during sleep, have so many hours' thoughts, and yet never light on any of those ideas it borrowed not from sensation or reflection; or at least preserve the memory of none but such, which, being occasioned from the body, must needs be less natural to a spirit? It is strange the soul should never once in a man's whole life recall over any of its pure native thoughts, and those ideas it had before it borrowed anything from the body; never bring into the waking man's view any other ideas but what have a tang of the cask, and manifestly derive their original from that union. If it always thinks, and so had ideas before it was united, or before it received any from the body, it is not to be supposed but that during sleep it recollects its native ideas; and during that retirement from communicating with the body, whilst it thinks by itself, the ideas it is busied about should be, sometimens at least, those more natural and congenial ones which it had in itself, underived from the body, or its own operations about them: which, since the waking man never remembers, we must from this hypothesis conclude [either that the soul remembers something that the man does not; or else that memory belongs only to such ideas as are derived from the body, or the mind's operations about them.]

18. I would be glad also to learn from these men who so confidently pronounce that the human soul, or, which is all one, that a man always thinks, how they come to know it; nay, how they come to know that they themselves think, when they themselves do not perceive it. This, I am afraid, is to be sure without proofs, and to know without perceiving. It is, I suspect, a confused notion, taken up to serve an hypothesis; and none of those clear truths, that either their own evidence forces us to admit, or common experience makes it impudence to deny. For the most that can be said of it is, that it is possible the soul may always think, but not always retain it in memory. And I say, it is as possible that the soul may not always think; and much more probable that it should sometimes not think, than that it should often think, and that a long while together, and not be conscious to itself, the next moment after, that it had thought.

19. To suppose the soul to think, and the man not to perceive it, is, as has been said, to make two persons in one man. And if one considers will these men's way of speaking, one should be led into a suspicion that they do so. For they who tell us that the *soul* always thinks, do never, that I remember, say that a *man* always thinks. Can the soul think, and not the man? Or a man think, and not be conscious of it? This, perhaps, would be suspected of jargon in others. If they say the man thinks always, but is not always conscious of it, they may as well say his body is extended without having parts. For it is altogether as intelligible to say that a body is extended without parts, as that anything thinks without being conscious of it, or perceiving that it does so. They who talk thus may, with as much reason, if it be necessary to their hypothesis, say that a man is always hungry, but that he does not always feel it; whereas hunger consists in that very sensation, as thinking consists in being conscious that one thinks. If they say that a man is always conscious to himself of thinking, I ask, How they know it? Consciousness is the perception of what passes in a man's own mind. Can another man perceive that I am conscious of anything, when I perceive it not myself? No man's knowledge here can go beyond his experience. Wake a man out of a sound sleep, and ask him what he was that moment thinking of. If he himself be conscious of nothing he then thought on, he must be a notable diviner of thoughts that can assure him that he was thinking. May he not, with more reason, assure him he was not asleep? This is something beyond philosophy; and it cannot be less than revelation, that discovers to another thoughts in my mind, when I can find none there myself. And they must needs have a penetrating sight who can certainly see that I think, when I cannot perceive it myself, and when I declare that I do not; and yet can see that dogs or elephants do not think, when they give all the demonstration of it imaginable, except only telling us that they do so. This some may suspect to be a step beyond

36

the Rosicrucians; it seeming easier to make one's self invisible to others, than to make another's thoughts visible to me, which are not visible to himself. But it is but defining the soul to be a 'substance that always thinks,' and the business is done. If such definition be of any authority, I know not what it can serve for but to make many men suspect that they have no souls at all; since they find a good part of their lives pass away without thinking. For no definitions that I know, no suppositions of any sect, are of force enough to destroy constant experience; and perhaps it is the affectation of knowing beyond what we perceive, that makes so much useless dispute and noise in the world.

20. I see no reason, therefore, to believe that the soul thinks before the senses have furnished it with ideas to think on; and as those are increased and retained, so it comes, by exercise, to improve its faculty of thinking in the several parts of it; as well as, afterwards, by compounding those ideas, and reflecting on its own operations, it increases its stock, as well as facility in remembering, imagining, reasoning, and other modes of thinking.

21. He that will suffer himself to be informed by observation and experience, and not make his own hypothesis the rule of nature, will find few signs of a soul accustomed to much thinking in a new-born child, and much fewer of any reasoning at all. And yet it is hard to imagine that the rational soul should think so much, and not reason at all. And he that will consider that infants newly come into the world spend the greatest part of their time in sleep, and are seldom awake but when either hunger calls for the teat, or some pain (the most importunate of all sensations), or some other violent impression on the body, forces the mind to perceive and attend to it; - he, I say, who considers this, will perhaps find reason to imagine that a *faetus* in the mother's womb differs not much from the state of a vegetable, butr passes the greatest part of its time without perception or thought; doing very little but sleep in a place where it needs not seek for food, and is surrounded with liquor, always equally soft, and near of the same temper; where the eyes have no light, and the ears so shut up are not very susceptible of sounds; and where there is little or no variety, or change of objects, to move the senses.

22. Follow a child from its birth, and observe the alterations that time makes, and you shall find, as the mind by the senses comes more and more to be furnished with ideas, it comes to be more and more awake; thinks more, the more it has matter to think on. After some time it begins to know the objects which, being most familiar with it, have made lasting impressions. Thus some time it begins to know the objects which, being most familiar with it, have made lasting impressions. Thus it comes by degrees to know the persons it daily converses with, and distinguishes them from strangers; which are instances and effects of its coming to retain and distinguish the ideas the senses convey to it. And so we may observe how the mind, *by degrees*, improves in these; and *advances* to the exercise of those other faculties of enlarging, compounding, and abstracting its ideas, and of reasoning about them, and reflecting upon all these; of which I shall have occasion to speak more hereafter.

23. If it shall be demanded then, *when* a man *begins* to have any ideas, I think the true answer is, - *when he first has any sensation*. For, since there appear not to be any ideas in the mind before the senses have conveyed any in, I conceive that ideas in the understanding are coeval with *sensation; which is such an impression or motion made in some part of the body, as [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, &c.]

24. [In the time the mind comes to reflect on its own operations about the ideas got by sensation, and thereby stores itself with a new set of ideas, which I call ideas of reflection. These are the impressions that are made on our senses by outward objects that are extrinsical to the mind; and its own operations, proceeding from powers intrinsical and proper to itself, which, when reflected on by itself, become also objects of its contemplation - are, as I have said, the original of all knowledge.] Thus 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 groundwork whereon to build all those notions which ever he shall have naturally in this world. All those sublime thoughts which tower above the clouds, and reach as high as heaven itself, take their rise and footing here: in all that great extent wherein the mind wanders, in those remote speculations it may seem to be elevated with, it stirs not one jot beyond those ideas which *sense* or *reflection* have offered for its contemplation.

