**Texts in Early Modern Philosophy**

George Berkeley’s *Principles* and *Dialogues*

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# Gallileo, The Assayer (1623)

## The Assayer (Il Saggiatore)

Source: Stillman Drake, *Discoveries and Opinions of Galileo* (New York: Doubleday & Co., 1957) 231-280

1. … It now remains for me to tell Your Excellency [Don Virginio Cesarini, chamberlain to Pope Urban VIII], as I promised, some thoughts of mine about the proposition "motion is the cause of heat," and to show in what sense this may [p.274] be true. But first I must consider what it is that we call heat, as I suspect that people in general have a concept of this which is very remote from the truth. For they believe that heat is a real phenomenon or property, or quality, which actually resides in the material by which we feel ourselves warmed. Now I say that whenever I conceive any material or corporeal substance, I immediately feel the need to think of it as bounded, and as having this or that shape; as being large or small in relation to other things, and in some specific place at any given time; as being in motion or at rest; as touching or not touching some other body; and as being one in number, or few, or many. From these conditions I cannot separate such a substance by any stretch of my imagination. But that it must be white or red, bitter or sweet, noisy or silent, and of sweet or foul odor, my mind does not feel compelled to bring in as necessary accompaniments. Without the senses as our guides, reason or imagination unaided would probably never arrive at qualities like these. Hence I think that tastes, odors, colors, and so on are no more than mere names so far as the object in which we place them is concerned, and that they reside only in the consciousness. Hence if the living creature were removed, all these qualities would be wiped away and annihilated. But since we have imposed upon them special names, distinct from those of the other and real qualities mentioned previously, we wish to believe that they really exist as actually different from those.
2. [p.275] I may be able to make my notion clearer by means of some examples. I move my hand first over a marble statue and then over a living man. To the effect flowing from my hand, this is the same with regard to both objects and my hand; it consists of the primary phenomena of motion and touch, for which we have no further names. But the live body which receives these operations feels different sensations according to the various places touched. When touched upon the soles of the feet, for example, or under the knee or armpit, it feels in addition to the common sensation of touch a sensation on which we have imposed a special name, "tickling." This sensation belongs to us and not to the hand. Anyone would make a serious error if he said that the hand, in addition to the properties of moving and touching, possessed another faculty of "tickling," as if tickling were a phenomenon that resided in the hand that tickled. A piece of paper or a feather drawn lightly over any part of our bodies performs intrinsically the same operations of moving and touching, but by touching the eye, the nose, or the upper lip it excites in us an almost intolerable titillation, even though elsewhere it is scarcely felt. This titillation belongs entirely to us and not to the feather; if the live and sensitive body were removed it would remain no more than a mere word. I believe that no more solid an existence belongs to many qualities which we have come to attribute to physical bodies-tastes, odors, colors, and many more.
3. A body which is solid and, so to speak, quite material, when moved in contact with any part of my person produces in me the sensation we call touch. This, though it exists over my entire body, seems to reside principally in the palms of the hands and in the finger tips, by whose means we sense the most minute differences in texture that are not easily distinguished by other parts of our bodies. Some of these sensations are more pleasant to us than others. . . . The sense of touch is more material than the other senses; and, as it arises from the solidity of matter, it seems to be related to the earthly element.
4. Perhaps the origin of two other senses lies in the fact [p.276] that there are bodies which constantly dissolve into minute particles, some of which are heavier than air and descend, while others are lighter and rise up. The former may strike upon a certain part of our bodies that is much more sensitive than the skin, which does not feel the invasion of such subtle matter. This is the upper surface of the tongue; here the tiny particles are received, and mixing with and penetrating its moisture, they give rise to tastes, which are sweet or unsavory according to the various shapes, numbers, and speeds of the particles. And those minute particles which rise up may enter by our nostrils and strike upon some small protuberances which are the instrument of smelling; here likewise their touch and passage is received to our like or dislike according as they have this or that shape, are fast or slow, and are numerous or few. The tongue and nasal passages are providently arranged for these things, as the one extends from below to receive descending particles, and the other is adapted to those which ascend. Perhaps the excitation of tastes may be given a certain analogy to fluids, which descend through air, and odors to fires, which ascend.
5. Then there remains the air itself, an element available for sounds, which come to us indifferently from below, above, and all sides-for we reside in the air and its movements displace it equally in all directions. The location of the ear is most fittingly accommodated to all positions in space. Sounds are made and heard by us when the air without any special property of "sonority" or "transonority" -is ruffled by a rapid tremor into very minute waves and moves certain cartilages of a tympanum in our ear. External means capable of thus ruffling the air are very numerous, but for the most part they may be reduced to the trembling of some body which pushes the air and disturbs it. Waves are propagated very rapidly in this way, and high tones are produced by frequent waves and low tones by sparse ones.
6. To excite in us tastes, odors, and sounds I believe that nothing is required in external bodies except shapes, numbers, and slow or rapid movements. I think that if ears, [p.277] tongues, and noses were removed, shapes and numbers and motions would remain, but not odors or tastes or sounds. The latter, I believe, are nothing more than names when separated from living beings, just as tickling and titillation are nothing but names in the absence of such things as noses and armpits. And as these four senses are related to the four elements, so I believe that vision, the sense eminent above all others in the proportion of the finite to the infinite, the temporal to the instantaneous, the quantitative to the indivisible, the illuminated to the obscure--that vision, I say, is related to light itself. But of this sensation and the things pertaining to it I pretend to understand but little; and since even a long time would not suffice to explain that trifle, or even to hint at an explanation, I pass this over in silence.
7. Having shown that many sensations which are supposed to be qualities residing in external objects have no real existence save in us, and outside ourselves are mere names, I now say that I am inclined to believe heat to be of this character. Those materials which produce heat in us and make us feel warmth, which are known by the general name of "fire," would then be a multitude of minute particles having certain shapes and moving with certain velocities. Meeting with our bodies, they penetrate by means of their extreme subtlety, and their touch as felt by us when they pass through our substance is the sensation we call "heat." This is pleasant or unpleasant according to the greater or smaller speed of these particles as they go pricking and penetrating; pleasant when this assists our necessary transpiration, and obnoxious when it causes too great a separation and dissolution of our substance. The operation of fire by means of its particles is merely that in moving it penetrates all bodies, causing their speedy or slow dissolution in proportion to the number and velocity of the fire-corpuscles and the density or tenuity of the bodies. Many materials are such that in their decomposition the greater part of them passes over into additional tiny corpuscles, and this dissolution continues so long as these continue to meet with further matter capable of being so resolved. I do not [p.278] believe that in addition to shape, number, motion, penetration, and touch there is any other quality in fire corresponding to "heat"; this belongs so intimately to us that when the live body is taken away, heat becomes no more than a simple name.

# Locke, Essay Concerning Human Understanding (1689), Bk. 1

## Introduction 1.1.1 – 5

*The Clarendon Edition of the Works of John Locke: An Essay Concerning Human Understanding*

Peter H. Nidditch (ed.) (Oxford: Oxford University, 1975)

1. Since it is the understanding, that sets man above the rest of sensible beings, and gives him all the advantage and dominion, which he has over them; it is certainly a subject, even for its nobleness, worth our labour to enquire into. The understanding, like the eye, whilst it makes us see and perceive all other things, takes no notice of itself; and it requires art and pains to set it at a distance and make it its own object. But, whatever be, the difficulties that lie in the way of this enquiry; whatever it be that keeps us so much in the dark to ourselves; sure I am, that all the light we can let in upon our minds, all the acquaintance we can make with our own understandings, will not only be very pleasant, but bring us great advantage, in directing our thoughts in the search of other things.

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2. This, therefore, being my purpose, to enquire into the original, certainty, and extent of human knowledge; together with the grounds and degrees of belief, opinion, and assent; I shall not at present meddle with the physical consideration of the mind; or trouble myself to examine, wherein its essence consists, or by what motions of our spirits, or alterations of our bodies, we come to have any sensation by our organs, or any ideas in our understandings; and whether those ideas do in their formation, any, or all of them, depend on matter or no: These are speculations, which, however curious and entertaining, I shall decline, as lying out of my way in the design I am now upon. It shall suffice to my present purpose, to consider the discerning faculties of a man, as they are employed about the objects, which they have to do with: And I shall imagine I have not wholly misemployed myself in the thoughts I shall have on this occasion, if, in this historical, plain method, I can give any account of the ways, whereby our understandings come to attain those notions of things we have, and can set down any measures of the certainty of our knowledge, or the grounds of those persuasions which are to be found amongst men, so various, different, and wholly contradictory; and yet asserted somewhere or other, with such assurance and confidence, that he that shall take a view of the opinions of mankind, observe their Opposition, and at the same time consider the fondness and devotion wherewith they are embraced, the resolution and eagerness wherewith they are maintained, may perhaps have reason to suspect, that either there is no such thing as truth at all; or that mankind hath no sufficient means to attain a certain knowledge of it.

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3. It is therefore worth while to search out the bounds between opinion and knowledge; and examine by what measures, in things, whereof we have no certain knowledge, we ought to regulate our assent, and moderate our persuasions. In order whereunto, I shall pursue this following method.

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First, I shall enquire into the original of those ideas, notions, or whatever else you please to call them, which a man observes, and is conscious to himself he has in his mind; and the ways whereby the understanding comes to be furnished with them.

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Secondly, I shall endeavour to shew what knowledge the understanding hath by those ideas; and the certainty, evidence, and extent of it.

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Thirdly, I shall make some enquiry into the nature and grounds of faith, or opinion; whereby I mean that assent, which we give to any proposition as true, of whose truth yet we have no certain knowledge; and here we shall have occasion to examine the reasons and degrees of assent.

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4. If, by this enquiry into the nature of the understanding, I can discover the powers thereof; how far they reach; to what things they are in any degree proportionate; and where they fail us: I suppose it may be of use to prevail with the busy mind of man, to be more cautious in meddling with things exceeding its comprehension; to stop when it is at the utmost extent of its tether; and to sit down in a quiet ignorance of those things which, upon examination, are found to be beyond the reach of our capacities. We should not then perhaps be so forward, out of an affectation of an universal knowledge, to raise questions, and perplex ourselves and others with disputes about things, to which our understandings are not suited; and of which we cannot frame in our minds any clear or distinct perceptions, or whereof (as it has perhaps too often happened) we have not any notions at all. If we can find out how far the understanding can extend its view, how far it has faculties to attain certainty, and in what cases it can only judge and guess; we may learn to content ourselves with what is attainable by us in this state.

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5. For, though the comprehension of our understandings comes exceeding short of the vast extent of things; yet we shall have cause enough to magnify the bountiful author of our being, for that proportion and degree of knowledge he has bestowed on us, so far above all the rest of the inhabitants of this our mansion. Men have reason to be well satisfied with what God hath thought fit for them, since he hath given them (as St. Peter says) {panta pros zoen kai eusebeian}, whatsoever is necessary for the conveniences of life, and information of virtue; and has put within the reach of their discovery the comfortable provision for this life, and the way that leads to a better. How short soever their knowledge may come of an universal or perfect comprehension of whatsoever is, it yet secures their great concernments, that they have light enough to lead them to the knowledge of their maker, and the sight of their own duties. Men may find matter sufficient to busy their heads, and employ their hands with variety, delight, and satisfaction; if they will not boldly quarrel with their own constitution, and throw away the blessings their hands are filled with, because they are not big enough to grasp every thing. We shall not have much reason to complain of the narrowness of our minds, if we will but employ them about what may be of use to us; for of that they are very capable: And it will be an unpardonable, as well as childish peevishness, if we undervalue the advantages of our knowledge, and neglect to improve it to the ends for which it was given us, because there are some things that are set out of the reach of it. It will be no excuse to an idle and untoward servant, who would not attend his business by candle-light, to plead that he had not broad sun-shine. The candle, that is set up in us, shines bright enough for all our purposes. The discoveries we can make with this, ought to satisfy us; and we shall then use our understandings right, when we entertain all objects in that way and proportion that they are suited to our faculties, and upon those grounds they are capable of being proposed to us, and not peremptorily, or intemperately require demonstration, and demand certainty, where probability only is to be had, and which is sufficient to govern all our concernments. If we will disbelieve every thing, because we cannot certainly know all things; we shall do muchwhat as wisely as he, who would not use his legs, but sit still and perish, because he had no wings to fly.

## Chapter 2. NO INNATE PRINCIPLES IN THE MIND.

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1. It is an established opinion amongst some men, that there are in the understanding certain innate principles; some primary notions, {koinai ennoiai}, characters, as it were, stamped upon the mind of man, which the soul receives in its very first being; and brings into the world with it. It would be sufficient to convince unprejudiced readers of the falseness of this supposition, if I should only shew (as I hope I shall in the following parts of this discourse) how men, barely by the use of their natural faculties, may attain to all the knowledge they have, without the help of any innate impressions; and may arrive at certainty, without any such original notions or principles. For I imagine any one will easily grant, that it would be impertinent to suppose, the ideas of colours innate in a creature, to whom God hath given sight, and a power to receive them by the eyes, from external objects: And no less unreasonable would it be to attribute several truths to the impressions of nature, and innate characters, when we may observe in ourselves faculties, fit to attain as easy and certain knowledge of them, as if they were originally imprinted on the mind.

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But because a man is not permitted without censure to follow his own thoughts in the search of truth, when they lead him ever so little out of the common road; I shall set down the reasons that made me doubt of the truth of that opinion, as an excuse for my mistake, if I be in one; which I leave to be considered by those who, with me, dispose themselves to embrace truth, wherever they find it.

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2. There is nothing more commonly taken for granted, than that there are certain principles, both speculative and practical, (for they speak of both), universally agreed upon by all mankind: Which therefore, they argue, must needs be the constant impressions, which the souls of men receive in their first beings, and which they bring into the world with them, as necessarily and really as they do any of their inherent faculties.

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3. This argument, drawn from universal consent, has this misfortune in it, that if it were true in matter of fact, that there were certain truths wherein all mankind agreed, it would not prove them innate, if there can be any other way shewn how men may come to that universal agreement, in the things they do consent in, which I presume may be done.

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4. But, which is worse, this argument of universal consent, which is made use of to prove innate principles, seems to me a demonstration that there are none such; because there are none to which all mankind give an universal assent. I shall begin with the speculative, and instance in those magnified principles of demonstration; "Whatsoever is, is;" and "It is impossible for the same thing to be and not to be;" which, of all others, I think have the most allowed title to innate. These have so settled a reputation of maxims universally received, that it will, no doubt, be thought strange, if any one should seem to question it. But yet I take liberty to say, that these propositions are so far from having an universal assent, that there are a great part of mankind to whom they are not so much as known.

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5. For, first, it is evident, that all children and idiots have not the least apprehension or thought of them; and the want of that is enough to destroy that universal assent, which must needs be the necessary concomitant of all innate truths: It seeming to me near a contradiction, to say, that there are truths imprinted on the soul, which it perceives or understands not; imprinting, if it signify any thing, being nothing else, but the making certain truths to be perceived. For to imprint any thing on the mind, without the mind's perceiving it, seems to me hardly intelligible. If therefore children and idiots have souls, have minds, with those impressions upon them, they must unavoidably perceive them, and necessarily know and assent to these truths: Which since they do not, it is evident that there are no such impressions. For if they are not notions naturally imprinted, how can they be innate? and if they are notions imprinted, how can they be unknown? To say a notion is imprinted on the mind, and yet at the same time to say, that the mind is ignorant of it, and never yet took notice of it, is to make this impression nothing. No proposition can be said to be in the mind which it never yet knew, which it was never yet conscious of. For if any one may, then, by the same reason, all propositions that are true, and the mind is capable ever of assenting to, may be said to be in the mind, and to be imprinted: Since, if any one can be said to be in the mind, which it never yet knew, it must be only, because it is capable of knowing it, and so the mind is of all truths it ever shall know. Nay, thus truths may be imprinted on the mind, which it never did, nor ever shall know: For a man may live long, and die at last in ignorance of many truths, which his mind was capable of knowing, and that with certainty. So that if the capacity of knowing, be the natural impression contended for, all the truths a man ever comes to know, will, by this account, be every one of them innate; and this great point will amount to no more, but only to a very improper way of speaking; which, whilst it pretends to assert the contrary, says nothing different from those, who deny innate principles. For nobody, I think, ever denied that the mind was capable of knowing several truths. The capacity, they say, is innate, the knowledge acquired. But then to what end such contest for certain innate maxims? If truths can be imprinted on the understanding without being perceived, I can see no difference there can be, between any truths the mind is capable of knowing in respect of their original: They must all be innate, or all adventitious: In vain shall a man go about to distinguish them. He therefore that talks of innate notions in the understanding, cannot (if he intend thereby any distinct sort of truths) mean such truths to be in the understanding, as it never perceived, and is yet wholly ignorant of. For if these words (to be in the understanding) have any propriety, they signify to be understood: So that to be in the understanding, and not to be understood; to be in the mind, and never to be perceived; is all one, as to say any thing is, and is not, in the mind or understanding. If therefore these two propositions, "Whatsoever is, is," and "It is impossible for the same thing to be and not to be," are by nature imprinted, children cannot be ignorant of them; infants, and all that have souls, must necessarily have them in their understandings, know the truth of them, and assent to it.

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6. To avoid this, it is usually answered, That all men know and assent to them, when they come to the use of reason, and this is enough to prove them innate. I answer,

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7. Doubtful expressions, that have scarce any signification, go for clear reasons, to those who, being prepossessed, take not the pains to examine even what they themselves say. For to apply this answer with any tolerable sense to our present purpose, it must signify one of these two things; either, that, as soon as men come to the use of reason, these supposed native inscriptions come to be known, and observed by them: Or else, that the use and exercise of men's reason assists them in the discovery of these principles, and certainly makes them known to them.

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8. If they mean, that by the use of reason men may discover these principles; and that this is sufficient to prove them innate: Their way of arguing will stand thus, (viz.) that, whatever truths reason can certainly discover to us, and make us firmly assent to, those are all naturally imprinted on the mind; since that universal assent, which is made the mark of them, amounts to no more but this; that by the use of reason, we are capable to come to a certain knowledge of and assent to them, and, by this means, there will be no difference between the maxims of the mathematicians, and theorems they deduce from them; all must be equally allowed innate; they being all discoveries made by the use of reason, and truths that a rational creature may certainly come to know, if he apply his thoughts rightly that way.

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9. But how can these men think the use of reason necessary, to discover principles that are supposed innate, when reason (if we may believe them) is nothing else but the faculty of deducing unknown truths from principles or propositions, that are already known? That certainly can never be thought innate, which we have need of reason to discover; unless, as I have said, we will have all the certain truths that reason ever teaches us, to be innate. We may as well think the use of reason necessary to make our eyes discover visible objects, as that there should be need of reason, or the exercise thereof, to make the understanding see what is originally engraven on it, and cannot be in the understanding before it be perceived by it. So that to make reason discover those truths, thus imprinted, is to say, that the use of reason discovers to a man what he knew before: And if men have those innate impressed truths originally, and before the use of reason, and yet are always ignorant of them till they come to the use of reason, it is in effect to say, that men know, and know them not, at the same time.

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10. It will here perhaps be said, that mathematical demonstrations, and other truths that are not innate, are not assented to, as soon as proposed, wherein they are distinguished from these maxims and other innate truths. I shall have occasion to speak of assent, upon the first proposing, more particularly by and by. I shall here only, and that very readily, allow, that these maxims and mathematical demonstrations are in this different; that the one have need of reason, using of proofs, to make them out, and to gain our assent; but the other, as soon as understood, are, without any the least reasoning, embraced and assented to. But I withal beg leave to observe, that it lays open the weakness of this subterfuge, which requires the use of reason for the discovery of these general truths: Since it must be confessed, that in their discovery there is no use made of reasoning at all. And I think those, who give this answer, will not be forward to affirm that the knowledge of this maxim, "That it is impossible for the same thing to be and not to be," is a deduction of our reason. For this would be to destroy that bounty of nature they seem so fond of, whilst they make the knowledge of those principles to depend on the labour of our thoughts. For all reasoning is search, and casting about, and requires pains and application. And how can it with any tolerable sense be supposed, that what was imprinted by nature, as the foundation and guide of our reason, should need the use of reason to discover it?

# Locke, Essay Concerning Human Understanding (1689), Bk. 2

## Chapter 1. OF IDEAS IN GENERAL, AND THEIR ORIGINAL.

1. Every man being conscious to himself that he thinks, and that which his mind is applied about, whilst thinking, being the ideas that are there, it is past doubt that men have in their minds several ideas, such as are those expressed by the words, Whiteness, Hardness, Sweetness, Thinking, Motion, Man, Elephant, Army, Drunkenness, and others. It is in the first place then to be 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 foregoing 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.

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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 all that our knowledge is founded, and from that it ultimately derives itself. Our observation employed either about external sensible objects, or about the internal operations of our minds, perceived and reflected on by ourselves, is that which supplies our understandings with all the materials of thinking. These two are the fountains of knowledge, from whence all the ideas we have, or can naturally have, do spring.

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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.

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

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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.

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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.

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6. He that attentively considers the state of a child, at his first coming into the world, will have little reason to think him stored with plenty of ideas, that are to be the matter of his future knowledge: It is by degrees he comes to be furnished with them. And though the ideas of obvious and familiar qualities imprint themselves before the memory begins to keep a register of time or order, yet it is often so late before some unusual qualities come in the way, that there are few men that cannot recollect the beginning of their acquaintance with them: And if it were worth while, no doubt a child might be so ordered as to have but a very few even of the ordinary ideas, till he were grown up to a man. But all that are born into the world being surrounded with bodies that perpetually and diversely affect them; variety of ideas, whether care be taken of it or not, are imprinted on the minds of children. Light and colours are busy at hand 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 pineapple, has of those particular relishes.

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7. Men then come to be furnished with fewer or more simple ideas from without, according as the objects they converse with afford greater or less variety; and from the operations of their minds within, according as they more or less reflect on them. For though he that contemplates the operations of his mind, cannot but have plain and clear ideas of them; yet, unless he turn his thoughts that way, and considers them attentively, he will no more have clear and distinct ideas of all the operations of his mind, and all that may be observed 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.

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8. And hence we see the reason why it is pretty late before most children get ideas of the operations of their own minds; and some have not any very clear or perfect ideas of the greatest part of them all their lives: Because, though they pass there continually, yet, like floating visions, they make not deep impressions enough to leave in their mind clear, distinct, lasting ideas, till the understanding turns inward upon itself, reflects on its own operations, and makes them the objects of its own 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 employed and diverted in looking abroad. Men's business in them is to acquaint themselves with what is to be found without: And so growing up in a constant attention to outward sensation, seldom make any considerable reflection on what passes within them till they come to be of riper years; and some scarce ever at all.

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9. To ask at what time a man has first any ideas, is to ask when he begins to perceive; having ideas, and perception, being the same thing. I know it is an opinion, that the soul always thinks, and that it has the actual perception of ideas in itself constantly as long as it exists; and that actual thinking is as inseparable from the soul, as actual extension is from the body; which if true, to 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.

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10. But whether the soul be supposed to exist antecedent to, or coeval with, or some time after the first rudiments of organization, or the beginnings of life in the body; I leave to be disputed by those who have better thought of that matter. I confess myself to have one of those dull souls, that doth not perceive itself always to contemplate ideas; nor can conceive it any more necessary for the soul always to think, than for the body always to move: The perception of ideas being (as I conceive) to the soul, what motion is to the body: Not its essence, but one of its operations. And therefore, though thinking be supposed never so much the proper action of the soul, yet it is not necessary to suppose that it should be always thinking, always in action. That perhaps is the privilege of the infinite author and preserver of 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 some thing 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. It is doubted whether I thought at all last night or no; the question being about a matter of fact, it is begging it to bring, as a proof for it, an hypothesis, which is the very thing in dispute: By which way one may prove any thing, and it is but supposing that all watches, whilst the balance beats, think; and it is 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 myself cannot perceive that I always do so.

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

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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 pleasures or pain, apart, which the man is not conscious of nor partakes in; it is certain that Socrates asleep and Socrates awake is not the same person: But his soul when he sleeps, and Socrates the man, consisting of body and soul when he is waking, are two persons; since waking Socrates has no knowledge of, or concernment for that happiness or misery of his soul which it enjoys alone by itself whilst he sleeps, without perceiving 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.

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

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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.

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14. It will perhaps be said, "that the soul thinks even in the soundest sleep, but the memory retains it not." That the soul in a sleeping man should be this moment busy a thinking, and the next moment in a waking man not remember nor be able to recollect one jot of all those thoughts, is very hard to be conceived, and would need some better proof than bare assertion to make it be believed. For who can without any more ado, but being barely told so, imagine, that the greatest part of men do, during all their lives, for several hours every day, think of some thing, which if they were asked, even in the middle of these thoughts, they could remember nothing at all of? Most men, I think, pass a great part of their sleep without dreaming. I once knew a man that was bred a scholar, and had no bad memory, who told me, he had never dreamed in his life till he had that fever he was then newly recovered of, which was about the five or six and twentieth year of his age. I suppose the world affords more such instances: At least every one's acquaintance will furnish him with examples enough of such, as pass most of their nights without dreaming.

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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 it is 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 myself? No man's knowledge here can go beyond his experience. Wake a man out of a sound sleep, and ask him, what he was that moment thinking of. If he himself be conscious of nothing he then thought on, he must be a notable diviner of thoughts that can assure him that he was thinking: May he not with more reason assure him he was not asleep? This is some thing beyond philosophy; and it cannot be less than revelation, that discovers to another thoughts in my mind, when I can find none there myself; and they must needs have a penetrating sight, who can certainly see that I think, when I cannot perceive it myself, and when I declare that I do not; and yet can see that dogs or elephants do not think, when they give all the demonstration of it imaginable, except only telling us that they do so. This some may suspect to be a step beyond the Rosicrucians; it seeming easier to make one's self invisible to others, than to make another's thoughts visible to me, which are not visible to himself. But it is but defining the soul to be "a substance that always thinks," and the business is done. If such definition be of any authority, I know not what it can serve for, but to make many men suspect, that they have no souls at all, since they find a good part of their lives pass away without thinking. For no definitions, that I know, no suppositions of any sect, are of force enough to destroy constant experience; and perhaps it is the affectation of knowing beyond what we perceive, that makes so much useless dispute and noise in the world.

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

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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 foetus 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.

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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 distinguishes them from strangers; which are instances and effects of its coming to retain and distinguish the ideas the senses convey to it. And so we may observe how the mind, by degrees, improves in these, and advances to the exercise of those other faculties of enlarging, compounding, and abstracting its ideas, and of reasoning about them, and reflecting upon all these; of which I shall have occasion to speak more hereafter.

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23. If it shall be demanded then, when a man begins to have any ideas, I think the true answer is, when he first has any sensation. For since there appear not to be any ideas in the mind, before the senses have conveyed any in, I conceive that ideas in the understanding are coeval with sensation; which is such an impression or motion, made in some part of the body, as produces some perception in the understanding. It is about these impressions made on our senses by outward objects, that the mind seems first to employ itself in such operations as we call perception, remembering, consideration, reasoning, &c.

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24. In time the mind comes to reflect on its own operations about the ideas got by sensation, and thereby stores itself with a new set of ideas, which I call ideas of reflection. These are the impressions that are made on our senses by outward objects that are extrinsical to the mind, and its own operations, proceeding from powers intrinsical and proper to itself; which when reflected on by itself, become also objects of its contemplation, are, as I have said, the original of all knowledge. Thus the first capacity of human intellect is, that the mind is fitted to receive the impressions made on it; either through the senses by outward objects, or by its own operations when it reflects on them. This is the first step a man makes towards the discovery of 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 tower above the clouds, and reach as high as heaven itself, take their rise and footing here: In all that great extent wherein the mind wanders, in those remote speculations, it may seem to be elevated with, it stirs not one jot beyond those ideas which sense or reflection have offered for its contemplation.

