

BOOK II

CHAPTER I

Of Ideas in general, and their Original.

Idea is the Object of Thinking.

§ 1. EVERY Man being conscious to himself, That he thinks, and that which his Mind is employ'd about whilst thinking, being the *Ideas*, that are there, 'tis 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 enquired, 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 fore-going Book, will be much more easily admitted, when I have shewn, 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.

All Ideas come from Sensation or Reflection.

§ 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, in one word, From *Experience*: In that, all our Knowledge is founded; and from that it ultimately derives it self. Our Observation employ'd either about *external, sensible Objects*; or about the *internal Operations of our Minds, perceived and reflected on by our selves*, 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.

The Objects of Sensation one Source of Ideas.

§ 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*.

The Operations of our Minds, the other Source of them.

§ 4. Secondly, The other Fountain, from which Experience furnisheth the Understanding with *Ideas*, is the *Perception of the Operations of our own Minds* within

us, as it is employ'd 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 our selves, 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 to do with external Objects; yet it is very like it, and might properly enough be call'd 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 it self. 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 sence, 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 satisfaction or uneasiness arising from any thought.

All our Ideas are of the one or the other of these.

§ 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 *Reflection*: 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.

Observable in Children.

§ 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. 'Tis 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 and Order, yet 'tis often so late, before some unusual qualities come in the way, that there are few Men that cannot recollect the beginning of their acquaint-

ance 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 diversly affect them, variety of *Ideas*, whether care be taken about it or no, are imprinted on the Minds of Children. *Light*, and *Colours*, are busie at hand every where, 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.

*Men are differently furnished with these,
according to the different Objects they converse with.*

§ 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 Operation 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 therein, 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.

Ideas of Reflexion, later, because they need Attention.

§ 8. And hence we see the Reason, why 'tis 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 the Mind clear distinct lasting *Ideas*, till the Understanding turns inwards upon it self, *reflects* on its own *Operations*, and makes them the Object of its own Contemplation. Children, when they come first into it, are surrounded with a world of new things, which, by a constant solicitation 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 employ'd 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.

The Soul begins to have Ideas, when it begins to perceive.

§ 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 it self 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 enquire after the beginning of a Man's *Ideas*, is the same, as to enquire 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.

The Soul thinks not always; for this wants Proofs.

§ 10. But whether the Soul be supposed to exist antecedent to, or coeval with, or some time after the first Rudiments of Organisation, or the beginnings of Life in the Body, I leave to be disputed by those, who have better thought of that matter. I confess my self, to have one of those dull Souls, that doth not perceive it self 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 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 farther assured, than 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 every Body assents to at first hearing, I appeal to Mankind. 'Tis doubted whether I thought all last night, or no; the Question being about a matter of fact, 'tis begging it, to bring, as a proof for it, an Hypothesis, which is the very thing in dispute: by which way one may prove any thing, and 'tis but supposing that all watches, whilst the balance beats, think, and 'tis sufficiently proved, and past doubt, that my watch thought all last night. But he, that would 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 Hypothesis, that is, because he supposes it to be so: which way of proving, amounts to this, That I must necessarily think all last night, because another supposes I always think, though I my self cannot perceive, that I always do so.

But Men in love with their Opinions, may not only suppose what is in question, but alledge 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

^{*} Ps. 121: 4.

of it. Our being sensible of it is not necessary to any thing, but to our thoughts; and to them it is; and to them it will always be necessary, till we can think without being conscious of it.

It is not always 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 any thing 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 Pleasure 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 it self whilst he sleeps, without perceiving any thing of it; no more than he has for the Happiness, or Misery of a Man in the *Indies*, whom he knows 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 wherein to place personal Identity.

If a sleeping Man thinks without knowing it, the sleeping and waking Man are two Persons.

§ 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, 'tis plain, is conscious of nothing of all this. Let us suppose then the Soul of *Castor*, whilst he is sleeping, retired from his Body, which is no 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 live without the Soul; nor that the Soul should subsist and think, or have Perception, even Perception of Happiness or Misery, without the Body. Let us then, as I say, suppose the Soul of *Castor* separated, during his Sleep, from his Body, to think apart. Let us suppose too, that it chuses 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, 'tis no matter what Place it chuses 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, no body 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, 'twill be impossible, in that constant flux of the Particles of our Bodies, that any Man should be the same Person, two days, or two moments together.

Impossible to convince those that sleep without dreaming, that they think.

§ 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.

That Men dream without remembering it, in vain urged.

§ 14. 'Twill 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 dream'd 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.

Upon this Hypothesis, the Thoughts of a sleeping Man ought to be most rational.

§ 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 a 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 employ'd, 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 farther, 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 use, and be able to recal 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 subtlest 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 employ'd, at least $\frac{1}{4}$ part of its time here, as to think constantly, without remembring any of those Thoughts, without doing any good to it self 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.

On this Hypothesis the Soul must have Ideas not derived from Sensation or Reflexion, of which there is no appearance.

§ 16. 'Tis 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 conformable 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, 'tis a 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.

If I think when I know it not, no body else can know it.

§ 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. 'Tis 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, in 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 reasonable, 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? 'Tis strange, the Soul should never once in a Man's whole life, recal over any of its pure, native Thoughts, and those *Ideas* it had before it borrowed any thing from the Body; never bring into the waking Man's view, any other *Ideas*, but what have a tangle 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, 'tis 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 it self, the *Ideas*, it is busied about, should be, sometimes at least, those more natural and congenial ones which it had in it self, 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 Minds Operations about them.

*How knows any one that the Soul always thinks?
For if it be not a self-evident Proposition, it needs proof.*

§ 18. I would be glad also to learn from these Men, who so confidently pronounce, that the humane 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: 'Tis, 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 'tis 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 it self the next moment after, that it had thought.

*That a Man should be busie in thinking,
and yet not retain it the next moment, very improbable.*

§ 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 well 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 'tis altogether as intelligible to say, that a body is extended without parts, as that any

thing *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 any thing, when I perceive it not my self? 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 on. 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 my self: And they must needs have a penetrating sight, who can certainly see, that I think, when I cannot perceive it my self, 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 the *Rosecrucians*; it seeming easier to make ones self invisible to others, than to make another's thoughts visible to me, which are not visible to himself. But 'tis but defining the Soul to be a substance, that always thinks, and the business is done. If such a 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, 'tis 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 furnish'd 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 remembring, imagining, reasoning, and other modes of thinking.

No Ideas but from Sensation or Reflection, evident, if we observe Children.

§ 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 *Fœtus in the Mother's Womb, differs not much from the State of a Vegetable*; but 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 it comes, by degrees, to know the Persons it daily converses with, and distinguish 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. 'Tis about these Impressions made on our Senses by outward Objects, that the Mind seems first to employ it self in such Operations as we call *Perception, Remembring, Consideration, Reasoning*, etc.

The original of all our Knowledge.

§ 24. In time, the Mind comes to reflect on its own *Operations*, about the *Ideas* got by *Sensation*, and thereby stores it self 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 extrinsic to the Mind; and *its own Operations*, proceeding from Powers intrinsic and proper to it self, which when reflected on by it self, become also Objects of its contemplation, are, as I have said, the Original of all Knowledge. Thus the first Capacity of Humane 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 any thing, and the Groundwork, whereon to build all those Notions, which ever he shall have naturally in this World. All those sublime Thoughts, which towre above the Clouds, and reach as high as Heaven it self, 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.

In the reception of simple Ideas, the Understanding is for the most part passive.

§ 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 no: 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 in it self, 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 diversly affect our Organs, the mind is forced to receive the Impressions; and cannot avoid the Perception of those *Ideas* that are annexed to them.

CHAPTER II

Of simple Ideas.

Uncompounded Appearances.

§ 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 'tis 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 it self uncompounded, contains in it nothing but *one uniform Appearance*, or Conception in the mind, and is not distinguishable into different *Ideas*.

The mind can neither make nor destroy them.

§ 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 much what 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 Atome of what is already in Being. The same inability, will every one find in himself, who shall go about to fashion in his Understanding any 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 one 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 with but four Senses, the Qualities then, which are the Object 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 stupendious 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 Fabrick, 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.

CHAPTER III

Of Ideas of one Sense.

Division of simple Ideas.

§ 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.

Ideas of one Sense.

First, 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.

Few simple Ideas have Names.

§ 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 my self 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.

CHAPTER IV

Of Solidity.

We receive this Idea from touch.

§ 1. THE *Idea* of *Solidity* we receive by our Touch; and it arises from the resistance which we find in Body, to the entrance of any other Body into the Place it possesses, till it has left it. There is no *Idea*, which we receive more

constantly from Sensation, than *Solidity*. Whether we move, or rest, in what Posture soever we are, we always feel something under us, that supports us, and hinders our farther sinking downwards; and the Bodies which we daily handle, make us perceive, that whilst they remain between them, they do by an insurmountable Force, hinder the approach of the parts of our Hands that press them. That which thus hinders the approach of two Bodies, when they are moving one towards another, I call *Solidity*. I will not dispute, whether this acceptance of the Word *solid* be nearer to its Original Signification, than that which Mathematicians use it in: It suffices, that I think, the common Notion of Solidity will allow, if not justify, this use of it; but if any one think it better to call it *Impenetrability*, he has my Consent. Only I have thought the Term *Solidity*, the more proper to express this *Idea*, not only because of its vulgar use in that Sense; but also, because it carries something more of positive in it, than *Impenetrability*, which is negative, and is, perhaps, more a consequence of *Solidity*, than *Solidity* it self. This of all other, seems the *Idea* most intimately connected with, and essential to Body, so as no where else to be found or imagin'd, but only in matter: and though our Senses take no notice of it, but in masses of matter, of a bulk sufficient to cause a Sensation in us; Yet the Mind, having once got this *Idea* from such grosser sensible Bodies, traces it farther; and considers it, as well as Figure, in the minutest Particle of Matter, that can exist; and finds it inseparably inherent in Body, where-ever, or however modified.

Solidity fills Space.

§ 2. This is the *Idea* belongs to Body, whereby we conceive it to *fill space*. The *Idea* of which filling of space, is, That where we imagine any space taken up by a solid Substance, we conceive it so to possess it, that it excludes all other solid Substances; and, will for ever hinder any two other Bodies, that move towards one another in a strait Line, from coming to touch one another, unless it removes from between them in a Line, not parallel to that which they move in. This *Idea* of it the Bodies, which we ordinarily handle, sufficiently furnish us with.

Distinct from Space.

§ 3. This Resistance, whereby it keeps other Bodies out of the space which it possesses, is so great, That no force, how great soever, can surmount it. All the Bodies in the World, pressing a drop of Water on all sides, will never be able to overcome the Resistance, which it will make, as soft as it is, to their approaching one another, till it be removed out of their way: whereby our *Idea* of *Solidity* is *distinguished* both *from pure space*, which is capable neither of Resistance nor Motion; and from the ordinary *Idea* of *Hardness*. For a Man may conceive two Bodies at a distance, so as they may approach one another, without touching or displacing any solid thing, till their Superficies come to meet: whereby, I think, we have the clear *Idea* of Space without *Solidity*. For (not to go so far as annihilation of any particular Body) I ask, Whether a Man cannot have the *Idea* of the motion of one single Body alone, without any other succeeding immediately into its Place? I think, 'tis evident he can: the *Idea* of Motion in one Body, no more including the *Idea* of Motion in another, than the *Idea* of a square Figure in one Body includes the *Idea* of a square Figure in an-

other. I do not ask, Whether Bodies do so exist, that the motion of one Body cannot really be without the motion of another. To determine this either way, is to beg the Question for, or against a *Vacuum*. But my Question is, Whether one cannot have the *Idea* of one Body moved, whilst others are at rest? And, I think, this no one will deny: If so, then the Place it deserted, gives us the *Idea* of pure Space without Solidity, wherein to another Body may enter, without either Resistance or Protrusion of any thing. When the Sucker in a Pump is drawn, the space it filled in the Tube is certainly the same, whether any other Body follows the motion of the Sucker or no: nor does it imply a contradiction, That upon the motion of one Body, another, that is only contiguous to it, should not follow it. The necessity of such a motion, is built only on the Supposition, That the World is full; but not on the distinct *Ideas* of Space and Solidity: which are as different, as Resistance and not Resistance, Protrusion and not Protrusion. And that Men have *Ideas* of Space without Body, their very Disputes about a *Vacuum* plainly demonstrate, as is shewed in another Place.

From Hardness.

§ 4. Solidity is hereby also *differentiated from Hardness*, in that Solidity consists in repletion, and so an utter Exclusion of other Bodies out of the space it possesses; but Hardness, in a firm Cohesion of the parts of Matter, making up masses of a sensible bulk, so that the whole does not easily change its Figure. And indeed, Hard and Soft are Names that we give to things, only in relation to the Constitutions of our own Bodies; that being generally call'd hard by us, which will put us to Pain, sooner than change Figure by the pressure of any part of our Bodies; and that, on the contrary, soft, which changes the Situation of its parts upon an easie, and unpainful touch.