25. In this part the understanding is merely passive; and whether or no it will have these beginnings, and as it were materials of knowledge, is not in its own power. For the objects of our senses do, many of them, obtrude their particular ideas upon our minds whether we will or not; and the operations of our minds will not let us be without, at least, some obscure notions of them. No man can be wholly ignorant of what he does when he thinks. These simple ideas, when offered to the mind, the understanding can no more refuse to have, nor alter when they are imprinted, nor blot them out and make new ones itself, than a mirror can refuse, alter, or obliterate the images or ideas which the objects set before it do therein produce. As the bodies that surround us do diversely affect our organs, the mind is forced to receive the impressions; and cannot avoid the perception of those ideas that are annexed to them.

37

II. Of Simple Ideas.

1. The better to understand the nature, manner, and extent of our knowledge, one thing is carefully to be observed concerning the ideas we have; and that is, that some of them are *simple* and some *complex.*

Though the qualities that affect our senses are, in the things themselves, so united and blended, that there is no separation, no distance between them; yet it is plain, the ideas they produce in the mind enter by the senses simple and unmixed. For, though the sight and touch often take in from the same object, at the same time, different ideas; - as a man sees at once motion and colour; the hand feels softness and warmth in the same piece of wax: yet the simple ideas thus united in the same subject, are as perfectly distinct as those that come in by different senses. The coldness and hardness which a man feels in a piece of ice being 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 there is nothing can be plainer to a man than the clear and distinct perception he has of those simple ideas; which, being each in itself uncompounded, contains in it nothing but *one uniform appearance, or conception in the mind,* and is not distinguishable into different ideas.

2. These simple ideas, the materials of all our knowledge, are suggested and furnished to the mind only by those two ways above mentioned, viz. sensation and reflection. When the understanding is once stored with these simple ideas, it has the power to repeat, compare, and unite them, even to an almost infinite variety, and so can make at pleasure new complex ideas. But it is not in the power of the most exalted wit, or enlarged understanding, by any quickness or variety of thought, to *invent* or *frame* one new simple idea in the mind, not taken in by the ways before mentioned: nor can any force of the understanding *destroy* those that are there. The dominion of man, in this little world of his own understanding being muchwhat the same as it is in the great world of visible things; wherein his power, however managed by art and skill, reaches no farther than to compound and divide the materials that are made to his hand; but can do nothing towards the making the least particle of new matter, or destroying one atom of what is already in being. The same inability will every one find in himself, who shall go about to fashion in his understanding one simple idea, not received in by his senses from external objects, or by reflection from the operations of his own mind about them. I would have any one try to fancy any taste which had never affected his palate; or frame the idea of a scent he had never smelt: and when he can do this, I will also conclude that a blind man hath ideas of colours, and a deaf man true distinct notions of sounds.

3. This is the reason why - though we cannot believe it impossible to God to make a creature with other organs, and more ways to convey into the understanding the notice of corporeal things than those five, as they are usually counted, which he has given to man - yet I think it is not possible for any *man* to imagine any other qualities in bodies, howsoever constituted, whereby they can be taken notice of, besides sounds, tastes, smells, visible and tangible qualities. And had mankind been made but with four senses, the qualities then which are the objects of the fifth sense had been as far from our notice, imagination, and conception, as now any belonging to a sixth, seventh, or eighth sense can possibly be; - which, whether yet some other creatures, in some other parts of this vast and stupendous universe, may not have, will be a great presumption to deny. He that will not set himself proudly at the top of all things, but will consider the immensity of this fabric, and the great variety that is to be found in this little and inconsiderable part of it which he has to do with, may be apt to think that, in other mansions of it, there may be other and different intelligent beings, of whose faculties he has as little knowledge or apprehension as a worm shut up in one drawer of a cabinet hath of the senses or understanding of a man; such variety and excellency being suitable to the wisdom and power of the Maker. I have here followed the common opinion of man's having but five senses; though, perhaps, there may be justly counted more; - but either supposition serves equally to my present purpose.

III. Of Simple Ideas of Sense.

1. The better to conceive the ideas we receive from sensation, it may not be amiss for us to consider them, in reference to the different ways whereby they make their approaches to our minds, and make themselves perceivable by us.

First, then, There are some which come into our minds *by one sense only.*

Secondly, There are others that convey themselves into the mind *by more senses than one.*

Thirdly, Others that are had from *reflection only.*

Fourthly, There are some that make themselves way, and are suggested to the mind *by all the ways of sensation and reflection.*

We shall consider them apart under these several heads.

There are some ideas which have admittance only through one sense, which is peculiarly adapted to receive them. Thus light and colours, as white, red, yellow, blue; with their several degrees or shades and mixtures, as green, scarlet, purple, sea-green, and the rest, come in only by the eyes. All kinds of noises, sounds, and tones, only by the ears. The several tastes and smells, by the nose and palate. And if these organs, or the nerves which are the conduits to convey them from without to their audience in the brain, - the mind's presence-room (as I may so call it) - are any of them so disordered as not to perform their functions, they have no postern to be admitted by; no other way to bring themselves into view, and be perceived by the understanding.

The most considerable of those belonging to the touch, are heat and cold, and solidity: all the rest, consisting almost wholly in the sensible configuration, as smooth and rough; or else, more or less firm adhesion of the parts, as hard and soft, tough and brittle, are obvious enough.

2. I think it will be needless to enumerate all the particular simple ideas belonging to each sense. Nor indeed is it possible if we would; there being a great many more of them belonging to most of the senses than we have names for. The variety of smells, which are as many almost, if not more, than species of bodies in the world, do most of them want names. Sweet and stinking commonly serve our turn for these ideas, which in effect is little more than to call them pleasing or displeasing; though the smell of a rose and violet, both sweet, are certainly very distinct ideas. Nor are the different tastes, that by our palates we receive ideas of, much

better provided with names. Sweet, bitter, sour, harsh, and salt are almost all the epithets we have to denominate that numberless variety of relishes, which are to be found distinct, not only in almost every sort of creatures, but in the different parts of the same plant, fruit, or animal. The same may be said of colours and sounds. I shall, therefore, in the account of simple ideas I am here giving, content myself to set down only such as are most material to our present purpose, or are in themselves less apt to be taken notice of though they are very frequently the ingredients of our complex ideas; amongst which, I think, I may well account solidity, which therefore I shall treat of in the next chapter.

IV. Of Simple Ideas of Divers Senses.

The ideas we get by more than one sense are, of *space* or *extension, figure, rest,* and *motion.* For these make perceivable impressions, both on the eyes and touch; and we can receive and convey into our minds the ideas of the extension, figure, motion, and rest of bodies, both by seeing and feeling. But having occasion to speak more at large of these in another place, I here only enumerate them.