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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 itself, than a mirror can refuse, alter, or obliterate the images or ideas which the objects set before it do therein produce. As the bodies that surround us do diversely affect our organs, the mind is forced to receive the impressions, and cannot avoid the perception of those ideas that are annexed to them.

## Chapter 2. OF SIMPLE IDEAS.

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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.

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

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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 atom of what is already in being. The same inability will every one find in himself, who shall go about to fashion in his understanding 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.

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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 but with four senses, the qualities then, which are the objects of the fifth sense, had been as far from our notice, imagination, and conception, as now any belonging to a sixth, seventh, or eighth sense, can possibly be: Which, whether yet some other creatures, in some other parts of this vast and stupendous universe, may not have, will be a great presumption to deny. He that will not set himself proudly at the top of all things, but will consider the immensity of this fabric, and the great variety that is to be found in this little and inconsiderable part of it which he has to do with, may be apt to think, that in other mansions of it there may be other and different intelligent beings, of whose faculties he has as little knowledge or apprehension, as a worm shut up in one drawer of a cabinet hath of the senses or understanding of a man: Such variety and excellency being suitable to the wisdom and power of the maker. I have here followed the common opinion of man's having but five senses; though, perhaps, there may be justly counted more: But either supposition serves equally to my present purpose.

## Chapter 3. OF IDEAS OF ONE SENSE.

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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.

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First, Then, there are some which come into our minds by one sense only.

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

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Thirdly, Others that are had from reflection only.

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

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We shall consider them apart under these several heads.

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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.

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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.

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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 all the different parts of the same plant, fruit, or animal. The same may be said of colours and sounds. I shall therefore, in the account of simple ideas I am here giving, content myself to set down only such, as are most material to our present purpose, or are in themselves less apt to be taken notice of, though they are very frequently the ingredients of our complex ideas, amongst which, I think, I may well account solidity; which therefore I shall treat of in the next chapter.

## Chapter 4. OF SOLIDITY.

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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 some thing 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 moved one towards another, I call solidity. I will not dispute, whether this acceptation 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 some thing more of positive in it than impenetrability, which is negative, and is perhaps more a consequence of solidity, than solidity itself. This, of all other, seems the idea most intimately connected with and essential to body, so as no-where else to be found or imagined, 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, wherever or however modified.

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2. This is the idea which 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 other two bodies, that move towards one another in a straight 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.

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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, 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 it is 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 another. 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, whereinto any other 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 not: 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 a body, their very disputes about a vacuum plainly demonstrate; as is shewed in another place.

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4. Solidity is hereby also differenced 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 called 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 easy and unpainful touch.

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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 it would 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 other two 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 foot-ball. The experiment, I have been told, was made at Florence, with a hollow globe of gold filled with water and exactly closed, which 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 screws, the water made itself 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.

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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, movable parts; and the extension of space, the continuity of unsolid, inseparable, and immoveable parts. Upon the solidity of bodies also depend their mutual impulse, resistance, and protrusion. Of pure space then, and solidity, there are several (amongst which I confess myself 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…

## Chapter 5. OF SIMPLE IDEAS OF DIVERS SENSES.

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

## Chapter 6. OF SIMPLE IDEAS OF REFLECTION.

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

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2. The two great and principal actions of the mind, which are most frequently considered, and which are so frequent, that every one that pleases may take notice of them in himself, are these two: Perception or Thinking; and Volition, or Willing. The power of thinking is called the understanding, and the power of volition is called the will; and these two powers or abilities in the mind are denominated faculties. Of some of the modes of these simple ideas of reflection, such as are Remembrance, Discerning, Reasoning, Judging, Knowledge, Faith, &c. I shall have occasion to speak hereafter.

## Chapter 7. OF SIMPLE IDEAS OF BOTH SENSATION AND REFLECTION.

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1. There be other simple ideas which convey themselves into the mind by all the ways of sensation and reflection, viz. Pleasure or Delight, and its opposite, Pain or Uneasiness; Power; Existence; Unity.

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

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

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4. Pain has the same efficacy and use to set us on work that pleasure has, we being as ready to employ our faculties to avoid that, as to pursue this: Only this is worth our consideration, that pain is often produced by the same objects and ideas that produce pleasure in us. This their near conjunction, which makes us often feel pain in the sensations where we expected pleasure, gives us new occasion of admiring the wisdom and goodness of our Maker: Who, designing the preservation of our being, has annexed pain to the application of many things to our bodies, to warn us of the harm that they will do, and as advices to withdraw from them. But he not designing our preservation barely, but the preservation of every part and organ in its perfection, hath, in many cases, annexed pain to those very ideas which delight us. Thus heat, that is very agreeable to us in one degree, by a little greater increase of it, proves no ordinary torment; and the most pleasant of all sensible objects, light itself, if there be too much of it, if increased beyond a due proportion to our eyes, causes a very painful sensation. Which is wisely and favourably so ordered by nature, that when any object does by the vehemency of its operation disorder the instruments of sensation, whose structures cannot but be very nice and delicate, we might by the pain be warned to withdraw before the organ be quite put out of order, and so be unfitted for its proper function for the future. The consideration of those objects that produce it may well persuade us, that this is the end or use of pain. For though great light be insufferable to our eyes, yet the highest degree of darkness does not at all disease them: Because that causing no disorderly motion in it, leaves that curious organ unarmed in its natural state. But yet excess of cold as well as heat pains us; because it is equally destructive to that temper which is necessary to the preservation of life, and the exercise of the several functions of the body, and which consists in a moderate degree of warmth; or, if you please, a motion of the insensible parts of our bodies, confined within certain bounds.

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

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

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

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

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

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

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

## Chapter 8. SOME FARTHER CONSIDERATIONS CONCERNING OUR SIMPLE IDEAS.

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1. Concerning the simple ideas of sensation it is 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 of the subject.

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2. Thus the ideas of heat and cold, light and darkness, white and black, motion and rest, are equally clear and positive ideas in the mind; though perhaps some of the causes which produce them are barely privations in 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.

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8. Whatsoever the mind perceives in itself, 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 a 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 power 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.

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9. Qualities thus considered in bodies are, first, such as are utterly inseparable from the body, in what state 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 itself 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 pestle, 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, reckoned as so many distinct bodies, after division make a certain number. These I call original or primary qualities of body, which I think we may observe to produce simple ideas in us, viz. solidity, extension, figure, motion or rest, and number.

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10. Secondly, 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, tastes, &c. 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.

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11. The next thing to be considered is, how bodies produce ideas in us; and that is manifestly by impulse, the only way which we can conceive bodies to operate in.

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12. If then external objects be not united to our minds, when they produce ideas therein, and yet we perceive these original qualities in such of them as singly fall under our senses, it is 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, it is 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.

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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 are 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 others extremely smaller than those, perhaps as much smaller than the particles of air and water, as the particles of air and water are smaller than peas or hail-stones: 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 conceive 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.

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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.

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15. From whence I think it easy 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.

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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 are 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?

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17. The particular bulk, number, figure, and motion of the parts of fire or snow are really in them, whether any one's 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, odours, 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.

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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 manna, 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 nowhere 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 itself it has not, as well as we allow it can operate on the guts and stomach, and thereby produce distinct ideas, which in itself 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 effect 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 or tasted, would need some reason to explain.

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19. Let us consider the red and white colours in porphyry: Hinder light 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 porphyry, by the presence or absence of light; and that those ideas of whiteness and redness are really in porphyry in the light, when it is 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 in us.

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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?

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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 sensations 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 easy 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.

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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 may also come to know what ideas are, and what are not, resemblances of some thing really existing in the bodies we denominate from them.

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23. The qualities then that are in bodies rightly considered, are of three sorts.

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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 itself, as is plain in artificial things. These I call primary qualities.

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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, tastes, &c. These are usually called sensible qualities.

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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.

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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.

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

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24. But though the two latter 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 called 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 some thing more than mere powers in it. But when we consider the sun, in reference to wax, which it melts or blanches, we look on 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 enlightened 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.

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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, &c. 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 some thing 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, &c. 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 it is 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 itself. 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.

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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, mediately perceivable.

## Chapter 9. OF PERCEPTION.

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

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

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8. We are further to consider concerning perception, that the ideas we receive by sensation are often in grown people altered by the judgment, without our taking notice of it. When we set before our eyes a round globe, of any uniform colour, v.g. gold, alabaster, or jet; it is certain that the idea thereby imprinted in our mind, is of a flat circle variously shadowed, with several degrees of light and brightness coming to our eyes. But we having by use been accustomed to perceive what kind of appearance convex bodies are wont to make in us, what alterations are made in the reflections of light by the difference of the sensible figures of bodies; the judgment presently, by an habitual custom, alters the appearances into their causes; so that from that which is truly variety of shadow or colour, collecting the figure, it makes it pass for a mark of figure, and frames to itself the perception of a convex figure and an uniform colour; when the idea we receive from thence is only a plane variously coloured, as is evident in painting. To which purpose I shall here insert a problem of that very ingenious and studious promoter of real knowledge, the learned and worthy Mr. Molineaux, which he was pleased to send me in a letter some months since; and it is this: Suppose a man born blind, and now adult, and taught by his touch to distinguish between a cube and a sphere of the same metal, and nighly of the same bigness, so as to tell, when he felt one and the other, which is the cube, which the sphere. Suppose then the cube and sphere placed on a table, and the blind man be made to see: Quaere, "whether by his sight, before he touched them, he could now distinguish and tell, which is the globe, which the cube?" to which the acute and judicious proposer answers: Not. For though he has obtained the experience of how a globe, how a cube affects his touch; yet he has not yet obtained the experience, that what affects his touch so or so, must affect his sight so or so: Or that a protuberant angle in the cube, that pressed his hand unequally, shall appear to his eye as it does in the cube. I agree with this thinking gentleman, whom I am proud to call my friend, in his answer to this problem; and am of opinion, that the blind man at first sight, would not be able with certainty to say which was the globe, which the cube, whilst he only saw them: Though he could unerringly name them by his touch, and certainly distinguish them by the difference of their figures felt.

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11. This faculty of perception seems to me to be that, which puts the distinction betwixt the animal kingdom and the inferior parts of nature. For however vegetables have, many of them, some degrees of motion, and upon the different application of other bodies to them, do very briskly alter their figures and motions, and so have obtained the name of sensitive plants, from a motion which has some resemblance to that which in animals follows upon sensation: Yet, I suppose, it is all bare mechanism; and no otherwise produced, than the turning of a wild oat-beard, by the insinuation of the particles of moisture, or the shortening of a rope, by the affusion of water. All which is done without any sensation in the subject, or the having or receiving any ideas.

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

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## Chapter 10. OF RETENTION.

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1. The next faculty of the mind, whereby it makes a farther progress towards knowledge, is that which I call retention, or the keeping of those simple ideas, which from sensation or reflection it hath received. This is done two ways; first, by keeping the idea, which is brought into it, for some time actually in view, which is called contemplation.

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

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## Chapter 11. OF DISCERNING, AND OTHER OPERATIONS OF THE MIND.

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

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

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

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

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

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

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

Chapter 12. OF COMPLEX IDEAS.

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

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

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3. Complex ideas, however compounded and decompounded, though their number be infinite, and the variety endless, wherewith they fill and entertain the thoughts of men; yet, I think, they may be all reduced under these three heads: 1. Modes. 2. Substances. 3. Relations.

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

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5. Of these modes, there are two sorts which deserve distinct consideration. First, there are some which are only variations, or different combinations of the same simple idea, without the mixture of any other; as a dozen or score; which are nothing but the ideas of so many distinct units added together: And these I call simple modes, as being contained within the bounds of one simple idea.

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Secondly, there are others compounded of simple ideas of several kinds, put together to make one complex one; v.g. beauty, consisting of a certain composition of colour and figure, causing delight to the beholder; theft, which being the concealed change of the possession of any thing, without the consent of the proprietor, contains, as is visible, a combination of several ideas of several kinds: And these I call mixed modes.

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

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

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8. If we will trace the progress of our minds, and with attention observe how it repeats, adds together, and unites its simple ideas received from sensation or reflection, it will lead us farther than at first, perhaps, we should have imagined. And, I believe, we shall find, if we warily observe the originals of our notions, that even the most abstruse ideas, how remote soever they may seem from sense, or from any operations of our own minds, are yet only such as the understanding frames to itself, by repeating and joining together ideas, that it had either from objects of sense, or from its own operations about them: So that those even large and abstract ideas are derived from sensation or reflection, being no other than what the mind, by the ordinary use of its own faculties, employed about ideas received from objects of sense, or from the operations it observes in itself about them, may and does attain unto. This I shall endeavour to shew in the ideas we have of space, time, and infinity, and some few others, that seem the most remote from those originals.

## Chapter 13. OF SIMPLE MODES, AND FIRST, OF THE SIMPLE MODES OF SPACE.

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

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

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

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

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

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5. There is another modification of this idea, which is nothing but the relation which the parts of the termination of extension, or circumscribed space, have amongst themselves. This the touch discovers in sensible bodies, whose extremities come within our reach; and the eye takes both from bodies and colours, whose boundaries are within its view; where observing how the extremities terminate either in straight lines, which meet at discernible angles; or in crooked lines, wherein no angles can be perceived; by considering these as they relate to one another, in all parts of the extremities of any body or space, it has that idea we call figure, which affords to the mind infinite variety. For besides the vast number of different figures, that do really exist in the coherent masses of matter, the stock that the mind has in its power, by varying the idea of space, and thereby making still new compositions, by repeating its own ideas, and joining them as it pleases, is perfectly inexhaustible; and so it can multiply figures in infinitum.

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16. Those who contend that space and body are the same, bring this dilemma: Either this space is some thing or nothing; if nothing be between two bodies, they must necessarily touch: If it be allowed to be some thing, they ask, whether it be body or spirit? To which I answer, by another question, who told them that there was, or could be nothing but solid beings, which could not think, and thinking beings that were not extended? which is all they mean by the terms body and spirit.

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17. If it be demanded (as usually it is) whether this space, void of body, be substance or accident; I shall readily answer, I know not; nor shall be ashamed to own my ignorance, till they that ask shew me a clear distinct idea of substance.

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18. I endeavour, as much as I can, to deliver myself from those fallacies which we are apt to put upon ourselves, by taking words for things. It helps not our ignorance to feign a knowledge where we have none, by making a noise with sounds, without clear and distinct significations. Names made at pleasure, neither alter the nature of things, nor make us understand them but as they are signs of and stand for determined ideas. And I desire those who lay so much stress on the sound of these two syllables, substance, to consider whether applying it, as they do, to the infinite incomprehensible God, to finite spirits and to body, it be in the same sense; and whether it stands for the same idea, when each of those three so different beings are called substances. If so, whether it will thence follow, that God, spirits, and body, agreeing in the same common nature of substance, differ not any otherwise than in a bare different modification of that substance; as a tree and a pebble being in the same sense body, and agreeing in the common nature of body, differ only in a bare modification of that common matter: Which will be a very harsh doctrine. If they say, that they apply it to God, finite spirit, and matter, in three different significations; and that it stands for one idea, when God is said to be a substance; for another, when the soul is called substance; and for a third, when body is called so; if the name substance stands for three several distinct ideas, they would do well to make known those distinct ideas, or at least to give three distinct names to them, to prevent in so important a notion the confusion and errours that will naturally follow from the promiscuous use of so doubtful a term; which is so far from being suspected to have three distinct, that in ordinary use it has scarce one clear distinct signification; and if they can thus make three distinct ideas of substance, what hinders why another may not make a fourth?

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19. They who first ran into the notion of accidents, as a sort of real beings that needed some thing to inhere in, were forced to find out the word substance to support them. Had the poor Indian philosopher (who imagined that the earth also wanted some thing to bear it up) but thought of this word substance, he needed not to have been at the trouble to find an elephant to support it, and a tortoise to support his elephant: The word substance would have done it effectually. And he that enquired, might have taken it for as good an answer from an Indian philosopher, that substance, without knowing what it is, is that which supports the earth; as we take it for a sufficient answer, and good doctrine, from our European philosophers, that substance, without knowing what it is, is that which supports accidents. So that of substance, we have no idea of what it is, but only a confused obscure one of what it does.

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20. Whatever a learned man may do here, an intelligent American, who enquired into the nature of things, would scarce take it for a satisfactory account, if desiring to learn our architecture, he should be told, that a pillar was a thing supported by a basis, and a basis some thing that supported a pillar. Would he not think himself mocked, instead of taught, with such an account as this? And a stranger to them would be very liberally instructed in the nature of books, and the things they contained, if he should be told, that all learned books consisted of paper and letters, and that letters were things inhering in paper, and paper a thing that held forth letters: A notable way of having clear ideas of letters and papers! But were the Latin words inhaerentia and substantia, put into the plain English ones that answer them, and were called sticking on and under-propping, they would better discover to us the very great clearness there is in the doctrine of substance and accidents, and shew of what use they are in deciding of questions in philosophy.

Chapter 14. OF DURATION AND ITS SIMPLE MODES.

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1. There is another sort of distance or length, the idea whereof we get not from the permanent parts of space, but from the fleeting and perpetually perishing parts of succession. This we call duration, the simple modes whereof are any different lengths of it, whereof we have distinct ideas, as hours, days, years, &c. time and eternity.

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2. The answer of a great man to one who asked what time was, "Si non rogas intelligo," (which amounts to this; The more I set myself to think of it, the less I understand it) might perhaps persuade one, that time, which reveals all other things, is itself not to be discovered. Duration, time, and eternity, are not without reason thought to have some thing very abstruse in their nature. But however remote these may seem from our comprehension, yet if we trace them right to their originals, I doubt not but one of those sources of all our knowledge, viz. sensation and reflection, will be able to furnish us with these ideas, as clear and distinct as many others which are thought much less obscure; and we shall find, that the idea of eternity itself is derived from the same common original with the rest of our ideas.

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3. To understand time and eternity aright, we ought with attention to consider what idea it is we have of duration, and how we came by it. It is evident to any one, who will but observe what passes in his own mind, that there is a train of ideas which constantly succeed one another in his understanding, as long as he is awake. Reflection on these appearances of several ideas, one after another, in our minds, is that which furnishes us with the idea of succession; and the distance between any parts of that succession, or between the appearance of any two ideas in our minds, is that we call duration. For whilst we are thinking, or whilst we receive successively several ideas in our minds, we know that we do exist; and so we call the existence, or the continuation of the existence of ourselves, or any thing else, commensurate to the succession of any ideas in our minds, the duration of ourselves, or any such other thing coexistent with our thinking.

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17. Having thus got the idea of duration, the next thing natural for the mind to do, is to get some measure of this common duration, whereby it might judge of its different lengths, and consider the distinct order wherein several things exist, without which a great part of our knowledge would be confused, and a great part of history be rendered very useless. This consideration of duration, as set out by certain periods, and marked by certain measures or epochs, is that, I think, which most properly we call time.

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27. By the same means therefore, and from the same original that we come to have the idea of time, we have also that idea which we call eternity: Viz. having got the idea of succession and duration, by reflecting on the train of our own ideas, caused in us either by the natural appearances of those ideas coming constantly of themselves into our waking thoughts, or else caused by external objects successively affecting our senses; and having from the revolutions of the sun got the ideas of certain lengths of duration, we can, in our thoughts, add such lengths of duration to one another, as often as we please, and apply them, so added, to durations past or to come: And this we can continue to do on, without bounds or limits, and proceed in infinitum, and apply thus the length of the annual motion of the sun to duration, supposed before the sun's, or any other motion had its being; which is no more difficult or absurd, than to apply the notion I have of the moving of a shadow one hour to-day upon the sun-dial to the duration of some thing last night, v.g. the burning of a candle, which is now absolutely separate from all actual motion: And it is as impossible for the duration of that flame for an hour last night to co-exist with any motion that now is, or for ever shall be, as for any part of duration, that was before the beginning of the world, to co-exist with the motion of the sun now. But yet this hinders not, but that having the idea of the length of the motion of the shadow on a dial between the marks of two hours, I can as distinctly measure in my thoughts the duration of that candlelight last night, as I can the duration of any thing that does now exist: And it is no more than to think, that had the sun shone then on the dial, and moved after the same rate it doth now, the shadow on the dial would have passed from one hour-line to another, whilst that flame of the candle lasted.

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31. And thus I think it is plain, that from those two fountains of all knowledge before-mentioned, viz. reflection and sensation, we got the ideas of duration, and the measures of it.

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For, first, by observing what passes in our minds, how our ideas there in train constantly some vanish, and others begin to appear, we come by the idea of succession.

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Secondly, by observing a distance in the parts of this succession, we get the idea of duration.

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Thirdly, by sensation observing certain appearances, at certain regular and seeming equidistant periods, we get the ideas of certain lengths or measures of duration as minutes, hours, days, years, &c.

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Fourthly, by being able to repeat those measures of time or ideas of stated length of duration, in our minds, as often as we will, we can come to imagine duration, there nothing does really endure or exist; and thus we imagine to-morrow, next year, or seven years hence.

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Fifthly, by being able to repeat ideas of any length of time as of a minute, a year, or an age, as often as we will in our own thoughts, and adding them one to another, without ever coming to the end of such addition any nearer than we can to the end of number, to which we can always add; we come by the idea of eternity, as the future eternal duration of our souls, as well as the eternity of that infinite Being, which must necessarily have always existed.

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Sixthly, by considering any part of infinite duration, as set out by periodical measures, we come by the idea of what we call time in general.

## Chapter 17. OF INFINITY.

1. He that would know what kind of idea it is to which we give the name of infinity, cannot do it better, than by considering to what infinity is by the mind more immediately attributed, and then how the mind comes to frame it.

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Finite and infinite seem to me to be looked upon by the mind as the modes of quantity, and to be attributed primarily in their first designation only to those things which have parts, and are capable of increase or diminution by the addition or subtraction of any the least part: And such are the ideas of space, duration, and number, which we have considered in the foregoing chapters. It is true, that we cannot but be assured, that the great God, of whom and from whom are all things, is incomprehensibly infinite: But yet when we apply to that first and supreme being our idea of infinite, in our weak and narrow thoughts, we do it primarily in respect to his duration and ubiquity; and, I think, more figuratively to his power, wisdom, and goodness, and other attributes, which are properly inexhaustible and incomprehensible, &c. For, when we call them infinite, we have no other idea of this infinity, but what carries with it some reflection on, and imitation of, that number or extent of the acts or objects of God's power, wisdom, and goodness, which can never be supposed so great or so many, which these attributes will not always surmount and exceed, let us multiply them in our thoughts as far as we can, with all the infinity of endless number. I do not pretend to say how these attributes are in God, who is infinitely beyond the reach of our narrow capacities. They do, without doubt, contain in them all possible perfection: But this, I say, is our way of conceiving them, and these our ideas of their infinity.

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2. Finite then, and infinite, being by the mind looked on as modifications of expansion and duration, the next thing to be considered, is, how the mind comes by them. As for the idea of finite, there is no great difficulty. The obvious portions of extension that affect our senses, carry with them into the mind the idea of finite: And the ordinary periods of succession, whereby we measure time and duration, as hours, days, and years, are bounded lengths. The difficulty is, how we come by those boundless ideas of eternity and immensity, since the objects we converse with, come so much short of any approach or proportion to that largeness.

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3. Every one that has any idea of any stated lengths of space, as a foot, finds that he can repeat that idea; and, joining it to the former, make the idea of two feet; and by the addition of a third, three feet; and so on, without ever coming to an end of his addition, whether of the same idea of a foot, or, if he pleases of doubling it, or any other idea he has of any length, as a mile, or diameter of the earth, or of the orbis magnus: For which-ever of these he takes, and how often soever he doubles, or any otherwise multiplies it, he finds that after he has continued his doubling in his thoughts, and enlarged his idea as much as he pleases, he has no more reason to stop, nor is one jot nearer the end of such addition, than he was at first setting out. The power of enlarging his idea of space by farther additions remaining still the same, he hence takes the idea of infinite space.

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13. Though it be hard, I think, to find anyone so absurd as to say, he has the positive idea of an actual infinite number; the infinity whereof lies only in a power still of adding any combination of units to any former number, and that as long and as much as one will; the like also being in the infinity of space and duration, which power leaves always to the mind room for endless additions; yet there be those who imagine they have positive ideas of infinite duration and space. It would, I think, be enough to destroy any such positive idea of infinite, to ask him that has it, whether he could add to it or no; which would easily shew the mistake of such a positive idea. We can, I think, have no positive idea of any space or duration which is not made up of, and commensurate to repeated numbers of feet or yards, or days and years, which are the common measures, whereof we have the ideas in our minds, and whereby we judge of the greatness of this sort of quantities. And therefore, since an infinite idea of space or duration must needs be made up of infinite parts, it can have no other infinity than that of number, capable still of farther addition; but not an actual positive idea of a number infinite. For, I think, it is evident that the addition of finite things together (as are all lengths whereof we have the positive ideas) can never otherwise produce the idea of infinite, than as number does; which, consisting of additions of finite units one to another, suggests the idea of infinite, only by a power we find we have of still increasing the sum, and adding more of the same kind, without coming one jot nearer the end of such progression.

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14. They who would prove their idea of infinite to be positive, seem to me to do it by a pleasant argument, taken from the negation of an end; which being negative, the negation of it is positive. He that considers that the end is, in body, but the extremity or superficies of that body, will not perhaps be forward to grant that the end is a bare negative: And he that perceives the end of his pen is black or white, will be apt to think that the end is some thing more than a pure negation. Nor is it, when applied to duration, the bare negation of existence, but more properly the last moment of it. But if they will have the end to be nothing but the bare negation of existence, I am sure they cannot deny but the beginning is the first instant of being, and is not by any body conceived to be a bare negation; and therefore by their own argument, the idea of eternal, a parte ante, or of a duration without a beginning, is but a negative idea.

## Chapter 19. OF THE MODES OF THINKING.

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1. When the mind turns its view inwards upon itself, and contemplates its own actions, thinking is the first that occurs. In it the mind observes a great variety of modifications, and from thence receives distinct ideas. Thus the perception which actually accompanies, and is annexed to any impression on the body, made by an external object, being distinct from all other modifications of thinking, furnishes the mind with a distinct idea, which we call sensation; which is, as it were, the actual entrance of any idea into the understanding by the senses. The same idea, when it again recurs without the operation of the like object on the external sensory, is remembrance; if it be sought after by the mind, and with pain and endeavour found, and brought again in view, it is recollection; if it be held there long under attentive consideration, it is contemplation. When ideas float in our mind, without any reflection or regard of the understanding, it is that which the French call reverie, our language has scarce a name for it. When the ideas that offer themselves (for, as I have observed in another place, whilst we are awake, there will always be a train of ideas succeeding one another in our minds) are taken notice of, and, as it were, registered in the memory, it is attention. When the mind with great earnestness, and of choice, fixes its view on any idea, considers it on all sides, and will not be called off by the ordinary solicitation of other ideas, it is that we call intention, or study. Sleep, without dreaming, is rest from all these: And dreaming itself, is the having of ideas (whilst the outward senses are stopped, so that they receive not outward objects with their usual quickness) in the mind, not suggested by any external objects, or known occasion, nor under any choice or conduct of the understanding at all. And whether that, which we call ecstasy, be not dreaming with the eyes open, I leave to be examined.

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## Chapter 20. OF MODES OF PLEASURE AND PAIN.

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1. Amongst the simple ideas, which we receive both from sensation and reflection, pain and pleasure are two very considerable ones. For as in the body there is sensation barely in itself, or accompanied with pain or pleasure: So the thought or perception of the mind is simply so, or else accompanied also with pleasure or pain, delight or trouble, call it how you please. These, like other simple ideas, cannot be described, nor their names defined; the way of knowing them is, as of the simple ideas of the senses, only by experience. For to define them by the presence of good or evil, is no otherwise to make them known to us, than by making us reflect on what we feel in ourselves, upon the several and various operations of good and evil upon our minds, as they are differently applied to or considered by us.