But this Difficulty of changing the Situation of the sensible parts amongst themselves, or of the Figure of the whole, gives no more Solidity to the hardest Body in the World, than to the softest; nor is an Adamant one jot more solid than Water. For though the two flat sides of two pieces of Marble, will more easily approach each other, between which there is nothing but Water or Air, than if there be a Diamond between them: yet it is not, that the parts of the Diamond are more solid than those of Water, or resist more; but because the parts of Water, being more easily separable from each other, they will by a side-motion be more easily removed, and give way to the approach of the two pieces of Marble: But if they could be kept from making Place, by that side-motion, they would eternally hinder the approach of these two pieces of Marble, as much as the Diamond; and 'twould be as impossible by any force, to surmount their Resistance, as to surmount the Resistance of the parts of a Diamond. The softest Body in the World will as invincibly resist the coming together of any two other Bodies, if it be not put out of the way, but remain between them, as the hardest, that can be found, or imagined. He that shall fill a yielding soft Body well with Air or Water, will quickly find its Resistance: And he that thinks, that nothing but Bodies, that are hard, can keep his Hands from approaching one another, may be pleased to make a trial, with the Air inclosed in a Football. The Experiment, I have been told was made at *Florence*, with a hollow Globe of Gold fill'd with Water, and exactly closed, farther shews the solidity of so soft a body as Water. For the golden Globe thus filled, being put into a Press, which was driven by the extreme force of skrews, the water made

it self way through the pores of that very close metal, and finding no room for a nearer approach of its Particles within, got to the outside, where it rose like a dew, and so fell in drops, before the sides of the Globe could be made to yield to the violent compression of the Engine, that squeezed it.

On Solidity depends Impulse, Resistance, and Protrusion.

§ 5. By this *Idea* of Solidity, is the Extension of Body distinguished from the Extension of Space. The Extension of Body being nothing, but the cohesion or continuity of solid, separable, moveable Parts; and the Extension of Space, the continuity of unsolid, inseparable, and immoveable Parts. *Upon the Solidity of Bodies also depends their mutual Impulse, Resistance, and Protrusion.* Of pure Space then, and Solidity, there are several (amongst which, I confess my self one) who persuade themselves, they have clear and distinct *Ideas*; and that they can think on Space, without any thing in it, that resists, or is protruded by Body. This is the *Idea* of pure Space, which they think they have as clear, as any *Idea* they can have of the Extension of Body: the *Idea* of the distance, between the opposite Parts of a concave Superficies, being equally as clear, without, as with the *Idea* of any solid Parts between: and on the other side, they persuade themselves, That they have, distinct from that of pure Space, the *Idea* of something that fills Space, that can be protruded by the impulse of other Bodies, or resist their Motion. If there be others, that have not these two *Ideas* distinct but confound them, and make but one of them, I know not, how Men, who have the same *Idea*, under different Names, or different *Ideas*, under the same Name, can, in that case, talk with one another, any more than a Man, who not being blind, or deaf, has distinct *Ideas* of the Colour of Scarlet, and the sound of a Trumpet, could discourse concerning Scarlet-Colour with the blind Man, I mention in another Place, who fancied, that the *Idea* of Scarlet was like the sound of a Trumpet.

What it is.

§ 6. If any one asks me, *What this Solidity is*, I send him to his Senses to inform him: Let him put a Flint, or a Foot-ball between his Hands; and then endeavour to join them, and he will know. If he thinks this not a sufficient Explication of Solidity, what it is, and wherein it consists; I promise to tell him, what it is, and wherein it consists, when he tells me what thinking is, or wherein it consists; or explain to me, what Extension or Motion is, which, perhaps, seems much easier. The simple *Ideas* we have are such, as experience teaches them us; but if beyond that, we endeavour, by Words, to make them clearer in the Mind, we shall succeed no better, than if we went about to clear up the Darkness of a blind Man's mind, by talking; and to discourse into him the *Ideas* of Light and Colours. The Reason of this, I shall shew, in another Place.

[. . .]

CHAPTER VIII

Some farther Considerations concerning our simple Ideas.

Positive Ideas from privative Causes.

§ 1. CONCERNING the simple *Ideas* of Sensation 'tis to be considered, That whatsoever is so constituted in Nature, as to be able, by affecting our Senses, to cause any perception in the Mind, doth thereby produce in the Understanding a simple *Idea*; which, whatever be the external cause of it, when it comes to be taken notice of, by our discerning Faculty, it is by the Mind looked on and considered there, to be a real *positive Idea* in the Understanding, as much as any other whatsoever; though, perhaps, the cause of it be but a privation in the subject.

§ 2. Thus the *Idea* of Heat and Cold, Light and Darkness, White and Black, Motion and Rest, are equally clear and *positive Ideas* in the Mind; though, perhaps, some of the *causes* which produce them, are barely *privations* in those Subjects, from whence our Senses derive those *Ideas*. These the Understanding, in its view of them, considers all as distinct positive *Ideas*, without taking notice of the Causes that produce them: which is an enquiry not belonging to the *Idea*, as it is in the Understanding; but to the nature of the things existing without us. These are two very different things, and carefully to be distinguished; it being one thing to perceive, and know the *Idea* of White or Black, and quite another to examine what kind of particles they must be, and how ranged in the Superficies, to make any Object appear White or Black.

§ 3. A Painter or Dyer, who never enquired into their causes, hath the *Ideas* of White and Black, and other Colours, as clearly, perfectly, and distinctly in his Understanding, and perhaps more distinctly, than the Philosopher, who hath busied himself in considering their Natures, and thinks he knows how far either of them is in its cause positive or privative; and the *Idea* of Black is no less *positive* in his Mind, than that of White, *however the cause* of that Colour in the external Object, may be only a *privation*.

§ 4. If it were the design of my present Undertaking, to enquire. into the natural Causes and manner of Perception, I should offer this as a reason *why a privative cause might*, in some cases at least, *produce a positive Idea*, *viz.* That all Sensation being produced in us, only by different degrees and modes of Motion in our animal Spirits, variously agitated by external Objects, the abatement of any former motion, must as necessarily produce a new sensation, as the variation or increase of it; and so introduce a new *Idea*, which depends only on a different motion of the animal Spirits in that Organ.

§ 5. But whether this be so, or no, I will not here determine, but appeal to every one's own Experience, whether the shadow of a Man, though it consists of nothing but the absence of Light (and the more the absence of Light is, the more discernible is the shadow) does not, when a Man looks on it, cause as clear and positive an *Idea* in his mind, as a Man himself, though covered over with clear Sun-shine? And the Picture of a Shadow, is a positive thing. Indeed, we have *negative Names*, which stand not directly for positive *Ideas*, but for their

absence, such as *Inspid, silence, Nihil*, etc. which Words denote positive *Ideas*; *v.g. Tast, Sound, Being*, with a signification of their absence.

§ 6. And thus one may truly be said to see Darkness. For supposing a hole perfectly dark, from whence no light is reflected, 'tis certain one may see the Figure of it, or it may be Painted; or whether the Ink, I write with, makes any other *Idea*, is a Question. The privative causes I have here assigned of positive *Ideas*, are according to the common Opinion; but in truth it will be hard to determine, whether there be really any *Ideas* from a privative cause, till it be determined, *Whether Rest be any more a privation than Motion*.

Ideas in the Mind, Qualities in Bodies.

§ 7. To discover the nature of our *Ideas* the better, and to discourse of them intelligibly, it will be convenient to distinguish them, as they are *Ideas* or Perceptions in our Minds; and as they are modifications of matter in the Bodies that cause such Perceptions in us: that so we *may not* think (as perhaps usually is done) that they are exactly the Images and *Resemblances* of something inherent in the subject; most of those of Sensation being in the Mind no more the likeness of something existing without us, than the Names, that stand for them, are the likeness of our *Ideas*, which yet upon hearing, they are apt to excite in us.

§ 8. Whatsoever the Mind perceives in it self, or is the immediate object of Perception, Thought, or Understanding, that I call *Idea*; and the Power to produce any *Idea* in our mind, I call *Quality* of the Subject wherein that power is. Thus a Snow-ball having the power to produce in us the *Ideas* of *White, Cold, and Round*, the Powers to produce those *Ideas* in us, as they are in the Snow-ball, I call *Qualities*; and as they are Sensations, or Perceptions, in our Understandings, I call them *Ideas*: which *Ideas*, if I speak of sometimes, as in the things themselves, I would be understood to mean those Qualities in the Objects which produce them in us.

Primary and Secondary Qualities.

§ 9. Qualities thus considered in Bodies are, First such as are utterly inseparable from the Body, in what estate soever it be; such as in all the alterations and changes it suffers, all the force can be used upon it, it constantly keeps; and such as Sense constantly finds in every particle of Matter, which has bulk enough to be perceived, and the Mind finds inseparable from every particle of Matter, though less than to make it self singly be perceived by our Senses. *v.g.* Take a grain of Wheat, divide it into two parts, each part has still *Solidity, Extension, Figure, and Mobility*; divide it again, and it retains still the same qualities; and so divide it on, till the parts become insensible, they must retain still each of them all those qualities. For division (which is all that a Mill, or Pestel, or any other Body, does upon another, in reducing it to insensible parts) can never take away either Solidity, Extension, Figure, or Mobility from any Body, but only makes two, or more distinct separate masses of Matter, of that which was but one before, all which distinct masses, reckon'd as so many distinct Bodies, after division make a certain Number. These I call *original* or *primary Qual-*

ities of Body, which I think we may observe to produce simple *Ideas* in us, *viz.* Solidity, Extension, Figure, Motion, or Rest, and Number.

§ 10. *2dly*, Such *Qualities*, which in truth are nothing in the Objects themselves, but Powers to produce various Sensations in us by their *primary Qualities*, i.e. by the Bulk, Figure, Texture, and Motion of their insensible parts, as Colours, Sounds, Tasts, *etc.* These I call *secondary Qualities*. To these might be added a third sort which are allowed to be barely Powers though they are as much real Qualities in the Subject, as those which I to comply with the common way of speaking call *Qualities*, but for distinction *secondary Qualities*. For the power in Fire to produce a new Colour, or consistency in Wax or Clay by its primary Qualities, is as much a quality in Fire, as the power it has to produce in me a new *Idea* or Sensation of warmth or burning, which I felt not before, by the same primary Qualities, *viz.* The Bulk, Texture, and Motion of its insensible parts.

How primary Qualities produce their Ideas.

§ 11. The next thing to be consider'd, is how *Bodies* produce *Ideas* in us, and that is manifestly *by impulse*, the only way which we can conceive Bodies operate in.

§ 12. If then external Objects be not united to our Minds, when they produce *Ideas* in it; and yet we perceive *these original Qualities* in such of them as singly fall under our Senses, 'tis evident, that some motion must be thence continued by our Nerves, or animal Spirits, by some parts of our Bodies, to the Brains or the seat of Sensation, there to *produce in our Minds the particular Ideas we have of them*. And since the Extension, Figure, Number, and Motion of Bodies of an observable bigness, may be perceived at a distance by the sight, 'tis evident some singly imperceptible Bodies must come from them to the Eyes, and thereby convey to the Brain some *Motion*, which produces these *Ideas*, which we have of them in us.

How Secondary.

§ 13. After the same manner, that the *Ideas* of these original Qualities are produced in us, we may conceive, that the *Ideas* of secondary Qualities are also *produced*, *viz. by the operation of insensible particles on our Senses*. For it being manifest, that there are Bodies, and good store of Bodies, each whereof is so small, that we cannot, by any of our Senses, discover either their bulk, figure, or motion, as is evident in the Particles of the Air and Water, and other extremely smaller than those, perhaps, as much smaller than the Particles of Air, or Water, as the Particles of Air or Water, are smaller than Pease or Hailstones. Let us suppose at present, that the different Motions and Figures, Bulk, and Number of such Particles, affecting the several Organs of our Senses, produce in us those different Sensations, which we have from the Colours and Smells of Bodies, *v.g.* that a Violet, by the impulse of such insensible particles of matter of peculiar figures, and bulks, and in different degrees and modifications of their Motions, causes the *Ideas* of the blue Colour, and sweet Scent of that Flower to be produced in our Minds. It being no more impossible, to con-

ceive, that God should annex such *Ideas* to such Motions, with which they have no similitude; than that he should annex the *Idea* of Pain to the motion of a piece of Steel dividing our Flesh, with which that *Idea* hath no resemblance.

§ 14. What I have said concerning *Colours* and *Smells*, may be understood also of *Tastes* and *Sounds*, and *other the like sensible Qualities*; which, whatever reality we, by mistake, attribute to them, are in truth nothing in the Objects themselves, but Powers to produce various Sensations in us, and *depend on those primary Qualities*, *viz.* Bulk, Figure, Texture, and Motion of parts; as I have said.