V. Of Simple Ideas of Reflection.

The mind receiving the ideas mentioned in the foregoing chapters from without, when it turns its view inward upon itself, and observes it own actions about those ideas it has, takes from thence other ideas, which are as capable to be the objects of its contemplation as any of those it received from foreign things.

The two great principal actions of the mind, which are most frequently considered, and which are so frequent that every one that pleases may take notice of them in himself, are these two: -

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 denominated faculties.]

Of some of the *modes* of these simple ideas of reflection, such as are *remembrance, discerning, reasoning, judging, knowledge, faith, &tc.,* I shall have occasion to speak hereafter.

VI. Of Simple Ideas of Both Sensation and Reflection.

1. There be other simple ideas which convey themselves into the mind by all the ways of sensation and reflection, viz. *pleasure* or *delight,* and its opposite, *pain,* or *uneasiness*; *power*; *existence*; *unity.*

2. Delight or uneasiness, one or other of them, join themselves to almost all our ideas both of sensation and reflection and there is scarce any affection of our senses from without, any retired thought of our mind within, which is not able to produce in us pleasure or pain. By pleasure and pain, I would be understood to signify, whatsoever delights or molests 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, &tc/. on the one side, or uneasiness, trouble, pain, torment, anguish, miser, &tc., on the other, they are still but different degrees of the same thing, and belong to the ideas of pleasure and pain, delight or uneasiness; which are the names I shall most commonly use for those two sorts of ideas.

3. The infinite wise Author of our being, having given us the power over several parts of our bodies, to move or keep them at rest as we think fit; and also, by the motion of them, to move ourselves and other contiguous bodies, in which consist all the actions of our body: having also given a power to our minds, in several instances, to choose, amongst its ideas, which it will think on, and to pursue the inquiry of this or that subject with consideration and attention, to excite us to these actions of thinking and motion that we are capable of, - has been pleased to join to several thoughts, and several sensations a perception of delight. If this were wholly separated from all our outward sensations, and inward thoughts, we should have no reason to prefer one thought or action to another; negligence to attention, or motion to rest. And so we should neither stir our bodies, nor employ our minds, but let our thoughts (if I may so call it) run adrift, without any direction or design, and suffer the ideas of our minds, like unregarded shadows, to make their appearances there, as it happened, without attending to them. In which state man, however furnished with the faculties of understanding and will, would be a very idle, inactive creature, and pass his time only in a lazy, lethargic dream. It has therefore pleased our wise Creator to annex to several objects, and the ideas which we receive from them, as also to several of our thoughts, a concomitant pleasure, and that in several objects, to several degrees, that those faculties which he had endowed us with might not remain wholly idle and unemployed by us.

4. Pain has the same efficacy and use to set us on work that pleasure has, we being as ready to employ our faculties to avoid that, as to pursue this: only this is worth our consideration, that pain is often produced by the same objects and ideas that produce pleasure in us. This their near conjunction, which makes us often feel pain in the sensations where we expected pleasure, gives us new occasion of admiring the wisdom and goodness of our Maker, who, designing the preservation of our being, has annexed pain to the application of many things to our bodies, to warn us of the harm that they will do, and as preservation barely, but the preservation of every part and organ in its perfection, hath in many cases annexed pain to those very ideas which delight us. Thus heat, that is very agreeable to us in one degree, by a little greater increase of it proves no ordinary torment: and the most pleasant of all sensible objects, light itself, if there be too much of it, if increased beyond a due proportion to our eyes, causes a very painful sensation. Which is wisely and favourably so ordered by nature, that when any object does, by the vehemency of its operation, disorder the instruments of sensation, whose structures cannot but be very nice and delicate, we might, by the pain, be warned to withdraw, before the organ be quite put out of order, and so be unfitted for its proper function for the future. The consideration of those objects that produce it may well persuade us, that this is the end or use of pain. For, though great light be unsufferable to our eyes, yet the highest degree of darkness does not at all

disease them: because that, causing no disorderly motion in it, leaves that curious organ unarmed in its natural state. But yet excess of cold as well as heat pains us: because it is equally destructive to that temper which is necessary to the preservation of life, and the exercise of the several functions of the body, and which consists in a moderate degree of warmth; or, if you please, a motion of the insensible parts of our bodies, confined within certain bounds.

5. Beyond all this, we may find another reason why God hath scattered up and down several degrees of pleasure and pain, in all the things the environ and affect us; and blended them together in almost all that our thoughts and senses have to do with; - that we, finding imperfection, dissatisfaction, and want of complete happiness, in all the enjoyments which the creatures can afford us, might be led to seek it in the emjoyment of Him with whom there is fullness of joy, and at whose right hand are pleasures for evermore.

6. Though what I have here said may not, perhaps, make the ideas of pleasure and pain clearer to us than our own experience does, which is the only way that we are capable of having them; yet the consideration of the reason why they are annexed to so many other ideas, serving to give use due sentiments of the wisdom and goodness of the Sovereign Disposer of all things, may not be unsuitable to the main end of these inquiries: the knowledge and veneration of him being the chief end of all our thoughts, and the proper business of all understandings.

7. *Existence* and *Unity* are two other ideas that are suggested to the understanding by every object without, and every idea within. When ideas are in our minds, we consider them as being actually there, as well as we consider things to be actually without us; - which is, that they exist, or have existence. And whatever we can consider as one thing, whether a real being or idea, suggests to the understanding the idea of unity.

8. *Power* also is another of those simple ideas which we receive from sensation and reflection. For, observing in ourselves that we do and can think, and that we can at pleasure move several parts of our bodies which were at rest; the effects, also, that natural bodies are able to produce in one another, occurring every moment to our senses, - we both these ways get the idea of power.

9. Besides these there is another idea, which, though suggested by our senses, yet is more constantly offered to us by what passes in our minds; and that is the idea of *succession.* For if we look immediately into ourselves, and reflect on what is observable there, we shall find our ideas always, whilst we are awake, or have any thought, passing in train, one going and another coming, without intermission.

10. These, if they are not all, are at least (as I think) the most considerable of those simple ideas which the mind has, and out of which is made all its other knowledge; all which it receives only by the two forementioned ways of sensation and reflection.