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2. Things then are good or evil, only in reference to pleasure or pain. That we call good, which is apt to cause or increase pleasure, or diminish pain in us; or else to procure or preserve us the possession of any other good, or absence of any evil. And on the contrary, we name that evil, which is apt to produce or increase any pain, or diminish any pleasure in us; or else to procure us any evil, or deprive us of any good. By pleasure and pain, I must be understood to mean of body or mind, as they are commonly distinguished; though in truth they be only different constitutions of the mind, sometimes occasioned by disorder in the body, sometimes by thoughts of the mind.

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3. Pleasure and pain, and that which causes them, good and evil, are the hinges on which our passions turn: And if we reflect on ourselves, and observe how these, under various considerations, operate in us; what modifications or tempers of mind, what internal sensations (if I may so call them) they produce in us, we may thence form to ourselves the ideas of our passions.

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7. Joy is a delight of the mind, from the consideration of the present or assured approaching possession of a good: And we are then possessed of any good when we have it so in our power, that we can use it when we please. Thus a man almost starved has joy at the arrival of relief, even before he has the pleasure of using it: And a father, in whom the very well-being of his children causes delight, is always, as long as his children are in such a state, in the possession of that good; for he needs but to reflect on it, to have that pleasure.

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8. Sorrow is uneasiness in the mind, upon the thought of a good lost, which might have been enjoyed longer; or the sense of a present evil.

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9. Hope is that pleasure in the mind, which every one finds in himself, upon the thought of a probable future enjoyment of a thing, which is apt to delight him.

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10. Fear is an uneasiness of the mind, upon the thought of future evil likely to befall us.

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11. Despair is the thought of the unattainableness of any good, which works differently in men's minds, sometimes producing uneasiness or pain, sometimes rest and indolency.

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12. Anger is uneasiness or discomposure of the mind, upon the receipt of any injury, with a present purpose of revenge.

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13. Envy is an uneasiness of the mind, caused by the consideration of a good we desire, obtained by one we think should not have had it before us.

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## Chapter 21. OF POWER.

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1. The mind being every day informed, by the senses, of the alteration of those simple ideas it observes in things without, and taking notice how one comes to an end, and ceases to be, and another begins to exist which was not before; reflecting also on what passes within it self, and observing a constant change of its ideas, sometimes by the impression of outward objects on the senses, and sometimes by the determination of its own choice; and concluding from what it has so constantly observed to have been, that the like changes will for the future be made in the same things by like agents, and by the like ways; considers in one thing the possibility of having any of its simple ideas changed, and in another the possibility of making that change: And so comes by that idea which we call power. Thus we say, fire has a power to melt gold, i.e. to destroy the consistency of its insensible parts, and consequently its hardness, and make it fluid; and gold has a power to be melted: That the sun has a power to blanch wax, and wax a power to be blanched by the sun, whereby the yellowness is destroyed, and whiteness made to exist in its room. In which, and the like cases, the power we consider is in reference to the change of perceivable ideas: For we cannot observe any alteration to be made in, or operation upon, any thing, but by the observable change of its sensible ideas; nor conceive any alteration to be made, but by conceiving a change of some of its ideas.

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2. Power, thus considered, is two-fold, viz. as able to make, or able to receive any change: The one may be called active, and the other passive power. Whether matter be not wholly destitute of active power, as its author God is truly above all passive power; and whether the intermediate state of created spirits be not that alone which is capable of both active and passive power, may be worth consideration. I shall not now enter into that enquiry: My present business being not to search into the original of power, but how we come by the idea of it. But since active powers make so great a part of our complex ideas of natural substances (as we shall see hereafter) and I mention them as such, according to common apprehension; yet they being not perhaps so truly active powers, as our hasty thoughts are apt to represent them, I judge it not amiss, by this intimation, to direct our minds to the consideration of God and spirits, for the clearest idea of active powers.

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3. I confess power includes in it some kind of relation, (a relation to action or change) as indeed which of our ideas, of what kind soever, when attentively considered, does not? For, our ideas of extension, duration, and number, do they not all contain in them a secret relation of the parts? Figure and motion have some thing relative in them much more visibly: And sensible qualities, as colours and smells, &c. what are they but the powers of different bodies, in relation to our perception? &c. And if considered in the things themselves, do they not depend on the bulk, figure, texture, and motion of the parts? All which include some kind of relation in them. Our idea therefore of power, I think may well have a place amongst other simple ideas, and be considered as one of them, being one of those that make a principal ingredient in our complex ideas of substances, as we shall hereafter have occasion to observe.

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4. We are abundantly furnished with the idea of passive power by almost all sorts of sensible things. In most of them we cannot avoid observing their sensible qualities, nay, their very substances, to be in a continual flux: And therefore with reason we look on them as liable still to the same change. Nor have we of active power (which is the more proper signification of the word power) fewer instances: Since whatever change is observed, the mind must collect a power somewhere able to make that change, as well as a possibility in the thing itself to receive it. But yet, if we will consider it attentively, bodies, by our senses, do not afford us so clear and distinct an idea of active power, as we have from reflection on the operations of our minds. For all power relating to action, and there being but two sorts of action, whereof we have an idea, viz. thinking and motion; let us consider whence we have the clearest ideas of the powers which produce these actions. 1. Of thinking body affords us no idea at all; it is only from reflection that we have that. 2. Neither have we from body any idea of the beginning of motion. A body at rest affords us no idea of any active power to move; and when it is set in motion itself, that motion is rather a passion, than an action in it. For when the ball obeys the motion of a billiard stick, it is not any action of the ball, but bare passion: Also when by impulse it sets another ball in motion that lay in its way, it only communicates the motion it had received from another, and loses in itself so much as the other received: Which gives us but a very obscure idea of an active power of moving in body, whilst we observe it only to transfer, but not produce any motion. For it is but a very obscure idea of power, which reaches not the production of the action, but the continuation of the passion. For so is motion in a body impelled by another; the continuation of the alteration made in it from rest to motion being little more an action, than the continuation of the alteration of its figure by the same blow is an action. The idea of the beginning of motion we have only from reflection on what passes in ourselves, where we find by experience, that barely by willing it, barely by a thought of the mind, we can move the parts of our bodies, which were before at rest. So that it seems to me, we have from the observation of the operation of bodies by our senses but a very imperfect obscure idea of active power, since they afford us not any idea in themselves of the power to begin any action, either motion or thought. But if, from the impulse bodies are observed to make one upon another, any one thinks he has a clear idea of power, it serves as well to my purpose, sensation being one of those ways whereby the mind comes by its ideas: Only I thought it worth while to consider here by the way, whether the mind doth not receive its idea of active power clearer from reflection on its own operations, than it doth from any external sensation.

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5. This at least I think evident, that we find in ourselves a power to begin or forbear, continue or end several actions of our minds, and motions of our bodies, barely by a thought or preference of the mind ordering, or, as it were, commanding the doing or not doing such or such a particular action. This power which the mind has thus to order the consideration of any idea, or the forbearing to consider it; or to prefer the motion of any part of the body to its rest, and vice versa, in any particular instance: Is that which we call the will. The actual exercise of that power, by directing any particular action, or its forbearance, is that which we call volition or willing. The forbearance, of that action, consequent to such order or command of the mind, is called voluntary. And whatsoever action is performed without such a thought of the mind, is called involuntary. The power of perception is that which we call the understanding. Perception, which we make the act of the understanding, is of three sorts: 1. The perception of ideas in our minds. 2. The perception of the signification of signs. 3. The perception of the connexion or repugnancy, agreement or disagreement, that there is between any of our ideas. All these are attributed to the understanding, or perceptive power, though it be the two latter only that use allows us to say we understand.

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7. Every one I think, finds in himself a power to begin or forbear, continue or put an end to several actions in himself. From the consideration of the extent of this power of the mind over the actions of the man, which every one finds in himself, arise the ideas of liberty and necessity.

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8. All the actions that we have any idea of, reducing themselves, as has been said, to these two, viz. thinking and motion; so far as a man has power to think, or not to think; to move, or not to move, according to the preference or direction of his own mind; so far is a man free. Wherever any performance or forbearance are not equally in a man's power; wherever doing or not doing, will not equally follow upon the preference of his mind directing it: There he is not free, though perhaps the action may be voluntary. So that the idea of liberty is the idea of a power in any agent to do or forbear any particular action, according to the determination or thought of the mind, whereby either of them is preferred to the other: Where either of them is not in the power of the agent to be produced by him according to his volition, there he is not at liberty; that agent is under necessity. So that liberty cannot be where there is no thought, no volition, no will; but there may be thought, there may be will, there may be volition, where there is no liberty. A little consideration of an obvious instance or two may make this clear.

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9. A tennis-ball, whether in motion by the stroke of a racket, or lying still at rest, is not by any one taken to be a free agent. If we enquire into the reason, we shall find it is because we conceive not a tennis-ball to think, and consequently not to have any volition, or preference of motion to rest, or vice versa; and therefore has not liberty, is not a free agent; but all its both motion and rest come under our idea of necessary, and are so called. Likewise a man falling into the water (a bridge breaking under him) has not herein liberty, is not a free agent. For though he has volition, though he prefers his not falling to falling; yet the forbearance of that motion not being in his power, the stop or cessation of that motion follows not upon his volition; and therefore therein he is not free. So a man striking himself or his friend, by a convulsive motion of his arm, which it is not in his power, by volition or the direction of his mind, to stop, or forbear, nobody thinks he has in this liberty; every one pities him, as acting by necessity and constraint.

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10. Again, suppose a man be carried, whilst fast asleep, into a room, where is a person he longs to see and speak with; and be there locked fast in, beyond his power to get out: He awakes, and is glad to find himself in so desirable company, which he stays willingly in, i.e. prefers his stay to going away; I ask, Is not this stay voluntary? I think nobody will doubt it; and yet being locked fast in, it is evident he is not at liberty not to stay, he has not freedom to be gone. So that liberty is not an idea belonging to volition, or preferring; but to the person having the power of doing, or forbearing to do, according as the mind shall choose or direct. Our idea of liberty reaches as far as that power, and no farther. For wherever restraint comes to check that power, or compulsion takes away that indifferency of ability on either side to act, or to forbear acting; there liberty, and our notion of it, presently ceases.

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11. We have instances enough, and often more than enough, in our own bodies. A man's heart beats, and the blood circulates, which it is not in his power by any thought or volition to stop; and therefore in respect to these motions, where rest depends not on his choice, nor would follow the determination of his mind, if it should prefer it, he is not a free agent. Convulsive motions agitate his legs, so that though he wills it ever so much, he cannot by any power of his mind stop their motion (as in that odd disease called chorea sancti Viti) but he is perpetually dancing; he is not at liberty in this action, but under as much necessity of moving, as a stone that falls, or a tennis-ball struck with a racket. On the other side, a palsy or the stocks hinder his legs from obeying the determination of his mind, if it would thereby transfer his body to another place. In all these there is want of freedom; though the sitting still even of a paralytic, whilst he prefers it to a removal, is truly voluntary. Voluntary then is not opposed to necessary, but to involuntary. For a man may prefer what he can do, to what he cannot do: The state he is in, to its absence or change, though necessity has made it in itself unalterable.

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12. As it is in the motions of the body, so it is in the thoughts of our minds: Where any one is such, that we have power to take it up, or lay it by, according to the preference of the mind, there we are at liberty. A waking man being under the necessity of having some ideas constantly in his mind, is not at liberty to think, or not to think; no more than he is at liberty whether his body shall touch any other or no: But whether he will remove his contemplation from one idea to another, is many times in his choice; and then he is in respect of his ideas as much at liberty as he is in respect of bodies he rests on; he can at pleasure remove himself from one to another. But yet some ideas to the mind, like some motions to the body, are such as in certain circumstances it cannot avoid, nor obtain their absence by the utmost effort it can use. A man on the rack is not at liberty to lay by the idea of pain, and divert himself with other contemplations: And sometimes a boisterous passion hurries our thoughts as a hurricane does our bodies, without leaving us the liberty of thinking on other things, which we would rather choose. But as soon as the mind regains the power to stop or continue, begin or forbear any of these motions of the body without, or thoughts within, according as it thinks fit to prefer either to the other, we then consider the man as a free agent again.

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13. Wherever thought is wholly wanting, or the power to act or forbear according to the direction of thought; there necessity takes place. This in an agent capable of volition, when the beginning or continuation of any action is contrary to that preference of his mind, is called compulsion; when the hindering or stopping any action is contrary to his volition, it is called restraint. Agents that have no thought, no volition, at all, are in every thing necessary agents.

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14. If this be so (as I imagine it is) I leave it to be considered whether it may not help to put an end to that long agitated, and I think, unreasonable, because unintelligible question, viz. Whether man's will be free, or no? For if I mistake not, it follows from what I have said, that the question itself is altogether improper; and it is as insignificant to ask whether man's will be free, as to ask whether his sleep be swift, or his virtue square: Liberty being as little applicable to the will, as swiftness of motion is to sleep, or squareness to virtue. Every one would laugh at the absurdity of such a question, as either of these: Because it is obvious, that the modifications of motion belong not to sleep, nor the difference of figure to virtue: And when any one well considers it, I think he will as plainly perceive, that liberty, which is but a power, belongs only to agents, and cannot be an attribute or modification of the will, which is also but a power.

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17. However, the name faculty, which men have given to this power called the will, and whereby they have been led into a way of talking of the will as acting, may, by an appropriation that disguises its true sense, serve a little to palliate the absurdity; yet the will in truth signifies nothing but a power, or ability, to prefer or choose: And when the will under the name of a faculty, is considered as it is, barely as an ability to do some thing, the absurdity in saying it is free, or not free, will easily discover itself.

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21. To return then to the enquiry about liberty, I think the question is not proper, whether the will be free, but whether a man be free. Thus, I think,

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1. That so far as any one can, by the direction or choice of his mind, preferring the existence of any action to the non-existence of that action, and vice versa, make it to exist or not exist; so far he is free. For if I can, by a thought directing the motion of my finger, make it move when it was at rest, or vice versa; it is evident, that in respect of that I am free: And if I can, by a like thought of my mind, preferring one to the other, produce either words or silence, I am at liberty to speak, or hold my peace: And as far as this power reaches, of acting, or not acting, by the determination of his own thought preferring either, so far is a man free. For how can we think any one freer, than to have the power to do what he will? And so far as any one can, by preferring any action to its not being, or rest to any action, produce that action or rest, so far can he do what he will. For such a preferring of action to its absence, is the willing of it: And we can scarce tell how to imagine any being freer, than to be able to do what he wills. So that in respect of actions within the reach of such a power in him, a man seems as free, as it is possible for freedom to make him.

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23. That willing, or volition, being an action, and freedom consisting in a power of acting or not acting, a man in respect of willing or the act of volition, when any action in his power is once proposed to his thoughts, as presently to be done, cannot be free. The reason whereof is very manifest: For it being unavoidable that the action depending on his will should exist or not exist: And its existence or not existence, following perfectly the determination and preference of his will; he cannot avoid willing the existence, or not existence of that action; it is absolutely necessary that he will the one, or the other; i.e. prefer the one to the other; since one of them must necessarily follow; and that which does follow follows by the choice and determination of his mind, that is, by his willing it; for if he did not will it, it would not be. So that in respect of the act of willing, a man in such a case is not free: Liberty consisting in a power to act, or not to act; which, in regard of volition, a man, upon such a proposal, has not. For it is unavoidably necessary to prefer the doing or forbearance of an action in a man's power, which is once so proposed to his thoughts: A man must necessarily will the one or the other of them, upon which preference or volition, the action or its forbearance certainly follows, and is truly voluntary. But the act of volition, or preferring one of the two, being that which he cannot avoid, a man in respect of that act of willing is under a necessity, and so cannot be free; unless necessity and freedom can consist together, and a man can be free and bound at once.

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24. This then is evident, that in all proposals of present action, a man is not at liberty to will or not to will, because he cannot forbear willing: Liberty consisting in a power to act or to forbear acting, and in that only. For a man that sits still is said yet to be at liberty, because he can walk if he wills it. But if a man sitting still has not a power to remove himself, he is not at liberty; so likewise a man falling down a precipice, though in motion, is not at liberty, because he cannot stop that motion if he would. This being so, it is plain that a man that is walking, to whom it is proposed to give off walking, is not at liberty whether he will determine himself to walk, or give off walking, or no: He must necessarily prefer one or the other of them; walking or not walking; and so it is in regard of all other actions in our power so proposed, which are the far greater number. For considering the vast number of voluntary actions that succeed one another every moment that we are awake in the course of our lives, there are but few of them that are thought on or proposed to the will, till the time they are to be done: And in all such actions, as I have shewn, the mind in respect of willing has not a power to act, or not to act, wherein consists liberty. The mind in that case has not a power to forbear willing; it cannot avoid some determination concerning them, let the consideration be as short, the thought as quick as it will, it either leaves the man in the state he was before thinking, or changes it; continues the action, or puts an end to it. Whereby it is manifest, that it orders and directs one, in preference to or with neglect of the other, and thereby either the continuation or change becomes unavoidably voluntary.

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25. Since then it is plain that in most cases a man is not at liberty, whether he will or no; the next thing demanded is, whether a man be at liberty to will which of the two he pleases, motion or rest? This question carries the absurdity of it so manifestly in itself, that one might thereby sufficiently be convinced that liberty concerns not the will. For to ask, whether a man be at liberty to will either motion or rest, speaking or silence, which he pleases; is to ask, whether a man can will what he wills, or be pleased with what he is pleased with? A question which, I think, needs no answer; and they who can make a question of it must suppose one will to determine the acts of another, and another to determine that; and so on in infinitum.

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26. To avoid these and the like absurdities, nothing can be of greater use, than to establish in our minds determined ideas of the things under consideration. If the ideas of liberty and volition were well fixed in the understandings, and carried along with us in our minds, as they ought, through all the questions that are raised about them, I suppose a great part of the difficulties that perplex men's thoughts, and entangle their understandings, would be much easier resolved; and we should perceive where the confused signification of terms, or where the nature of the thing caused the obscurity.

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27. First then, it is carefully to be remembered, that freedom consists in the dependence of the existence, or not existence of any action, upon our volition of it; and not in the dependence of any action, or its contrary, on our preference. A man standing on a cliff, is at liberty to leap twenty yards downwards into the sea, not because he has a power to do the contrary action, which is to leap twenty yards upwards, for that he cannot do: But he is therefore free because he has a power to leap or not to leap. But if a greater force than his either holds him fast, or tumbles him down, he is no longer free in that case; because the doing or forbearance of that particular action is no longer in his power. He that is a close prisoner in a room twenty feet square, being at the north side of his chamber, is at liberty to walk twenty feet southward, because he can walk or not walk it; but is not, at the same time, at liberty to do the contrary, i.e. to walk twenty feet northward.

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In this then consists freedom, viz. in our being able to act or not to act, according as we shall choose or will.

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30. But, in the way to it, it will be necessary to premise, that though I have above endeavoured to express the act of volition by choosing, preferring, and the like terms, that signify desire as well as volition, for want of other words to mark that act of the mind, whose proper name is willing or volition; yet it being a very simple act, whosoever desires to understand what it is, will better find it by reflecting on his own mind, and observing what it does when it wills, than by any variety of articulate sounds whatsoever. This caution of being careful not to be misled by expressions that do not enough keep up the difference between the will and several acts of the mind that are quite distinct from it, I think the more necessary; because I find the will often confounded with several of the affections, especially desire, and one put for the other; and that by men, who would not willingly be thought not to have had very distinct notions of things, and not to have writ very clearly about them. This, I imagine, has been no small occasion of obscurity and mistake in this matter; and therefore is, as much as may be, to be avoided. For he that shall turn his thoughts inwards upon what passes in his mind when he wills, shall see that the will or power of volition is conversant about nothing, but that particular determination of the mind, whereby barely by a thought the mind endeavours to give rise, continuation, or stop, to any action which it takes to be in its power. This, well considered, plainly shews that the will is perfectly distinguished from desire; which in the very same action may have a quite contrary tendency from that which our will sets us upon. A man whom I cannot deny, may oblige me to use persuasions to another, which, at the same time I am speaking, I may wish may not prevail on him. In this case, it is plain the will and desire run counter. I will the action that tends one way, whilst my desire tends another, and that the direct contrary way. A man who by a violent fit of the gout in his limbs finds a doziness in his head, or a want of appetite in his stomach removed, desires to be eased too of the pain of his feet or hands (for wherever there is pain, there is a desire to be rid of it) though yet, whilst he apprehends that the removal of the pain may translate the noxious humour to a more vital part, his will is never determined to any one action that may serve to remove his pain. Whence it is evident that desiring and willing are two distinct acts of the mind; and consequently that the will, which is but the power of volition, is much more distinct from desire.

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31. To return then to the enquiry, What is it that determines the will in regard to our actions? And that upon second thoughts I am apt to imagine is not, as is generally supposed, the greater good in view; but some (and for the most part the most pressing) uneasiness a man is at present under. This is that which successively determines the will, and sets us upon those actions we perform. This uneasiness we may call, as it is, desire; which is an uneasiness of the mind for want of some absent good. […]

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35. It seems so established and settled a maxim by the general consent of all mankind, that good, the greater good, determines the will, that I do not at all wonder, that when I first published my thoughts on this subject, I took it for granted; and I imagine that by a great many I shall be thought more excusable, for having then done so, than that now I have ventured to recede from so received an opinion. But yet upon a stricter enquiry, I am forced to conclude, that good, the greater good, though apprehended and acknowledged to be so, does not determine the will, until our desire, raised proportionably to it, makes us uneasy in the want of it. Convince a man ever so much, that plenty has its advantages over poverty; make him see and own, that the handsome conveniences of life are better than nasty penury: Yet as long as he is content with the latter, and finds no uneasiness in it, he moves not; his will never is determined to any action that shall bring him out of it. […]

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38. Were the will determined by the views of good, as it appears in contemplation greater or less to the understanding, which is the state of all absent good, and that which in the received opinion the will is supposed to move to, and to be moved by, I do not see how it could ever get loose from the infinite eternal joys of heaven, once proposed and considered as possible. […]

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This would be the state of the mind, and regular tendency of the will in all its determinations, were it determined by that which is considered, and in view the greater good; but that it is not so, is visible in experience; the infinitely greatest confessed good being often neglected, to satisfy the successive uneasiness of our desires pursuing trifles. […]

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44. This, I think, any one may observe in himself and others, that the greater visible good does not always raise men's desires, in proportion to the greatness it appears, and is acknowledged to have: Though every little trouble moves us, and sets us on work to get rid of it. The reason whereof is evident, from the nature of our happiness and misery itself. All present pain, whatever it be, makes a part of our present misery; but all absent good does not at any time make a necessary part of our present happiness, nor the absence of it make a part of our misery. […]

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47. There being in us a great many uneasinesses always soliciting, and ready to determine the will, it is natural, as I have said, that the greatest and most pressing should determine the will to the next action; and so it does for the most part, but not always. For the mind having in most cases, as is evident in experience, a power to suspend the execution and satisfaction of any of its desires, and so all, one after another; is at liberty to consider the objects of them, examine them on all sides, and weigh them with others. In this lies the liberty man has; and from the not using of it right comes all that variety of mistakes, errors, and faults which we run into in the conduct of our lives, and our endeavours after happiness; whilst we precipitate the determination of our wills, and engage too soon before due examination. To prevent this, we have a power to suspend the prosecution of this or that desire, as every one daily may experiment in himself. This seems to me the source of all liberty; in this seems to consist that which is (as I think improperly) called free-will. For during this suspension of any desire, before the will be determined to action, and the action (which follows that determination) done, we have opportunity to examine, view, and judge of the good or evil of what we are going to do; and when, upon due examination, we have judged, we have done our duty, all that we can or ought to do in pursuit of our happiness; and it is not a fault, but a perfection of our nature to desire, will, and act according to the last result of a fair examination.

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52. This is the hinge on which turns the liberty of intellectual beings, in their constant endeavours after and a steady prosecution of true felicity, that they can suspend this prosecution in particular cases, till they have looked before them, and informed themselves whether that particular thing, which is then proposed or desired, lie in the way to their main end, and make a real part of that which is their greatest good: For the inclination and tendency of their nature to happiness is an obligation and motive to them, to take care not to mistake or miss it; and so necessarily puts them upon caution, deliberation, and wariness, in the direction of their particular actions, which are the means to obtain it. Whatever necessity determines to the pursuit of real bliss, the same necessity with the same force establishes suspense, deliberation, and scrutiny of each successive desire, whether the satisfaction of it does not interfere with our true happiness, and mislead us from it. This, as seems to me, is the great privilege of finite intellectual beings; and I desire it may be well considered, whether the great inlet and exercise of all the liberty men have, are capable of, or can be useful to them, and that whereon depends the turn of their actions, does not lie in this, that they can suspend their desires, and stop them from determining their wills to any action, till they have duly and fairly examined the good and evil of it, as far forth as the weight of the thing requires. This we are able to do, and when we have done it, we have done our duty, and all that is in our power, and indeed all that needs. For since the will supposes knowledge to guide its choice, all that we can do is to hold our wills undetermined, till we have examined the good and evil of what we desire. What follows after that, follows in a chain of consequences linked one to another, all depending on the last determination of the judgment; which, whether it shall be upon a hasty and precipitate view, or upon a due and mature examination, is in our power; experience shewing us, that in most cases we are able to suspend the present satisfaction of any desire.

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Before I close this chapter, it may perhaps be to our purpose, and help to give us clearer conceptions about power, if we make our thoughts take a little more exact survey of action. I have said above, that we have ideas but of two sorts of action, viz. motion and thinking. These, in truth, though called and counted actions, yet if nearly considered, will not be found to be always perfectly so. For, if I mistake not, there are instances of both kinds, which, upon due consideration, will be found rather passions than actions, and consequently so far the effects barely of passive powers in those subjects, which yet on their accounts are thought agents. For in these instances, the substance that hath motion or thought receives the impression, whereby it is put into that action purely from without, and so acts merely by the capacity it has to receive such an impression from some external agent; and such a power is not properly an active power, but a mere passive capacity in the subject. Sometimes the substance or agent puts itself into action by its own power; and this is properly active power. Whatsoever modification a substance has, whereby it produces any effect, that is called action: V.g. a solid substance by motion operates on, or alters the sensible ideas of another substance; and therefore this modification of motion we call action. But yet this motion in that solid substance is, when rightly considered, but a passion, if it received it only from some external agent. So that the active power of motion is in no substance which cannot begin motion in itself, or in another substance, when at rest. So likewise in thinking, a power to receive ideas or thoughts, from the operation of any external substance, is called a power of thinking: But this is but a passive power, or capacity. But to be able to bring into view ideas out of sight at one's own choice, and to compare which of them one thinks fit, this is an active power. This reflection may be of some use to preserve us from mistakes about powers and actions, which grammar and the common frame of languages may be apt to lead us into; since what is signified by verbs that grammarians call active, does not always signify action: V.g. this proposition; I see the moon, or a star, or I feel the heat of the sun, though expressed by a verb active, does not signify any action in me, whereby I operate on those substances; but only the reception of the ideas of light, roundness and heat, wherein I am not active, but barely passive, and cannot in that position of my eyes, or body, avoid receiving them. But when I turn my eyes another way, or remove my body out of the sun-beams, I am properly active; because of my own choice, by a power within myself, I put myself into that motion. Such an action is the product of active power.