Ideas of primary Qualities are resemblances; of secondary, not.

§ 15. From whence I think it is easie to draw this Observation, That the *Ideas of primary Qualities of Bodies, are Resemblances* of them, and their Patterns do really exist in the Bodies themselves; but the *Ideas, produced in us by these Secondary Qualities, have no resemblance* of them at all. There is nothing like our *Ideas*, existing in the Bodies themselves. They are in the Bodies, we denominate from them, only a Power to produce those Sensations in us: And what is Sweet, Blue, or Warm in *Idea*, is but the certain Bulk, Figure, and Motion of the insensible Parts in the Bodies themselves, which we call so.

§ 16. *Flame* is denominated *Hot* and *Light*; *Snow White* and *Cold*; and *Manna White* and *Sweet*, from the *Ideas* they produce in us. Which Qualities are commonly thought to be the same in those Bodies, that those *Ideas* are in us, the one the perfect resemblance of the other, as they are in a Mirror; and it would by most Men be judged very extravagant, if one should say otherwise. And yet he, that will consider, that *the same Fire*, that at one distance *produces* in us the Sensation of *Warmth*, does at a nearer approach, produce in us the far different Sensation of *Pain*, ought to bethink himself, what Reason he has to say, That his *Idea of Warmth*, which was produced in him by the Fire, is actually *in the Fire*; and his *Idea of Pain*, which the same Fire produced in him the same way, is *not* in the Fire. Why is Whiteness and Coldness in Snow, and Pain not, when it produces the one and the other *Idea* in us; and can do neither, but by the Bulk, Figure, Number, and Motion of its solid Parts?

§ 17. The particular *Bulk, Number, Figure, and Motion of the parts of Fire, or Snow, are really in them*, whether any ones Senses perceive them or no: and therefore they may be called *real Qualities*, because they really exist in those Bodies. But *Light, Heat, Whiteness, or Coldness, are no more really in them, than Sickness or Pain is in Manna*. Take away the Sensation of them; let not the Eyes see Light, or Colours, nor the Ears hear Sounds; let the Palate not Taste, nor the Nose Smell, and all Colours, Tastes, Odors, and Sounds, as they are such particular *Ideas*, vanish and cease, and are reduced to their Causes, *i.e.* Bulk, Figure, and Motion of Parts.

§ 18. A piece of *Manna* of a sensible Bulk, is able to produce in us the *Idea* of a round or square Figure; and, by being removed from one place to another, the *Idea* of Motion. This *Idea* of Motion represents it, as it really is in the *Manna* moving: A Circle or Square are the same, whether in *Idea* or Existence; in the Mind, or in the *Manna*: And this, both *Motion and Figure are really in the Man-*

na, whether we take notice of them or no: This every Body is ready to agree to. Besides, *Manna* by the Bulk, Figure, Texture, and Motion of its Parts, has a Power to produce the Sensations of Sickness, and sometimes of acute Pains, or Gripings in us. That these *Ideas* of *Sickness and Pain* are not in the *Manna*, but Effects of its Operations on us, and are no where when we feel them not: This also every one readily agrees to. And yet Men are hardly to be brought to think, that *Sweetness and Whiteness* are not really in *Manna*; which are but the effects of the operations of *Manna*, by the motion, size, and figure of its Particles on the Eyes and Palate; as the Pain and Sickness caused by *Manna*, are confessedly nothing, but the effects of its operations on the Stomach and Guts, by the size, motion, and figure of its insensible parts; (for by nothing else can a Body operate, as has been proved:) As if it could not operate on the Eyes and Palate, and thereby produce in the Mind particular distinct *Ideas*, which in it self it has not, as well as we allow it can operate on the Guts and Stomach, and thereby produce distinct *Ideas*, which in it self it has not. These *Ideas* being all effects of the operations of *Manna*, on several parts of our Bodies, by the size, figure, number, and motion of its parts, why those produced by the Eyes and Palate, should rather be thought to be really in the *Manna*, than those produced by the Stomach and Guts; or why the Pain and Sickness, *Ideas* that are the effects of *Manna*, should be thought to be no-where, when they are not felt; and yet the Sweetness and Whiteness, effects of the same *Manna* on other parts of the Body, by ways equally as unknown, should be thought to exist in the *Manna*, when they are not seen nor tasted, would need some Reason to explain.

§ 19. Let us consider the red and white colours in *Porphyre*: Hinder light but from striking on it, and its Colours Vanish; it no longer produces any such *Ideas* in us: Upon the return of Light, it produces these appearances on us again. Can any one think any real alterations are made in the *Porphyre*, by the presence or absence of Light; and that those *Ideas* of whiteness and redness, are really in *Porphyre* in the light, when 'tis plain *it has no colour in the dark*? It has, indeed, such a Configuration of Particles, both Night and Day, as are apt by the Rays of Light rebounding from some parts of that hard Stone, to produce in us the *Idea* of redness, and from others the *Idea* of whiteness: But whiteness or redness are not in it at any time, but such a texture, that hath the power to produce such a sensation. mus.

§ 20. Pound an Almond, and the clear white *Colour* will be altered into a dirty one, and the sweet *Taste* into an oily one. What real Alteration can the beating of the Pestle make in any Body, but an Alteration of the *Texture* of it?

§ 21. *Ideas* being thus distinguished and understood, we may be able to give an Account, how the same Water, at the same time, may produce the *Idea* of Cold by one Hand, and of Heat by the other: Whereas it is impossible, that the same Water, if those *Ideas* were really in it, should at the same time be both Hot and Cold. For if we imagine *Warmth*, as it is in our Hands, to be *nothing but a certain sort and degree of Motion in the minute Particles of our Nerves, or animal Spirits*, we may understand, how it is possible, that the same Water may at the same time produce the Sensation of Heat in one Hand, and Cold in the other; which yet Figure never does, that never producing the *Idea* of a square by one Hand,

which has produced the *Idea* of a Globe by another. But if the Sensation of Heat and Cold, be nothing but the increase or diminution of the motion of the minute Parts of our Bodies, caused by the Corpuscles of any other Body, it is easie to be understood, That if that motion be greater in one Hand, than in the other; if a Body be applied to the two Hands, which has in its minute Particles a greater motion, than in those of one of the Hands, and a less, than in those of the other, it will increase the motion of the one Hand, and lessen it in the other, and so cause the different Sensations of Heat and Cold, that depend thereon.

§ 22. I have in what just goes before, been engaged in Physical Enquiries a little farther than, perhaps, I intended. But it being necessary, to make the Nature of Sensation a little understood, and to make the *difference between the Qualities in Bodies, and the Ideas produced by them in the Mind*, to be distinctly conceived, without which it were impossible to discourse intelligibly of them; I hope, I shall be pardoned this little Excursion into Natural Philosophy, it being necessary in our present Enquiry, to distinguish the *primary*, and *real Qualities* of Bodies, which are always in them, (*viz.* Solidity, Extension, Figure, Number, and Motion, or Rest; and are sometimes perceived by us, *viz.* when the Bodies they are in, are big enough singly to be discerned) from those *secondary* and *imputed Qualities*, which are but the Powers of several Combinations of those primary ones, when they operate, without being distinctly discerned; whereby we also may come to know what *Ideas* are, and what are not Resemblances of something really existing in the Bodies, we denominate from them.

Three sorts of Qualities in Bodies.

§ 23. The *Qualities* then that are in *Bodies* rightly considered, are of *Three sorts*.

First, The *Bulk, Figure, Number, Situation, and Motion, or Rest* of their solid Parts; those are in them, whether we perceive them or no; and when they are of that size, that we can discover them, we have by these an *Idea* of the thing, as it is in it self, as is plain in artificial things. These I call *primary Qualities*.

Secondly, The *Power* that is in any Body, by Reason of its insensible *primary Qualities*, to operate after a peculiar manner on any of our Senses, and thereby produce in us the *different Ideas* of several Colours, Sounds, Smells, Tasts, etc. These are usually called sensible Qualities.

Thirdly, The *Power* that is in any Body, by Reason of the particular Constitution of its *primary Qualities*, to make such a *change* in the *Bulk, Figure, Texture, and Motion of another Body*, as to make it operate on our Senses, differently from what it did before. Thus the Sun has a Power to make Wax white, and Fire to make Lead fluid. These are usually called Powers.

The First of these, as has been said, I think, may be properly called *real Original, or primary Qualities*, because they are in the things themselves, whether they are perceived or no: and upon their different Modifications it is, that the secondary Qualities depend.

The other two, are only Powers to act differently upon other things, which Powers result from the different Modifications of those primary Qualities.

The 1st. are Resemblances. The 2d. thought Resemblances, but are not. The 3d. neither are nor are thought so.

§ 24. But though *these two later sorts of Qualities are Powers barely*, and nothing but Powers, relating to several other Bodies, and resulting from the different Modifications of the Original Qualities; yet they are generally otherwise thought of. For *the Second sort, viz. The Powers to produce several Ideas in us by our Senses, are looked upon as real Qualities, in the things thus affecting us: But the Third sort are call'd, and esteemed barely Powers.* v.g. the *Idea* of Heat, or Light, which we receive by our Eyes, or touch from the Sun, are commonly thought *real Qualities*, existing in the Sun, and something more than mere Powers in it. But when we consider the Sun, in reference to Wax, which it melts or blanches, we look upon the Whiteness and Softness produced in the Wax, not as Qualities in the Sun, but Effects produced by *Powers* in it: Whereas, if rightly considered, these Qualities of Light and Warmth, which are Perceptions in me when I am warmed, or enlighthned by the Sun, are no otherwise in the Sun, than the changes made in the Wax, when it is blanched or melted, are in the Sun. They are all of them equally Powers in the Sun, depending on its primary Qualities; whereby it is able in the one case, so to alter the Bulk, Figure, Texture, or Motion of some of the insensible parts of my Eyes, or Hands, as thereby to produce in me the *Idea* of Light or Heat; and in the other, it is able so to alter the Bulk, Figure, Texture, or Motion of the insensible Parts of the Wax, as to make them fit to produce in me the distinct *Ideas* of White and Fluid.

§ 25. The Reason, *Why the one are ordinarily taken for real Qualities, and the other only for bare Powers*, seems to be, because the *Ideas* we have of distinct Colours, Sounds, *etc.* containing nothing at all in them, of Bulk, Figure, or Motion, we are not apt to think them the Effects of these primary Qualities, which appear not to our Senses to operate in their Production; and with which, they have not any apparent Congruity, or conceivable Connexion. Hence it is, that we are so forward to imagine, that those *Ideas* are the resemblances of something really existing in the Objects themselves: Since Sensation discovers nothing of Bulk, Figure, or Motion of parts in their Production; nor can Reason shew, how Bodies by their Bulk, Figure, and Motion, should produce in the Mind the *Ideas* of Blue, or Yellow, *etc.* But in the other Case, in the Operations of Bodies, changing the Qualities one of another, we plainly discover, that the Quality produced, hath commonly no resemblance with any thing in the thing producing it; wherefore we look on it as a bare Effect of Power. For though receiving the *Idea* of Heat, or Light, from the Sun, we are apt to think, 'tis a Perception and Resemblance of such a Quality in the Sun: yet when we see Wax, or a fair Face, receive change of Colour from the Sun, we cannot imagine, that to be the Reception or Resemblance of any thing in the Sun, because we find not those different Colours in the Sun it self. For our Senses, being able to observe a likeness, or unlikeness of sensible Qualities in two different external Objects, we forwardly enough conclude the Production of any sensible Quality in any Subject, to be an Effect of bare Power, and not the Communication of any Quality, which was really in the efficient, when we find no such sensible Quality in the thing that produced it. But our Senses, not being able to discover any unlikeness between the *Idea* produced in us, and the Quality of the Object producing it, we are apt to imagine, that our *Ideas* are resemblances of something

in the Objects, and not the Effects of certain Powers, placed in the Modification of their primary Qualities, with which primary Qualities the *Ideas* produced in us have no resemblance.

Secondary Qualities two-fold; First, Immediately perceivable; Secondly, Mediatly perceivable.

§ 26. To conclude, beside those before mentioned *primary Qualities* in Bodies, *viz.* Bulk, Figure, Extension, Number, and Motion of their solid Parts; all the rest, whereby we take notice of Bodies, and distinguish them one from another, are nothing else, but several Powers in them, depending on those primary Qualities; whereby they are fitted, either by immediately operating on our Bodies, to produce several different *Ideas* in us; or else by operating on other Bodies, so to change their primary Qualities, as to render them capable of producing *Ideas* in us, different from what before they did. The former of these, I think, may be called *Secondary Qualities, immediately perceivable*: The latter, *Secondary Qualities, mediatly perceivable*.

[. . .]

CHAPTER XXXI

Of Adequate and Inadequate Ideas.