Nor let any one think these too narrow bounds for the capacious mind of man to expatiate in, which takes its flight further than the stars, and cannot be confined by the limits of the world; that extends its thoughts often even beyond the utmost expansion of Matter, and makes excursions into that incomprehensible Inane. I grant all this, but desire any one to assign any *simple idea* which is not received from one of those inlets before mentioned, or any *complex idea* not made out of those simple ones. Nor will it be so strange to think these few simple ideas sufficient to employ the quickest thought, or largest capacity; and to furnish the materials of all that various knowledge, and more various fancies and opinions of all mankind, if we consider how many words may be made out of the various composition of twenty-four letters; or if, going one step further, we will but reflect on the variety of combinations that may be made with barely one of the above-mentioned ideas, viz. number, whose stock is inexhaustible and truly infinite: and what a large and immense field doth extension alone afford the mathematicians?

VII. Of Perception.

1. *Perception*, as it is the first faculty of the mind exercised about our ideas; so it is the first and simplest idea we have from reflection, and is by some called thinking in general. Though thinking, in the propriety of the English tongue, signifies that sort of operation in the mind about its ideas, wherin the mind is active; where it, with some degree of voluntary attention, considers anything. For in bare naked perception, the mind is, for the most part, only passive; and what it perceives, it cannot avoid perceiving.

2. What perception is, every one will know better by reflecting on what he does himself, when he sees, hears, feels, &c., or thinks, than by any discourse of mine. Whoever reflects on what passes in his own mind cannot miss it. And if he does not reflect, all the words in the world cannot make him have any notion of it.

3. This is certain, that whatever alterations are made in the body, if they reach not the mind; whatever impressions are made on the outward parts, if they are not taken notice of within, there is no perception. Fire may burn our bodies with no other effect than it does a billet, unless the motion be continued to the brain, and there the sense of heat, or idea of pain, be produced in the mind; wherin consists actual perception.

4. How often may a man observe in himself, that whilst his mind is intently employed in the contemplation of some objects, and curiously surveying some ideas that are there, it takes no notice of impressions of sounding bodies made upon the organ of hearing, with the same alteration that uses to be for the producing the idea of sound? A sufficient impulse there may be on the organ; but it not reaching the observation of the mind, there follows no perception: and though the motion that uses to produce the idea of sound be made in the ear, yet no sound is heard. Want of sensation, in this case, is not through any defect in the organ, or that the man's ears are less affected than at other times when he does hear: but that which uses to produce the idea, though conveyed in by the usual organ, not being taken notice of in the understanding, and so imprinting no idea in the mind, there follows no sensation. So that wherever there is sense or perception, there some idea is actually produced, and present in the understanding.

5. Therefore I doubt not but children, by the exercise of their senses about objects that affect them in the womb, receive some few ideas before they are born, as the unavoidable effects, either of the bodies that environ them, or else of those wants or diseases they suffer; amongst which (if one

may conjecture concerning things not very capable of examination) I think the ideas of hunger and warmth are two: which probably are some of the first that children have, and which they scarce ever part with again.

6. But though it be reasonable to imagine that children receive some ideas before they come into the world, yet these simple ideas are far from those *innate principles* which some contend for, and we, above, have rejected. These here mentioned being the effects of sensation, are only from some affections of the body, which happen to them there, and so depend on something exterior to the mind no otherwise differing in their manner of production from other ideas derived from sense, but only in the precedency of time. Whereas those innate principles are supposed to be quite of another nature; not coming into the mind by any accidental alterations in, or operations on the body; but, as it were, original characters impressed upon it, in the very first moment of its being and constitution.

7. As there are some ideas which we may reasonably suppose may be introduced into the minds of children in the womb, subservient to the necessities of their life and being there: so, after they are born, those ideas are the earliest imprinted which happen to be the sensible qualities which first occur to them; amongst which light is not the least considerable, nor of the weakest efficacy. And how covetous the mind is to be furnished with all such ideas as have no pain accompanying them, may be a little guessed by what is observable in children new-born; who always turn their eyes to that part from whence the light comes, lay them how you please. But the ideas that are most familiar at first, being various according to the divers circumstances of children's first entertainment in the world, the order wherin the several ideas come at first into the mind is very various, and uncertain also; neither is it much material to know it.

8. We are further to consider concerning perception, that the ideas we receive by sensation are often, in grown people, altered by the judgment, without our taking notice of it. When we set before our eyes a round globe of any uniform colour, v.g. gold, alabaster, or jet, it is certain that the idea thereby imprinted on our mind is of a flat circle, variously shadowed, with several degrees of light and brightness coming to our eyes. But we having, by use, been accustomed to perceive what kind of appearance convex bodies are wont to make in us; what alterations are made in the reflections of light by the difference of the sensible figures of bodies; - the judgment presently, by an habitual custom, alters the appearances into their causes. So that from that which is truly variety of shadow or colour, collecting the figure, it makes it pass for a mark of figure, and frames to itself the perception of a convex figure and an uniform colour; when the idea we receive from thence is only a plane variously coloured, as is evident in painting. [To which purpose I shall here insert a problem of that very ingenious and studious promoter of real knowledge, the learned and worthy Mr. Molineux, which he was pleased to send me in a letter some months since; and it is this: - 'Suppose a man *born* blind, and now adult, and taught by his *touch* to distinguish between a cube and a sphere of the same metal, and nighly of the same bigness, so as to tell, when he felt one and the other, which is the cube, which the sphere. Suppose then the cube and sphere placed on a table, and the blind man be made to see: *quoere*, whether *by his sight, before he touched them*, he could now distinguish and tell which is the globe, which the cube?' - I agree with this thinking gentleman, whom I am proud to call my friend, in his answer to this problem; and am of opinion that the blind man, at first sight, would not be able with certainty to say which was the globe, which the cube, whilst he only saw them; though he could unerringly name them by his touch, and certainly distinguish them by the difference of their figures felt. This I have set down, and leave with my reader, as an occasion for him to consider how much he may be beholden to experience, improvement, and acquired notions, where he thinks he had not the least use of, or help from them. And the rather, because this observing gentleman further adds, that 'having, upon the occasion of my book, proposed this to divers very ingenious men, he hardly ever met with one that at first gave the answer to it which he thinks true, till by hearing his reasons they were convinced.']

9. But this is not, I think, usual in any of our ideas, but those received by sight. Because sight, the most comprehensive of all our senses, conveying to our minds the ideas of light and colours, which are peculiar only to that sense; and also the far different ideas of space, figure, and motion, the several varieties whereof change the appearances of its proper object, vi. light and colours; we bring ourselves by use to judge of the one by the other. This, in many cases by a settled habit, - in things whereof we have frequent experience, is performed so constantly and so quick, that we take that for the perception of our sensation which is an idea formed by our judgment; so that one, viz. that of sensation, serves only to excite the other, and is scarce taken notice of itself; - as man who reads or hears with attention and understanding, takes little notice of the characters or sounds, but of the ideas that are excited in him by them.