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73. And thus I have, in a short draught, given a view of our original ideas, from whence all the rest are derived, and of which they are made up; which if I would consider, as a philosopher, and examine on what causes they depend, and of what they are made, I believe they all might be reduced to these very few primary and original ones, viz. Extension, Solidity, Mobility, or the power of being moved; which by our senses we receive from body; Perceptivity, or the power of perception, or thinking; Motivity, or the power of moving: Which by reflection we receive from our minds. I crave leave to make use of these two new words, to avoid the danger of being mistaken in the use of those which are equivocal. To which if we add Existence, Duration, Number; which belong both to the one and the other; we have, perhaps, all the original ideas, on which the rest depend. For by these, I imagine, might be explained the nature of colours, sounds, tastes, smells, and all other ideas we have, if we had but faculties acute enough to perceive the severally modified extensions and motions of these minute bodies, which produce those several sensations in us. But my present purpose being only to enquire into the knowledge the mind has of things, by those ideas and appearances, which God has fitted it to receive from them, and how the mind comes by that knowledge, rather than into their causes, or manner of production, I shall not, contrary to the design of this essay, set myself to enquire philosophically into the peculiar constitution of bodies, and the configuration of parts, whereby they have the power to produce in us the ideas of their sensible qualities: I shall not enter any farther into that disquisition, it sufficing to my purpose to observe, that gold or saffron has a power to produce in us the idea of yellow, and snow or milk the idea of white, which we can only have by our sight, without examining the texture of the parts of those bodies, or the particular figures or motion of the particles which rebound from them, to cause in us that particular sensation: Though when we go beyond the bare ideas in our minds, and would enquire into their causes, we cannot conceive any thing else to be in any sensible object, whereby it produces different ideas in us, but the different bulk, figure, number, texture, and motion of its insensible parts.

## Chapter 22. OF MIXED MODES.

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1. Having treated of simple modes in the foregoing chapters, and given several instances of some of the most considerable of them, to shew what they are, and how we come by them; we are now in the next place to consider those we call mixed modes: Such are the complex ideas we mark by the names Obligation, Drunkenness, a Lie, &c. which consisting of several combinations of simple ideas of different kinds, I have called mixed modes, to distinguish them from the more simple modes, which consist only of simple ideas, of the same kind. These mixed modes being also such combinations of simple ideas as are not looked upon to be characteristical marks of any real beings that have a steady existence, but scattered and independent ideas put together by the mind, are thereby distinguished from the complex ideas of substances.

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## Chapter 23. OF OUR COMPLEX IDEAS OF SUBSTANCES.

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

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2. So that if any one will examine himself concerning his notion of pure substance in general, he will find he has no other idea of it at all, but only a supposition of he knows not what support of such qualities, which are capable of producing simple ideas in us; which qualities are commonly called accidents. If any one should be asked, what is the subject wherein colour or weight inheres, he would have nothing to say, but the solid extended parts: And if he were demanded, what is it that solidity and extension adhere in, he would not be in a much better case than the Indian before-mentioned, who, saying that the world was supported by a great elephant, was asked what the elephant rested on; to which his answer was, a great tortoise. But being again pressed to know what gave support to the broad-backed tortoise, replied, something he knew not what. And thus here, as in all other cases where we use words without having clear and distinct ideas, we talk like children; who being questioned what such a thing is, which they know not, readily give this satisfactory answer, that it is some thing: Which in truth signifies no more, when so used either by children or men, but that they know not what; and that the thing they pretend to know and talk of, is what they have no distinct idea of at all, and so are perfectly ignorant of it, and in the dark. The idea then we have, to which we give the general name substance, being nothing but the supposed, but unknown support of those qualities we find existing, which we imagine cannot subsist, "sine re substante," without some thing to support them, we call that support substantia; which, according to the true import of the word, is in plain English, standing under or upholding.

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

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

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

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

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

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8. Nor are we to wonder, that powers make a great part of our complex ideas of substances; since their secondary qualities are those, which in most of them serve principally to distinguish substances one from another, and commonly make a considerable part of the complex idea of the several sorts of them. For our senses failing us in the discovery of the bulk, texture, and figure of the minute parts of bodies, on which their real constitutions and differences depend, we are fain to make use of their secondary qualities, as the characteristical notes and marks, whereby to frame ideas of them in our minds, and distinguish them one from another. All which secondary qualities, as has been shewn, are nothing but bare powers. For the colour and taste of opium are, as well as its soporific or anodyne virtues, mere powers depending on its primary qualities, whereby it is fitted to produce different operations on different parts of our bodies.

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

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

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

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12. The infinitely wise contriver of us, and all things about us, hath fitted our senses, faculties, and organs, to the conveniences of life, and the business we have to do here. We are able, by our senses, to know and distinguish things; and to examine them so far, as to apply them to our uses, and several ways to accommodate the exigencies of this life. We have insight enough into their admirable contrivances and wonderful effects, to admire and magnify the wisdom, power, and goodness of their author. Such a knowledge as this, which is suited to our present condition, we want not faculties to attain. But it appears not, that God intended we should have a perfect, clear, and adequate knowledge of them: That perhaps is not in the comprehension of any finite being. We are furnished with faculties (dull and weak as they are) to discover enough in the creatures, to lead us to the knowledge of the Creator, and the knowledge of our duty: And we are fitted well enough with abilities to provide for the conveniences of living: These are our business in this world. But were our senses altered, and made much quicker and acuter, the appearance and outward scheme of things would have quite another face to us; and, I am apt to think, would be inconsistent with our being, or at least well-being, in this part of the universe which we inhabit. He that considers how little our constitution is able to bear a remove into parts of this air, not much higher than that we commonly breath in, will have reason to be satisfied, that in this globe of earth allotted for our mansion, the all-wise Architect has suited our organs, and the bodies that are to affect them, one to another. If our sense of hearing were but one thousand times quicker than it is, how would a perpetual noise distract us? And we should in the quietest retirement be less able to sleep or meditate, than in the middle of a sea-fight. Nay, if that most instructive of our senses, seeing, were in any man a thousand or a hundred thousand times more acute than it is by the best microscope, things several millions of times less than the smallest object of his sight now, would then be visible to his naked eyes, and so he would come nearer to the discovery of the texture and motion of the minute parts of corporeal things; and in many of them, probably get ideas of their internal constitutions. But then he would be in a quite different world from other people: Nothing would appear the same to him, and others; the visible ideas of every thing would be different. So that I doubt, whether he and the rest of men could discourse concerning the objects of sight, or have any communication about colours, their appearances being so wholly different. And perhaps such a quickness and tenderness of sight could not endure bright sun-shine, or so much as open day-light; nor take in but a very small part of any object at once, and that too only at a very near distance. And if, by the help of such microscopical eyes (if I may so call them), a man could penetrate farther than ordinary into the secret composition and radical texture of bodies, he would not make any great advantage by the change, if such an acute sight would not serve to conduct him to the market and exchange; if he could not see things he was to avoid, at a convenient distance; nor distinguish things he had to do with, by those sensible qualities others do. He that was sharp-sighted enough to see the configuration of the minute particles of the spring of a clock, and observe upon what peculiar structure and impulse its elastic motion depends, would no doubt discover some thing very admirable: But if eyes so framed could not view at once the hand, and the characters of the hour-plate, and thereby at a distance see what o'clock it was, their owner could not be much benefited by that acuteness; which, whilst it discovered the secret contrivance of the parts of the machine, made him lose its use.

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13. And here give me leave to propose an extravagant conjecture of mine, viz. that since we have some reason (if there be any credit to be given to the report of things, that our philosophy cannot account for) to imagine, that spirits can assume to themselves bodies of different bulk, figure, and conformation of parts; whether one great advantage some of them have over us, may not lie in this, that they can so frame and shape to themselves organs of sensation or perception, as to suit them to their present design, and the circumstances of the object they would consider. For how much would that man exceed all others in knowledge, who had but the faculty so to alter the structure of his eyes, that one sense, as to make it capable of all the several degrees of vision which the assistance of glasses (casually at first lighted on) has taught us to conceive? What wonders would he discover, who could so fit his eyes to all sorts of objects, as to see, when he pleased, the figure and motion of the minute particles in the blood, and other juices of animals, as distinctly as he does, at other times, the shape and motion of the animals themselves? But to us, in our present state, unalterable organs so contrived, as to discover the figure and motion of the minute parts of bodies, whereon depend those sensible qualities we now observe in them, would perhaps be of no advantage. God has, no doubt, made them so, as is best for us in our present condition. He hath fitted us for the neighbourhood of the bodies that surround us, and we have to do with: And though we cannot, by the faculties we have, attain to a perfect knowledge of things, yet they will serve us well enough for those ends above-mentioned, which are our great concernment. I beg my reader's pardon for laying before him so wild a fancy, concerning the ways of perception of beings above us; but how extravagant soever it be, I doubt whether we can imagine any thing about the knowledge of angels, but after this manner, some way or other in proportion to what we find and observe in ourselves. And though we cannot but allow that the infinite power and wisdom of God may frame creatures with a thousand other faculties and ways of perceiving things without them, than what we have: Yet our thoughts can go no farther than our own: So impossible it is for us to enlarge our very guesses beyond the ideas received from our own sensation and reflection. The supposition at least, that angels do sometimes assume bodies, needs not startle us; since some of the most ancient and most learned fathers of the church seemed to believe, that they had bodies: And this is certain, that their state and way of existence is unknown to us.

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

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15. Besides the complex ideas we have of material sensible substances, of which I have last spoken, by the simple ideas we have taken from those operations of our own minds, which we experiment daily in ourselves, as thinking, understanding, willing, knowing, and power of beginning motion, &c. co-existing in some substance: We are able to frame the complex idea of an immaterial spirit. And thus by putting together the ideas of thinking, perceiving, liberty, and power of moving themselves, and other things, we have as clear a perception and notion of immaterial substances, as we have of material. For putting together the ideas of thinking and willing, or the power of moving or quieting corporeal motion, joined to substance of which we have no distinct idea, we have the idea of an immaterial spirit; and by putting together the ideas of coherent solid parts, and a power of being moved, joined with substance, of which likewise we have no positive idea, we have the idea of matter. The one is as clear and distinct an idea as the other: The idea of thinking, and moving a body, being as clear and distinct ideas, as the ideas of extension, solidity, and being moved. For our idea of substance is equally obscure, or none at all in both: It is but a supposed I know not what, to support those ideas we call accidents. It is for want of reflection that we are apt to think, that our senses shew us nothing but material things. Every act of sensation, when duly considered, gives us an equal view of both parts of nature, the corporeal and spiritual. For whilst I know, by seeing or hearing, &c. that there is some corporeal being without me, the object of that sensation; I do more certainly know, that there is some spiritual being within me, that sees and hears. This, I must be convinced, cannot be the action of bare insensible matter; nor ever could be, without an immaterial thinking being.

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16. By the complex idea of extended, figured, coloured, and all other sensible qualities, which is all that we know of it, we are as far from the idea of the substance of body, as if we knew nothing at all: Nor after all the acquaintance and familiarity, which we imagine we have with matter, and the many qualities men assure themselves they perceive and know in bodies, will it perhaps upon examination be found that they have any more, or clearer, primary ideas belonging to body, than they have belonging to immaterial spirit.

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

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

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

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

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22. Let us compare then our complex idea of an immaterial spirit with our complex idea of body, and see whether there be any more obscurity in one than in the other, and in which most. Our idea of body, as I think, is an extended solid substance, capable of communicating motion by impulse: And our idea of soul, as an immaterial spirit, is of a substance that thinks, and has a power of exciting motion in body, by willing or thought. These, I think, are our complex ideas of soul and body, as contra-distinguished; and now let us examine which has most obscurity in it, and difficulty to be apprehended. I know, that people, whose thoughts are immersed in matter, and have so subjected their minds to their senses, that they seldom reflect on any thing beyond them, are apt to say, they cannot comprehend a thinking thing, which perhaps is true: But I affirm, when they consider it well, they can no more comprehend an extended thing.

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23. If any one say, he knows not what it is thinks in him; he means, he knows not what the substance is of that thinking thing: No more, say I, knows he what the substance is of that solid thing. Farther, if he says he knows not how he thinks: I answer, neither knows he how he is extended; how the solid parts of body are united, or cohere together to make extension. […]

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

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

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First, That all our ideas of the several sorts of substances are nothing but collections of simple ideas: With a supposition of some thing to which they belong, and in which they subsist: Though of this supposed some thing we have no clear distinct idea at all.

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

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

## Chapter 25. OF RELATION.

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1. Besides the ideas, whether simple or complex, that the mind has of things, as they are in themselves, there are others it gets from their comparison one with another. The understanding, in the consideration of any thing, is not confined to that precise object: It can carry any idea as it were beyond itself, or at least look beyond it, to see how it stands in conformity to any other. When the mind so considers one thing, that it does as it were bring it to and set it by another, and carry its view from one to the other: This is, as the words import, relation and respect; and the denominations given to positive things, intimating that respect, and serving as marks to lead the thoughts beyond the subject itself denominated to some thing distinct from it, are what we call relatives: And the things, so brought together, related. Thus, when the mind considers Caius as such a positive being, it takes nothing into that idea, but what really exists in Caius; v.g. when I consider him as a man, I have nothing in my mind but the complex idea of the species, man. So likewise, when I say Caius is a white man, I have nothing but the bare consideration of a man who hath that white colour. But when I give Caius the name husband, I intimate some other person; and when I give him the name whiter, I intimate some other thing: In both cases my thought is led to some thing beyond Caius, and there are two things brought into consideration. And since any idea, whether simple or complex, may be the occasion why the mind thus brings two things together, and as it were takes a view of them at once, though still considered as distinct; therefore any of our ideas may be the foundation of relation. As in the above-mentioned instance, the contract and ceremony of marriage with Sempronia is the occasion of the denomination and relation of husband; and the colour white the occasion why he is said to be whiter than free-stone.

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2. These and the like relations, expressed by relative terms, that have others answering them, with a reciprocal intimation, as father and son, bigger and less, cause and effect, are very obvious to every one, and every body at first sight perceives the relation. For father and son, husband and wife, and such other correlative terms, seem so nearly to belong one to another, and through custom do so readily chime and answer one another in people's memories, that, upon the naming of either of them, the thoughts are presently carried beyond the thing so named; and nobody overlooks or doubts of a relation, where it is so plainly intimated. But where languages have failed to give correlative names, there the relation is not always so easily taken notice of. Concubine is, no doubt, a relative name, as well as wife: But in languages where this, and the like words, have not a correlative term, there people are not so apt to take them to be so, as wanting that evident mark of relation which is between correlatives, which seem to explain one another, and not to be able to exist, but together. Hence it is, that many of those names, which, duly considered, do include evident relations, have been called external denominations. But all names that are more than empty sounds must signify some idea, which is either in the thing to which the name is applied, and then it is positive, and is looked on as united to and existing in the thing to which the denomination is given: Or else it arises from the respect the mind finds in it to some thing distinct from it, with which it considers it; and then it includes a relation.

## Chapter 27. OF IDENTITY AND DIVERSITY.

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

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2. We have the ideas but of three sorts of substances; 1. God. 2. Finite intelligences. 3. Bodies. First, God is without beginning, eternal, unalterable, and every where; and therefore concerning his identity, there can be no doubt. Secondly, finite spirits having had each its determinate time and place of beginning to exist, the relation to that time and place will always determine to each of them its identity, as long as it exists. Thirdly, the same will hold of every particle of matter, to which no addition or subtraction of matter being made, it is the same. For though these three sorts of substances, as we term them, do not exclude one another out of the same place; yet we cannot conceive but that they must necessarily each of them exclude any of the same kind out of the same place: Or else the notions and names of identity and diversity would be in vain, and there could be no such distinctions of substances, or any thing else one from another. For example: Could two bodies be in the same place at the same time, then those two parcels of matter must be one and the same, take them great or little: Nay, all bodies must be one and the same. For by the same reason that two particles of matter may be in one place, all bodies may be in one place: Which, when it can be supposed, takes away the distinction of identity and diversity of one and more, and renders it ridiculous. But it being a contradiction, that two or more should be one, identity and diversity are relations and ways of comparing well-founded, and of use to the understanding.

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All other things being but modes or relations ultimately terminated in substances, the identity and diversity of each particular existence of them too will be by the same way determined: Only as to things whose existence is in succession, such as are the actions of finite beings, v.g. motion and thought, both which consist in a continued train of succession, concerning their diversity, there can be no question: Because each perishing the moment it begins, they cannot exist in different times, or in different places, as permanent beings can at different times exist in distant places; and therefore no motion or thought, considered as at different times, can be the same, each part thereof having a different beginning of existence.

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3. From what has been said, it is easy to discover what is so much enquired after, the principium individuationis; and that, it is plain, is existence itself, which determines a being of any sort to a particular time and place, incommunicable to two beings of the same kind. This, though it seems easier to conceive in simple substances or modes, yet when reflected on, is not more difficult in compound ones, if care be taken to what it is applied: V.g. let us suppose an atom, i.e. a continued body under one immutable superficies, existing in a determined time and place; it is evident that, considered in any instant of its existence, it is in that instant the same with itself. For being at that instant what it is, and nothing else, it is the same, and so must continue as long as its existence is continued; for so long it will be the same, and no other. In like manner, if two or more atoms be joined together into the same mass, every one of those atoms will be the same, by the foregoing rule: And whilst they exist united together, the mass, consisting of the same atoms, must be the same mass, or the same body, let the parts be ever so differently jumbled. But if one of these atoms be taken away, or one new one added, it is no longer the same mass, or the same body. In the state of living creatures, their identity depends not on a mass of the same particles, but on some thing else. For in them the variation of great parcels of matter alters not the identity: An oak growing from a plant to a great tree, and then lopped, is still the same oak; and a colt grown up to a horse, sometimes fat, sometimes lean, is all the while the same horse: Though in both these cases, there may be a manifest change of the parts; so that truly they are not either of them the same masses of matter, though they be truly one of them the same oak, and the other the same horse. The reason whereof is, that in these two cases, a mass of matter, and a living body, identity is not applied to the same thing.

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4. We must therefore consider wherein an oak differs from a mass of matter, and that seems to me to be in this, that the one is only the cohesion of particles of matter any how united, the other such a disposition of them as constitutes the parts of an oak; and such an organization of those parts as is fit to receive and distribute nourishment, so as to continue and frame the wood, bark, and leaves, &c. of an oak, in which consists the vegetable life. That being then one plant which has such an organization of parts in one coherent body partaking of one common life, it continues to be the same plant as long as it partakes of the same life, though that life be communicated to new particles of matter vitally united to the living plant, in a like continued organization conformable to that sort of plants. For this organization being at any one instant in any one collection of matter, is in that particular concrete distinguished from all other, and is that individual life which existing constantly from that moment both forwards and backwards, in the same continuity of insensibly succeeding parts united to the living body of the plant, it has that identity, which makes the same plant, and all the parts of it parts of the same plant, during all the time that they exist united in that continued organization, which is fit to convey that common life to all the parts so united.

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5. The case is not so much different in brutes, but that any one may hence see what makes an animal, and continues it the same. Some thing we have like this in machines, and may serve to illustrate it. For example, what is a watch? It is plain it is nothing but a fit organization or construction of parts to a certain end, which when a sufficient force is added to it, it is capable to attain. If we would suppose this machine one continued body, all whose organized parts were repaired, increased, or diminished by a constant addition or separation of insensible parts, with one common life, we should have some thing very much like the body of an animal; with this difference, that in an animal the fitness of the organization, and the motion wherein life consists, begin together, the motion coming from within; but in machines, the force coming sensibly from without, is often away when the organ is in order, and well fitted to receive it.

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6. This also shews wherein the identity of the same man consists: Viz. in nothing but a participation of the same continued life, by constantly fleeting particles of matter, in succession vitally united to the same organized body. He that shall place the identity of man in any thing else, but like that of other animals in one fitly organized body, taken in any one instant, and from thence continued under one organization of life in several successively fleeting particles of matter united to it, will find it hard to make an embryo, one of years, mad and sober, the same man, by any supposition, that will not make it possible for Seth, Ismael, Socrates, Pilate, St. Austin, and Caesar Borgia, to be the same man. For if the identity of soul alone makes the same man, and there be nothing in the nature of matter why the same individual spirit may not be united to different bodies, it will be possible that those men living in distant ages, and of different tempers, may have been the same man: Which way of speaking must be, from a very strange use of the word man, applied to an idea, out of which body and shape are excluded. And that way of speaking would agree yet worse with the notions of those philosophers who allow of transmigration, and are of opinion that the souls of men may, for their miscarriages, be detruded into the bodies of beasts, as fit habitations, with organs suited to the satisfaction of their brutal inclinations. But yet I think nobody, could he be sure that the soul of Heliogabalus were in one of his hogs, would yet say that hog were a man or Heliogabalus.

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7. It is not therefore unity of substance that comprehends all sorts of identity, or will determine it in every case: But to conceive and judge of it aright, we must consider what idea the word it is applied to stands for; it being one thing to be the same substance, another the same man, and a third the same person, if person, man, and substance, are three names standing for three different ideas; for such as is the idea belonging to that name, such must be the identity: Which, if it had been a little more carefully attended to, would possibly have prevented a great deal of that confusion which often occurs about this matter, with no small seeming difficulties, especially concerning personal identity, which therefore we shall, in the next place, a little consider.

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8. An animal is a living organized body; and consequently the same animal, as we have observed, is the same continued life communicated to different particles of matter, as they happen successively to be united to that organized living body. And whatever is talked of other definitions, ingenuous observation puts it past doubt, that the idea in our minds, of which the sound man in our mouths is the sign, is nothing else but of an animal of such a certain form: Since I think I may be confident, that, whoever should see a creature of his own shape and make, though it had no more reason all its life than a cat or a parrot, would call him still a man; or whoever should hear a cat or a parrot discourse, reason and philosophize, would call or think it nothing but a cat or a parrot; and say, the one was a dull, irrational man, and the other a very intelligent rational parrot. […]

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9. This being premised, to find wherein personal identity consists, we must consider what person stands for; which, I think, is a thinking intelligent being, that has reason and reflection, and can consider itself as itself, the same thinking thing in different times and places; which it does only by that consciousness which is inseparable from thinking, and, as it seems to me, essential to it: It being impossible for any one to perceive, without perceiving that he does perceive. When we see, hear, smell, taste, feel, meditate, or will any thing, we know that we do so. Thus it is always as to our present sensations and perceptions: And by this every one is to himself that which he calls self; it not being considered in this case whether the same self be continued in the same or divers substances. For since consciousness always accompanies thinking, and it is that which makes every one to be what he calls self, and thereby distinguishes himself from all other thinking things; in this alone consists personal identity, i.e. the sameness of a rational being: And as far as this consciousness can be extended backwards to any past action or thought, so far reaches the identity of that person; it is the same self now it was then; and it is by the same self with this present one that now reflects on it, that that action was done.

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10. But it is farther enquired, whether it be the same identical substance? This few would think they had reason to doubt of, if these perceptions, with their consciousness, always remained present in the mind, whereby the same thinking thing would be always consciously present, and, as would be thought, evidently the same to itself. But that which seems to make the difficulty is this, that this consciousness being interrupted always by forgetfulness, there being no moment of our lives wherein we have the whole train of all our past actions before our eyes in one view, but even the best memories losing the sight of one part whilst they are viewing another; and we sometimes, and that the greatest part of our lives, not reflecting on our past selves, being intent on our present thoughts, and in sound sleep having no thoughts at all, or at least none with that consciousness which remarks our waking thoughts: I say, in all these cases, our consciousness being interrupted, and we losing the sight of our past selves, doubts are raised whether we are the same thinking thing, i.e. the same substance or no. Which however reasonable or unreasonable, concerns not personal identity at all: The question being, what makes the same person, and not whether it be the same identical substance, which always thinks in the same person; which in this case matters not at all: Different substances, by the same consciousness (where they do partake in it), being united into one person, as well as different bodies by the same life are united into one animal, whose identity is preserved, in that change of substances, by the unity of one continued life. For it being the same consciousness that makes a man be himself to himself, personal identity depends on that only, whether it be annexed solely to one individual substance, or can be continued in a succession of several substances. For as far as any intelligent being can repeat the idea of any past action with the same consciousness it had of it at first, and with the same consciousness it has of any present action: So far it is the same personal self. For it is by the consciousness it has of its present thoughts and actions, that it is self to itself now, and so will be the same self, as far as the same consciousness can extend to actions past or to come; and would be by distance of time, or change of substance, no more two persons, than a man be two men by wearing other clothes to-day than he did yesterday, with a long or a short sleep between: The same consciousness uniting those distant actions into the same person, whatever substances contributed to their production.

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11. That this is so, we have some kind of evidence in our very bodies, all whose particles, whilst vitally united to this same thinking conscious self, so that we feel when they are touched, and are affected by, and conscious of good or harm that happens to them, are a part of ourselves; i.e. of our thinking conscious self. Thus the limbs of his body are to every one a part of himself; he sympathizes and is concerned for them. Cut off a hand, and thereby separate it from that consciousness he had of its heat, cold, and other affections, and it is then no longer a part of that which is himself, any more than the remotest part of matter. Thus we see the substance, whereof personal self consisted at one time, may be varied at another, without the change of personal identity; there being no question about the same person, though the limbs which but now were a part of it, be cut off.

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12. But the question is, "whether if the same substance which thinks, be changed, it can be the same person; or, remaining the same, it can be different persons?"

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And to this I answer: First, This can be no question at all to those who place thought in a purely material animal constitution, void of an immaterial substance. For whether their supposition be true or no, it is plain they conceive personal identity preserved in some thing else than identity of substance; as animal identity is preserved in identity of life, and not of substance. And therefore those who place thinking in an immaterial substance only, before they can come to deal with these men, must shew why personal identity cannot be preserved in the change of immaterial substances, or variety of particular immaterial substances, as well as animal identity is preserved in the change of material substances, or variety of particular bodies: Unless they will say, it is one immaterial spirit that makes the same life in brutes, as it is one immaterial spirit that makes the same person in men; which the Cartesians at least will not admit, for fear of making brutes thinking things too.

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13. But next, as to the first part of the question, "Whether if the same thinking substance (supposing immaterial substances only to think) be changed, it can be the same person?" I answer, that cannot be resolved, but by those who know what kind of substances they are that do think, and whether the consciousness of past actions can be transferred from one thinking substance to another. I grant, were the same consciousness the same individual action, it could not: But it being a present representation of a past action, why it may not be possible, that that may be represented to the mind to have been, which really never was, will remain to be shewn. And therefore how far the consciousness of past actions is annexed to any individual agent, so that another cannot possibly have it, will be hard for us to determine, till we know what kind of action it is that cannot be done without a reflex act of perception accompanying it, and how performed by thinking substances, who cannot think without being conscious of it. But that which we call the same consciousness, not being the same individual act, why one intellectual substance may not have represented to it, as done by itself, what it never did, and was perhaps done by some other agent-why, I say, such a representation may not possibly be without reality of matter of fact, as well as several representations in dreams are, which yet whilst dreaming we take for true, will be difficult to conclude from the nature of things. And that it never is so, will by us, till we have clearer views of the nature of thinking substances, be best resolved into the goodness of God, who as far as the happiness or misery of any of his sensible creatures is concerned in it, will not by a fatal errour of theirs transfer from one to another that consciousness which draws reward or punishment with it. How far this may be an argument against those who would place thinking in a system of fleeting animal spirits, I leave to be considered. But yet to return to the question before us, it must be allowed, that if the same consciousness (which, as has been shewn, is quite a different thing from the same numerical figure or motion in body) can be transferred from one thinking substance to another, it will be possible that two thinking substances may make but one person. For the same consciousness being preserved, whether in the same or different substances, the personal identity is preserved.