Adequate Ideas, are such as perfectly represent their Archetypes.

§ 1. OF our real *Ideas* some are Adequate, and some are Inadequate. Those I call *Adequate*, which perfectly represent those Archetypes, which the Mind supposes them taken from; which it intends them to stand for, and to which it refers them. *Inadequate Ideas* are such, which are but a partial, or incomplete representation of those Archetypes to which they are referred. Upon which account it is plain,

Simple Ideas all adequate.

§ 2. *First, That all our simple Ideas are adequate.* Because being nothing but the effects of certain Powers in Things, fitted and ordained by GOD, to produce such Sensations in us, they cannot but be correspondent, and adequate to those Powers: And we are sure they agree to the reality of Things. For if Sugar produce in us the *Ideas*, which we call Whiteness, and Sweetness, we are sure there is a power in Sugar to produce those *Ideas* in our Minds, or else they could not have been produced by it. And so each Sensation answering the Power, that operates on any of our Senses, the *Idea* so produced, is a real *Idea*, (and not a fiction of the Mind, which has no power to produce any simple *Idea*;) and cannot but be adequate, since it ought only to answer that power: and so all simple *Ideas* are adequate. 'Tis true, the Things producing in us these simple *Ideas*, are but few of them denominated by us, as if they were only the causes of them; but as if those *Ideas* were real Beings in them. For though Fire be call'd painful to the Touch, whereby is signified the power of producing in us the *Idea* of Pain; yet it is denominated also Light, and Hot; as if Light and Heat, were re-

ally something in the Fire, more than a power to excite these *Ideas* in us; and therefore are called *Qualities* in, or of the Fire. But these being nothing, in truth, but powers to excite such *Ideas* in us, I must, in that sense, be understood, when I speak of secondary *Qualities*, as being in Things; or of their *Ideas*, as being in the Objects, that excite them in us. Such ways of speaking, though accommodated to the vulgar Notions, without which, one cannot be well understood; yet truly signify nothing, but those Powers, which are in Things, to excite certain Sensations or *Ideas* in us. Since were there no fit Organs to receive the impressions Fire makes on the Sight and Touch; nor a Mind joined to those Organs to receive the *Ideas* of Light and Heat, by those impressions from the Fire, or the Sun, there would yet be no more Light, or Heat in the World, than there would be Pain if there were no sensible Creature to feel it, though the Sun should continue just as it is now, and Mount *Aetna* flame higher than ever it did. Solidity, and Extension, and the termination of it, Figure, with Motion and Rest, whereof we have the *Ideas*, would be really in the World as they are, whether there were any sensible Being to perceive them, or no: And therefore those we have reason to look on, as the real modifications of Matter; and such as are the exciting Causes of all our various Sensations from Bodies. But this being an Enquiry not belonging to this place, I shall enter no farther into it, but proceed to shew, what complex *Ideas* are *adequate*, and what not.

Modes are all adequate.

§ 3. *Secondly*, Our *complex Ideas of Modes*, being voluntary Collections of simple *Ideas*, which the Mind puts together, without reference to any real Archetypes, or standing Patterns, existing any where, *are*, and cannot but be *adequate Ideas*. Because they not being intended for Copies of Things really existing, but for Archetypes made by the Mind, to rank and denominate Things by, cannot want any thing; they having each of them that combination of *Ideas*, and thereby that perfection which the Mind intended they should: So that the Mind acquiesces in them, and can find nothing wanting. Thus by having the *Idea* of a Figure, with three sides meeting at three Angles, I have a complete *Idea*, wherein I require nothing else to make it perfect. That the Mind is satisfied with the perfection of this its *Idea*, is plain, in that it does not conceive, that any Understanding hath, or can have a more compleat or perfect *Idea* of that thing it signifies by the word *Triangle*, supposing it to exist, than it self has in that complex *Idea* of three Sides, and three Angles: in which is contained all that is, or can be essential to it, or necessary to complete it, where-ever or however it exists. But in our *Ideas of Substances*, it is otherwise. For there desiring to copy Things, as they really do exist; and to represent to our selves that Constitution, on which all their Properties depend, we perceive our *Ideas* attain not that Perfection we intend: We find they still want something, we should be glad were in them; and so are all *inadequate*. But *mixed Modes and Relations*, being Archetypes without Patterns, and so having nothing to represent but themselves, cannot but be adequate, every thing being so to it self. He that at first put together the *Idea* of Danger perceived, absence of disorder from Fear, sedate consideration of what was justly to be done, and executing of that without disturbance, or being deterred by the danger of it, had certainly in his Mind that complex *Idea* made up of that Combination: and intending it to be nothing else, but what it is; nor to have in it any other simple *Ideas*, but what it hath, it

could not also but be an *adequate Idea*: and laying this up in his Memory, with the name *Courage* annexed to it, to signifie it to others, and denominate from thence any Action he should observe to agree with it, had thereby a Standard to measure and denominate Actions by, as they agreed to it. This *Idea* thus made, and laid up for a Pattern, must necessarily be adequate, being referred to nothing else but it self, nor made by any other Original, but the Good-liking and Will of him, that first made this Combination.

Modes in reference to settled Names, may be inadequate.

§ 4. Indeed, another coming after, and in Conversation learning from him the word *Courage*, may make an *Idea*, to which he gives that name *Courage*, different from what the first Author applied it to, and has in his Mind, when he uses it. And in this case, if he designs, that his *Idea* in Thinking, should be conformable to the other's *Idea*, as the Name he uses in speaking, is conformable in sound to his, from whom he learned it, his *Idea* may be very wrong and *inadequate*. Because in this case, making the other Man's *Idea* the pattern of his *Idea* in thinking, as the other Man's Word, or Sound, is the pattern of his in speaking, his *Idea* is so far defective and inadequate, as it is distant from the Archetype and Pattern he refers it to, and intends to express and signify by the name he uses for it, which name he would have to be a sign of the other Man's *Idea*, (to which, in its proper use, it is primarily annexed,) and of his own, as agreeing to it: to which if his own does not exactly correspond, it is faulty and inadequate.

§ 5. Therefore these *complex Ideas of Modes*, when they are referred by the Mind, and intended to correspond to the *Ideas* in the Mind of some other intelligent Being, expressed by the Names we apply to them, they *may be* very deficient, wrong, and *inadequate*. Because they agree not to that, which the Mind designs to be their Archetype, and Pattern: In which respect only, any *Idea of Modes* can be wrong, imperfect, or *inadequate*. And on this account, our *Ideas of mixed Modes* are the most liable to be faulty of any other; but this refers more to proper Speaking, than knowing right.

Ideas of Substances, as referr'd to real Essences not adequate.

§ 6. *Thirdly*, What *Ideas we have of Substances*, I have above shewed: Now those *Ideas* have in the Mind a double reference: 1. Sometimes they are referred to a supposed real Essence of each Species of Things. 2. Sometimes they are only design'd to be Pictures and Representations in the Mind, of Things that do exist, by *Ideas* of those qualities that are discoverable in them. In both which ways, these Copies of those Originals, and Archetypes, *are* imperfect and *inadequate*.

First, It is usual for Men to make the Names of Substances, stand for Things, as supposed to have certain real Essences, whereby they are of this or that Species: And Names standing for nothing but the *Ideas*, that are in Men's Minds, they must consequently referr their *Ideas* to such real Essences, as to their Archetypes. That Men (especially such as have been bred up in the Learning taught in this part of the World) do suppose certain specifick Essences of Substances, which each Individual in its several kind is made conformable

to, and partakes of, is so far from needing proof, that it will be thought strange, if any one should do otherwise. And thus they ordinarily apply the specifick Names, they rank particular Substances under, to Things, as distinguished by such specifick real Essences. Who is there almost, who would not take it amiss, if it should be doubted, whether he call'd himself Man, with any other meaning, than as having the real Essence of a Man? And yet if you demand, what those real Essences are, 'tis plain Men are ignorant, and know them not. From whence it follows, that the *Ideas* they have in their Minds, being referred to real Essences as to Archetypes which are unknown, must be so far from being *adequate*, that they cannot be supposed to be any representation of them at all. The complex *Ideas* we have of Substances, are, as it has been shewn, certain Collections of simple *Ideas*, that have been observed or supposed constantly to exist together. But such a complex *Idea* cannot be the real Essence of any Substance; for then the Properties we discover in that Body, would depend on that complex *Idea*, and be deducible from it, and their necessary connexion with it be known; as all Properties of a Triangle depend on, and as far as they are discoverable, are deducible from the complex *Idea* of three Lines, including a Space. But it is plain, that in our complex *Ideas* of Substances, are not contained such *Ideas*, on which all the other Qualities, that are to be found in them, do depend. The common *Idea* Men have of *Iron*, is a Body of a certain Colour, Weight, and Hardness; and a Property that they look on as belonging to it, is malleableness. But yet this Property has no necessary connexion with that complex *Idea*, or any part of it: And there is no more reason to think, that malleableness depends on that Colour, Weight, and Hardness, than that that Colour, or that Weight depends on its malleableness. And yet, though we know nothing of these real Essences, there is nothing more ordinary, than that Men should attribute the sorts of Things to such Essences. The particular parcel of Matter which makes the Ring I have on my Finger, is forwardly, by most Men, supposed to have a real Essence, whereby it is *Gold*; and from whence those Qualities flow, which I find in it, *viz.* its peculiar Colour, Weight, Hardness, Fusibility, Fixedness, and change of Colour upon a slight touch of Mercury, *etc.* This Essence, from which all these Properties flow, when I enquire into it, and search after it, I plainly perceive I cannot discover: the farthest I can go, is only to presume, that it being nothing but Body, its real Essence, or internal Constitution, on which these Qualities depend, can be nothing but the Figure, Size, and Connexion of its solid Parts; of neither of which, I having any distinct perception at all, I can have no *Idea* of its Essence, which is the cause that it has that particular shining yellowness; a greater weight than any thing I know of the same hulk; and a fitness to have its Colour changed by the touch of Quick-silver. If any one will say, that the real Essence, and internal Constitution, on which these Properties depend, is not the Figure, Size, and Arrangement or Connexion of its solid Parts, but something else, call'd its particular *form*; I am farther from having any *Idea* of its real Essence, than I was before. For I have an *Idea* of Figure, Size, and Situation of solid Parts in general, though I have none of the particular Figure, Size, or putting together of Parts, whereby the Qualities above-mentioned are produced; which Qualities I find in that particular parcel of Matter, that is on my Finger, and not in another parcel of Matter, with which I cut the Pen I write with. But when I am told, that something besides the Figure, Size, and Posture of the solid Parts of that Body, is its Essence, something called *substantial form*, of that, I confess, I have no *Idea* at

all, but only of the sound *Form*; which is far enough from an *Idea* of its real Essence, or Constitution. The like ignorance as I have of the real Essence of this particular Substance, I have also of the real Essence of all other natural ones: Of which Essences, I confess, I have no distinct *Ideas* at all; and I am apt to suppose others, when they examine their own Knowledge, will find in themselves, in this one point, the same sort of ignorance.

§ 7. Now then, when Men apply to this particular parcel of Matter on my Finger, a general Name already in use, and denominate it *Gold*, Do they not ordinarily, or are they not understood to give it that Name as belonging to a particular Species of Bodies, having a real internal Essence; by having of which Essence, this particular Substance comes to be of that Species, and to be called by that Name? If it be so, as it is plain it is, the name, by which Things are marked, as having that Essence, must be referred primarily to that Essence; and consequently the *Idea* to which that name is given, must be referred also to that Essence, and be intended to represent it. Which Essence, since they, who so use the Names, know not, their *Ideas of Substances* must be *all inadequate* in that respect, as not containing in them that real Essence, which the Mind intends they should.

Ideas of Substances, as Collections of their Qualities, are all inadequate.

§ 8. *Secondly*, Those who, neglecting that useless Supposition of unknown real Essences, whereby they are distinguished, endeavour to copy the Substances, that exist in the World, by putting together the *Ideas* of those sensible Qualities, which are found co-existing in them, though they come much nearer a likeness of them, than those who imagine, they know not what real specifick Essences: yet they arrive not at perfectly adequate *Ideas* of those Substances, they would thus copy into their Minds: nor do those Copies, exactly, and fully, contain all that is to be found in their Archetypes. Because those Qualities, and Powers of Substances, whereof we make their complex *Ideas*, are so many and various, that no Man's complex *Idea* contains them all. That our abstract *Ideas* of Substances, do not contain in them all the simple *Ideas*, that are united in the Things themselves, is evident, in that Men do rarely put into their complex *Idea* of any Substance, all the simple *Ideas* they do know to exist in it. Because endeavouring to make the signification of their specifick Names as clear, and as little cumbersome as they can, they make their specifick *Ideas* of the sorts of Substances, for the most part, of a few of those simple *Ideas* which are to be found in them: But these having no original precedency, or right to be put in, and make the specifick *Idea*, more than others that are left out, 'tis plain, that both these ways, *our Ideas of Substances* are deficient, and *inadequate*. The simple *Ideas* whereof we make our complex ones of Substances, are all of them (bating only the Figure and Bulk of some sorts) Powers; which being Relations to other Substances, we can never be sure that we know all the Powers, that are in anyone Body, till we have tried what Changes it is fitted to give to, or receive from other Substances, in their several ways of application: which being impossible to be tried upon any one Body, much less upon all, it is impossible we should have adequate *Ideas* of any Substance, made up of a Collection of all its Properties.