10. Nor need we wonder that this is done with so little notice, if we consider how quick the actions of the mind are performed. For, as itself is thought to take up no space, to have no extension; so its actions seem to require no time, but many of them seem to be crowded into an instant. I speak this in comparison to the actions of the body. Any one may easily observe this in his own thoughts, who will take the pains to reflect on them. How, as it were in an instant, do our minds, with one glance, see all the parts of a demonstration, which may very well be called a long one, if we consider the time it will require to put it into words, and step by step show it another? Secondly, we shall not be so much surprised that this is done in us with so little notice, if we consider how the facility which we get of doing things, by a custom of doing, makes them often pass in us without our notice. Habits, especially such as are begun very early, come at last to produce actions in us, which often escape our observation. How frequently do we, in a day, cover our eyes with our eyelids, without perceiving that we are at all in the dark! Men that, by custom, have got the use of a by-word, do almost in every sentence pronounce sounds which, though taken notice of by other, they themselves neither hear nor observe. And therefore it is not so strange, that our mind should often change the idea of its sensation into that of its judgment, and make one serve only to excite the other, without our taking notice of it.

11. This faculty of perception seems to me to be, that which puts the distinction betwixt the animal kingdom and the inferior parts of nature. For, however vegetables have, many of them, some degrees of motion, and upon the different application of other bodies to them, do very briskly alter their figures and motions, and so have obtained the name of sensitive plants, from a motion which has some resemblance to that which in animals follows upon sensation: yet I suppose it is all bare *mechanism*; and no

41

otherwise produced than the turning of a wild oat-beard, by the insinuation of the particles of moisture, or the shortening of a rope, by the affusion of water. All which is done without any sensation in the subject, or the having or receiving any ideas.

12. Perception, I believe, is, in some degree, in all sorts of animals; though in some possibly the avenues provided by nature for the reception of sensations are so few, and the perception they are received with so obscure and dull, that it comes extremely short of the quickness and variety of sensation which is in other animals; but yet it is sufficient for, and wisely adapted to, the state and condition of that sort of animals who are thus made. So that the wisdom and goodness of the Maker plainly appear in all the parts of this stupendous fabric, and all the several degrees and ranks of creatures in it.

13. We may, I think, from the make of an oyster or cockle, reasonably conclude that it has not so many, nor so quick senses as a man, or several other animals; nor if it had, would it, in that state and incapacity of transferring itself from one place to another, be bettered by them. What good would sight and hearing do to a creature that cannot move itself to or from the objects wherin at a distance it perceives good or evil? And would not quickness of sensation be an inconvenience to an animal that must lie still where chance has once placed it, and there receive the afflux of colder or warmer, clean or foul water, as it happens to come to it?

14. But yet I cannot but think there is some small dull perception, whereby they are distinguished from perfect insensibility. And that this may be so, we have plain instances, even in mankind itself. Take one in whom decrepit old age has blotted out the memory of his past knowledge, and clearly wiped out the ideas his mind was formerly stored with, and has, by destroying his sight, hearing, and smell quite, and his taste to a great degree, stopped up almost all the passages for new ones to enter; or if there be some of the inlets yet half open, the impressions made are scarcely perceived, or not at all retained. How far such an one (notwithstanding all that is boasted of innate principles) is in his knowledge and intellectual faculties above the condition of a cockle or an oyster, I leave to be considered. And if a man had passed sixty years in such a state, as it is possible he might, as well as three days, I wonder what difference there would be, in any intellectual perfections, between him and the lowest degree of animals.

15. Perception then being the *first* step and degree towards knowledge, and the inlet of all the materials of it; the fewer senses any man, as well as any other creature, hath; and the fewer and duller the impressions are that are made by them; and the duller the faculties are that are employed about them, - the more remote are they from that knowledge which is to be found in some men. But this being in great variety of degrees (as may be perceived amongst men) cannot certainly be discovered in the several species of animals, much less in their particular individuals. It suffices me only to have remarked here, that perception is the first operation of all our intellectual faculties, and the inlet of all knowledge in our minds. And I am apt too to imagine, that it is perception, in the lowest degree of it, which puts the boundaries between animals and the inferior ranks of creatures. But this I mention only as my conjecture by the by; it being indifferent to the matter in hand which way the learned shall determine of it.

VIII. Of Retention.

1. The next faculty of the mind, whereby it mades a further progress towards knowledge, is that which I call *retention*; or the keeping of those simple ideas which from sensation or reflection it hath received. This is done two ways.

First, by keeping the idea which is brought into it, for some time actually in view, which is called *contemplation*.

2. The other way of retention is, the power to revive again in our minds those ideas which, after imprinting, have disappeared, or have been as it were laid aside out of sight. And thus we do, when we conceive heat or light, yellow or sweet, - the object being removed. This is *memory*, which is as it were the storehouse of our ideas. For, the narrow mind of man not being capable of having many ideas under view and consideration at once, it was necessary to have a repository, to lay up those ideas which, at another time, it might have use of. [But our *ideas* being nothing but actual perceptions in the mind, which cease to be anything when there is no perception of them; this laying up of our ideas in the repository of the memory signifies no more but this, - that the mind has a power in many cases to revive perceptions which it has once had, with this additional perception annexed to them, that *it has had them before*. And in this sense it is that our ideas are said to be in our memories, when indeed they are actually nowhere; - but only there is an ability in the mind when it will to revive them again, and as it were paint them anew on itself, though some with more, some with less difficulty; some more lively, and others more obscurely.] And thus it is, by the assistance of this faculty, that we are said to have all those odeas in our understandings, which, though we do not actually contemplate, yet we *can* bring in sight, and make appear again, and be the objects of our thoughts, without the help of those sensible qualities which first imprinted them there.

3. Attention and repetition help much to the fixing any ideas in the memory. But those which naturally at first make the deepest and most lasting impressions, are those which are accompanied with pleasure or pain. The great business of the senses being, to make us take notice of what hurts or advantages the body, it is wisely ordered by nature, as has been shown, that pain whould accompany the reception of several ideas; which, supplying the place of consideration and reasoning in children, and acting quicker than consideration in grown men, makes both the old and young avoid painful objects with that haste whihc is necessary for their preservation; and in both settles in the memory a caution for the future.

4. Concerning the several degrees of lasting, wherewith ideas are imprinted on the memory, we may observe, - that some of them have been produced in the understanding by an object affecting the senses once only, and no more that once; [others, that have more than once offered themselves to the senses, have yet been little taken notice of: the mind, either heedless, as in children, or otherwise employed, as in men intent only on one thing; not setting the stamp deep into itself. And in some, where they are set on with care and repeated impressions, either] through the temper of the body, or some other fault, the memory is very weak. In all these cases, ideas [in the mind] quickly fade, and often vanish quite

42

out of the understanding, leaving no more footsteps or remaining characters of themselves than shadows do frlying over fields of corn, and the mind is as void of them as if they had never been there.