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14. As to the second part of the question, "whether the same immaterial substance remaining, there may be two distinct persons?" which question seems to me to be built on this, whether the same immaterial being, being conscious of the action of its past duration, may be wholly stripped of all the consciousness of its past existence, and lose it beyond the power of ever retrieving it again; and so as it were beginning a new account from a new period, have a consciousness that cannot reach beyond this new state. All those who hold pre-existence are evidently of this mind, since they allow the soul to have no remaining consciousness of what it did in that pre-existent state, either wholly separate from body, or informing any other body; and if they should not, it is plain, experience would be against them. So that personal identity reaching no farther than consciousness reaches, a pre-existent spirit not having continued so many ages in a state of silence, must needs make different persons. Suppose a Christian, Platonist, or Pythagorean should, upon God's having ended all his works of creation the seventh day, think his soul hath existed ever since; and should imagine it has revolved in several human bodies, as I once met with one, who was persuaded his had been the soul of Socrates; (how reasonably I will not dispute; this I know, that in the post he filled, which was no inconsiderable one, he passed for a very rational man, and the press has shewn that he wanted not parts or learning) would any one say, that he being not conscious of any of Socrates's actions or thoughts, could be the same person with Socrates? Let any one reflect upon himself, and conclude that he has in himself an immaterial spirit, which is that which thinks in him, and in the constant change of his body keeps him the same: And is that which he calls himself: Let him also suppose it to be the same soul that was in Nestor or Thersites, at the siege of Troy (for souls being, as far as we know any thing of them in their nature, indifferent to any parcel of matter, the supposition has no apparent absurdity in it), which it may have been, as well as it is now the soul of any other man: But he now having no consciousness of any of the actions either of Nestor or Thersites, does or can he conceive himself the same person with either of them? can he be concerned in either of their actions? attribute them to himself, or think them his own more than the actions of any other men that ever existed? So that this consciousness not reaching to any of the actions of either of those men, he is no more one self with either of them, than if the soul or immaterial spirit that now informs him, had been created, and began to exist, when it began to inform his present body; though it were ever so true, that the same spirit that informed Nestor's or Thersites's body were numerically the same that now informs his. For this would no more make him the same person with Nestor, than if some of the particles of matter that were once a part of Nestor, were now a part of this man; the same immaterial substance, without the same consciousness, no more making the same person by being united to any body, than the same particle of matter, without consciousness united to any body, makes the same person. But let him once find himself conscious of any of the actions of Nestor, he then finds himself the same person with Nestor.

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15. And thus we may be able, without any difficulty, to conceive the same person at the resurrection, though in a body not exactly in make or parts the same which he had here, the same consciousness going along with the soul that inhabits it. But yet the soul alone, in the change of bodies, would scarce to any one, but to him that makes the soul the man, be enough to make the same man. For should the soul of a prince, carrying with it the consciousness of the prince's past life, enter and inform the body of a cobler, as soon as deserted by his own soul, every one sees he would be the same person with the prince, accountable only for the prince's actions: But who would say it was the same man? The body too goes to the making the man, and would, I guess, to every body determine the man in this case; wherein the soul, with all its princely thoughts about it, would not make another man: But he would be the same cobler to every one besides himself. I know that, in the ordinary way of speaking, the same person, and the same man, stand for one and the same thing. And indeed every one will always have a liberty to speak as he pleases, and to apply what articulate sounds to what ideas he thinks fit, and change them as often as he pleases. But yet when we will enquire what makes the same spirit, man, or person, we must fix the ideas of spirit, man, or person in our minds; and having resolved with ourselves what we mean by them, it will not be hard to determine in either of them, or the like, when it is the same, and when not.

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16. But though the same immaterial substance or soul does not alone, wherever it be, and in whatsoever state, make the same man; yet it is plain consciousness, as far as ever it can be extended, should it be to ages past, unites existences and actions, very remote in time, into the same person, as well as it does the existences and actions of the immediately preceding moment; so that whatever has the consciousness of present and past actions, is the same person to whom they both belong. Had I the same consciousness that I saw the ark and Noah's flood, as that I saw an overflowing of the Thames last winter, or as that I write now; I could no more doubt that I who write this now, that saw the Thames overflowed last winter, and that viewed the flood at the general deluge, was the same self, place that self in what substance you please, than that I who write this am the same myself now whilst I write (whether I consist of all the same substance, material or immaterial, or no) that I was yesterday. For as to this point of being the same self, it matters not whether this present self be made up of the same or other substances; I being as much concerned, and as justly accountable for any action that was done a thousand years since, appropriated to me now by this self-consciousness, as I am for what I did the last moment.

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17. Self is that conscious thinking thing, whatever substance made up of (whether spiritual or material, simple or compounded, it matters not), which is sensible, or conscious of pleasure and pain, capable of happiness or misery, and so is concerned for itself, as far as that consciousness extends. Thus every one finds that, whilst comprehended under that consciousness, the little finger is as much a part of himself as what is most so. Upon separation of this little finger, should this consciousness go along with the little finger, and leave the rest of the body, it is evident the little finger would be the person, the same person; and self then would have nothing to do with the rest of the body. As in this case it is the consciousness that goes along with the substance, when one part is separate from another, which makes the same person, and constitutes this inseparable self; so it is in reference to substances remote in time. That with which the consciousness of this present thinking thing can join itself, makes the same person, and is one self with it, and with nothing else; and so attributes to itself, and owns all the actions of that thing as its own, as far as that consciousness reaches, and no farther; as every one who reflects will perceive.

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18. In this personal identity, is founded all the right and justice of reward and punishment; happiness and misery being that for which every one is concerned for himself, and not mattering what becomes of any substance not joined to, or affected with that consciousness. For as it is evident in the instance I gave but now, if the consciousness went along with the little finger when it was cut off, that would be the same self which was concerned for the whole body yesterday, as making part of itself, whose actions then it cannot but admit as its own now. Though if the same body should still live, and immediately, from the separation of the little finger, have its own peculiar consciousness, whereof the little finger knew nothing; it would not at all be concerned for it, as a part of itself, or could own any of its actions, or have any of them imputed to him.

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19. This may shew us wherein personal identity consists; not in the identity of substance, but, as I have said, in the identity of consciousness; wherein, if Socrates and the present mayor of Queenborough agree, they are the same person: If the same Socrates waking and sleeping do not partake of the same consciousness, Socrates waking and sleeping is not the same person. And to punish Socrates waking for what sleeping Socrates thought, and waking Socrates was never conscious of; would be no more of right, than to punish one twin for what his brother-twin did, whereof he knew nothing, because their outsides were so like, that they could not be distinguished; for such twins have been seen.

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20. But yet possibly it will still be objected, suppose I wholly lose the memory of some parts of my life beyond a possibility of retrieving them, so that perhaps I shall never be conscious of them again; yet am I not the same person that did those actions, had those thoughts that I once was conscious of, though I have now forgot them? To which I answer, that we must here take notice what the word is applied to: Which, in this case, is the man only. And the same man being presumed to be the same person, I is easily here supposed to stand also for the same person. But if it be possible for the same man to have distinct incommunicable consciousness at different times, it is past doubt the same man would at different times make different persons; which, we see, is the sense of mankind in the solemnest declaration of their opinions; human laws not punishing the mad man for the sober man's actions, nor the sober man for what the mad man did, thereby making them two persons: Which is somewhat explained by our way of speaking in English, when we say such an one is not himself, or is beside himself; in which phrases it is insinuated, as if those who now, or at least first used them, thought that self was changed, the self-same person was no longer in that man.

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21. But yet it is hard to conceive that Socrates, the same individual man, should be two persons. To help us a little in this, we must consider what is meant by Socrates, or the same individual man.

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First, it must be either the same individual, immaterial, thinking substance; in short, the same numerical soul, and nothing else.

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Secondly, or the same animal, without any regard to an immaterial soul.

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Thirdly, or the same immaterial spirit united to the same animal.

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Now take which of these suppositions you please, it is impossible to make personal identity to consist in any thing but consciousness, or reach any farther than that does.

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For by the first of them, it must be allowed possible that a man born of different women, and in distant times, may be the same man. A way of speaking, which whoever admits, must allow it possible for the same man to be two distinct persons, as any two that have lived in different ages, without the knowledge of one another's thoughts.

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By the second and third, Socrates in this life, and after it, cannot be the same man any way, but by the same consciousness; and so making human identity to consist in the same thing wherein we place personal identity, there will be no difficulty to allow the same man to be the same person. But then they who place human identity in consciousness only, and not in some thing else, must consider how they will make the infant Socrates the same man with Socrates after the resurrection. But whatsoever to some men makes a man, and consequently the same individual man, wherein perhaps few are agreed, personal identity can by us be placed in nothing but consciousness (which is that alone which makes what we call self) without involving us in great absurdities.

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22. But is not a man drunk and sober the same person? Why else is he punished for the fact he commits when drunk, though he be never afterwards conscious of it? Just as much the same person as a man, that walks, and does other things in his sleep, is the same person, and is answerable for any mischief he shall do in it. Human laws punish both, with a justice suitable to their way of knowledge; because in these cases, they cannot distinguish certainly what is real, what counterfeit: And so the ignorance in drunkenness or sleep is not admitted as a plea. For though punishment be annexed to personality, and personality to consciousness, and the drunkard perhaps be not conscious of what he did; yet human judicatures justly punish him, because the fact is proved against him, but want of consciousness cannot be proved for him. But in the great day, wherein the secrets of all hearts shall be laid open, it may be reasonable to think, no one shall be made to answer for what he knows nothing of; but shall receive his doom, his conscience accusing or excusing him.

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23. Nothing but consciousness can unite remote existences into the same person, the identity of substance will not do it. For whatever substance there is, however framed, without consciousness there is no person: And a carcase may be a person, as well as any sort of substance be so without consciousness.

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Could we suppose two distinct incommunicable consciousnesses acting the same body, the one constantly by day, the other by night; and, on the other side, the same consciousness acting by intervals two distinct bodies: I ask in the first case, whether the day and the night man would not be two as distinct persons, as Socrates and Plato? And whether, in the second case, there would not be one person in two distinct bodies, as much as one man is the same in two distinct cloathings? Nor is it at all material to say, that this same, and this distinct consciousness, in the cases above mentioned, is owing to the same and distinct immaterial substances, bringing it with them to those bodies; which, whether true or no, alters not the case: Since it is evident the personal identity would equally be determined by the consciousness, whether that consciousness were annexed to some individual immaterial substance or no. For granting that the thinking substance in man must be necessarily supposed immaterial, it is evident that immaterial thinking thing may sometimes part with its past consciousness, and be restored to it again; as appears in the forgetfulness men often have of their past actions: And the mind many times recovers the memory of a past consciousness, which it had lost for twenty years together. Make these intervals of memory and forgetfulness, to take their turns regularly by day and night, and you have two persons with the same immaterial spirit, as much as in the former instance two persons with the same body. So that self is not determined by identity or diversity of substance, which it cannot be sure of but only by identity of consciousness.

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24. Indeed it may conceive the substance, whereof it is now made up, to have existed formerly, united in the same conscious being: But consciousness removed, that substance is no more itself, or makes no more a part of it than any other substance; as is evident in the instance we have already given of a limb cut off, of whose heat, or cold, or other affections, having no longer any consciousness, it is no more of a man's self, than any other matter of the universe. In like manner it will be in reference to any immaterial substance, which is void of that consciousness whereby I am myself to myself: If there be any part of its existence, which I cannot upon recollection join with that present consciousness whereby I am now myself, it is in that part of its existence no more myself, than any other immaterial being. For whatsoever any substance has thought or done, which I cannot recollect, and by my consciousness make my own thought and action, it will no more belong to me, whether a part of me thought or did it, than if it had been thought or done by any other immaterial being anywhere existing.

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25. I agree, the more probable opinion is, that this consciousness is annexed to, and the affection of one individual immaterial substance.

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But let men, according to their diverse hypotheses, resolve of that as they please, this every intelligent being, sensible of happiness or misery, must grant, that there is some thing that is himself that he is concerned for, and would have happy: That this self has existed in a continued duration more than one instant, and therefore it is possible may exist, as it has done, months and years to come, without any certain bounds to be set to its duration, and may be the same self, by the same consciousness continued on for the future. And thus, by this consciousness, he finds himself to be the same self which did such or such an action some years since, by which he comes to be happy or miserable now. In all which account of self, the same numerical substance is not considered as making the same self; but the same continued consciousness, in which several substances may have been united, and again separated from it; which, whilst they continued in a vital union with that, wherein this consciousness then resided, made a part of that same self. Thus any part of our bodies vitally united to that which is conscious in us, makes a part of ourselves: But upon separation from the vital union, by which that consciousness is communicated, that which a moment since was part of ourselves, is now no more so, than a part of another man's self is a part of me: And it is not impossible, but in a little time may become a real part of another person. And so we have the same numerical substance become a part of two different persons; and the same person preserved under the change of various substances. Could we suppose any spirit wholly stripped of all its memory or consciousness of past actions, as we find our minds always are of a great part of ours, and sometimes of them all; the union or separation of such a spiritual substance would make no variation of personal identity, any more than that of any particle of matter does. Any substance vitally united to the present thinking being, is a part of that very same self which now is: Any thing united to it by a consciousness of former actions, makes also a part of the same self, which is the same both then and now.

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26. Person, as I take it, is the name for this self. Wherever a man finds what he calls himself, there I think another may say is the same person. It is a forensick term appropriating actions and their merit; and so belongs only to intelligent agents capable of a law, and happiness and misery. This personality extends itself beyond present existence to what is past, only by consciousness, whereby it becomes concerned and accountable, owns and imputes to itself past actions, just upon the same ground, and for the same reason that it does the present. All which is founded in a concern for happiness, the unavoidable concomitant of consciousness; that which is conscious of pleasure and pain, desiring that that self that is conscious should be happy. And therefore whatever past actions it cannot reconcile or appropriate to that present self by consciousness, it can be no more concerned in, than if they had never been done: And to receive pleasure or pain, i.e. reward or punishment, on the account of any such action, is all one as to be made happy or miserable in its first being, without any demerit at all. For supposing a man punished now for what he had done in another life, whereof he could be made to have no consciousness at all, what difference is there between that punishment and being created miserable? And therefore conformable to this the apostle tells us, that at the great day, when every one shall "receive according to his doings, the secrets of all hearts shall be laid open." The sentence shall be justified by the consciousness all persons shall have, that they themselves, in what bodies soever they appear, or what substances soever that consciousness adheres to, are the same that committed those actions, and deserve that punishment for them.

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27. I am apt enough to think I have, in treating of this subject, made some suppositions that will look strange to some readers, and possibly they are so in themselves. But yet, I think, they are such as are pardonable in this ignorance we are in of the nature of that thinking thing that is in us, and which we look on as ourselves. Did we know what it was, or how it was tied to a certain system of fleeting animal spirits; or whether it could or could not perform its operations of thinking and memory out of a body organized as ours is: And whether it has pleased God, that no one such spirit shall ever be united to any but one such body, upon the right constitution of whose organs its memory should depend: We might see the absurdity of some of those suppositions I have made. But taking, as we ordinarily now do, (in the dark concerning these matters) the soul of a man, for an immaterial substance, independent from matter, and indifferent alike to it all, there can from the nature of things be no absurdity at all to suppose, that the same soul may, at different times, be united to different bodies, and with them make up, for that time, one man: As well as we suppose a part of a sheep's body yesterday should be a part of a man's body to-morrow, and in that union make a vital part of Meliboeus himself, as well as it did of his ram.

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28. To conclude: Whatever substance begins to exist, it must, during its existence, necessarily be the same: Whatever compositions of substances begin to exist, during the union of those substances the concrete must be the same: Whatsoever mode begins to exist, during its existence it is the same: And so if the composition be of distinct substances and different modes, the same rule holds. Whereby it will appear, that the difficulty or obscurity that has been about this matter, rather rises from the names ill used, than from any obscurity in things themselves. For whatever makes the specifick idea to which the name is applied, if that idea be steadily kept to, the distinction of any thing into the same and divers will easily be conceived, and there can arise no doubt about it.

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29. For supposing a rational spirit be the idea of a man, it is easy to know what is the same man; viz. the same spirit, whether separate or in a body, will be the same man. Supposing a rational spirit vitally united to a body of a certain conformation of parts to make a man, whilst that rational spirit, with that vital conformation of parts, though continued in a fleeting successive body, remains, it will be the same man. But if to any one the idea of a man be but the vital union of parts in a certain shape; as long as that vital union and shape remain, in a concrete no otherwise the same, but by a continued succession of fleeting particles, it will be the same man. For whatever be the composition, whereof the complex idea is made, whenever existence makes it one particular thing under any denomination, the same existence, continued, preserves it the same individual under the same denomination.

# Locke, Essay Concerning Human Understanding (1689), Bk. 3

## Chapter 3. OF GENERAL TERMS.

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1. All things that exist being particulars, it may perhaps be thought reasonable that words, which ought to be conformed to things, should be so too; I mean in their signification: But yet we find the quite contrary. The far greatest part of words, that make all languages, are general terms; which has not been the effect of neglect or chance, but of reason and necessity.

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2. First, It is impossible that every particular thing should have a distinct peculiar name. For the signification and use of words, depending on that connexion which the mind makes between its ideas and the sounds it uses as signs of them, it is necessary, in the application of names to things that the mind should have distinct ideas of the things, and retain also the particular name that belongs to every one, with its peculiar appropriation to that idea. But it is beyond the power of human capacity to frame and retain distinct ideas of all the particular things we meet with: Every bird and beast men saw, every tree and plant that affected the senses, could not find a place in the most capacious understanding. If it be looked on as an instance of a prodigious memory, that some generals have been able to call every soldier in their army by his proper name, we may easily find a reason, why men have never attempted to give names to each sheep in their flock, or crow that flies over their heads; much less to call every leaf of plants, or grain of sand that came in their way, by a peculiar name.

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3. Secondly, If it were possible, it would yet be useless; because it would not serve to the chief end of language. Men would in vain heap up names of particular things, that would not serve them to communicate their thoughts. Men learn names, and use them in talk with others, only that they may be understood: Which is then only done, when by use or consent the sound I make by the organs of speech, excites in another man's mind, who hears it, the idea I apply it to in mine, when I speak it. This cannot be done by names applied to particular things, whereof I alone having the ideas in my mind, the names of them could not be significant or intelligible to another, who was not acquainted with all those very particular things which had fallen under my notice.

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4. Thirdly, But yet granting this also feasible (which I think is not) yet a distinct name for every particular thing would not be of any great use for the improvement of knowledge: Which, though founded in particular things, enlarges itself by general views: To which things reduced into sorts, under general names, are properly subservient. […]

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6. The next thing to be considered, is, how general words come to be made. For since all things that exist are only particulars, how come we by general terms, or where find we those general natures they are supposed to stand for? Words become general, by being made the signs of general ideas; and ideas become general, by separating from them the circumstances of time, and place, and any other ideas, that may determine them to this or that particular existence. By this way of abstraction they are made capable of representing more individuals than one; each of which having in it a conformity to that abstract idea, is (as we call it) of that sort.

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7. But to deduce this a little more distinctly, it will not perhaps be amiss to trace our notions and names from their beginning, and observe by what degrees we proceed, and by what steps we enlarge our ideas from our first infancy. There is nothing more evident than that the ideas of the persons children converse with (to instance in them alone) are like the persons themselves, only particular. The ideas of the nurse, and the mother, are well framed in their minds; and, like pictures of them there, represent only those individuals. The names they first gave to them are confined to these individuals; and the names of nurse and mamma the child uses, determine themselves to those persons. Afterwards, when time and a larger acquaintance have made them observe, that there are a great many other things in the world that in some common agreements of shape, and several other qualities, resemble their father and mother, and those persons they have been used to, they frame an idea, which they find those many particulars do partake in; and to that they give, with others, the name man for example. And thus they come to have a general name, and a general idea. Wherein they make nothing new, but only leave out of the complex idea they had of Peter and James, Mary and Jane, that which is peculiar to each, and retain only what is common to them all.

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8. By the same way that they come by the general name and idea of man, they easily advance to more general names and notions. For observing that several things that differ from their idea of man, and cannot therefore be comprehended under that name, have yet certain qualities wherein they agree with man, by retaining only those qualities, and uniting them into one idea, they have again another and more general idea; to which having given a name, they make a term of a more comprehensive extension: Which new idea is made, not by any new addition, but only, as before, by leaving out the shape, and some other properties signified by the name man, and retaining only a body, with life, sense, and spontaneous motion, comprehended under the name animal.

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9. That this is the way whereby men first formed general ideas, and general names to them, I think, is so evident, that there needs no other proof of it, but the considering of a man's self, or others, and the ordinary proceedings of their minds in knowledge: And he that thinks general natures or notions are any thing else but such abstract and partial ideas of more complex ones, taken at first from particular existences, will, I fear, be at a loss where to find them. For let any one reflect, and then tell me, wherein does his idea of man differ from that of Peter and Paul, or his idea of horse from that of Bucephalus, but in the leaving out something that is peculiar to each individual, and retaining so much of those particular complex ideas of several particular existences, as they are found to agree in? Of the complex ideas signified by the names man and horse, leaving out but those particulars wherein they differ, and retaining only those wherein they agree, and of those making a new distinct complex idea, and giving the name animal to it; one has a more general term, that comprehends with man several other creatures. Leave out of the idea of animal, sense and spontaneous motion; and the remaining complex idea, made up of the remaining simple ones of body, life, and nourishment, becomes a more general one, under the more comprehensive term vivens. And not to dwell longer upon this particular, so evident in itself, by the same way the mind proceeds to body, substance, and at last to being, thing, and such universal terms which stand for any of our ideas whatsoever. To conclude, this whole mystery of genera and species, which make such a noise in the schools, and are with justice so little regarded out of them, is nothing else but abstract ideas, more or less comprehensive, with names annexed to them. In all which this is constant and unvariable, that every more general term stands for such an idea, and is but a part of any of those contained under it.

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10. This may show us the reason, why, in the defining of words, which is nothing but declaring their significations, we make use of the genus, or next general word that comprehends it. Which is not out of necessity, but only to save the labour of enumerating the several simple ideas, which the next general word or genus stands for; or, perhaps, sometimes the shame of not being able to do it. But though defining by genus and differentia (I crave leave to use these terms of art, though originally Latin, since they most properly suit those notions they are applied to) I say, though defining by the genus be the shortest way, yet I think it may be doubted whether it be the best. This I am sure, it is not the only, and so not absolutely necessary. For definition being nothing but making another understand by words what idea the term defined stands for, a definition is best made by enumerating those simple ideas that are combined in the signification of the term defined; and if instead of such an enumeration, men have accustomed themselves to use the next general term; it has not been out of necessity, or for greater clearness, but for quickness and dispatch sake. For, I think, that to one who desired to know what idea the word man stood for, if it should be said, that man was a solid extended substance, having life, sense, spontaneous motion, and the faculty of reasoning: I doubt not but the meaning of the term man would be as well understood, and the idea it stands for be at least as clearly made known, as when it is defined to be a rational animal; which by the several definitions of animal, vivens, and corpus, resolves itself into those enumerated ideas. I have, in explaining the term man, followed here the ordinary definition of the schools: Which though perhaps, not the most exact, yet serves well enough to my present purpose. And one may, in this instance, see what gave occasion to the rule, that a definition must consist of genus and differentia; and it suffices to show us the little necessity there is of such a rule, or advantage in the strict observing of it. For definitions, as has been said, being only the explaining of one word by several others, so that the meaning or idea it stands for may be certainly known; languages are not always so made according to the rules of logic, that every term can have its signification exactly and clearly expressed by two others. Experience sufficiently satisfies us to the contrary: Or else those who have made this rule have done ill, that they have given us so few definitions conformable to it. But of definitions more in the next chapter.

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11. To return to general words, it is plain by what has been said, that general and universal belong not to the real existence of things; but are the inventions and creatures of the understanding, made by it for its own use, and concern only signs, whether words or ideas. Words are general, as has been said, when used for signs of general ideas, and so are applicable indifferently to many particular things: And ideas are general, when they are set up as the representatives of many particular things: But universality belongs not to things themselves, which are all of them particular in their existence; even those words and ideas, which in their signification are general. When therefore we quit particulars, the generals that rest are only creatures of our own making; their general nature being nothing but the capacity they are put into by the understanding, of signifying or representing many particulars. For the signification they have is nothing but a relation, that by the mind of man is added to them.

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12. The next thing therefore to be considered, is, what kind of signification it is, that general words have. For as it is evident, that they do not signify barely one particular thing; for then they would not be general terms, but proper names; so on the other side it is as evident, they do not signify a plurality; for man and men would then signify the same, and the distinction of numbers (as the grammarians call them) would be superfluous and useless. That then which general words signify is a sort of things; and each of them does that, by being a sign of an abstract idea in the mind, to which idea, as things existing are found to agree, so they come to be ranked under that name; or, which is all one, be of that sort. Whereby it is evident, that the essences of the sorts, or (if the Latin word pleases better) species of things, are nothing else but these abstract ideas. For the having the essence of any species, being that which makes any thing to be of that species, and the conformity to the idea to which the name is annexed, being that which gives a right to that name; the having the essence, and the having that conformity, must needs be the same thing: Since to be of any species, and to have a right to the name of that species, is all one. As for example, to be a man, or of the species man, and to have right to the name man, is the same thing. Again, to be a man, or of the species man, and have the essence of a man, is the same thing. Now since nothing can be a man, or have a right to the name man, but what has a conformity to the abstract idea the name man stands for; nor any thing be a man, or have a right to the species man, but what has the essence of that species; it follows, that the abstract idea for which the name stands, and the essence of the species, is one and the same. From whence it is easy to observe, that the essences of the sorts of things, and consequently the sorting of things, is the workmanship of the understanding, that abstracts and makes those general ideas.

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13. I would not here be thought to forget, much less to deny, that nature in the production of things makes several of them alike: There is nothing more obvious, especially in the races of animals, and all things propagated by seed. But yet, I think, we may say the sorting of them under names is the workmanship of the understanding, taking occasion from the similitude it observes amongst them to make abstract general ideas, and set them up in the mind, with names annexed to them as patterns or forms (for in that sense the word form has a very proper signification) to which as particular things existing are found to agree, so they come to be of that species, have that denomination, or are put into that classis. For when we say, this is a man, that a horse; this justice, that cruelty; this a watch, that a jack; what do we else but rank things under different specific names, as agreeing to those abstract ideas, of which we have made those names the signs? And what are the essences of those species set out and marked by names, but those abstract ideas in the mind; which are as it were the bonds between particular things that exist and the names they are to be ranked under? And when general names have any connexion with particular beings, these abstract ideas are the medium that unites them: So that the essences of species, as distinguished and denominated by us, neither are nor can be any thing but these precise abstract ideas we have in our minds. And therefore the supposed real essences of substances, if different from our abstract ideas, cannot be the essences of the species we rank things into. For two species may be one as rationally, as two different essences be the essence of one species; and I demand what are the alterations which may or may not be made in a horse or lead, without making either of them to be of another species? In determining the species of things by our abstract ideas, this is easy to resolve: But if any one will regulate himself herein by supposed real essences, he will, I suppose, be at a loss; and he will never be able to know when any thing precisely ceases to be of the species of a horse or lead.

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15. But since the essences of things are thought, by some, (and not without reason) to be wholly unknown: It may not be amiss to consider the several significations of the word essence.

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First, essence may be taken for the very being of any thing, whereby it is what it is. And thus the real internal, but generally, in substances, unknown constitution of things, whereon their discoverable qualities depend, may be called their essence. This is the proper original signification of the word, as is evident from the formation of it; essentia, in its primary notation, signifying properly being. And in this sense it is still used, when we speak of the essence of particular things, without giving them any name.

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Secondly, the learning and disputes of the schools having been much busied about genus and species, the word essence has almost lost its primary signification: And instead of the real constitution of things, has been almost wholly applied to the artificial constitution of genus and species. It is true, there is ordinarily supposed a real constitution of the sorts of things; and it is past doubt, there must be some real constitution, on which any collection of simple ideas co-existing must depend. But it being evident, that things are ranked under names into sorts or species, only as they agree to certain abstract ideas, to which we have annexed those names: The essence of each genus, or sort, comes to be nothing but that abstract idea, which the general, or sortal (if I may have leave so to call it from sort, as I do general from genus) name stands for. And this we shall find to be that which the word essence imports in its most familiar use. These two sorts of essences, I suppose, may not unfitly be termed, the one the real, the other nominal essence.

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16. Between the nominal essence and the name, there is so near a connexion, that the name of any sort of things cannot be attributed to any particular being but what has this essence, whereby it answers that abstract idea, whereof that name is the sign.