§9. Whosoever first light on a parcel of that sort of Substance, we denote by the word *Gold*, could not rationally take the Bulk and Figure he observed in that lump, to depend on its real Essence, or internal Constitution. Therefore those never went into his *Idea* of that Species of Body; but its peculiar Colour, perhaps, and Weight, were the first he abstracted from it, to make the complex *Idea* of that Species. Which both are but Powers; the one to affect our Eyes, after such a manner, and to produce in us that *Idea*, we call Yellow; and the other to force upwards any other Body of equal bulk, they being put into a pair of equal Scales, one against another. Another, perhaps, added to these, the *Ideas* of Fusibility, and Fixedness, two other passive Powers, in relation to the operation of Fire upon it; Another, its Ductility, and Solubility in *Aqua Regia*, two other Powers, relating to the operation of other Bodies, in changing its outward Figure or Separation of it, into insensible Parts. These, or part of these, put together, usually make the complex *Idea* in Men's Minds, of that sort of Body we call *Gold*.

§10. But no one, who hath considered the Properties of Bodies in general, or this sort in particular, can doubt, that this, call'd *Gold*, has infinite other Properties, not contained in that complex *Idea*. Some, who have examined this Species more accurately, could, I believe, enumerate ten times as many Properties in *Gold*, all of them as inseparable from its internal Constitution, as its Colour, or Weight: And 'tis probable, if any one knew all the Properties, that are by divers Men known of this Metal, there would an hundred times as many *Ideas*, go to the complex *Idea* of *Gold*, as any one Man yet has in his; and yet, perhaps, that not be the thousandth part of what is to be discovered in it. The changes that that one Body is apt to receive, and make in other Bodies, upon a due application, exceeding far, not only what we know, but what we are apt to imagine. Which will not appear so much a Paradox to any one, who will but consider, how far Men are yet from knowing all the Properties of that one, no very compound Figure, a *Triangle*, though it be no small numbers, that are already by Mathematicians discovered of it.

§11. So that *all our complex Ideas of Substances are imperfect and inadequate*. Which would be so also in mathematical Figures, if we were to have our complex *Ideas* of them, only by collecting their Properties, in reference to other Figures. How uncertain, and imperfect, would our *Ideas* be of an *Ellipsis*, if we had no other *Idea* of it, but some few of its Properties? Whereas having in our plain *Idea*, the whole Essence of that Figure, we from thence discover those Properties, and demonstratively see how they flow, and are inseparable from it.

Simple Ideas εκτυπα, and adequate.

§12. Thus the Mind has three sorts of abstract *Ideas*, or nominal Essences:

First, Simple Ideas, which are εκτυπα, or Copies; but yet certainly adequate. Because being intended to express nothing but the power in Things to produce in the Mind such a Sensation, that Sensation, when it is produced, cannot but be the Effect of that Power. So the Paper I write on, having the Power, in the Light, (I speak according to the common Notion of Light,) to produce in me the Sensation, which I call White, it cannot but be the Effect of such a Power, in something without the Mind; since the Mind has not the Power to produce

any such *Idea* in it self, and being meant for nothing else but the Effect of such a Power, that simple *Idea* is real and *adequate*: the Sensation of White, in my Mind, being the Effect of that Power, which is in the Paper to produce it, is perfectly *adequate* to that Power; or else, that Power would produce a different *Idea*.

Ideas of Substances are εκτυπα, inadequate.

§13. *Secondly, The complex Ideas of Substances are Ectypes, Copies too; but not perfect ones, not adequate:* which is very evident to the Mind, in that it plainly perceives, that whatever Collection of simple *Ideas* it makes of any Substance that exists, it cannot be sure, that it exactly answers all that are in that Substance. Since not having tried all the Operations of all other Substances upon it, and found all the Alterations it would receive from, or cause in other Substances, it cannot have an exact *adequate* Collection of all its active and passive Capacities; and so *not* have an *adequate* complex *Idea* of the Powers of any Substance, existing, and its Relations, which is that sort of complex *Idea* of Substances we have. And, after all, if we could have, and actually had, in our complex *Idea*, an exact Collection of all the secondary Qualities, or Powers of any Substance, we should not yet thereby have an *Idea* of the Essence of that Thing. For since the Powers, or Qualities, that are observable by us, are not the real Essence of that Substance, but depend on it, and flow from it, any Collection whatsoever of these Qualities, cannot be the real Essence of that Thing. Whereby it is plain, that our *Ideas* of Substances are not *adequate*; are not what the Mind intends them to be. Besides, a Man has no *Idea* of Substance in general, nor knows what Substance is in it self.

Ideas of Modes and Relations are Archetypes, and cannot but be adequate.

§14. *Thirdly, Complex Ideas of Modes and Relations, are Originals, and Archetypes;* are not Copies, nor made after the Pattern of any real Existence, to which the Mind intends them to be conformable, and exactly to answer. These being such Collections of simple *Ideas*, that the Mind it self puts together, and such Collections, that each of them contains in it precisely all that the Mind intends it should, they are Archetypes and Essences of Modes that may exist; and so are designed only for, and belong only to such Modes, as when they do exist, have an exact conformity with those complex *Ideas*. The *Ideas* therefore of Modes and Relations, cannot but be *adequate*.

[. . .]

BOOK IV

CHAPTER III

Of the Extent of Humane Knowledge.

§ 1. KNOWLEDGE, as has been said, lying in the Perception of the Agreement, or Disagreement, of any of our *Ideas*, it follows from hence, That,

First, No farther than we have Ideas.

First, We can have Knowledge no farther than we have Ideas.

Secondly, No farther than we can perceive their Agreement or Disagreement.

§ 2. *Secondly*, That we can have no Knowledge farther, than we can have Perception of that Agreement, or Disagreement: Which Perception being, 1. Either by *Intuition*, or the immediate comparing any two *Ideas*; or, 2. By *Reason*, examining the Agreement, or Disagreement of two *Ideas*, by the Intervention of some others: Or, 3. By *Sensation*, perceiving the Existence of particular Things. Hence it also follows,

Thirdly, Intuitive Knowledge extends it self not to all the Relations of all our Ideas.

§ 3. *Thirdly*, That we cannot have an *intuitive Knowledge*, that shall extend it self to all our *Ideas*, and all that we would know about them; because we cannot examine and perceive all the Relations they have one to another by *juxtaposition*, or an immediate comparison one with another. Thus having the *Ideas* of an obtuse, and an acute angled Triangle, both drawn from equal Bases, and between Parallels, I can by intuitive Knowledge, perceive the one not to be the other; but cannot that way know, whether they be equal, or no; because their Agreement, or Disagreement in equality, can never be perceived by an immediate comparing them: The difference of Figure makes their parts incapable of an exact immediate application; and therefore there is need of some intervening Quantities to measure them by, which is Demonstration, or rational Knowledge.

Fourthly, Nor demonstrative Knowledge.

§ 4. *Fourthly*, It follows also, from what is above observed, that our *rational Knowledge*, cannot reach to the whole extent of our *Ideas*. Because between two different *Ideas* we would examine, we cannot always find such *Mediums*, as we can connect one to another with an intuitive Knowledge, in all the parts of the Deduction; and where-ever that fails, we come short of Knowledge and Demonstration.

Fifthly, Sensitive Knowledge narrower than either.

§ 5. *Fifthly*, *Sensitive Knowledge* reaching no farther than the Existence of Things actually present to our Senses, is yet much narrower than either of the former.

Sixthly, Our Knowledge therefore narrower than our Ideas.

§ 6. From all which it is evident, that *the extent of our Knowledge* comes not only short of the reality of Things, but even of the extent of our own *Ideas*. Though our Knowledge be limited to our *Ideas*, and cannot exceed them either in extent, or perfection; and though these be very narrow bounds, in respect of the extent of Allbeing, and far short of what we may justly imagine to be in some even created understandings, not tied down to the dull and narrow Information, is to be received from some few, and not very acute ways of Perception, such as are our Senses; yet it would be well with us, if our Knowledge were but as large as our *Ideas*, and there were not many Doubts and Enquiries concerning the *Ideas* we have, whereof we are not, nor I believe ever shall be in this World, resolved. Nevertheless, I do not question, but that Humane Knowledge, under the present Circumstances of our Beings and Constitutions may be carried much farther, than it hitherto has been, if Men would sincerely, and with freedom of Mind, employ all that Industry and Labour of Thought, in improving the means of discovering Truth, which they do for the colouring or support of Falshood, to maintain a System, Interest, or Party, they are once engaged in. But yet after all, I think I may, without Injury to humane Perfection, be confident, that our Knowledge would never reach to all we might desire to know concerning those *Ideas* we have; nor be able to surmount all the Difficulties, and resolve all the Questions might arise concerning any of them. We have the *Ideas* of a *Square*, a *Circle*, and *Equality*; and yet, perhaps, shall never be able to find a Circle equal to a Square, and certainly know that it is so. We have the *Ideas* of *Matter* and *Thinking*, but possibly shall never be able to know, whether any mere material Being thinks, or no; it being impossible for us, by the contemplation of our own *Ideas*, without revelation, to discover, whether Omnipotency has not given to some Systems of Matter fitly disposed, a power to perceive and think, or else joined and fixed to Matter so disposed, a thinking immaterial Substance: It being, in respect of our Notions, not much more remote from our Comprehension to conceive, that GOD can, if he pleases, superadd to Matter a Faculty of Thinking, than that he should superadd to it another Substance, with a Faculty of Thinking; since we know not wherein Thinking consists, nor to what sort of Substances the Almighty has been pleased to give that Power, which cannot be in any created Being, but merely by the good pleasure and Bounty of the Creator. For I see no contradiction in it, that the first eternal thinking Being should, if he pleased, give to certain Systems of created senseless matter, put together as he thinks fit, some degrees of sense, perception, and thought: Though, as I think, I have proved, *Lib. 4. c. 10th*. it is no less than a contradiction to suppose matter (which is evidently in its own nature void of sense and thought) should be that Eternal first thinking Being. What certainty of Knowledge can any one have that some perceptions, such as *v.g.* pleasure and pain, should not be in some bodies themselves, after a certain manner modified and moved, as well as that they should be in an immaterial Substance, upon the Motion of the parts of Body: Body as

far as we can conceive being able only to strike and affect body; and Motion, according to the utmost reach of our *Ideas*, being able to produce nothing but Motion, so that when we allow it to produce pleasure or pain, or the *Idea* of a Colour, or Sound, we are fain to quit our Reason, go beyond our *Ideas*, and attribute it wholly to the good Pleasure of our Maker. For since we must allow he has annexed Effects to Motion, which we can no way conceive Motion able to produce, what reason have we to conclude, that he could not order them as well to be produced in a Subject we cannot conceive capable of them, as well as in a Subject we cannot conceive the motion of Matter can any way operate upon? I say not this, that I would any way lessen the belief of the Soul's Immateriality: I am not here speaking of Probability, but Knowledge; and I think not only, that it becomes the Modesty of Philosophy, not to pronounce Magisterially, where we want that Evidence that can produce Knowledge; but also, that it is of use to us, to discern how far our Knowledge does reach; for the state we are at present in, not being that of Vision, we must, in many Things, content our selves with Faith and Probability: and in the present Question, about the immateriality of the Soul, if our Faculties cannot arrive at demonstrative Certainty, we need not think it strange. All the great Ends of Morality and Religion, are well enough secured, without philosophical Proofs of the Soul's Immateriality; since it is evident, that he who made us at first begin to subsist here, sensible intelligent Beings, and for several years continued us in such a state, can and will restore us to the like state of Sensibility in another World, and make us capable there to receive the Retribution he has designed to Men, according to their doings in this Life. And therefore 'tis not of such mighty necessity to determine one way or t'other, as some over zealous for, or against the Immateriality of the Soul, have been forward to make the World believe. Who, either on the one side, indulging too much to their Thoughts immersed altogether in Matter, can allow no existence to what is not material: Or, who on the other side, finding not *Cogitation* within the natural Powers of Matter, examined over and over again, by the utmost Intention of Mind, have the confidence to conclude, that Omnipotency it self, cannot give Perception and Thought to a Substance, which has the Modification of Solidity. He that considers how hardly Sensation is, in our Thoughts, reconcilable to extended Matter; or Existence to any thing that hath no Extension at all, will confess, that he is very far from certainly knowing what his Soul is. 'Tis a Point, which seems to me, to be put out of the reach of our Knowledge: And he who will give himself leave to consider freely, and look into the dark and intricate part of each Hypothesis, will scarce find his Reason able to determine him fixedly for, or against the Soul's Materiality. Since on which side soever he views it, either as an unextended Substance, or as a thinking extended Matter; the difficulty to conceive either, will, whilst either alone is in his Thoughts, still drive him to the contrary side. An unfair way which some Men take with themselves: who, because of the unconceivableness of something they find in one, throw themselves violently into the contrary Hypothesis, though altogether as unintelligible to an unbiassed Understanding. This serves, not only to shew the Weakness and the Scantiness of our Knowledge, but the insignificant Triumph of such sort of Arguments, which, drawn from our own Views, may satisfy us that we can find no certainty on one side of the Question; but do not at all thereby help us to Truth, by running into the opposite Opinion, which, on examination, will be found clogg'd with equal difficulties. For what Safety, what Ad-