5. Thus many of those ideas which were produced in the minds of children, in the beginning of their sensation, (some of which perhaps, as of some pleasures and pains, were before they were born, and others in their infancy,) if in the future course of their lives they are not repeated again, are quite lost, without the least glimpse remaining of them. This may be observed in those who by some mischance have lost their sight when they were very young; in whom the ideas of colours having been but slightly taken notice of, and ceasing to be repeated, do quite wear out; so that some years after, there is no more notion nor memory of colours left in their minds, than in those of people born blind. The memory of some men, it is true, is very tenacious, even to a miracle. But yet there seems to be a constant decay of all our ideas, even of those which are struck deepest, and in minds the most retentive; so that if they be not sometimes renewed, by repeated exercise of the senses, or reflection on those kinds of objects which at first occasioned them, the print wears out, and at last there remains nothing to be seen. Thus the ideas, as well as children, of our youth, often die before us: and our minds represent to us those tombs to which we are approaching; where, though the brass and marble remain, yet the inscriptions are effaced by time, and the imagery moulders away. The pictures drawn in our minds are laid in fading colours; and if not sometimes refreshed, vanish and disappear. How much the constitution of our bodies [and the make of our animal spirits] are concerned in this; and whether the temper of the brain makes this difference, that in some it retains the characters drawn on it like marble, in others like freestone, and in others little better than sand, I shall not here inquire; though it may seem probable that the constitution of the body does sometimes influence the memory, since we oftentimes find a disease quite strip the mind of all its ideas, and the flames of a fever in a few days calcine all those images to dust and confusion, which seemed to be as lasting as if graved in marble.

6. But concerning the ideas themselves, it is easy to remark, that those that are oftenest refreshed (amongst which are those that are conveyed into the mind by more ways than one) by a frequent return of the objects or actions that produce them, fix themselves best in the memory, and remain clearest and longest there; and therefore those which are of the original qualities of bodies, viz. solidity, extension, figure, motion, and rest; and those that almost constantly affect our bodies, as heat and cold; and thse which are the affections of all kinds of beings, as existence, duration, and number, which almost every object that affects our senses, every thought which employs our minds, bring along with them; - these, I say, and the like ideas, are seldom quite lost, whilst the mind retains any ideas at all.

7. In this secondary perception, as I may so call it, or viewing agin the ideas that are lodged in the memory, the mind is often times more than barely passive; the appearance of those dormant pictures depending sometimes on the *will*. The mind very often sets itself on work in search of some hidden idea, and turns as it were the eye of the soul upon it; though sometimes too they start up in our minds of their own accord, and offer thimselves to the understanding; and very often are roused and tumbled out of their dark cells into open daylight, by turbulent and tempestuous passions; our affections bringing ideas to our memory, which had otherwise lain quiet and unregarded. [This further is to be observed, concerning ideas lodged in the memory, and upon occasion revived by the mind, that they are not only (as the word *revive* imports none of them new ones, but also that the mind takes notice of them as of a former impression, and renews its acquaintance with them, as with ideas it had known before. So that though ideas formerly imprinted are not all constantly in view, yet in remembrance they are constantly known to be such as have been formerly imprinted; i.e. in view, and taken notice of before, by the understanding.]

8. Memory, in an intelectual creature, is necessary in the next degree to perception. It is of so great moment, that, where it is wanting, all the rest of our faculties are in a great measure useless. And we in our thoughts, reasonings, and knowledge, could not proceed beyond present objects, were it not for the assistance of our memories; wherein there may be two defects: -

First, That it loses the idea quite, and so far it produces perfect ignorance. For, since we can know nothing further than we have the idea of it, when that is gone, we are in perfect ignorance.

Secondly, That it moves slowly, and retrieves not the ideas that it has, and are laid up in store, quick enough to serve the mind upon occasion. This, if it be to a great degree, is stupidity; and he who, through this default in his memory, has not the ideas that are really preserved there, ready at hand when need and occasion calls for them, were almost as good be without them quite, since they serve him to little purpose. The dull man, who loses the opportunity, whilst he is seeking in his mind for those ideas that should serve his turn, is not much more happy in his knowledge than one that is perfectly ignorant. It is the business therefore of the memory to furnish to the mind those dormant ideas which it has present occasion for; in the having they ready at hand on all occasions, consists that which we call invention, fancy, and quickness of parts.

9. [These are defects we may observe in the memory of one man compared with another. There is another defect which we may conceive to be in the memory of man in general; - compared with some superior created intellectual beings, which in this faculty may so far excell man, that they may have *constantly* in view the whole scene of all their former actions, wherein no one of the thoughts they have ever had may slip out of their sight. The omniscience of God, who knows all things, past, present, and to come, and to whom the thoughts of men's hearts always lie open, may satisfy us of the possiblity of this. For who can doubt but God may communicate to those glorious spirits, his immediate attendants, any of his perfections; in what proportions he pleases, as far as created finite beings can be capable? It is reported of that prodigy of parts, Monsieur Pascal, that till the decay of his health had impaired his memory, he forgot nothing of what he had done, read or thought, in any part of his rational age. This is a privilege so little known to most men, that it seems almost incredible to those who, after the ordinary way, measure all others by themselves; but yet, when considered, may help us to enlarge our thoughts towards greater perfections of it, in superior ranks of spirits. For this of Monsieur Pascal was still with the narrowness that human minds are confined to here, - of having great variety of ideas only by succession, not

all at once. Whereas the several degrees of angels may probably have larger view; and some of them be endowed with capacities able to retain together, and constantly set begfore them, as in one picture, all their past knowledge at once. This, we may conceive, would be no small advantage to the knowledge of a thinking man, - if all his past thoughts and reasonings could be *always* present to him. And therefore we may suppose it one of those ways, wherein the knowledge of separate spirits may exceedingly surpass ours.]

10. This faculty of laying up and retaining the ideas that are brought into the mind, several other animals seem to have to a great degree, as well as man. For, to pass by other instances, birds learning of tunes, and the endeavous one may observe in them to hit the noted right, put it past doubt with me, that they have perception, and retain ideas in their memories, and use them for patterns. For it seems to me impossible that they should endeavour to conform their voices to notes as it is plain they do of which they had no ideas. For, though I should grant sound may mechanically cause a certain motion of the animal spirits in the brains of those birds, whilst the tune is actually playing; and that motion may be continued on to the muscles of the wings, and so the bird mechanically be driven away by certain noises, because this may tend to the bird's preservation; yet that can never be supposed a reason why it should cause mechanicall - either whilst the tune is playing, much less after it has ceased - such a motion of the organs in the bird's voice as should conform it to the notes of a foreign sound, which imitation can be of no use to the bird's preservation. But, which is more, it cannot with any appearance of reason be supposed (much less proved) that birds, without sense and memory, can approach their notes nearer and nearer by degrees to a tune played yesterday; which if they have no idea of in their memory, is now nowhere, no can be a pattern for them to imitate, or which any repeated essays can bring them nearer to. Since there is no reason why the sound of a pipe should leave traces in their brains, which, not at first, but by their after-endeavours, should produce the like sounds; and why the sounds they make themselves, should not make traces which they should follow, as well as those of the pipe, is impossible to conceive.