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17. Concerning the real essences of corporeal substances, (to mention these only) there are, if I mistake not, two opinions. The one is of those, who using the word essence for they know not what, suppose a certain number of those essences, according to which all natural things are made, and wherein they do exactly every one of them partake, and so become of this or that species. The other, and more rational opinion, is of those who look on all natural things to have a real, but unknown constitution of their insensible parts; from which flow those sensible qualities which serve us to distinguish them one from another, according as we have occasion to rank them into sorts under common denominations. The former of these opinions, which supposes these essences, as a certain number of forms or moulds, wherein all natural things, that exist, are cast, and do equally partake, has, I imagine, very much perplexed the knowledge of natural things. The frequent productions of monsters, in all the species of animals, and of changelings, and other strange issues of human birth, carry with them difficulties, not possible to consist with this hypothesis: Since it is as impossible, that two things, partaking exactly of the same real essence, should have different properties, as that two figures partaking of the same real essence of a circle should have different properties. But were there no other reason against it, yet the supposition of essences that cannot be known, and the making of them nevertheless to be that which distinguishes the species of things, is so wholly useless, and unserviceable to any part of our knowledge, that that alone were sufficient to make us lay it by, and content ourselves with such essences of the sorts or species of things as come within the reach of our knowledge: Which, when seriously considered, will be found, as I have said, to be nothing else but those abstract complex ideas, to which we have annexed distinct general names.

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18. Essences being thus distinguished into nominal and real, we may farther observe, that in the species of simple ideas and modes, they are always the same; but in substances always quite different. Thus a figure including a space between three lines, is the real as well as nominal essence of a triangle; it being not only the abstract idea to which the general name is annexed, but the very essentia or being of the thing itself, that foundation from which all its properties flow, and to which they are all inseparably annexed. But it is far otherwise concerning that parcel of matter, which makes the ring on my finger, wherein these two essences are apparently different. For it is the real constitution of its insensible parts, on which depend all those properties of colour, weight, fusibility, fixedness, &c. which are to be found in it, which constitution we know not, and so having no particular idea of, have no name that is the sign of it. But yet it is its colour, weight, fusibility, fixedness, &c. which makes it to be gold, or gives it a right to that name, which is therefore its nominal essence: Since nothing can be called gold but what has a conformity of qualities to that abstract complex idea, to which that name is annexed. But this distinction of essences belonging particularly to substances, we shall, when we come to consider their names, have an occasion to treat of more fully.

## Chapter 6. OF THE NAMES OF SUBSTANCES.

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1. The common names of substances, as well as other general terms, stand for sorts; which is nothing else but the being made signs of such complex ideas, wherein several particular substances do, or might agree, by virtue of which they are capable of being comprehended in one common conception, and signified by one name. I say, do or might agree: For though there be but one sun existing in the world, yet the idea of it being abstracted, so that more substances (if there were several) might each agree in it; it is as much a sort, as if there were as many suns as there are stars. They want not their reasons who think there are, and that each fixed star would answer the idea the name sun stands for, to one who was placed in a due distance; which, by the way, may show us how much the sorts, or, if you please, genera and species of things (for those Latin terms signify to me no more than the English word sort) depend on such collections of ideas as men have made, and not on the real nature of things; since it is not impossible but that, in propriety of speech, that might be a sun to one, which is a star to another.

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2. The measure and boundary of each sort, or species, whereby it is constituted that particular sort, and distinguished from others, is that we call its essence, which is nothing but that abstract idea to which the name is annexed; so that every thing contained in that idea is essential to that sort. This, though it be all the essence of natural substances that we know, or by which we distinguish them into sorts; yet I call it by a peculiar name, the nominal essence, to distinguish it from the real constitution of substances, upon which depends this nominal essence, and all the properties of that sort; which therefore, as has been said, may be called the real essence: V.g. the nominal essence of gold is that complex idea the word gold stands for, let it be, for instance, a body yellow, of a certain weight, malleable, fusible, and fixed. But the real essence is the constitution of the insensible parts of that body, on which those qualities, and all the other properties of gold depend. How far these two are different, though they are both called essence, is obvious at first sight to discover.

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3. For though perhaps voluntary motion, with sense and reason, joined to a body of a certain shape, be the complex idea to which I, and others, annex the name man, and so be the nominal essence of the species so called; yet nobody will say that complex idea is the real essence and source of all those operations which are to be found in any individual of that sort. The foundation of all those qualities, which are the ingredients of our complex idea, is something quite different; and had we such a knowledge of that constitution of man, from which his faculties of moving, sensation, and reasoning, and other powers flow, and on which his so regular shape depends, as it is possible angels have, and it is certain his Maker has; we should have a quite other idea of his essence than what now is contained in our definition of that species, be it what it will: And our idea of any individual man would be as far different from what it is now, as is his who knows all the springs and wheels, and other contrivances within, of the famous clock at Strasburgh, from that which a gazing countryman has for it, who barely sees the motion of the hand, and hears the clock strike, and observes only some of the outward appearances.

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4. That essence, in the ordinary use of the word, relates to sorts; and that it is considered in particular beings no farther than as they are ranked into sorts; appears from hence: That take but away the abstract ideas, by which we sort individuals, and rank them under common names, and then the thought of any thing essential to any of them instantly vanishes; we have no notion of the one without the other; which plainly shows their relation. It is necessary for me to be as I am; God and nature has made me so: But there is nothing I have is essential to me. An accident, or disease, may very much alter my colour, or shape; a fever or fall, may take away my reason or memory, or both, and an apoplexy leave neither sense nor understanding, no nor life. Other creatures of my shape may be made with more and better, or fewer and worse faculties than I have; and others may have reason and sense in a shape and body very different from mine. None of these are essential to the one, or the other, or to any individual whatever, till the mind refers it to some sort or species of things; and then presently, according to the abstract idea of that sort, something is found essential. Let any one examine his own thoughts, and he will find that as soon as he supposes or speaks of essential, the consideration of some species, or the complex idea, signified by some general name, comes into his mind; and it is in reference to that, that this or that quality is said to be essential. So that if it be asked, whether it be essential to me or any other particular corporeal being to have reason? I say no; no more than it is essential to this white thing I write on to have words in it. But if that particular being be to be counted of the sort man, and to have the name man given it, then reason is essential to it, supposing reason to be a part of the complex idea the name man stands for: As it is essential to this thing I write on to contain words, if I will give it the name treatise, and rank it under that species. So that essential, and not essential relate only to our abstract ideas, and the names annexed to them; which amounts to no more than this, that whatever particular thing has not in it those qualities, which are contained in the abstract idea, which any general term stands for, cannot be ranked under that species, nor be called by that name, since that abstract idea is the very essence of that species.

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5. Thus, if the idea of body, with some people, be bare extension or space, then solidity is not essential to body: If others make the idea, to which they give the name body, to be solidity and extension, then solidity is essential to body. That therefore, and that alone, is considered as essential, which makes a part of the complex idea the name of a sort stands for, without which no particular thing can be reckoned of that sort, nor be entitled to that name. Should there be found a parcel of matter that had all the other qualities that are in iron, but wanted obedience to the loadstone; and would neither be drawn by it, nor receive direction from it; would any one question whether it wanted any thing essential? It would be absurd to ask, Whether a thing really existing wanted any thing essential to it. Or could it be demanded, Whether this made an essential or specific difference or no, since we have no other measure of essential or specific but our abstract ideas? And to talk of specific differences in nature, without reference to general ideas and names, is to talk unintelligibly. For I would ask any one, What is sufficient to make an essential difference in nature, between any two particular beings, without any regard had to some abstract idea, which is looked upon as the essence and standard of a species? All such patterns and standards being quite laid aside, particular beings, considered barely in themselves, will be found to have all their qualities equally essential; and every thing, in each individual, will be essential to it, or, which is more, nothing at all. For though it may be reasonable to ask, Whether obeying the magnet be essential to iron? yet, I think, it is very improper and insignificant to ask, Whether it be essential to the particular parcel of matter I cut my pen with, without considering it under the name iron, or as being of a certain species? And if, as has been said, our abstract ideas, which have names annexed to them, are the boundaries of species, nothing can be essential but what is contained in those ideas.

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6. It is true, I have often mentioned a real essence, distinct in substances from those abstract ideas of them ,which I call their nominal essence. By this real essence I mean the real constitution of any thing, which is the foundation of all those properties that are combined in, and are constantly found to co-exist with the nominal essence; that particular constitution which every thing has within itself, without any relation to any thing without it. But essence, even in this sense, relates to a sort, and supposes a species; for being that real constitution, on which the properties depend, it necessarily supposes a sort of things, properties belonging only to species, and not to individuals; v.g. supposing the nominal essence of gold to be a body of such a peculiar colour and weight, with malleability and fusibility, the real essence is that constitution of the parts of matter, on which these qualities and their union depend: And is also the foundation of its solubility in aqua regia and other properties accompanying that complex idea. Here are essences and properties, but all upon supposition of a sort, or general abstract idea, which is considered as immutable; but there is no individual parcel of matter, to which any of these qualities are so annexed, as to be essential to it, or inseparable from it. That which is essential belongs to it as a condition, whereby it is of this or that sort; but take away the consideration of its being ranked under the name of some abstract idea, and then there is nothing necessary to it, nothing inseparable from it. Indeed, as to the real essences of substances, we only suppose their being, without precisely knowing what they are: But that which annexes them still to the species, is the nominal essence, of which they are the supposed foundation and cause.

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7. The next thing to be considered, is, by which of those essences it is that substances are determined into sorts, or species; and that, it is evident, is by the nominal essence. For it is that alone that the name, which is the mark of the sort, signifies. It is impossible therefore that any thing should determine the sorts of things, which we rank under general names, but that idea which that name is designed as a mark for; which is that, as has been shown, which we call nominal essence. Why do we say, this is a horse, that a mule; this is an animal, that an herb? How comes any particular thing to be of this or that sort, but because it has that nominal essence, or, which is all one, agrees to that abstract idea that name is annexed to? And I desire any one but to reflect on his own thoughts, when he hears or speaks any of those, or other names of substances, to know what sort of essences they stand for.

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8. And that the species of things to us are nothing but the ranking them under distinct names, according to the complex ideas in us, and not according to precise, distinct, real essences in them; is plain from hence, that we find many of the individuals that are ranked into one sort, called by one common name, and so received as being of one species, have yet qualities depending on their real constitutions, as far different one from another as from others, from which they are accounted to differ specifically. […]

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9. Nor indeed can we rank and sort things, and consequently (which is the end of sorting) denominate them by their real essences, because we know them not. Our faculties carry us no farther towards the knowledge and distinction of substances, than a collection of those sensible ideas which we observe in them; which, however made with the greatest diligence and exactness we are capable of, yet is more remote from the true internal constitution, from which those qualities flow, than, as I said, a countryman's idea is from the inward contrivance of that famous clock at Strasburgh, whereof he only sees the outward figure and motions. There is not so contemptible a plant or animal, that does not confound the most enlarged understanding. Though the familiar use of things about us take off our wonder; yet it cures not our ignorance. When we come to examine the stones we tread on, or the iron we daily handle, we presently find we know not their make, and can give no reason of the different qualities we find in them. It is evident the internal constitution, whereon their properties depend, is unknown to us. For to go no farther than the grossest and most obvious we can imagine amongst them, what is that texture of parts, that real essence, that makes lead and antimony fusible; wood and stones not? What makes lead and iron malleable, antimony and stones not? And yet how infinitely these come short of the fine contrivances, and inconceivable real essences of plants or animals, every one knows. The workmanship of the all-wise and powerful God, in the great fabric of the universe, and every part thereof, farther exceeds the capacity and comprehension of the most inquisitive and intelligent man, than the best contrivance of the most ingenious man doth the conceptions of the most ignorant of rational creatures. Therefore we in vain pretend to range things into sorts, and dispose them into certain classes, under names, by their real essences, that are so far from our discovery or comprehension. […]

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12. It is not impossible to conceive, nor repugnant to reason, that there may be many species of spirits, as much separated and diversified one from another by distinct properties whereof we have no ideas, as the species of sensible things are distinguished one from another by qualities which we know, and observe in them. That there should be more species of intelligent creatures above us, than there are of sensible and material below us, is probable to me from hence; that in all the visible corporeal world, we see no chasms or gaps. All quite down from us the descent is by easy steps, and a continued series of things, that in each remove differ very little one from the other. There are fishes that have wings, and are not strangers to the airy region; and there are some birds that are inhabitants of the water, whose blood is cold as fishes, and their flesh so like in taste, that the scrupulous are allowed them on fish-days. There are animals so near of kin both to birds and beasts, that they are in the middle between both: Amphibious animals link the terrestrial and aquatic together; seals live at land and sea, and porpoises have the warm blood and entrails of a hog, not to mention what is confidently reported of mermaids or sea-men. There are some brutes, that seem to have as much knowledge and reason, as some that are called men; and the animal and vegetable kingdoms are so nearly joined, that if you will take the lowest of one, and the highest of the other, there will scarce be perceived any great difference between them; and so on, till we come to the lowest and the most inorganical parts of matter, we shall find every-where, that the several species are linked together, and differ but in almost insensible degrees. […]

14. To distinguish substantial beings into species, according to the usual supposition, that there are certain precise essences or forms of things, whereby all the individuals existing are by nature distinguished into species, these things are necessary.

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15. First, To be assured that nature, in the production of things, always designs them to partake of certain regulated established essences, which are to be the models of all things to be produced. This, in that crude sense it is usually proposed, would need some better explication before it can fully be assented to.

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16. Secondly, It would be necessary to know whether nature always attains that essence it designs in the production of things. The irregular and monstrous births, that in divers sorts of animals have been observed, will always give us reason to doubt of one or both of these.

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17. Thirdly, It ought to be determined whether those we call monsters be really a distinct species, according to the scholastic notion of the word species; since it is certain, that every thing that exists has its particular constitution: And yet we find that some of these monstrous productions have few or none of those qualities, which are supposed to result from, and accompany the essence of that species, from whence they derive their originals, and to which, by their descent, they seem to belong.

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18. Fourthly, The real essences of those things which we distinguish into species, and as so distinguished we name, ought to be known; i.e. we ought to have ideas of them. But since we are ignorant in these four points, the supposed real essences of things stand us not in stead for the distinguishing substances into species.

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19. Fifthly, The only imaginable help in this case would be, that having framed perfect complex ideas of the properties of things, flowing from their different real essences, we should thereby distinguish them into species. But neither can this be done; for being ignorant of the real essence itself, it is impossible to know all those properties that flow from it, and are so annexed to it, that any one of them being away, we may certainly conclude, that that essence is not there, and so the thing is not of that species. We can never know what is the precise number of properties depending on the real essence of gold, any one of which failing, the real essence of gold, and consequently gold, would not be there, unless we knew the real essence of gold itself, and by that determined that species. […]

26. Since then it is evident, that we sort and name substances by their nominal, and not by their real essences; the next thing to be considered is, how and by whom these essences come to be made. As to the latter, it is evident they are made by the mind, and not by nature: For were they nature's workmanship, they could not be so various and different in several men, as experience tells us they are. For if we will examine it, we shall not find the nominal essence of any one species of substances in all men the same; no not of that, which of all others we are the most intimately acquainted with. […]

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28. But though these nominal essences of substances are made by the mind, they are not yet made so arbitrarily as those of mixed modes. To the making of any nominal essence, it is necessary, First, that the ideas whereof it consists have such a union as to make but one idea, how compounded soever. Secondly, that the particular idea so united be exactly the same, neither more nor less. For if two abstract complex ideas differ either in number or sorts of their component parts, they make two different, and not one and the same essence. In the first of these, the mind, in making its complex ideas of substances, only follows nature; and puts none together, which are not supposed to have a union in nature. Nobody joins the voice of a sheep with the shape of a horse; nor the colour of lead, with the weight and fixedness of gold; to be the complex ideas of any real substances: Unless he has a mind to fill his head with chimeras, and his discourse with unintelligible words. Men observing certain qualities always joined and existing together, therein copied nature; and of ideas so united, made their complex ones of substances. For though men may make what complex ideas they please, and give what names to them they will: Yet if they will be understood, when they speak of things really existing, they must in some degree conform their ideas to the things they would speak of: Or else men's language will be like that of Babel; and every man's words being intelligible only to himself, would no longer serve to conversation, and the ordinary affairs of life, if the ideas they stand for be not some way answering the common appearances and agreement of substances, as they really exist.

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29. Secondly, though the mind of man, in making its complex ideas of substances, never puts any together that do not really or are not supposed to co-exist; and so it truly borrows that union from nature; yet the number it combines depends upon the various care, industry, or fancy of him that makes it. Men generally content themselves with some few sensible obvious qualities; and often, if not always, leave out others as material, and as firmly united, as those that they take. […]

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32. If the number of simple ideas, that make the nominal essence of the lowest species, or first sorting of individuals, depends on the mind of man variously collecting them, it is much more evident that they do so, in the more comprehensive classes, which by the masters of logic are called genera. These are complex ideas designedly imperfect: And it is visible at first sight, that several of those qualities that are to be found in the things themselves, are purposely left out of generical ideas. For as the mind, to make general ideas comprehending several particulars, leaves out those of time, and place, and such other, that make them incommunicable to more than one individual; so to make other yet more general ideas, that may comprehend different sorts, it leaves out those qualities that distinguish them, and puts into its new collection only such ideas as are common to several sorts. […]

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36. This then, in short, is the case; nature makes many particular things which do agree one with another, in many sensible qualities, and probably too in their internal frame and constitution: But it is not this real essence that distinguishes them into species; it is men, who, taking occasion from the qualities they find united in them, and wherein they observe often several individuals to agree, range them into sorts, in order to their naming, for the convenience of comprehensive signs; under which individuals, according to their conformity to this or that abstract idea, come to be ranked as under ensigns; so that this is of the blue, that the red regiment; this is a man, that a drill: And in this, I think, consists the whole business of genus and species.

# Locke, Essay Concerning Human Understanding (1689), Bk. 4

## Chapter 1. OF KNOWLEDGE IN GENERAL.

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1. Since the mind, in all its thoughts and reasonings, hath no other immediate object but its own ideas, which it alone does or can contemplate; it is evident, that our knowledge is only conversant about them.

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2. Knowledge then seems to me to be nothing but the perception of the connexion and agreement, or disagreement and repugnancy, of any of our ideas. In this alone it consists. Where this perception is, there is knowledge; and where it is not, there, though we may fancy, guess, or believe, yet we always come short of knowledge. For when we know that white is not black, what do we else but perceive that these two ideas do not agree? When we possess ourselves with the utmost security of the demonstration, that the three angles of a triangle are equal to two right ones, what do we more but perceive, that equality to two right ones does necessarily agree to, and is inseparable from the three angles of a triangle?

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3. But to understand a little more distinctly wherein this agreement or disagreement consists, I think we may reduce it all to these four sorts:1. Identity, or diversity.2. Relation.3. Co-existence, or necessary connexion.4. Real existence.

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4. First, as to the first sort of agreement or disagreement, viz. identity or diversity. It is the first act of the mind, when it has any sentiments or ideas at all, to perceive its ideas; and so far as it perceives them, to know each what it is, and thereby also to perceive their difference, and that one is not another. This is so absolutely necessary, that without it there could be no knowledge, no reasoning, no imagination, no distinct thoughts, at all. By this the mind clearly and infallibly perceives each idea to agree with itself, and to be what it is; and all distinct ideas to disagree, i.e. the one not to be the other: And this it does without pains, labour, or deduction; but at first view, by its natural power of perception and distinction. And though men of art have reduced this into those general rules, "what is, is"; and "it is impossible for the same thing to be and not to be"; for ready application in all cases, wherein there may be occasion to reflect on it: Yet it is certain, that the first exercise of this faculty is about particular ideas. A man infallibly knows, as soon as ever he has them in his mind, that the ideas he calls white and round, are the very ideas they are, and that they are not other ideas which he calls red or square. Nor can any maxim or proposition in the world make him know it clearer or surer than he did before, and without any such general rule. This then is the first agreement or disagreement, which the mind perceives in its ideas; which it always perceives at first sight: And if there ever happen any doubt about it, it will always be found to be about the names, and not the ideas themselves, whose identity and diversity will always be perceived, as soon and clearly as the ideas themselves are; nor can it possibly be otherwise.

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5. Secondly, the next sort of agreement or disagreement, the mind perceives in any of its ideas, may, I think, be called relative, and is nothing but the perception of the relation between any two ideas, of what kind soever, whether substances, modes, or any other. For since all distinct ideas must eternally be known not to be the same, and so be universally and constantly denied one of another, there could be no room for any positive knowledge at all, if we could not perceive any relation between our ideas, and find out the agreement or disagreement they have one with another, in several ways the mind takes of comparing them.

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6. Thirdly, the third sort of agreement, or disagreement, to be found in our ideas, which the perception of the mind is employed about, is co-existence, or non-co-existence in the same subject; and this belongs particularly to substances. Thus when we pronounce concerning gold that it is fixed, our knowledge of this truth amounts to no more but this, that fixedness, or a power to remain in the fire unconsumed, is an idea that always accompanies, and is joined with that particular sort of yellowness, weight, fusibility, malleableness, and solubility in aq. regia, which make our complex idea, signified by the word gold.

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7. Fourthly, the fourth and last sort is that of actual real existence agreeing to any idea. Within these four sorts of agreement or disagreement, is, I suppose, contained all the knowledge we have, or are capable of: For all the inquiries we can make concerning any of our ideas, all that we know or can affirm concerning any of them, is, that it is, or is not, the same with some other; that it does or does not, always co-exist with some other idea in the same subject; that it has this or that relation with some other idea; or that it has a real existence without the mind. Thus "blue is not yellow"; is of identity: "two triangles upon equal bases between two parallels are equal"; is of relation: "iron is susceptible of magnetical impressions"; is of co-existence: "God is"; is of real existence. Though identity and co-existence are truly nothing but relations, yet they are such peculiar ways of agreement or disagreement of our ideas, that they deserve well to be considered as distinct heads, and not under relation in general; since they are so different grounds of affirmation and negation, as will easily appear to any one, who will but reflect on what is said in several places of this essay. I should now proceed to examine the several degrees of our knowledge, but that it is necessary first to consider the different acceptations of the word knowledge.

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8. There are several ways wherein the mind is possessed of truth, each of which is called knowledge.

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1. There is actual knowledge which is the present view the mind has of the agreement or disagreement of any of its ideas, or of the relation they have one to another.

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2. A man is said to know any proposition, which having been once laid before his thoughts, he evidently perceived the agreement or disagreement of the ideas whereof it consists; and so lodged it in his memory, that whenever that proposition comes again to be reflected on, he, without doubt or hesitation, embraces the right side, assents to, and is certain of the truth of it. This, I think, one may call habitual knowledge: And thus a man may be said to know all those truths which are lodged in his memory, by a foregoing, clear and full perception, whereof the mind is assured past doubt, as often as it has occasion to reflect on them. For our finite understandings being able to think clearly and distinctly but on one thing at once, if men had no knowledge of any more than what they actually thought on, they would all be very ignorant; and he that knew most, would know but one truth, that being all he was able to think on at one time.

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9. Of habitual knowledge, there are also, vulgarly speaking, two degrees:

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First, the one is of such truths laid up in the memory as, whenever they occur to the mind, it actually perceives the relation is between those ideas. And this is in all those truths whereof we have an intuitive knowledge; where the ideas themselves, by an immediate view, discover their agreement or disagreement one with another.

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Secondly, The other is of such truths whereof the mind having been convinced, it retains the memory of the conviction, without the proofs. Thus a man that remembers certainly that he once perceived the demonstration, that the three angles of a triangle are equal to two right ones, is certain that he knows it, because he cannot doubt the truth of it. In his adherence to a truth, where the demonstration by which it was at first known is forgot, though a man may be thought rather to believe his memory than really to know, and this way of entertaining a truth seemed formerly to me like something between opinion and knowledge; a sort of assurance which exceeds bare belief, for that relies on the testimony of another: Yet upon a due examination I find it comes not short of perfect certainty, and is in effect true knowledge. That which is apt to mislead our first thoughts into a mistake in this matter, is, that the agreement or disagreement of the ideas in this case is not perceived, as it was at first, by an actual view of all the intermediate ideas, whereby the agreement or disagreement of those in the proposition was at first perceived; but by other intermediate ideas, that show the agreement or disagreement of the ideas contained in the proposition whose certainty we remember. For example, in this proposition, that "the three angles of a triangle are equal to two right ones," one who has seen and clearly perceived the demonstration of this truth, knows it to be true, when that demonstration is gone out of his mind; so that at present it is not actually in view, and possibly cannot be recollected: But he knows it in a different way from what he did before. The agreement of the two ideas joined in that proposition is perceived, but it is by the intervention of other ideas than those which at first produced that perception. He remembers, i.e. he knows (for remembrance is but the reviving of some past knowledge) that he was once certain of the truth of this proposition, that the three angles of a triangle are equal to two right ones. The immutability of the same relations between the same immutable things, is now the idea that shows him, that if the three angles of a triangle were once equal to two right ones, they will always be equal to two right ones. And hence he comes to be certain, that what was once true in the case, is always true; what ideas once agreed, will always agree; and consequently what he once knew to be true, he will always know to be true; as long as he can remember that he once knew it. Upon this ground it is, that particular demonstrations in mathematicks afford general knowledge. If then the perception that the same ideas will eternally have the same habitudes and relations, be not a sufficient ground of knowledge, there could be no knowledge of general propositions in mathematicks; for no mathematical demonstration would be any other than particular: And when a man had demonstrated any proposition concerning one triangle or circle, his knowledge would not reach beyond that particular diagram. If he would extend it farther, he must renew his demonstration in another instance, before he could know it to be true in another like triangle, and so on: By which means one could never come to the knowledge of any general propositions. Nobody, I think, can deny that Mr. Newton certainly knows any proposition, that he now at any time reads in his book, to be true; though he has not in actual view that admirable chain of intermediate ideas, whereby he at first discovered it to be true. Such a memory as that, able to retain such a train of particulars, may be well thought beyond the reach of human faculties; when the very discovery, perception, and laying together that wonderful connexion of ideas, is found to surpass most readers' comprehension. But yet it is evident, the author himself knows the proposition to be true, remembering he once saw the connexion of those ideas, as certainly as he knows such a man wounded another, remembering that he saw him run him through. But because the memory is not always so clear as actual perception, and does in all men more or less decay in length of time, this amongst other differences is one, which shows that demonstrative knowledge is much more imperfect than intuitive, as we shall see in the following chapter.

## Chapter 2. OF THE DEGREES OF OUR KNOWLEDGE.

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1. All our knowledge consisting, as I have said, in the view the mind has of its own ideas, which is the utmost light and greatest certainty we, with our faculties, and in our way of knowledge, are capable of; it may not be amiss to consider a little the degrees of its evidence. The different clearness of our knowledge seems to me to lie in the different way of perception the mind has of the agreement or disagreement of any of its ideas. For if we will reflect on our own ways of thinking, we shall find, that sometimes the mind perceives the agreement or disagreement of two ideas immediately by themselves, without the intervention of any other: And this, I think, we may call intuitive knowledge. For in this the mind is at no pains of proving or examining, but perceives the truth, as the eye doth light, only by being directed towards it. Thus the mind perceives, that white is not black, that a circle is not a triangle, that three are more than two, and equal to one and two. Such kinds of truths the mind perceives at the first sight of the ideas together, by bare intuition, without the intervention of any other idea; and this kind of knowledge is the clearest and most certain, that human frailty is capable of. This part of knowledge is irresistible, and like bright sunshine forces itself immediately to be perceived, as soon as ever the mind turns its view that way; and leaves no room for hesitation, doubt, or examination, but the mind is presently filled with the clear light of it. It is on this intuition that depends all the certainty and evidence of all our knowledge; which certainty every one finds to be so great, that he cannot imagine, and therefore not require a greater: For a man cannot conceive himself capable of a greater certainty, than to know that any idea in his mind is such as he perceives it to be; and that two ideas wherein he perceives a difference, are different and not precisely the same. He that demands a greater certainty than this, demands he knows not what, and shows only that he has a mind to be a sceptick, without being able to be so. Certainty depends so wholly on this intuition, that in the next degree of knowledge, which I call demonstrative, this intuition is necessary in all the connexions of the intermediate ideas, without which we cannot attain knowledge and certainty.