vantage to any one is it, for the avoiding the seeming Absurdities, and, to him, unsurmountable Rubs he meets with in one Opinion, to take refuge in the contrary, which is built on something altogether as inexplicable, and as far remote from his Comprehension? 'Tis past controversy, that we have in us something that thinks, our very Doubts about what it is, confirm the certainty of its being, though we must content our selves in the Ignorance of what kind of *Being* it is: And 'tis in vain to go about to be sceptical in this, as it is unreasonable in most other cases to be positive against the being of any thing, because we cannot comprehend its Nature. For I would fain know what Substance exists that has not something in it, which manifestly baffles our Understandings. Other Spirits, who see and know the Nature and inward Constitution of things, how much must they exceed us in Knowledge? To which if we add larger Comprehension, which enables them at one Glance to see the Connexion and Agreement of very many *Ideas*, and readily supplies to them the intermediate Proofs, which we by single and slow Steps, and long poring in the dark, hardly at last find out, and are often ready to forget one before we have hunted out another, we may guess at some part of the Happiness of superior Ranks of Spirits, who have a quicker and more penetrating Sight, as well as a larger Field of Knowledge. But to return to the Argument in hand, our *Knowledge*, I say, is not only limited to the Paucity and Imperfections of the *Ideas* we have, and which we employ it about, but even comes short of that too: But how far it reaches, let us now enquire.

How far our Knowledge reaches.

§ 7. The affirmations or negations we make concerning the *Ideas* we have, may, as I have before intimated in general, be reduced to these four sorts, *viz.* Identity, Co-existence, Relation, and real Existence. I shall examine how far our Knowledge extends in each of these:

First, Our Knowledge of Identity and Diversity, as far as our Ideas.

§ 8. *First, As to Identity and Diversity*, in this way of the Agreement, or Disagreement of our *Ideas*, *our intuitive Knowledge is as far extended as our Ideas* themselves: and there can be no *Idea* in the Mind, which it does not presently, by an intuitive Knowledge, perceive to be what it is, and to be different from any other.

Secondly, Of Co-existence a very little way.

§ 9. *Secondly, As to the second sort*, which is the *Agreement, or Disagreement* of our *Ideas in Co-existence*, in this our Knowledge is very short, though in this consists the greatest and most material part of our Knowledge concerning Substances. For our *Ideas* of the Species of Substances, being, as I have shewed, nothing but certain Collections of simple *Ideas* united in one Subject, and so co-existing together: *v.g.* Our *Idea* of *Flame* is a Body hot, luminous, and moving upward; of *Gold*, a Body heavy to a certain degree, yellow, malleable, and fusible. These or some such complex *Ideas* as these in Men's Minds, do these two names of the different Substances, *Flame* and *Gold*, stand for. When we would know any thing farther concerning these, or any other sort of Substances,

es, what do we enquire but what other Qualities, or Powers, these Substances have, or have not? which is nothing else but to know, what other simple *Ideas* do, or do not co-exist with those that make up that complex *Idea*.

Because the connexion between most simple Ideas is unknown.

§ 10. This, how weighty and considerable a part soever of Humane Science, is yet very narrow, and scarce any at all. The reason whereof is, that the simple *Ideas* whereof our complex *Ideas* of Substances are made up, are, for the most part such, as carry with them, in their own Nature, no visible necessary connexion, or inconsistency with any other simple *Ideas*, whose *co-existence* with them we would inform our selves about.

Especially of Secondary Qualities.

§ 11. The *Ideas*, that our complex ones of Substances are made up of, and about which our Knowledge, concerning Substances, is most employ'd, are those of their *secondary Qualities*; which depending all (as has been shewn) upon the primary Qualities of their minute and insensible parts; or if not upon them, upon something yet more remote from our Comprehension, 'tis impossible we should know, which have a necessary union or inconsistency one with another: For not knowing the Root they spring from, not knowing what size, figure, and texture of Parts they are, on which depend and from which result those Qualities which make our complex *Idea* of Gold, 'tis impossible we should know what other Qualities result from, or are incompatible with the same Constitution of the insensible parts of Gold; and so consequently must always *co-exist* with that complex *Idea* we have of it, or else are *inconsistent* with it.

Because all connexion between any secondary and primary Qualities is undiscoverable.

§ 12. Besides this Ignorance of the primary Qualities of the insensible Parts of Bodies, on which depend all their secondary Qualities, there is yet another and more incurable part of Ignorance, which sets us more remote from a certain Knowledge of the *Co-existence*, or *Inco-existence* (if I may so say) of different *Ideas* in the same Subject; and that is, that there is no discoverable connection between any *secondary Quality*, and those *primary Qualities* that it depends on.

§ 13. That the size, figure, and motion of one Body should cause a change in the size, figure, and motion of another Body, is not beyond our Conception; the separation of the Parts of one Body, upon the intrusion of another; and the change from rest to motion, upon impulse; these, and the like, seem to us to have some *connexion* one with another. And if we knew these primary Qualities of Bodies, we might have reason to hope, we might be able to know a great deal more of these Operations of them one upon another: But our Minds not being able to discover any *connexion* betwixt these primary qualities of Bodies, and the sensations that are produced in us by them, we can never be able to establish certain and undoubted Rules, of the Consequence or *Co-existence* of any secondary Qualities, though we could discover the size, figure, or motion of those invisible Parts, which immediately produce them. We are so far from knowing what figure, size, or motion of parts produce a yellow Colour, a sweet

Taste, or a sharp Sound, that we can by no means conceive how any *size, figure, or motion* of any Particles, can possibly produce in us the *Idea* of any *Colour, Taste, or Sound* whatsoever; there is no conceivable *connexion* betwixt the one and the other.

§ 14. In vain therefore shall we endeavour to discover by our *Ideas*, (the only true way of certain and universal Knowledge,) what other *Ideas* are to be found constantly joined with that of our complex *Idea* of any Substance: since we neither know the real Constitution of the minute Parts, on which their Qualities do depend; nor, did we know them, could we discover any necessary *connexion* between them, and any of the *secondary Qualities*: which is necessary to be done, before we can certainly know their *necessary co-existence*. So that let our complex *Idea* of any Species of Substances, be what it will, we can hardly, from the simple *Ideas* contained in it, certainly determine the *necessary co-existence* of any other Quality whatsoever. Our Knowledge in all these Enquiries, reaches very little farther than our Experience. Indeed, some few of the primary Qualities have a necessary dependence, and visible connexion one with another, as Figure necessarily supposes Extension, receiving or communicating Motion by impulse, supposes Solidity. But though these, and perhaps some others of our *Ideas* have: yet there are so few of them, that have a *visible Connexion* one with another, that we can by Intuition or Demonstration, discover the *co-existence* of very few of the Qualities are to be found united in Substances: and we are left only to the assistance of our Senses, to make known to us, what Qualities they contain. For of all the Qualities that are *co-existent* in any Subject, without this dependence and evident connexion of their *Ideas* one with another, we cannot know certainly any two to *co-exist* any farther, than Experience, by our Senses, informs us. Thus though we see the yellow Colour, and upon trial find the Weight, Malleableness, Fusibility, and Fixedness, that are united in a piece of Gold; yet because no one of these *Ideas* has any evident *dependence*, or necessary connexion with the other, we cannot certainly know, that where any four of these are, the fifth will be there also, how highly probable soever it may be: Because the highest Probability, amounts not to Certainty; without which, there can be no true Knowledge. For this *co-existence* can be no farther known, than it is perceived; and it cannot be perceived but either in particular Subjects, by the observation of our Senses, or in general, by the necessary *connexion* of the *Ideas* themselves.

Of Repugnancy to co-exist larger.

§ 15. As to *incompatibility or repugnancy to co-existence*, we may know, that any Subject can have of each sort of primary Qualities, but one particular at once, *v.g.* each particular Extension, Figure, number of Parts, Motion, excludes all other of each kind. The like also is certain of all sensible *Ideas* peculiar to each Sense; for whatever of each kind is present in any Subject, excludes all other of that sort; *v.g.* no one Subject can have two Smells, or two Colours, at the same time. To this, perhaps, will be said, has not an *Opall*, or the infusion of *Lignum Nephriticum*, two Colours at the same time? To which I answer, that these Bodies, to Eyes differently placed, may at the same time afford different Colours: But I take Liberty also to say, that to Eyes differently placed, 'tis different parts of the object, that reflect the Particles of Light: And therefore 'tis not the same

part of the Object, and so not the very same Subject, which at the same time appears both yellow and azure. For 'tis as impossible that the very same Particle of any Body, should at the same time differently modify, or reflect the Rays of Light, as that it should have two different Figures and Textures at the same time.

Of the Co-existence of Powers a very little way.

§ 16. But *as to the Powers of Substances* to change the sensible Qualities of other Bodies, which make a great part of our Enquiries about them, and is no inconsiderable branch of our Knowledge; I doubt, as to these, whether *our Knowledge reaches* much farther than our Experience; or whether we can come to the discovery of most of these Powers, and be certain that they are in any Subject by the connexion with any of those *Ideas*, which to us make its Essence. Because the Active and Passive Powers of Bodies, and their ways of operating, consisting in a Texture and Motion of Parts, which we cannot by any means come to discover: 'Tis but in very few Cases, we can be able to perceive their dependence on, or repugnance to any of those *Ideas*, which make our complex one of that sort of Things. I have here instanced in the corpuscularian Hypothesis, as that which is thought to go farthest in an intelligible Explication of the Qualities of Bodies; and I fear the Weakness of humane Understanding is scarce able to substitute another, which will afford us a fuller and clearer discovery of the necessary Connexion, and *Co-existence*, of the Powers, which are to be observed united in several sorts of them. This at least is certain, that which ever Hypothesis be clearest and truest, (for of that it is not my business to determine,) our Knowledge concerning corporeal Substances, will be very little advanced by any of them, till we are made see, what Qualities and Powers of Bodies have a *necessary Connexion or Repugnancy* one with another; which in the present State of Philosophy, I think, we know but to a very small degree: And, I doubt, whether with those Faculties we have, we shall ever be able to carry our general Knowledge (I say not particular Experience) in this part much farther. Experience is that, which in this part we must depend on. And it were to be wish'd, that it were more improved. We find the advantages some Men's generous pains have this way brought to the stock of natural Knowledge. And if others, especially the Philosophers by fire, who pretend to it, had been so wary in their observations, and sincere in their reports, as those who call themselves Philosophers ought to have been, our acquaintance with the bodies here about us, and our insight into their Powers and Operations had been yet much greater.

Of Spirits yet narrower.

§ 17. If we are at this loss in respect of the Powers, and Operations of Bodies, I think it is easy to conclude, *we are much more in the dark in reference to Spirits*; whereof we naturally have no *Ideas*, but what we draw from that of our own, by reflecting on the Operations of our own Souls within us, as far as they can come within our Observation. But how inconsiderable a rank the Spirits that inhabit our Bodies hold amongst those various, and possibly innumerable, kinds of nobler Beings; and how far short they come of the Endowments and Perfections of Cherubims, and Seraphims, and infinite sorts of Spirits above us, is what by a transient hint, in another place, I have offered to my Reader's Consideration.

Thirdly, Of other Relations it is not easy to say how far.

§ 18. As to the third sort of our Knowledge, *viz. the Agreement or Disagreement of any of our Ideas in any other Relation*: This, as it is the largest Field of our Knowledge, so it is hard to determine how far it may extend: Because the Advances that are made in this part of Knowledge, depending on our Sagacity, in finding intermediate *Ideas*, that may shew the *Relations* and *Habitudes* of *Ideas*, whose Co-existence is not considered, 'tis a hard Matter to tell, when we are at an end of such Discoveries; and when Reason has all the helps it is capable of, for the finding of Proofs, or examining the Agreement or Disagreement of remote *Ideas*. They that are ignorant of *Algebra* cannot imagine the Wonders in this kind are to be done by it: and what farther Improvements and Helps, advantageous to other parts of Knowledge, the sagacious Mind of Man may yet find out, 'tis not easy to determine. This at least I believe, that the *Ideas* of Quantity are not those alone that are capable of Demonstration and Knowledge; and that other, and perhaps more useful parts of Contemplation, would afford us Certainty, if Vices, Passions, and domineering Interest did not oppose, or menace such Endeavours.