IX. Of Discerning, and Other Operations of the Mind.

1. Another faculty we may take notice of in our minds is that of *discerning* and *distinguishing* between the several ideas it has. It is not enough to have a confused perception of something in general. Unless the mind had a distinct perception of different objects and their qualities, it would be capable of very little knowledge, though the bodies that affect us were as busy about us as they are now, and the mind were continually employed in thinking. On this faculty of distinguishing one thing from another depends the evidence and certainty of several, even very general, propositions, which have passed for innate truths; - because men, overlooking the true cause why those propositions find universal assent, impute it wholly to native uniform impressions; whereas it in truth depends upon this clear discerning faculty of the mind, whereby it *perceives* two ideas to be the same, or different. But of this more hereafter.

2. How much the imperfection of accurately discrimination ideas one from another lies, either in the dulness or faults of the organs of sense; or want of acuteness, exercise, or attention in the understanding; or hastiness and precipitancy, natural to some tempers, I will not here examine: it suffices to take notice, that this is one of the operations that the mind may reflect on and observe in itself. It is of that consequence to its other knowledge, that so far as this faculty is in itself dull, or not rightly made use of, for the distinguishing one thing from another, - so far our notions are confused, and our reason and judgment disturbed or misled. If in having our ideas in the memory ready at hand consists quickness of parts; in this, of having them unconfused, and being able nicely to distinguish one thing fromn another, where there is but the least difference, consists, in a great measure, the exactness of judgment, and clearness of reason, which is to be observed in one man above another. And hence perhaps may be given some reason of that common observation, - that men who have a great deal of wit, and prompt memories, have not always the clearest judgment or deepest reason. For *wit* lying most in the assemblage of ideas, and putting those together with quickness and variety, wherein can be found any resemblance or congruity, thereby to make up pleasnat pictures and agreeable visions in the fancy; *judgment*, on the contrary, lies quite on the other side, in separating carefully, one from another, ideas wherein can be found the least difference, thereby to avoid being misled by similitude, and by affinity to take one thing for another. This is a way of proceeding quite contrary to metphor and allusion; wherein for the most part lies that entertainment and pleasantry of wit, which strikes so lively on the fancy, and therefore is so acceptable to all people, because its beauty appears at first sight, and there is required no labour of thought to examine what truth or reason there is in it. The mind, without looking any further, rests satisfied with the agreeableness of the picture and the gaiety of the fancy. And it is a kind of affront to go about to examine it, by the severe rules of truth and good reason; whereby it appears that it consists in something that is not perfectly conformable to them.

3. To the well distinguishing of our ideas, it chiefly contributes that they be *clear* and *determinate*. And when they are so, it will not breed any confusion or mistake about them, though the senses should as sometimes they do convey them from the same object differently on different occasions, and so seem to err. For, though a man in a fever should from sugar have a bitter taste, which at another time would produce a sweet one, yet the idea of bitter in that man's mind would be as clear and distinct from the idea of sweet as if he had tasted only gall. Nor does it make any more confusions between the two ideas of sweet and bitter, that the same sort of body produces at one time one, and at another time another idea by the taste, that it makes a confusions in two ideas of white and sweet, or white and round, that the same piece of sugar produces them both in the mind at the same time. And the ideas of orange-colour and azure, that are produced in the mind by the same parcel of the infusion fo *lignum nephriticum*, are no less distinct ideas than those of the same colours taken from two very different bodies.

4. The COMPARING them one with another, in respect of extent, degrees, time, place, or any other circumstances, is another operation of the mind about its ideas, and is that upon which depends all that large tribe of ideas comprehended under *relation*; which, of how vast an extent it is, I shall have occasion to consider hereafter.

5. How far brutes partake in this faculty, is not easy to determine. I imagine they have it not in any great degree: for, though they probably have several ideas distinct enough, yet it seems to me to be the prerogative of human understanding, when it has sufficiently distinguished any ideas, so as to perceive them to be perfectly different, and so consdquently two, to cast about and consider in what circumstances they are capable to be compared. And therefore, I think, beasts compare not their ideas further than some sensible circumstances annexed to the objects themselves. The other power of commparing, which may be observed in men, belonging to general ideas, and useful only to abstract reasonings, we may probably conjecture beasts have not.

6. The next operation we may observe in the mind about its ideas is COMPOSITIONS; whereby it puts together several of those simple ones it has received from sensation and reflection, and combines them into complex ones. Under this of composition may be reckoned also that of *enlarging*, wherein, though the composition does not so much appear as in more complex ones, yet it is nevertheless a putting of several ideas together, though of the same kind. Thus, by adding several units together, we make the idea of a dozen; and putting together the repeated ideas of several perches, we frame that of a furlong.

7. In this also, I suppose, brutes come far short of man. For, though they take in, and retain together, several combinations of simple ideas, as possible the shape, smell, and voice of his master make up the complex idea a dog has of him, or rather are so many distinct marks whereby he knows him; yet I do not think they do of themselves ever compound them, and make complex ideas. And perhaps even where we think they have complex ideas, it is only one simple one that directs them in the knowledge of several things, which possibly they distinguish less by their sight than we imagine. For I have been credibly informed that a bitch will nurse, play with, and be fond of young foxes, as much as, and in place of her puppies, if you can but get them once to suck her so long that her milk may go through them. [And those animals which have a numerous brood of young ones at once, appear not to have any knowledge of their number; for though they are mightily concerned for any of their young that are taken from them whilst they are in sight or hearing, yet if one or two of them be stolen from them in their absence, or without noise, they appear not to miss them, or to have any sense that their number is lessened.]

8. When children have, by repeated sensations, but ideas fixed in their memories, they begin by degrees to learn the use of signs. And when they have got the skill to apply the organs of speech to the framing of articulate sounds, they begin to make 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. 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 to 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, whereby ideas taken from particular beings become general representatives of all of the same kind. and their names general names, applicable to whatever exists comformable to such abstract ideas. Such precise, makes appearances in the mind, without considering how, whence, 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 colour being observed to-day in chalk or snow, which the mind yesterday received from milk, it considers that appearance alone, makes it a representative of all of the kind; and having given it the name *whiteness*, it by that sound signifies the same quality wheresoever to be imagined or met with; and thus universals, whether ideas or terms, are made.