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2. The next degree of knowledge is, where the mind perceives the agreement or disagreement of any ideas, but not immediately. Though wherever the mind perceives the agreement or disagreement of any of its ideas, there be certain knowledge: Yet it does not always happen, that the mind sees that agreement or disagreement which there is between them, even where it is discoverable: And in that case remains in ignorance, and at most gets no farther than a probable conjecture. The reason why the mind cannot always perceive presently the agreement or disagreement of two ideas, is, because those ideas, concerning whose agreement or disagreement the inquiry is made, cannot by the mind be so put together as to show it. In this case then, when the mind cannot so bring its ideas together, as by their immediate comparison, and as it were juxta-position or application one to another, to perceive their agreement or disagreement, it is fain, by the intervention of other ideas (one or more, as it happens) to discover the agreement or disagreement which it searches; and this is that which we call reasoning. Thus the mind being willing to know the agreement or disagreement in bigness, between the three angles of a triangle and two right ones, cannot by an immediate view and comparing them do it: Because the three angles of a triangle cannot be brought at once, and be compared with any other one or two angles; and so of this the mind has no immediate, no intuitive knowledge. In this case the mind is fain to find out some other angles, to which the three angles of a triangle have an equality; and, finding those equal to two right ones, comes to know their equality to two right ones.

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14. These two, viz. intuition and demonstration, are the degrees of our knowledge; whatever comes short of one of these, with what assurance soever embraced, is but faith, or opinion, but not knowledge, at least in all general truths. There is, indeed, another perception of the mind, employed about the particular existence of finite beings without us; which going beyond bare probability, and yet not reaching perfectly to either of the foregoing degrees of certainty, passes under the name of knowledge. There can be nothing more certain, than that the idea we receive from an external object is in our minds; this is intuitive knowledge. But whether there be any thing more than barely that idea in our minds; whether we can thence certainly infer the existence of any thing without us, which corresponds to that idea, is that, whereof some men think there may be a question made; because men may have such ideas in their minds, when no such thing exists, no such object affects their senses. But yet here, I think, we are provided with an evidence, that puts us past doubting: For I ask any one, whether he be not invincibly conscious to himself of a different perception, when he looks on the sun by day, and thinks on it by night; when he actually tastes wormwood, or smells a rose, or only thinks on that savour or odour? We as plainly find the difference there is between any idea revived in our minds by our own memory, and actually coming into our minds by our senses, as we do between any two distinct ideas. If any one say, a dream may do the same thing, and all these ideas may be produced in us without any external objects; he may please to dream that I make him this answer: 1. That it is no great matter, whether I remove his scruple or no: Where all is but dream, reasoning and arguments are of no use, truth and knowledge nothing. 2. That I believe he will allow a very manifest difference between dreaming of being in the fire, and being actually in it. But yet if he be resolved to appear so sceptical, as to maintain, that what I call being actually in the fire is nothing but a dream; and that we cannot thereby certainly know, that any such thing as fire actually exists without us: I answer, that we certainly finding that pleasure or pain follows upon the application of certain objects to us, whose existence we perceive, or dream that we perceive by our senses; this certainty is as great as our happiness or misery, beyond which we have no concernment to know or to be. So that, I think, we may add to the two former sorts of knowledge this also of the existence of particular external objects, by that perception and consciousness we have of the actual entrance of ideas from them, and allow these three degrees of knowledge, viz. intuitive, demonstrative, and sensitive: In each of which there are different degrees and ways of evidence and certainty.

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15. But since our knowledge is founded on and employed about our ideas only, will it not follow from thence, that it is conformable to our ideas; and that where our ideas are clear and distinct, or obscure and confused, our knowledge will be so too? To which I answer, no: For our knowledge consisting in the perception of the agreement or disagreement of any two ideas, its clearness or obscurity consists in the clearness or obscurity of that perception, and not in the clearness or obscurity of the ideas themselves; v.g. a man that has as clear ideas of the angles of a triangle, and of equality to two right ones, as any mathematician in the world, may yet have but a very obscure perception of their agreement, and so have but a very obscure knowledge of it. But ideas, which by reason of their obscurity or otherwise, are confused, cannot produce any clear or distinct knowledge; because, as far as any ideas are confused, so far the mind cannot perceive clearly, whether they agree or disagree. Or to express the same thing in a way less apt to be misunderstood; he that hath not determined ideas to the words he uses, cannot make propositions of them, of whose truth he can be certain.

## Chapter 3. OF THE EXTENT OF HUMAN KNOWLEDGE.

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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,

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First, we can have knowledge no farther than we have ideas.

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2. Secondly, that we can have no knowledge farther than we can have perceptions 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,

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3. Thirdly, that we cannot have an intuitive knowledge, that shall extend itself 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 juxta-position, 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.

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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 wherever that fails, we come short of knowledge and demonstration.

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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.

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 all being, 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 inquiries 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 human knowledge, under the present circumstances of our beings and constitutions, may be carried much farther than it has hitherto 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 falsehood, to maintain a system, interest, or party, they are once engaged in. But yet after all, I think I may, without injury to human 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 that 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 or omnipotent Spirit 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. iv. ch. 10, sec. 14, &c. 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 ourselves 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 the beginning 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 it is not of such mighty necessity to determine one way or the 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 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 itself cannot give perception and thought to a substance which has the modification of solidity. He that considers how hardly sensation is, in our thoughts, reconcileable 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. It is 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 inconceivableness 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 clogged with equal difficulties. For what safety, what advantage 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? It is 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 ourselves in the ignorance of what kind of being it is: And it is 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. […]

## Chapter 9. OF OUR KNOWLEDGE OF EXISTENCE.

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1. Hitherto we have only considered the essences of things, which being only abstract ideas, and thereby removed in our thoughts from particular existence (that being the proper operation of the mind, in abstraction, to consider an idea under no other existence, but what it has in the understanding) gives us no knowledge of real existence at all. Where by the way we may take notice, that universal propositions, of whose truth or falsehood we can have certain knowledge, concern not existence; and farther, that all particular affirmations or negations, that would not be certain if they were made general, are only concerning existence; they declaring only the accidental union or separation of ideas in things existing, which, in their abstract natures, have no known necessary union or repugnancy.

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2. But leaving the nature of propositions and different ways of predication to be considered more at large in another place, let us proceed now to inquire concerning our knowledge of the existence of things, and how we come by it. I say then, that we have the knowledge of our own existence by intuition; of the existence of God by demonstration; and of other things by sensation.

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3. As for our own existence, we perceive it so plainly and so certainly, that it neither needs nor is capable of any proof. For nothing can be more evident to us than our own existence; I think, I reason, I feel pleasure and pain: Can any of these be more evident to me, than my own existence? if I doubt of all other things, that very doubt makes me perceive my own existence, and will not suffer me to doubt of that. For if I know I feel pain, it is evident I have as certain perception of my own existence, as of the existence of the pain I feel: Or if I know I doubt, I have as certain perception of the existence of the thing doubting, as of that thought which I call doubt. Experience then convinces us, that we have an intuitive knowledge of our own existence, and an internal infallible perception that we are. In every act of sensation, reasoning, or thinking, we are conscious to ourselves of our own being; and, in this matter, come not short of the highest degree of certainty.

## Chapter 10. OF OUR KNOWLEDGE OF THE EXISTENCE OF A GOD.

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1. Though God has given us no innate ideas of himself; though he has stamped no original characters on our minds, wherein we may read his being; yet having furnished us with those faculties our minds are endowed with, he hath not left himself without witness: Since we have sense, perception, and reason, and cannot want a clear proof of him, as long as we carry ourselves about us. Nor can we justly complain of our ignorance in this great point, since he has so plentifully provided us with the means to discover and know him, so far as is necessary to the end of our being, and the great concernment of our happiness. But though this be the most obvious truth that reason discovers; and though its evidence be (if I mistake not) equal to mathematical certainty: Yet it requires thought and attention, and the mind must apply itself to a regular deduction of it from some part of our intuitive knowledge, or else we shall be as uncertain and ignorant of this as of other propositions, which are in themselves capable of clear demonstration. To show therefore that we are capable of knowing, i.e. being certain that there is a God, and how we may come by this certainty, I think we need go no farther than ourselves, and that undoubted knowledge we have of our own existence.

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2. I think it is beyond question, that man has a clear idea of his own being; he knows certainly he exists, and that he is something. He that can doubt, whether he be any thing or no, I speak not to; no more than I would argue with pure nothing, or endeavour to convince non-entity, that it were something. If any one pretends to be so sceptical, as to deny his own existence (for really to doubt of it is manifestly impossible) let him for me enjoy his beloved happiness of being nothing, until hunger, or some other pain, convince him of the contrary. This then, I think, I may take for a truth, which every one's certain knowledge assures him of, beyond the liberty of doubting, viz. that he is something that actually exists.

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3. In the next place, man knows by an intuitive certainty, that bare nothing can no more produce any real being, than it can be equal to two right angles. If a man knows not that non-entity, or the absence of all being, cannot be equal to two right angles, it is impossible he should know any demonstration in Euclid. If therefore we know there is some real being, and that non-entity cannot produce any real being, it is an evident demonstration, that from eternity there has been something; since what was not from eternity had a beginning; and what had a beginning must be produced by something else.

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4. Next, it is evident, that what had its being and beginning from another, must also have all that which is in, and belongs to its being, from another too. All the powers it has must be owing to, and received from, the same source. This eternal source then of all being must also be the source and original of all power; and so this eternal being must be also the most powerful.

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5. Again, a man finds in himself perception and knowledge. We have then got one step farther; and we are certain now, that there is not only some being, but some knowing intelligent being in the world.

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There was a time then, when there was no knowing being, and when knowledge began to be; or else there has been also a knowing being from eternity. If it be said, there was a time when no being had any knowledge, when that eternal being was void of all understanding, I reply, that then it was impossible there should ever have been any knowledge: It being as impossible that things wholly void of knowledge, and operating blindly, and without any perception, should produce a knowing being, as it is impossible that a triangle should make itself three angles bigger than two right ones. For it is as repugnant to the idea of senseless matter, that it should put into itself, sense, perception, and knowledge, as it is repugnant to the idea of a triangle, that it should put into itself greater angles than two right ones.

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6. Thus from the consideration of ourselves, and what we infallibly find in our own constitutions, our reason leads us to the knowledge of this certain and evident truth, that there is an eternal, most powerful, and most knowing being; which whether any one will please to call God, it matters not. The thing is evident, and from this idea duly considered, will easily be deduced all those other attributes, which we ought to ascribe to this eternal being. If nevertheless any one should be found so senselessly arrogant, as to suppose man alone knowing and wise, but yet the product of mere ignorance and chance; and that all the rest of the universe acted only by that blind hap-hazard: I shall leave with him that very rational and emphatical rebuke of Tully, I. ii. De Leg. to be considered at his leisure: "What can be more sillily arrogant and misbecoming, than for a man to think that he has a mind and understanding in him, but yet in all the universe beside there is no such thing? Or that those things which with the utmost stretch of his reason he can scarce comprehend, should be moved and managed without any reason at all?" "Quid est enim verius, quam neminem esse oportere tam stulte arrogantem, ut in se mentem et rationem putet inesse, in coelo doque non putet? Aut ea quae vix summa ingenii ratione comprehendat, nulla ratione moveri putet?"

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From what has been said, it is plain to me, we have a more certain knowledge of the existence of a God, than of any thing our senses have not immediately discovered to us. Nay, I presume I may say, that we more certainly know that there is a God, than that there is any thing else without us. When I say we know, I mean there is such a knowledge within our reach which we cannot miss, if we will but apply our minds to that, as we do to several other inquiries.

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7. How far the idea of a most perfect being, which a man may frame in his mind, does or does not prove the existence of a God, I will not here examine. For in the different make of men's tempers and application of their thoughts, some arguments prevail more on one, and some on another, for the confirmation of the same truth. But yet, I think, this I may say, that it is an ill way of establishing this truth, and silencing atheists, to lay the whole stress of so important a point as this upon that sole foundation; and take some men's having that idea of God in their minds (for it is evident some men have none, and some worse than none, and the most very different) for the only proof of a deity: And out of an over-fondness of that darling invention cashier, or at least endeavour to invalidate, all other arguments, and forbid us to hearken to those proofs, as being weak or fallacious, which our own existence and the sensible parts of the universe offer so clearly and cogently to our thoughts, that I deem it impossible for a considering man to withstand them. For I judge it as certain and clear a truth, as can any where be delivered, that "the invisible things of God are clearly seen from the creation of the world, being understood by the things that are made, even his eternal power and Godhead." Though our own being furnishes us, as I have shown, with an evident and incontestible proof of a deity; and I believe nobody can avoid the cogency of it, who will but as carefully attend to it, as to any other demonstration of so many parts: Yet this being so fundamental a truth, and of that consequence, that all religion and genuine morality depend thereon, I doubt not but I shall be forgiven by my reader, if I go over some parts of this argument again, and enlarge a little more upon them.

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8. There is no truth more evident, than that something must be from eternity. I never yet heard of any one so unreasonable, or that could suppose so manifest a contradiction, as a time wherein there was perfectly nothing: This being of all absurdities the greatest, to imagine that pure nothing, the perfect negation and absence of all beings, should ever produce any real existence.

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It being then unavoidable for all rational creatures to conclude, that something has existed from eternity; let us next see what kind of thing that must be.

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9. There are but two sorts of beings in the world, that man knows or conceives.

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First, such as are purely material, without sense, perception, or thought, as the clippings of our beards, and parings of our nails.

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Secondly, sensible, thinking, perceiving beings, such as we find ourselves to be, which, if you please, we will hereafter call cogitative and incogitative beings, which to our present purpose, if for nothing else, are, perhaps better terms than material and immaterial.

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10. If then there must be something eternal, let us see what sort of being it must be. And to that, it is very obvious to reason, that it must necessarily be a cogitative being. For it is as impossible to conceive, that ever

bare incogitative matter should produce a thinking intelligent being, as that nothing should of itself produce matter. Let us suppose any parcel of matter eternal, great or small, we shall find it, in itself, able to produce nothing. For example; let us suppose the matter of the next pebble we meet with eternal, closely united, and the parts firmly at rest together; if there were no other being in the world, must it not eternally remain so, a dead inactive lump? Is it possible to conceive it can add motion to itself, being purely matter, or produce any thing? Matter then, by its own strength, cannot produce in itself so much as motion: The motion it has must also be from eternity, or else be produced, and added to matter by some other being more powerful than matter; matter, as is evident, having not power to produce motion in itself. But let us suppose motion eternal too; yet matter, incogitative matter and motion, whatever changes it might produce of figure and bulk, could never produce thought: Knowledge will still be as far beyond the power of motion and matter to produce, as matter is beyond the power of nothing or nonentity to produce. And I appeal to every one's own thoughts, whether he cannot as easily conceive matter produced by nothing, as thought to be produced by pure matter, when before there was no such thing as thought, or an intelligent being existing? Divide matter into as minute parts as you will (which we are apt to imagine a sort of spiritualizing, or making a thinking thing of it) vary the figure and motion of it as much as you please; a globe, cube, cone, prism, cylinder, &c. whose diameters are but 1000000th part of a gry,[†17](http://library.nlx.com.myaccess.library.utoronto.ca/xtf/view?docId=locke/locke.01.xml;chunk.id=div.locke.human.80;toc.id=div.locke.human.80;brand=default" \l "echu17.fm) will operate no otherwise upon other bodies of proportionable bulk, than those of an inch or foot diameter; and you may as rationally expect to produce sense, thought, and knowledge, by putting together, in a certain figure and motion, gross particles of matter, as by those that are the very minutest, that do any where exist. They knock, impel, and resist one another, just as the greater do; and that is all they can do. So that if we will suppose nothing first, or eternal; matter can never begin to be: If we suppose bare matter, without motion, eternal motion can never begin to be: If we suppose only matter and motion first, or eternal; thought can never begin to be. For it is impossible to conceive that matter, either with or without motion, could have originally in and from itself sense, perception, and knowledge; as is evident from hence, that then sense, perception and knowledge must be a property eternally inseparable from matter and every particle of it. Not to add, that though our general or specific conception of matter makes us speak of it as one thing, yet really all matter is not one individual thing, neither is there any such thing existing as one material being, or one single body that we know or can conceive. And therefore if matter were the eternal first cogitative being, there would not be one eternal infinite cogitative being, but an infinite number of eternal finite cogitative beings, independent one of another, of limited force and distinct thoughts, which could never produce that order, harmony and beauty which are to be found in nature. Since therefore whatsoever is the first eternal being must necessarily be cogitative; and whatsoever is first of all things must necessarily contain in it, and actually have, at least, all the perfections that can ever after exist; nor can it ever give to another any perfection that it hath not, either actually in itself, or at least in a higher degree; it necessarily follows, that the first eternal being cannot be matter.

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11. If therefore it be evident, that something necessarily must exist from eternity, it is also as evident, that that something must necessarily be a cogitative being: For it is as impossible that incogitative matter should produce a cogitative being, as that nothing, or the negation of all being, should produce a positive being or matter.

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12. Though this discovery of the necessary existence of an eternal mind does sufficiently lead us into the knowledge of God; since it will hence follow, that all other knowing beings that have a beginning must depend on him, and have no other ways of knowledge, or extent of power, than what he gives them; and therefore if he made those, he made also the less excellent pieces of this universe, all inanimate beings, whereby his omniscience, power, and providence will be established, and all his other attributes necessarily follow: Yet to clear up this a little farther, we will see what doubts can be raised against it.

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13. First, perhaps it will be said, that though it be as clear as demonstration can make it, that there must be an eternal being, and that being must also be knowing; yet it does not follow, but that thinking being may also be material. Let it be so; it equally still follows, that there is a God. For if there be an eternal, omniscient, omnipotent being, it is certain that there is a God, whether you imagine that Being to be material or no. But herein, I suppose, lies the danger and deceit of that supposition: There being no way to avoid the demonstration, that there is an eternal knowing being, men, devoted to matter, would willingly have it granted, that this knowing being is material; and then letting slide out of their minds, or the discourse, the demonstration whereby an eternal knowing being was proved necessarily to exist, would argue all to be matter, and so deny a God, that is, an eternal cogitative being; whereby they are so far from establishing, that they destroy their own hypothesis. For if there can be, in their opinion, eternal matter, without any eternal cogitative being, they manifestly separate matter and thinking, and suppose no necessary connexion of the one with the other, and so establish the necessity of an eternal spirit, but not of matter; since it has been proved already, that an eternal cogitative being is unavoidably to be granted. Now if thinking and matter may be separated, the eternal existence of matter will not follow from the eternal existence of a cogitative being, and they suppose it to no purpose.

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14. But now let us see how they can satisfy themselves or others, that this eternal thinking being is material.

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First, I would ask them, Whether they imagine, that all matter, every particle of matter, thinks? This, I suppose, they will scarce say; since then there would be as many eternal thinking beings as there are particles of matter, and so an infinity of gods. And yet if they will not allow matter as matter, that is, every particle of matter to be as well cogitative as extended, they will have as hard a task to make out to their own reasons a cogitative being out of incogitative particles, as an extended being out of unextended parts, if I may so speak.

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15. Secondly, if all matter does not think, I next ask, "Whether it be only one atom that does so?" This has as many absurdities as the other; for then this atom of matter must be alone eternal or not. If this alone be eternal, then this alone, by its powerful thought or will, made all the rest of matter. And so we have the creation of matter by a powerful thought, which is that the materialists stick at. For if they suppose one single thinking atom to have produced all the rest of matter, they cannot ascribe that pre-eminency to it upon any other account than that of its thinking, the only supposed difference. But allow it to be by some other way, which is above our conception, it must still be creation, and these men must give up their great maxim, "ex nihilo nil fit." If it be said, that all the rest of matter is equally eternal, as that thinking atom, it will be to say any thing at pleasure, though ever so absurd; for to suppose all matter eternal, and yet one small particle in knowledge and power infinitely above all the rest, is without any the least appearance of reason to frame an hypothesis. Every particle of matter, as matter, is capable of all the same figures and motions of any other; and I challenge any one, in his thoughts, to add any thing else to one above another.

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16. If then neither one peculiar atom alone can be this eternal thinking being; nor all matter as matter, i.e. every particle of matter, can be; it only remains that it is some certain system of matter duly put together, that is this thinking eternal being. This is that, which, I imagine, is that notion which men are aptest to have of God; who would have him a material being, as most readily suggested to them by the ordinary conceit they have of themselves, and other men, which they take to be material thinking beings. But this imagination, however more natural, is no less absurd than the other: For to suppose the eternal thinking being to be nothing else but a composition of particles of matter each whereof is incogitative, is to ascribe all the wisdom and knowledge of that eternal being only to the juxta-position of parts; than which nothing can be more absurd. For unthinking particles of matter, however put together, can have nothing thereby added to them, but a new relation of position, which it is impossible should give thought and knowledge to them.

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17. But farther, this corporeal system either has all its parts at rest, or it is a certain motion of the parts wherein its thinking consists. If it be perfectly at rest, it is but one lump, and so can have no privileges above one atom.

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If it be the motion of its parts, on which its thinking depends, all the thoughts there must be unavoidably accidental and limited; since all the particles that by motion cause thought, being each of them in itself without any thought, cannot regulate its own motions, much less be regulated by the thought of the whole: Since that thought is not the cause of motion (for then it must be antecedent to it, and so without it) but the consequence of it, whereby freedom, power, choice, and all rational and wise thinking or acting, will be quite taken away: So that such a thinking being will be no better nor wiser than pure blind matter; since to resolve all into the accidental unguided motions of blind matter, or into thought depending on unguided motions of blind matter, is the same thing; not to mention the narrowness of such thoughts and knowledge that must depend on the motion of such parts. But there needs no enumeration of any more absurdities and impossibilities in this hypothesis (however full of them it be) than that before-mentioned; since let this thinking system be all, or a part of the matter of the universe, it is impossible that any one particle should either know its own, or the motion of any other particle, or the whole know the motion of every particle; and so regulate its own thoughts or motions, or indeed have any thought resulting from such motion.

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18. Others would have matter to be eternal, notwithstanding that they allow an eternal, cogitative, immaterial being. This, though it take not away the being of a God, yet, since it denies one and the first great piece of his workmanship, the creation, let us consider it a little. Matter must be allowed eternal: Why? because you cannot conceive how it can be made out of nothing: Why do you not also think yourself eternal? You will answer perhaps, because about twenty or forty years since you began to be. But if I ask you what that you is, which began then to be, you can scarce tell me. The matter whereof you are made, began not then to be; for if it did, then it is not eternal: But it began to be put together in such a fashion and frame as makes up your body; but yet that frame of particles is not you, it makes not that thinking thing you are; (for I have now to do with one who allows an eternal, immaterial thinking being, but would have unthinking matter eternal too) therefore when did that thinking thing begin to be? If it did never begin to be, then have you always been a thinking thing from eternity; the absurdity whereof I need not confute, till I meet with one who is so void of understanding as to own it. If therefore you can allow a thinking thing to be made out of nothing (as all things that are not eternal must be) why also can you not allow it possible, for a material being to be made out of nothing, by an equal power, but that you have the experience of the one in view, and not of the other? Though, when well considered, creation of a spirit will be found to require no less power than the creation of matter. Nay, possibly, if we would emancipate ourselves from vulgar notions, and raise our thoughts as far as they would reach, to a closer contemplation of things, we might be able to aim at some dim and seeming conception how matter might at first be made, and begin to exist by the power of that eternal first being: But to give beginning and being to a spirit, would be found a more inconceivable effect of omnipotent power. But, this being what would perhaps lead us too far from the notions on which the philosophy now in the world is built, it would not be pardonable to deviate so far from them; or to inquire, so far as grammar itself would authorize, if the common settled opinion opposes it; especially in this place, where the received doctrine serves well enough to our present purpose, and leaves this past doubt, that the creation or beginning of any one substance out of nothing, being once admitted, the creation of all other, but the Creator himself, may, with the same ease, be supposed.

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19. But you will say, is it not impossible to admit of the making any thing out of nothing, since we cannot possibly conceive it? I answer, No; 1. Because it is not reasonable to deny the power of an infinite being, because we cannot comprehend its operations. We do not deny other effects upon this ground, because we cannot possibly conceive the manner of their production. We cannot conceive how any thing but impulse of body can move body; and yet that is not a reason sufficient to make us deny it possible, against the constant experience we have of it in ourselves, in all our voluntary motions, which are produced in us only by the free action or thought of our own minds; and are not, nor can be the effects of the impulse or determination of the motion of blind matter in or upon our own bodies; for then it could not be in our power or choice to alter it. For example: My right hand writes, whilst my left hand is still: What causes rest in one, and motion in the other? Nothing but my will, a thought of my mind; my thought only changing, the right hand rests, and the left hand moves. This is matter of fact, which cannot be denied: Explain this and make it intelligible, and then the next step will be to understand creation. For the giving a new determination to the motion of the animal spirits (which some make use of to explain voluntary motion) clears not the difficulty one jot: To alter the determination of motion, being in this case no easier nor less than to give motion itself; since the new determination given to the animal spirits must be either immediately by thought, or by some other body put in their way by thought, which was not in their way before, and so must owe its motion to thought; either of which leaves voluntary motion as unintelligible as it was before. In the mean time it is an overvaluing ourselves to reduce all to the narrow measure of our capacities; and to conclude all things impossible to be done, whose manner of doing exceeds our comprehension. This is to make our comprehension infinite, or God finite, when what He can do is limited to what we can conceive of it. If you do not understand the operations of your own finite mind, that thinking thing within you, do not deem it strange, that you cannot comprehend the operations of that eternal infinite mind, who made and governs all things, and whom the heaven of heavens cannot contain.

## Chapter 11. OF OUR KNOWLEDGE OF THE EXISTENCE OF OTHER THINGS.

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1. The knowledge of our own being we have by intuition. The existence of a God reason clearly makes known to us, as has been shown.

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The knowledge of the existence of any other thing, we can have only by sensation: For there being no necessary connexion of real existence with any idea a man hath in his memory, nor of any other existence but that of God, with the existence of any particular man; no particular man can know the existence of any other being, but only when by actual operating upon him, it makes itself perceived by him. For the having the idea of any thing in our mind, no more proves the existence of that thing, than the picture of a man evidences his being in the world, or the visions of a dream make thereby a true history.

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2. It is therefore the actual receiving of ideas from without, that gives us notice of the existence of other things, and makes us know that something doth exist at that time without us, which causes that idea in us, though perhaps we neither know nor consider how it does it: For it takes not from the certainty of our senses, and the ideas we receive by them, that we know not the manner wherein they are produced: V.g. whilst I write this, I have, by the paper affecting my eyes, that idea produced in my mind, which whatever object causes, I call white; by which I know that that quality or accident (i.e. whose appearance before my eyes always causes that idea) doth really exist, and hath a being without me. And of this, the greatest assurance I can possibly have, and to which my faculties can attain, is the testimony of my eyes, which are the proper and sole judges of this thing, whose testimony I have reason to rely on as so certain, that I can no more doubt, whilst I write this, that I see white and black, and that something really exists, that causes that sensation in me, than that I write or move my hand; which is a certainty as great as human nature is capable of, concerning the existence of any thing, but a man's self alone, and of God.

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3. The notice we have by our senses, of the existing of things without us, though it be not altogether so certain as our intuitive knowledge, or the deductions of our reason employed about the clear abstract ideas of our own minds; yet it is an assurance that deserves the name of knowledge. If we persuade ourselves, that our faculties act and inform us right, concerning the existence of those objects that affect them, it cannot pass for an ill-grounded confidence: For I think nobody can, in earnest, be so sceptical, as to be uncertain of the existence of those things which he sees and feels. At least, he that can doubt so far (whatever he may have with his own thoughts) will never have any controversy with me; since he can never be sure I say any thing contrary to his own opinion. As to myself, I think God has given me assurance enough of the existence of things without me; since by their different application I can produce in myself both pleasure and pain, which is one great concernment of my present state. This is certain; the confidence that our faculties do not herein deceive us is the greatest assurance we are capable of, concerning the existence of material beings. For we cannot act any thing but by our faculties; nor talk of knowledge itself, but by the help of those faculties, which are fitted to apprehend even what knowledge is. But besides the assurance we have from our senses themselves, that they do not err in the information they give us, of the existence of things without us, when they are affected by them, we are farther confirmed in this assurance by other concurrent reasons.