The *Idea* of a supreme Being, infinite in Power, Goodness, and Wisdom, whose Workmanship we are, and on whom we depend; and the *Idea* of our selves, as understanding, rational Beings, being such as are clear in us, would, I suppose, if duly considered, and pursued, afford such Foundations of our Duty and Rules of Action, as might place *Morality amongst the Sciences capable of Demonstration*: wherein I doubt not, but from self-evident Propositions, by necessary Consequences, as incontestable as those in Mathematicks, the measures of right and wrong might be made out, to any one that will apply himself with the same Indifferency and Attention to the one, as he does to the other of these Sciences. The *Relation* of other *Modes* may certainly be perceived, as well as those of Number and Extension: and I cannot see, why they should not also be capable of Demonstration, if due Methods were thought on to examine, or pursue their Agreement or Disagreement. *Where there is no Property, there is no Injustice*, is a Proposition as certain as any Demonstration in *Euclid*: For the *Idea* of *Property*, being a right to any thing; and the *Idea* to which the Name *Injustice* is given, being the Invasion or Violation of that right; it is evident, that these *Ideas* being thus established, and these Names annexed to them, I can as certainly know this Proposition to be true, as that a Triangle has three Angles equal to two right ones. Again, *No Government allows absolute Liberty*: The *Idea* of Government being the establishment of Society upon certain Rules or Laws, which require Conformity to them; and the *Idea* of absolute Liberty being for any one to do whatever he pleases; I am as capable of being certain of the Truth of this Proposition, as of any in Mathematicks.

Two Things have made moral Ideas thought incapable of Demonstration. Their Complexedness, and want of sensible Representations.

§ 19. That which in this respect has given the advantage to the *Ideas* of Quantity, and made them thought more capable of Certainty and Demonstration, is,

First, That they can be set down, and represented by sensible marks, which have a greater and nearer Correspondence with them than any Words or

Sounds whatsoever. Diagrams drawn on Paper are Copies of the *Ideas* in the Mind, and not liable to the Uncertainty that Words carry in their Signification. An Angle, Circle, or Square, drawn in Lines, lies open to the view, and cannot be mistaken: It remains unchangeable, and may at leisure be considered, and examined, and the Demonstration be revised, and all the parts of it may be gone over more than once, without any danger of the least change in the *Ideas*. This cannot be thus done in *moral Ideas*, we have no sensible marks that resemble them, whereby we can set them down; we have nothing but Words to express them by: which though, when written, they remain the same, yet the *Ideas* they stand for, may change in the same Man; and 'tis very seldom, that they are not different in different Persons.

Secondly, Another thing that makes the greater difficulty in *Ethicks*, is, That *moral Ideas* are commonly more complex than those of the Figures ordinarily considered in Mathematicks. From whence these two Inconveniencies follow. *First*, That their names are of more uncertain Signification, the precise Collection of simple *Ideas* they stand for not being so easily agreed on, and so the Sign, that is used for them in Communication always, and in Thinking often, does not steadily carry with it the same *Idea*. Upon which the same Disorder, Confusion, and Error follows, as would if a Man, going to demonstrate something of an *Heptagon*, should in the Diagram he took to do it, leave out one of the Angles, or by over-sight make the Figure with one Angle more than the Name ordinarily imported, or he intended it should, when at first he thought of his Demonstration. This often happens, and is hardly avoidable in very complex *moral Ideas*, where the same name being retained, one Angle, *i.e.* one simple *Idea* is left out or put in, in the complex one, (still called by the same name) more at one time than another. *Secondly*, From the Complexedness of these *moral Ideas* there follows another Inconvenience, (*viz.*) that the Mind cannot easily retain those precise Combinations, so exactly and perfectly, as is necessary in the Examination of the Habitues and Correspondencies, Agreements or Disagreements, of several of them one with another; especially where it is to be judg'd of by long Deductions, and the Intervention of several other complex *Ideas*, to shew the Agreement or Disagreement of two remote ones.

The great help against this, which Mathematicians find in Diagrams and Figures, which remain unalterable in their Draughts, is very apparent, and the memory would often have great difficulty otherwise to retain them so exactly, whilst the Mind went over the parts of them, step by step, to examine their several Correspondencies: And though in casting up a long Sum, either in *Addition*, *Multiplication*, or *Division*, every part be only a Progression of the Mind, taking a view of its own *Ideas*, and considering their Agreement or Disagreement; and the Resolution of the Question be nothing but the Result of the whole, made up of such particulars, whereof the Mind has a clear Perception: yet without setting down the several Parts by marks, whose precise Significations are known, and by marks, that last and remain in view, when the memory had let them go, it would be almost impossible to carry so many different *Ideas* in Mind, without confounding, or letting slip some parts of the Reckoning, and thereby making all our Reasonings about it useless. In which Case, the Cyphers or Marks help not the Mind at all to perceive the Agreement of any two, or more Numbers, their Equalities or Proportions: That the Mind has only by Intuition of its own *Ideas* of the Numbers themselves. But the numerical Char-

acters are helps to the memory, to record and retain the several *Ideas* about which the Demonstration is made, whereby a Man may know how far his intuitive Knowledge, in surveying several of the particulars, has proceeded; that so he may without Confusion go on to what is yet unknown; and, at last, have in one view before him the Result of all his Perceptions and Reasonings.

Remedies of those Difficulties.

§ 20. One part of *these Disadvantages*, in *moral Ideas*, which has made them be thought not capable of Demonstration, may in a good measure be *remedied* by Definitions, setting down that Collection of simple *Ideas*, which every Term shall stand for; and then using the Terms steadily and constantly for that precise Collection. And what methods *Algebra*, or something of that kind, may hereafter suggest, to remove the other difficulties, is not easy to fore-tell. Confident I am, that if Men would in the same method, and with the same indifference, search after moral, as they do mathematical Truths, they would find them to have a stronger Connection one with another, and a more necessary Consequence from our clear and distinct *Ideas*, and to come nearer perfect Demonstration, than is commonly imagined. But much of this is not to be expected, whilst the desire of Esteem, Riches, or Power, makes Men espouse the well endowed Opinions in Fashion, and then seek Arguments, either to make good their Beauty, or varnish over, and cover their Deformity. Nothing being so beautiful to the Eye, as Truth is to the Mind; nothing so deformed and irreconcilable to the Understanding, as a Lye. For though many a Man can with satisfaction enough own a no very handsome Wife in his Bosom; yet who is bold enough openly to avow, that he has espoused a Falshood, and received into his Breast so ugly a thing as a Lye? Whilst the Parties of Men, cram their Tenets down all Men's Throats, whom they can get into their Power, without permitting them to examine their Truth or Falshood; and will not let Truth have fair play in the World, nor Men the Liberty to search after it; What Improvements can be expected of this kind? What greater Light can be hoped for in the moral Sciences? The Subject part of Mankind, in most Places, might, instead thereof, with *Egyptian* Bondage, expect *Egyptian* Darkness, were not the Candle of the Lord set up by himself in Men's minds, which it is impossible for the Breath or Power of Man wholly to extinguish.

Fourthly, of real Existence we have an intuitive Knowledge of our own, demonstrative of God's, sensible of some few other Things.

§ 21. As to the fourth sort of our Knowledge, *viz.* of the *real, actual, Existence* of Things, we have an intuitive Knowledge of our own *Existence*; a demonstrative Knowledge of the *Existence* of a God; of the *Existence* of any thing else, we have no other but a sensitive Knowledge, which extends not beyond the Objects present to our Senses.

Our Ignorance great.

§ 22. Our Knowledge being so narrow, as I have shew'd, it will, perhaps, give us some Light into the present State of our minds, if we look a little into the dark side, and take a view of *our Ignorance*: which being infinitely larger than our Knowledge, may serve much to the quieting of Disputes, and Improvement

of useful Knowledge; if discovering how far we have clear and distinct *Ideas*, we confine our Thoughts within the Contemplation of those Things, that are within the reach of our Understandings, and lanch not out into that Abyss of Darkness (where we have not Eyes to see, nor Faculties to perceive any thing,) out of a Presumption, that nothing is beyond our Comprehension. But to be satisfied of the Folly of such a Conceit, we need not go far. He that knows any thing, knows this in the first place, that he need not seek long for Instances of his Ignorance. The meanest, and most obvious Things that come in our way, have dark sides, that the quickest Sight cannot penetrate into. The clearest, and most enlarged Understandings of thinking Men find themselves puzzled, and at a loss, in every Particle of Matter. We shall the less wonder to find it so, when we consider the *Causes of our Ignorance*, which, from what has been said, I suppose, will be found to be chiefly these three:

First, Want of Ideas.

Secondly, Want of a discoverable Connexion between the Ideas we have.

Thirdly, Want of tracing, and examining our Ideas.

First, one cause of it want of Ideas, either such as we have no Conception of, or such as particularly we have not.

§ 23. *First*, There are some Things, and those not a few, that we are ignorant of for *want of Ideas*.

First, All the simple *Ideas* we have are confined (as I have shewn) to those we receive from corporeal Objects by *Sensation*, and from the Operations of our own Minds as the Objects of *Reflection*. But how much these few and narrow Inlets are disproportionate to the vast whole Extent of all Beings, will not be hard to persuade those, who are not so foolish, as to think their span the measure of all Things. What other simple *Ideas* 'tis possible the Creatures in other parts of the Universe may have, by the Assistance of Senses and Faculties more or perfecter, than we have, or different from ours, 'tis not for us to determine. But to say, or think there are no such, because we conceive nothing of them, is no better an argument, than if a blind Man should be positive in it, that there was no such thing as Sight and Colours, because he had no manner of *Idea*, of any such thing, nor could by any means frame to himself any Notions about Seeing. The Ignorance, and Darkness that is in us, no more hinders, nor confines the Knowledge, that is in others, than the blindness of a Mole is an Argument against the quicksightedness of an Eagle. He that will consider the Infinite Power, Wisdom, and Goodness of the Creator of all Things, will find Reason to think, it was not all laid out upon so inconsiderable, mean, and impotent a Creature, as he will find Man to be; who in all probability, is one of the lowest of all intellectual Beings. What Faculties therefore other Species of Creatures have to penetrate into the Nature, and inmost Constitutions of Things; what *Ideas* they may receive of them, far different from ours, we know not. This we know, and certainly find, that we want several other views of them, besides those we have, to make Discoveries of them more perfect. And we may be convinced that the *Ideas*, we can attain to by our Faculties, are very disproportionate to Things themselves, when a positive clear distinct one of Substance it self, which is the Foundation of all the rest, is concealed from us. But want of *Ideas* of this kind being a Part, as well as Cause of our Ignorance,

cannot be described. Only this, I think, I may confidently say of it, that the intellectual and sensible World, are in this perfectly alike; That that part, which we see of either of them, holds no proportion with what we see not; And whatsoever we can reach with our Eyes, or our Thoughts of either of them, is but a point, almost nothing, in comparison of the rest.

Because of their Remoteness, or,

§ 24. *Secondly*, Another great Cause of Ignorance, is the *want of Ideas we are capable of*. As the want of *Ideas*, which our faculties are not able to give us, shuts us wholly from those views of Things, which 'tis reasonable to think other Beings, perfecter than we, have, of which we know nothing; so the want of *Ideas*, I now speak of, keeps us in ignorance of Things, we conceive capable of being known to us. *Bulk, Figure*, and *Motion*, we have *Ideas* of. But though we are not without *Ideas* of these primary qualities of Bodies in general, yet not knowing what is the particular *Bulk, Figure*, and *Motion*, of the greatest part of the Bodies of the Universe, we are ignorant of the several Powers, Efficacies, and Ways of Operation, whereby the Effects, which we daily see, are produced. These are hid from us in some Things, by being *too remote*; and in others, by being *too minute*. When we consider the vast distance of the known and visible parts of the World, and the Reasons we have to think, that what lies within our Ken, is but a small part of the immense Universe, we shall then discover an huge Abyss of Ignorance. What are the particular Fabricks of the great Masses of Matter, which make up the whole stupendious frame of Corporeal Beings; how far they are extended; what is their Motion, and how continued, or communicated; and what Influence they have one upon another, are Contemplations, that at first glimpse our Thoughts lose themselves in. If we narrow our Contemplation, and confine our Thoughts to this little Canton, I mean this System of our Sun, and the grosser Masses of Matter, that visibly move about it, what several sorts of Vegetables, Animals, and intellectual corporeal Beings, infinitely different from those of our little spot of Earth, may there probably be in the other Planets, to the Knowledge of which, even of their outward Figures and Parts, we can no way attain, whilst we are confined to this Earth, there being no natural Means, either by Sensation or Reflection, to convey their certain *Ideas* into our Minds? They are out of the reach of those Inlets of all our Knowledge: and what sorts of Furniture and Inhabitants those Mansions contain in them, we cannot so much as guess, much less have clear, and distinct *Ideas* of them.