10. If it may be doubted whether beasts compound and enlarge their ideas that way to any degree; this, I think, I may be positive in, - that the power of abstracting is not at all in them; and that the having of general ideas is that which puts a perfect distinction betwixt man and brutes, and is an excellency which the faculties of brutes do by no means attain to. For it is evident we observe no footsteps in them of making use of general signs for universal ideas; from which we have reaason to imagine that they have not the faculty of abstracting, or making general ideas, since they have no use of words, or any other general signs.

11. Nor can it be imputed to their want of fit organs to frame articulate sounds, that they have no use or knowledge of general words; since many of them, we find, can fashion such sounds, and pronounce words distinctly enough, but never with any such application. And, on the other side, men who, through some defect in the organs, want words, yet fail not to express their universal ideas by signs, which serve them instead of general words, a faculty which we see beasts come short in. And, therfore, I think, we may suppose, that it is in this that the species of brutes are discriminated from man: and it is that proper difference wherein they are wholy separated, and which at last widens to so vast a distance. For if they have any ideas at all, and are not bare machines, (as some would have them,) we cannot deny them to have some reason. It seems as evident to me, that they do [some of them in certain instances] reason, as that they have sense; but it is only in particular ideas, just as they received them from their senses. They are the best of them tied up within those narrow bounds, and have not (as I think) the faculty to enlarge them by any kind of abstraction.

12. How far idiots are concerned in the want or weakness of any, or all of the foregoing faculties, an exact observation of their several ways of faultering would no doubt discover. For those who either perceive but dully, or retain the ideas that come into their minds but ill, who cannot readily excite or compound them, will have little matter to think on. Those who cannot distinguish, compare, and abstract, would hardly be able to understand and make use of language, or judge or reason to any tolerable

degree; but only a little and imperfectly about things present, and very familiar to their senses. And indeed any of the forementioned faculties, if wanting, or out of order, produce suitable defects in men's understandings and knowledge.

13. In fine, the defect in naturals seems to proceed from want of quickness, activity, and motion, in the intellectual faculties, whereby they are deprived of reason; whereas madmen, on the other side, seem to suffer by the other extreeme. For they do not appear to me to have lost the faculty of reasoning but having joined together some ideas very wrongly, they mistake them for truths; and they err as men do that argue right from wrong principles. For, by the violence of their imaginations, having taken their fancies for realities, they make right deductions from them. Thus you shall find a distracted man fancying himself a king, with a right inference require suitable attendance, respect, and obedience: others who have thought themselves made of glass, have used the caution necessary to preserve such brittle bodies. Hence it comes to pass that a man who is very sober, and of a right understanding in all other things, may in one particular be a frantic as any in Bedlam; if either by any sudden very strong impression, or long fixing his fancey upon one sort of thoughts, incoherent ideas have been cemented together so powerfully, as to remain united. But there are degrees of madness, as of folly; the disorderly jumbling of ideas together is in some more and some less. In short, herin seems to le the difference between idiots and madmen: that madmen put wrong ideas together, and so make wrong propositions, but argue and reason right from them; but idiots make very few or no propositions, and reason scarce at all.

14. These, I think are the first faculties and operations of the mind, which it makes use of in understanding; and though they are exercised about all its ideas in general, yet the instances I have hitherto given have been chiefly in simple ideas. And I have subjoined the explication of these faculties of the mind to that of simple ideas, before I come to what I have to say concerning complex ones, for these following reasons: -

First, Because several of these faculties being exercised at first principally about simple ideas, we might, be following nature in its ordinary method, trace and discover them, in their rise, progress, and gradual improvements.

Secondly, Because observing the faculties of the mind, how they operate about simple ideas, - which are usually, in most men's minds, much more clear, precise, and distinct than complex ones, - we may the better examine and learn how the mind extracts, denominates, compares, and exercises, in its other operations about those which are complex, wherein we are much more liable to mistake.

Thirdly, Because these very operations of the mind about ideas received from sensations are themselves, when reflected on, another set of ideas, derived from that other source of our knowledge, which I call reflection; and therefore fit to be considered in this place after the simple ideas of sensation. Of compounding, comparing, abstracting, &c., I have but just spoken, having occasion to treat of them more at large in other places.

15. And thus I have given a short, and, I think, true *history of the first beginnings of human knowledge*; - whence the mind has its first objects; and by what stepts it makes its progress to the laying in and storing up those ideas, out of which is to be framed all the knowledge it is capable of: ehrtrin I must appeal to experience and observation whether I am in the right: the best way to come to truth being to examine things as really they are, and not to conclude they are, as we fancy of ourselves, or have been taught by others to imagine.

16. To deal truly, this is the only way that I can discover, whereby the *ideas of things* are brought into the understanding. If other men have either innate ideas or infused principles, they have reason to enjoy them; and if they are sure of it, it is impossible for others to deny them the privilege that they have above their neighbours. I can speak but of what I find in myself, and is agreeable to those notions, which, if we will examine the whole course of men in their several ages, countries, and educations, seem to depend on those foundations which I have laid, and to correspond with this method in all the parts and degrees thereof.

17. 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, methinks, 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 whereby 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.

X. Of Complex Ideas.

1. We have hitherto considered those ideas, in the reception whereof the mind is only passive, which are those simple ones received from sensation and reflection before mentioned, whereof 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, whereby out of its simple ideas, as the materials and foundations of the rest, the others are framed. The acts of the mind, wherein it exerts its power over its simple ideas are chiefly these three: (I) 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 comples, 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

46

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, as one idea; and that not only as they are united in external objects, but as itself has joined them together. Ideas thus made up of several simple ones put together, I call *complex*; - such as are beauty, gratitutde, 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. 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 furnished 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 got 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. *Complex ideas*, however compounded and decompounded, though their number be infinite, and the variety endless, wherewith 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. First, *Modes* I call such complex ideas which, however compounded, contain not 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, &c. 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 later whereof, in our present case, is perhaps the more tolerable of the two.

5. 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; - v.g. beauty, consisting of a certain composition of colour and figure, causing delight to the beholder; theft, which being the concealed change of the pssession of anything, without the consent of the proporietor, contains, as is visible, a combination of several ideas of several kinds: and these I call *mixed modes*.

6. 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 be joined the simple idea of a certain dull whitish colour, 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 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. 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. If we 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 originals of our notions, that *even the most abstruse ideas*, how remote soever 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 endeavour to show in the ideas we have of space, time, and infinity, and some few others that seem the most remote, from those originals.

47