Because of their Minuteness.

§ 25. If a great, nay far the greatest part of the several ranks of *Bodies* in the Universe, scape our notice by their remoteness, there are others that are no less concealed from us by their *Minuteness*. These insensible Corpuscles, being the active parts of Matter, and the great Instruments of Nature, on which depend not only all their secondary Qualities, but also most of their natural Operations, our want of precise distinct *Ideas* of their primary Qualities, keeps us in an incurable Ignorance of what we desire to know about them. I doubt not but if we could discover the Figure, Size, Texture, and Motion of the minute Constituent parts of any two Bodies, we should know without Trial several of their Operations one upon another, as we do now the Properties of a Square, or a

Triangle. Did we know the Mechanical affections of the Particles of *Rhubarb*, *Hemlock*, *Opium*, and a *Man*, as a Watchmaker does those of a Watch, whereby it performs its Operations, and of a File which by rubbing on them will alter the Figure of any of the Wheels, we should be able to tell before Hand, that *Rhubarb* will purge, *Hemlock* kill, and *Opium* make a Man sleep; as well as a Watch-maker can, that a little piece of Paper laid on the Balance, will keep the Watch from going, till it be removed; or that some small part of it, being rubb'd by a File, the Machin would quite lose its Motion, and the Watch go no more. The dissolving of Silver in *aqua fortis*, and Gold in *aqua Regia*, and not *vice versa*, would be then, perhaps, no more difficult to know, than it is to a Smith to understand, why the turning of one Key will open a Lock, and not the turning of another. But whilst we are destitute of Senses acute enough, to discover the minute Particles of Bodies, and to give us *Ideas* of their mechanical Affections, we must be content to be ignorant of their properties and ways of Operation; nor can we be assured about them any farther, than some few Trials we make, are able to reach. But whether they will succeed again another time, we cannot be certain. This hinders our certain Knowledge of universal Truths concerning natural Bodies: and our Reason carries us herein very little beyond particular matter of Fact.

Hence no Science of Bodies.

§ 26. And therefore I am apt to doubt that, how far soever humane Industry may advance useful and *experimental* Philosophy in *physical Things*, *scientific* will still be out of our reach: because we want perfect and adequate *Ideas* of those very Bodies, which are nearest to us, and most under our Command. Those which we have ranked into Classes under names, and we think our selves best acquainted with, we have but very imperfect, and incompleat *Ideas* of (Distinct *Ideas* of the several sorts of Bodies, that fall under the Examination of our Senses, perhaps, we may have: but adequate *Ideas*, I suspect, we have not of any one amongst them. And though the former of these will serve us for common Use and Discourse: yet whilst we want the latter, we are not capable of *scientific Knowledge*; nor shall ever be able to discover general, instructive, unquestionable Truths concerning them. *Certainty* and *Demonstration*, are Things we must not, in these Matters, pretend to. By the Colour, Figure, Taste, and Smell, and other sensible qualities, we have as clear, and distinct *Ideas* of Sage and Hemlock, as we have of a Circle and a Triangle: But having no *Ideas* of the particular primary Qualities of the minute parts of either of these Plants, nor of other Bodies which we would apply them to, we cannot tell what effects they will produce; Nor when we see those Effects, can we so much as guess, much less know, their manner of production. Thus having no *Ideas* of the particular mechanical Affections of the minute parts of Bodies, that are within our view and reach, we are ignorant of their Constitutions, Powers, and Operations: and of Bodies more remote, we are yet more ignorant not knowing so much as their very outward Shapes or the sensible and grosser parts of their Constitutions.

Much less of Spirits.

§ 27. This, at first sight, will shew us how disproportionate our Knowledge is to the whole extent even of material Beings; to which, if we add the Consideration

of that infinite number of *Spirits* that may be, and probably are, which are yet more remote from our Knowledge, whereof we have no cognizance, nor can frame to our selves any distinct *Ideas* of their several ranks and sorts, we shall find this cause of Ignorance conceal from us, in an impenetrable obscurity, almost the whole intellectual World; a greater certainly, and more beautiful World, than the material. For bating some very few, and those, if I may so call them, superficial *Ideas* of Spirit, which by reflection we get of our own, and from thence, the best we can, collect, of the Father of all Spirits, the eternal independent Author of them and us and all Things, we have no certain information, so much as of the Existence of other Spirits, but by revelation. Angels of all sorts are naturally beyond our discovery: And all those intelligences, whereof 'tis likely there are more Orders than of corporeal Substances, are Things, whereof our natural Faculties give us no certain account at all. That there are Minds, and thinking Beings in other Men as well as himself, every Man has a reason, from their Words and Actions, to be satisfied: And the Knowledge of his own Mind cannot suffer a Man, that considers, to be ignorant, that there is a GOD. But that there are degrees of Spiritual Beings between us and the great GOD, who is there, that by his own search and ability can come to know? Much less have we distinct *Ideas* of their different Natures, Conditions, States, Powers, and several Constitutions, wherein they agree or differ from one another, and from us. And therefore in what concerns their different Species and Properties, we are under an absolute ignorance.

Secondly, want of a discoverable connexion between Ideas we have.

§ 28. *Secondly*, What a small part of the substantial Beings, that are in the Universe, the want of *Ideas* leave open to our Knowledge, we have seen. In the next place, another cause of Ignorance, of no less moment, is a want of a *discoverable Connection* between those *Ideas* which we have. For wherever we want that, we are utterly incapable of universal and certain Knowledge; and are, as in the former case, left only to Observation and Experiment: which how narrow and confined it is, how far from general Knowledge, we need not be told. I shall give some few instances of this cause of our Ignorance and so leave it. 'Tis evident that the bulk, figure, and motion of several Bodies about us, produce in us several Sensations, as of Colours, Sounds, Tastes, Smells, Pleasure and Pain, *etc.* These mechanical Affections of Bodies, having no affinity at all with those *Ideas*, they produce in us, (there being no conceivable connexion between any impulse of any sort of Body, and any perception of a Colour, or Smell, which we find in our Minds) we can have no distinct knowledge of such Operations beyond our Experience; and can reason no otherwise about them, than as effects produced by the appointment of an infinitely Wise Agent, which perfectly surpass our Comprehensions. As the *Ideas* of sensible secondary Qualities, which we have in our Minds, can, by us, be no way deduced from bodily Causes, nor any correspondence or connexion be found between them and those primary Qualities which (Experience shews us) produce them in us; so on the other side, the Operation of our Minds upon our Bodies is as unconceivable. How any thought should produce a motion in Body is as remote from the nature of our *Ideas*, as how any Body should produce any Thought in the Mind. That it is so, if Experience did not convince us, the Consideration of the Things themselves would never be able, in the least, to discover to us. These,

and the like, though they have a constant and regular connexion, in the ordinary course of Things: yet that connexion being not discoverable in the *Ideas* themselves, which appearing to have no necessary dependance one on another, we can attribute their connexion to nothing else, but the arbitrary Determination of that All-wise Agent, who has made them to be, and to operate as they do, in a way wholly above our weak Understandings to conceive.

Instances.

§ 29. In some of our *Ideas* there are certain Relations, Habitues, and Connexions, so visibly included in the Nature of the *Ideas* themselves, that we cannot conceive them separable from them, by any Power whatsoever. And in these only, we are capable of certain and universal Knowledge. Thus the *Idea* of a right-lined Triangle necessarily carries with it an equality of its Angles to two right ones. Nor can we conceive this Relation, this connexion of these two *Ideas*, to be possibly mutable, or to depend on any arbitrary Power, which of choice made it thus, or could make it otherwise. But the coherence and continuity of the parts of Matter; the production of Sensation in us of Colours and Sounds, *etc.* by impulse and motion; nay, the original Rules and Communication of Motion being such, wherein we can discover no natural connexion with any *Ideas* we have, we cannot but ascribe them to the arbitrary Will and good Pleasure of the Wise Architect. I need not, I think, here mention the Resurrection of the dead, the future state of this Globe of Earth, and such other Things, which are by every one acknowledged to depend wholly on the Determination of a free Agent. The Things that, as far as our Observation reaches, we constantly find to proceed regularly, we may conclude, do act by a Law set them; but yet by a Law, that we know not: whereby, though Causes work steadily, and Effects constantly flow from them, yet their *Connexions* and *Dependancies* being not discoverable in our *Ideas*, we can have but an experimental Knowledge of them. From all which 'tis easy to perceive, what a darkness we are involved in, how little 'tis of Being, and the things that are, that we are capable to know. And therefore we shall do no injury to our Knowledge when we modestly think with our selves, that we are so far from being able to comprehend the whole nature of the Universe, and all the things contained in it, that we are not capable of a philosophical *Knowledge* of the Bodies that are about us, and make a part of us: Concerning their secondary Qualities, Powers, and Operations, we can have no universal certainty. Several effects come every day within the notice of our Senses, of which we have so far sensitive *Knowledge*: but the causes, manner, and certainty of their production, for the two foregoing Reasons, we must be content to be ignorant of. In these we can go no farther than particular Experience informs us of matter of fact, and by Analogy to guess what Effects the like Bodies are, upon other tryals, like to produce. But as to a perfect *Science* of natural Bodies, (not to mention spiritual Beings,) we are, I think, so far from being capable of any such thing, that I conclude it lost labour to seek after it.

Thirdly, want of tracing our Ideas.

§ 30. *Thirdly*, Where we have adequate *Ideas*, and where there is a certain and discoverable connexion between them, yet we are often ignorant, for want of

tracing those *Ideas* which we have, or may have; and for want of finding out those intermediate *Ideas*, which may shew us, what habitude of agreement or disagreement they have one with another. And thus many are ignorant of mathematical Truths, not out of any imperfection of their Faculties, or uncertainty in the Things themselves; but for want of application in acquiring, examining, and by due ways comparing those *Ideas*. That which has most contributed to hinder the due *tracing* of our *Ideas*, and finding out their Relations, and Agreements or Disagreements one with another, has been, I suppose, the ill use of *Words*. It is impossible that Men should ever truly seek, or certainly discover the Agreement or Disagreement of *Ideas* themselves, whilst their Thoughts flutter about, or stick only in Sounds of doubtful and uncertain significations. Mathematicians abstracting their Thoughts from Names, and accustoming themselves to set before their Minds, the *Ideas* themselves, that they would consider, and not Sounds instead of them, have avoided thereby a great part of that perplexity, puddering, and confusion, which has so much hindered Mens progress in other parts of Knowledge. For whilst they stick in Words of undetermined and uncertain signification, they are unable to distinguish True from False, Certain from Probable, Consistent from Inconsistent, in their own Opinions. This having been the fate or misfortune of a great part of the men of Letters, the increase brought into the Stock of real Knowledge, has been very little, in proportion to the Schools, Disputes, and Writings, the World has been fill'd with; whilst Students, being lost in the great Wood of Words, knew not whereabouts they were, how far their Discoveries were advanced, or what was wanting in their own, or the general Stock of Knowledge. Had Men, in the discoveries of the material, done, as they have in those of the intellectual World, involved all in the obscurity of uncertain and doubtful ways of talking, Volumes writ of Navigation and Voyages, Theories and Stories of Zones and Tydes multiplied and disputed; nay, Ships built, and Fleets set out, would never have taught us the way beyond the Line; and the Antipodes would be still as much unknown, as when it was declared Heresy to hold there were any. But having spoken sufficiently of Words, and the ill or careless use, that is commonly made of them, I shall not say any thing more of it here.

Extent in respect of Universality.

§ 31. Hitherto we have examined the *extent* of our Knowledge, in respect of the several sorts of Beings that are. There is another *extent of it, in respect of universality*, which will also deserve to be considered: and in this regard, our Knowledge follows the Nature of our *Ideas*. If the *Ideas* are abstract, whose agreement or disagreement we perceive, our Knowledge is universal. For what is known of such general *Ideas*, will be true of every particular thing, in whom that Essence, *i.e.* that abstract *Idea* is to be found: and what is once known of such *Ideas*, will be perpetually, and for ever true. So that as to all general Knowledge, we must search and find it only in our own Minds, and 'tis only the examining of our own *Ideas*, that furnisheth us with that. Truths belonging to Essences of Things, (that is, to abstract *Ideas*) are eternal, and are to be found out by the contemplation only of those Essences: as the Existence of Things is to be known only from Experience. But having more to say of this in the Chapters, where I shall speak of general and real Knowledge, this may here suffice, as to the Universality of our Knowledge in general.