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4. First, it is plain those perceptions are produced in us by exterior causes affecting our senses; because those that want the organs of any sense, never can have the ideas belonging to that sense produced in their minds. This is too evident to be doubted: And therefore we cannot but be assured, that they come in by the organs of that sense, and no other way. The organs themselves, it is plain, do not produce them, for then the eyes of a man in the dark would produce colours, and his nose smell roses in the winter: But we see nobody gets the relish of a pine-apple, till he goes to the Indies, where it is, and tastes it.

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5. Secondly, because sometimes I find, that I cannot avoid the having those ideas produced in my mind. For though when my eyes are shut, or windows fast, I can at pleasure recal to my mind the ideas of light, or the sun, which former sensations had lodged in my memory; so I can at pleasure lay by that idea, and take into my view that of the smell of a rose, or taste of sugar. But, if I turn my eyes at noon towards the sun, I cannot avoid the ideas, which the light, or sun, then produces in me. So that there is a manifest difference between the ideas laid up in my memory, (over which, if they were there only, I should have constantly the same power to dispose of them, and lay them by at pleasure) and those which force themselves upon me, and I cannot avoid having. And therefore it must needs be some exterior cause, and the brisk acting of some objects without me, whose efficacy I cannot resist, that produces those ideas in my mind, whether I will or no. Besides, there is nobody who doth not perceive the difference in himself between contemplating the sun, as he hath the idea of it in his memory, and actually looking upon it: Of which two, his perception is so distinct, that few of his ideas are more distinguishable one from another. And therefore he hath certain knowledge that they are not both memory, or the actions of his mind, and fancies only within him; but that actual seeing hath a cause without.

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6. Thirdly, add to this, that many of those ideas are produced in us with pain, which afterwards we remember without the least offence. Thus the pain of heat or cold, when the idea of it is revived in our minds, gives us no disturbance; which, when felt, was very troublesome, and is again, when actually repeated; which is occasioned by the disorder the external object causes in our bodies when applied to it. And we remember the pains of hunger, thirst, or the head-ache, without any pain at all; which would either never disturb us, or else constantly do it, as often as we thought of it, were there nothing more but ideas floating in our minds, and appearances entertaining our fancies, without the real existence of things affecting us from abroad. The same may be said of pleasure, accompanying several actual sensations: And though mathematical demonstration depends not upon sense, yet the examining them by diagrams gives great credit to the evidence of our sight, and seems to give it a certainty approaching to that of demonstration itself. For it would be very strange, that a man should allow it for an undeniable truth, that two angles of a figure, which he measures by lines and angles of a diagram, should be bigger one than the other; and yet doubt of the existence of those lines and angles, which by looking on he makes use of to measure that by.

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7. Fourthly, our senses in many cases bear witness to the truth of each other's report, concerning the existence of sensible things without us. He that sees a fire, may, if he doubt whether it be any thing more than a bare fancy, feel it too; and be convinced by putting his hand in it. Which certainly could never be put into such exquisite pain, by a bare idea or phantom, unless that the pain be a fancy too: Which yet he cannot, when the burn is well, by raising the idea of it, bring upon himself again.

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Thus I see, whilst I write this, I can change the appearance of the paper: And by designing the letters tell before-hand what new idea it shall exhibit the very next moment, by barely drawing my pen over it: Which will neither appear (let me fancy as much as I will) if my hands stand still; or though I move my pen, if my eyes be shut: Nor when those characters are once made on the paper, can I choose afterwards but see them as they are; that is, have the ideas of such letters as I have made. Whence it is manifest, that they are not barely the sport and play of my own imagination, when I find that the characters, that were made at the pleasure of my own thoughts, do not obey them; nor yet cease to be, whenever I shall fancy it; but continue to affect my senses constantly and regularly, according to the figures I made them. To which if we will add, that the sight of those shall, from another man, draw such sounds, as I beforehand design they shall stand for; there will be little reason left to doubt, that those words I write do really exist without me, when they cause a long series of regular sounds to affect my ears, which could not be the effect of my imagination, nor could my memory retain them in that order.

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8. But yet, if after all this any one will be so sceptical, as to distrust his senses, and to affirm that all we see and hear, feel and taste, think and do, during our whole being, is but the series and deluding appearances of a long dream, whereof there is no reality; and therefore will question the existence of all things, or our knowledge of any thing; I must desire him to consider, that if all be a dream, then he doth but dream, that he makes the question; and so it is not much matter, that a waking man should answer him. But yet, if he pleases, he may dream that I make him this answer, that the certainty of things existing in *rerum natura,* when we have the testimony of our senses for it, is not only as great as our frame can attain to, but as our condition needs. For our faculties being suited not to the full extent of being, nor to a perfect, clear, comprehensive knowledge of things free from all doubt and scruple; but to the preservation of us, in whom they are; and accommodated to the use of life; they serve to our purpose well enough, if they will but give us certain notice of those things, which are convenient or inconvenient to us. For he that sees a candle burning, and hath experimented the force of its flame, by putting his finger in it, will little doubt that this is something existing without him, which does him harm, and puts him to great pain: Which is assurance enough, when no man requires greater certainty to govern his actions by, than what is as certain as his actions themselves. And if our dreamer pleases to try, whether the glowing heat of a glass furnace be barely a wandering imagination in a drowsy man's fancy; by putting his hand into it, he may perhaps be wakened into a certainty greater than he could wish, that it is something more than bare imagination. So that this evidence is as great as we can desire, being as certain to us as our pleasure or pain, i.e. happiness or misery; beyond which we have no concernment, either of knowing or being. Such an assurance of the existence of things without us is sufficient to direct us in the attaining the good, and avoiding the evil, which is caused by them; which is the important concernment we have of being made acquainted with them.

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9. In fine then, when our senses do actually convey into our understandings any idea, we cannot but be satisfied that there doth something at that time really exist without us, which doth affect our senses, and by them give notice of itself to our apprehensive faculties, and actually produce that idea which we then perceive: And we cannot so far distrust their testimony, as to doubt, that such collections of simple ideas, as we have observed by our senses to be united together, do really exist together. But this knowledge extends as far as the present testimony of our senses, employed about particular objects that do then affect them, and no farther. For if I saw such a collection of simple ideas, as is wont to be called man, existing together one minute since, and am now alone, I cannot be certain that the same man exists now, since there is no necessary connexion of his existence a minute since, with his existence now: By a thousand ways he may cease to be, since I had the testimony of my senses for his existence. And if I cannot be certain, that the man I saw last to-day is now in being, I can less be certain that he is so, who hath been longer removed from my senses, and I have not seen since yesterday, or since the last year; and much less can I be certain of the existence of men that I never saw. And therefore though it be highly probable, that millions of men do now exist, yet, whilst I am alone writing this, I have not that certainty of it which we strictly call knowledge; though the great likelihood of it puts me past doubt, and it be reasonable for me to do several things upon the confidence that there are men (and men also of my acquaintance, with whom I have to do) now in the world: But this is but probability, not knowledge.

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10. Whereby yet we may observe, how foolish and vain a thing it is, for a man of a narrow knowledge, who having reason given him to judge of the different evidence and probability of things, and to be swayed accordingly; how vain, I say, it is to expect demonstration and certainty in things not capable of it; and refuse assent to very rational propositions, and act contrary to very plain and clear truths, because they cannot be made out so evident, as to surmount every the least (I will not say reason, but) pretence of doubting. He that in the ordinary affairs of life would admit of nothing but direct plain demonstration, would be sure of nothing in this world, but of perishing quickly. The wholesomeness of his meat or drink would not give him reason to venture on it: And I would fain know, what it is he could do upon such grounds, as are capable of no doubt, no objection.

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11. As when our senses are actually employed about any object, we do know that it does exist; so by our memory we may be assured, that heretofore things that affected our senses have existed. And thus we have knowledge of the past existence of several things, whereof our senses having informed us, our memories still retain the ideas; and of this we are past all doubt, so long as we remember well. But this knowledge also reaches no farther than our senses have formerly assured us. Thus seeing water at this instant, it is an unquestionable truth to me, that water doth exist: And remembering that I saw it yesterday, it will also be always true; and as long as my memory retains it, always an undoubted proposition to me, that water did exist the 10th of July, 1688, as it will also be equally true, that a certain number of very fine colours did exist, which at the same time I saw upon a bubble of that water: But, being now quite out of sight both of the water and bubbles too, it is no more certainly known to me that the water doth now exist, than that the bubbles or colours therein do so: It being no more necessary that water should exist to-day, because it existed yesterday; than that the colours or bubbles exist to-day, because they existed yesterday, though it be exceedingly much more probable, because water hath been observed to continue long in existence, but bubbles and the colours on them quickly cease to be.

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12. What ideas we have of spirits, and how we come by them, I have already shown. But though we have those ideas in our minds, and know we have them there, the having the ideas of spirits does not make us know, that any such things do exist without us, or that there are any finite spirits, or any other spiritual beings but the Eternal God. We have ground from revelation, and several other reasons, to believe with assurance that there are such creatures: But, our senses not being able to discover them, we want the means of knowing their particular existences. For we can no more know, that there are finite spirits really existing, by the idea we have of such beings in our minds, than by the ideas any one has of fairies, or centaurs, he can come to know that things answering those ideas do really exist.

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And therefore concerning the existence of finite spirits, as well as several other things, we must content ourselves with the evidence of faith; but universal certain propositions concerning this matter are beyond our reach. For however true it may be, v.g. that all the intelligent spirits that God ever created, do still exist; yet it can never make a part of our certain knowledge. These and the like propositions we may assent to as highly probable, but are not, I fear, in this state capable of knowing. We are not then to put others upon demonstrating, nor ourselves upon search of universal certainty in all those matters, wherein we are not capable of any other knowledge, but what our senses give us in this or that particular.

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13. By which it appears, that there are two sorts of propositions. 1. There is one sort of propositions concerning the existence of any thing answerable to such an idea: As having the idea of an elephant, phoenix, motion, or an angel, in my mind, the first and natural inquiry is, Whether such a thing does anywhere exist? And this knowledge is only of particulars. No existence of any thing without us, but only of God, can certainly be known farther than our senses inform us. 2. There is another sort of propositions, wherein is expressed the agreement or disagreement of our abstract ideas, and their dependence on one another. Such propositions may be universal and certain. So having the idea of God and myself, of fear and obedience, I cannot but be sure that God is to be feared and obeyed by me; and this proposition will be certain, concerning man in general, if I have made an abstract idea of such a species, whereof I am one particular. But yet this proposition, how certain soever, that men ought to fear and obey God proves not to me the existence of men in the world, but will be true of all such creatures, whenever they do exist: Which certainty of such general propositions, depends on the agreement or disagreement to be discovered in those abstract ideas.

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14. In the former case, our knowledge is the consequence of the existence of things producing ideas in our minds by our senses: In the latter, knowledge is the consequence of the ideas (be they what they will) that are in our minds producing there general certain propositions. Many of these are called *aeternae veritates,* and all of them indeed are so; not from being written all or any of them in the minds of all men, or that they were any of them propositions in any one's mind, till he, having got the abstract ideas, joined or separated them by affirmation or negation. But wheresoever we can suppose such a creature as man is, endowed with such faculties, and thereby furnished with such ideas as we have, we must conclude, he must needs, when he applies his thoughts to the consideration of his ideas, know the truth of certain propositions, that will arise from the agreement or disagreement which he will perceive in his own ideas. Such propositions are therefore called eternal truths, not because they are eternal propositions actually formed, and antecedent to the understanding, that at any time makes them; nor because they are imprinted on the mind from any patterns, that are any where out of the mind and existed before: But because being once made about abstract ideas, so as to be true, they will, whenever they can be supposed to be made again at any time past or to come, by a mind having those ideas, always actually be true. For names being supposed to stand perpetually for the same ideas, and the same ideas having immutably the same habitudes one to another; propositions concerning any abstract ideas, that are once true, must needs be eternal verities.

# Leibniz, Monadology (1714)

## G. W. Leibniz, *Monadology* 1-6

*The Philosophical Works of Leibniz*, George Martin Duncan (trans), (New Haven: Tuttle, Morehouse & Taylor, 1890)

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| Francais | English |
| 1. La Monade, dont nous parlerons ici, n’est autre chose qu’une substance simple, qui entre dans les composés ; simple, c’est-à-dire sans parties. | 1. The *monad* of which we shall here speak is merely a simple substance, which enters into compounds; simple, that is to say, without parts. |
| 2. Et il faut qu’il y ait des substances simples, puisqu’il y a des composés ; car le composé n’est autre chose qu’un amas ou aggregatum des simples. | 2. And there must be simple substances, since there are compound substances, for the compound is only a collection or *aggregatum* of simple substances. |
| 3. Or là, où il n’y a point de parties, il n’y a ni étendue, ni figure, ni divisibilité possible. Et ces Monades sont les véritables Atomes de la Nature et en un mot les Éléments des choses. | 3. Now where there are no parts, neither extension, figure nor divisibility is possible. And these monads are the true atoms of nature, and, in a word, the elements of things. |
| 4. Il n’y a aussi point de dissolution à craindre, et il n’y a aucune manière concevable par laquelle une substance simple puisse périr naturellement. | 4. Dissolution also is not at all to be feared, and there is no conceivable way in which a simple substance can perish naturally. |
| 5. Par la même raison il n’y a en aucune par laquelle une substance simple puisse commencer naturellement, puisqu’elle ne saurait être formée par composition. | 5. For the same reason there is no way in which a simple substance can begin naturally, since it cannot be formed by composition. |
| 6. Ainsi on peut dire, que les Monades ne sauraient commencer, ni finir, que tout d’un coup, c’est-à-dire, elles ne sauraient commencer que par création et finir que par annihilation ; au lieu, que ce qui est composé, commence ou finit par parties. | 6. Thus it may be said that the monads can only begin or end *all at once*, that is to say, they can only begin by creation and end by annihilation; whereas that which is compound begins or ends by parts. |

# Malebranche, *The Search After Truth* (1674–75)

## Book 3, Part 2, Chapter 1

*Œuvres Complètes de Malebranche,* E. de Genoude and H. de Lourdoueix (ed.) (Paris: Imprimerie et Librarie de Sapia, 1837)

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| Francais | English (my translation) |
| I. Je crois que tout le monde tombe d'accord que nous n'aperce- vons point les objets qui sont hors de nous par eux-mêmes. Nous voyons le soleil , les étoiles et une infinité d'objets hors de nous ; et il n'est pas vraisemblable que l'âme sorte du corps et qu'elle aille, pour ainsi dire, se promener dans les cieux pour y contempler tous ces objets. Elle ne les voit donc point par eux-mêmes; et l'objet immédiat de notre esprit, lorsqu'il voit le soleil, par exemple, n'est pas le soleil , mais quelque chose qui est intimement unie à notre âme, et c'est ce que j'appelle idée. Ainsi par ce mot idée, je n'en tends ici autre chose que ce qui est l'objet immédiat, ou le plus proche de l'esprit quand il aperçoit quelque objet. | I think the whole world will agree that we don’t perceive objects that are outside us by themselves. We see the sun, the stars and an infinity of objects outside of ourselves; and it is not likely that the soul exits the body and that it goes, so to say, for a stroll in the sky to contemplate these objects. It doesn’t see them in themselves; and the immediate object of our mind, when it sees the sun, for example, is not the sun, but something which is intimately united to our mind, and that is what I call *idea*. Thus by the word, *idea*, I do not mean anything but that which is the immediate object, or the closest thing to the mind when it perceives some object. |

## Book 6, Part 2, Chapter 3

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| Francais | English |
| CHAPITRE III.  De l'erreur la plus dangereuse de la philosophie des anciens.  Non-seulement les philosophes disent ce qu'ils ne conçoivent point, lorsqu'ils expliquent les effets de la nature par de certains êtres dont ils n'ont aucune idée particulière, ils fournissent même un principe dont on peut tirer directement des conséquences très-fausses et très dangereuses. | Chapter III  The most dangerous error of the philosophy of the ancients  Not only do philosophers talk about what they do not conceive when they explain the effects of nature by certain entities of which they have no particular idea, they even provide a principle from which one can directly draw consequences which are very false and very dangerous. |
| Car si on suppose, selon leur sentiment, qu'il y a dans les corps quelques entités distinguées de la matière, n'ayant point d'idée distincte de ces entités, on peut facilement s'imaginer qu'elles sont les véritables ou les principales causes des effets que l'on voit arriver. C'est même le sentiment commun des philosophes ordinaires ; car c'est principalement pour expliquer ces effets qu'ils pensent qu'il y a des formes substantielles, des qualités réelles, et d'autres semblables entités. Que si l'on vient ensuite à considérer attentivement l'idée que l'on a de cause ou de puissance d'agir, on ne peut douter que cette idée ne présente quelque chose de divin. Car l'idée d'une puissance souveraine est l'idée de la souveraine divinité, et l'idée d'une puissance subalterne est l'idée d'une divinité inférieure, mais d'une véritable divinité, au moins , selon la pensée des païens, supposé que ce soit l'idée d'une puissance ou d'une cause véritable. On admet donc quelque chose de divin dans tous les corps qui nous environnent , lorsqu'on admet des formes, des facultés, des qualités, des vertus, ou des êtres réels capables de produire certains effets par la force de leur nature; et l'on entre ainsi insensiblement dans le sentiment des païens par le respect que l'on a pour leur philosophie. Il est vrai que la foi nous redresse, mais peut-être peut-on dire qu'en cela si le cœur est chrétien, le fond de l'esprit est païen. Ont dira peut être que les formes substantielles, ces formes plastiques , par exemple , qui produisent des animaux et des plantes , ne savent point ce qu'elles font, et qu'ainsi manquant d'intelligence , elles n'ont nul rapport aux divinités des païens. Mais qui pourra croire que ce qui fait des ouvrages où il paraît une sagesse qui passe celle de tous les philosophes, les fasse sans intelligence? | Because, if one supposes, following their view, that there are in bodies some entities distinct from matter, they having no distinct idea of these entities, one can easily imagine that they are the real or the principle causes of the effects which one sees occurring. This indeed is a view common to ordinary philosophers; for it is principally to explain these effects that they think there are substantial forms, real qualities, and other similar things. If we now come to consider attentively the idea that we have of cause or the power to act, we can’t doubt that this idea represents something divine. For the idea of a sovereign power is the idea of divine sovereignty, and the idea of a subordinate power is the idea of a lesser divinity, but a real divinity, at least, according to the thinking of the pagans, granted that it is the idea of a real potency or cause. So we admit of something divine in all bodies that surround us, when we admit forms, faculties, qualities, virtues, or real entities capable of producing certain effects by the force of their nature; and so we come without noticing into the view of the pagans through the respect which we have for their philosophy. It is true that faith corrects us, but maybe we can say that the heart is Christian, but the mind is fundamentally pagan. One could say that substantial forms, these plastic forms, for example, which produce animals and plants, don’t know what they are doing, and so missing intelligence they have no connection to the divinities of the pagans. But who could believe that that which does works where there appears to be a wisdom surpassing that of all the philosophers, does it without intelligence? |
| De plus, il est difficile de se persuader que l'on ne doive ni craindre, ni aimer de véritables puissances; des êtres qui peuvent agir sur nous, qui peuvent nous punir par quelque douleur, ou nous récompenser par quelque plaisir. Et comme l'amour et la crainte sont la véritable adoration, il est encore difficile de se persuader qu'on ne doive pas les adorer. Tout ce qui peut agir sur nous, comme cause véritable et réelle, est nécessairement au-dessus de nous, selon saint Augustin et selon la raison; et selon le même saint et la même raison, c'est une loi immuable que les choses inférieures servent aux supérieures. C'est pour ces raisons que ce grand saint reconnaît que le corps ne peut agir sur l'âme, et que rien ne peut être au-dessus de l'âme, que Dieu. | Moreover, it’s hard to persuade oneself that one doesn’t need to fear or love real powers; these entities which can act on us, which can punish us by some pains, or reward us by some pleasures. And since as love and fear are veritable adoration, it’s hard to see how we don’t need to worship them. All that can act on us, as veritable and real cause, is necessarily above us, according to St. Augustine and according to reason; and according to the same saint and by the same reason, it’s an unbreakable law that inferior things serve those which are superior. It’s for these reasons that the great saint recognized that the body cannot act upon the soul, and that nothing can be above the soul, but God. |
| … | … |
| Enfin ce sentiment, qu'on doit craindre et qu'on doit aimer ce qui peut être véritable cause du bien et du mal, paraît si naturel et si juste, qu'il n'est pas possible de s'en défaire. De sorte que, si l'on suppose cette fausse opinion des philosophes et que nous tachons ici de détruire, que les corps qui nous environnent sont les véritables causes des plaisirs et des maux que nous sentons, la raison semble en quelque sorte justifier une religion semblable à celle des païens et approuver le dérèglement universel des mœurs. | Finally, this view, that one must fear and one must love that which can really be the cause of good and evil, appears so natural and so right, that it isn’t possible to oppose oneself to it. And so, if we take on this false opinion of the philosophers which we are trying here to destroy, that the bodies which surround us are real causes of pleasures and ills which we feel, reason seems in some way to justify a religion resembling that of the pagans and to approve the collapse of all morals. |
| Il est vrai que la raison n'enseigne pas qu'il faille adorer les oignons et les porreaux, par exemple, comme la souveraine divinité, parce qu'ils ne peuvent nous rendre entièrement heureux lorsque nous en avons, ou entièrement malheureux lorsque nous n'en avons point. Aussi les païens ne leur ont jamais rendu tant d'honneur qu'au grand Jupiter, duquel toutes leurs divinités dépendaient ; ou qu'au soleil, que nos sens nous représentent comme la cause universelle qui donne la vie et le mouvement à toutes choses , et que l'on ne peut s'empêcher de regarder comme une divinité , si l'on suppose avec les philosophes païens qu'il renferme dans son être les causes véritables de tout ce qu'il semble produire, non-seulement dans notre corps et sur notre esprit, mais encore dans tous les êtres qui nous environnent. | It is true that reason does not teach that we must worship onions and leeks, for example, as sovereign divinity, because they cannot make us entirely happy when we have them, or entirely sad when we don’t have any. Also the pagans never gave them as much honour as to great Jupiter, on whom all their divinities depended, or to the sun, which sensation represents to us as the universal cause that gives life and movement to all things, and which one can’t help but regard as divine, if one supposes with the pagan philosophers that it encloses in its being the real causes of all that which it seems to produce, not only in our bodies and in our minds, but also in all the things that surround us. |

# Malebranche, Elucidations of the Search After Truth (1678)

*Œuvres Complètes de Malebranche*,E. de Genoude and H. de Lourdoueix (ed.) (Paris: Imprimerie et Librarie de Sapia, 1837)

## 6th Elucidation: Knowledge of the Existence of Bodies

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| Francais | English (my translation) |
| Mais quoique M. Descartes ait donné les preuves les plus fortes que la raison toute seule puisse fournir; quoiqu'il soit évident que Dieu n'est point trompeur, et qu'on puisse dire qu'il nous tromperait effectivement, si nous nous trompions nous-mêmes, en faisant l'usage que nous devons faire de noire esprit et des autres facultés dont il est l'auteur; cependant, on peut dire que l'existence de la matière n'est point encore parfaitement démontrée: je l'entends en rigueur géométrique. Car enfin, en matière de philosophie, nous ne devons croire quoi que ce soit que lorsque l'évidence nous y oblige. Nous devons faire usage de notre liberté autant que nous le pouvons. Nos jugements ne doivent pas avoir plus d'étendue que nos perceptions. Ainsi, lorsque nous voyons des corps, jugeons seulement que nous en voyons, et que ces corps visibles ou intelligibles existent actuellement. Mais pourquoi jugerons-nous positivement qu'il y a au dehors un monde matériel, semblable au monde intelligible que nous voyons? | But although Mr. Descartes has given the best proofs [for the existence of bodies] that reason can furnish; and though it is evident that God is not a deceiver, and that we could say that he would be deceiving us indeed, if we deceived ourselves in making the use we must of our minds and our other faculties of which God is the author; even so, one could say that the existence of matter is not yet perfectly demonstrated: I mean with geometric rigour. For after all, in philosophy, we only need to believe any thing at all if evidence obliges us to do so. We must make use of our liberty as we can. Our judgements do not need to have a further range than our perceptions. And so, when we see bodies, let us only judge that we see them, and that visible or intelligible bodies actually exist. But why should we make a positive judgment that there is outside us a material world, resembling the intelligible world that we see? |

# Bayle, Dictionary (1697)

## Entry: **Pyrrho**

Pierre Bayle, *Dictionnaire historique et critique*, 5th ed. (Amsterdam: Leyde, La Haye, Utrecht, 1740) 4 vols

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| http://artflsrv02.uchicago.edu/images/bayle/bayle_3_732.jpeg |
| English (my translation) |
| [B] […] [Bayle relates a story in which one abbot tells another] “…Today the new philosophy takes a stronger line [than old scepticism]: heat, smell, colours, etc., are not in the objects of our senses; these are modifications of my soul; I know that bodies are not those that appear to me. Some wanted to exclude extension and movement, but it wasn’t possible, for if the objects of sense seem coloured to us, or hot, cold, or odorous, while they are not these things, why can’t they seem extended and figured, at rest and in motion, while being none of these? Moreover; the objects of the senses won’t be the cause of my sensations: so I could feel the cold and the hot, see colours, figures, extension, movement, even while there is not one body in the universe. And so I don’t have a single good proof of the existence of bodies.  The only proof anyone can give me must be taken from the fact that God would be deceiving me, if he imprinted on my soul the ideas I have of bodies; but this proof is quite weak; it proves too much. Since the creation of the earth all men, with the exception perhaps of one per two-hundred million, have firmly believed that bodies are coloured, and that’s an error. I ask, does God deceive these people with regard to colours? |

# Berkeley’s Unpublished *Notebooks* (1706-9)

(aka Philosophical Commentaries)

*The Works of George Berkeley, Bishop of Cloyne*, (ed.s) A. A. Luce and T. E. Jessop, 9 vols, vol 1 (London: Nelson, 1948-1957).

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| I--Introduction M--Matter P--Primary & Secondary Qualities E--Existence T--Time S--Soul--Spirit G--God Mo--Moral Philosophy N--Natural Philosophy |

## Philosophical Commentaries: Notebook B

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| + | One eternity greater than another of ye same kind. | 1 |
| + | In wt sense eternity may be limited. | 2 |
| G.T | Whether succession of ideas in ye divine intellect? | 3 |
| T | Time train of ideas succeeding each other. | 4 |
| + | Duration not distinguish’d from existence. | 5 |
| + | Succession explain’d by before, between, after, & numbering. | 6 |
| + | Why time in pain, longer than time in pleasure? | 7 |
| + | Duration infinitely divisible, time not so. | 8 |
| T | The same *το νυν* not common to all intelligences. | 9 |
| + | Time thought infinitely divisible on account of its’ measure. | 10 |
| 12× | Extension not infinitely divisible in one sense. | 11 |
| + | Revolutions immediately measure train of ideas, mediately duration. | 12 |
| T | Time a sensation, therefore onely in ye mind. | 13 |
| + | Eternity is onely a train of innumerable ideas. hence the immortality of ye Soul easily conceiv’d. or rather the immortality of the person, yt of ye soul not being necessary for ought we can see. | 14 |
| + | Swiftness of ideas compar’d with yt of motion shews the wisdom of God. | 15 |
| + | Wt if succession of ideas were swifter, wt if slower? | 16 |

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| M | ffall of Adam, rise of Idolatry, rise of Epicurism & Hobbism dispute about divisibility of matter &c expounded by material substances | 17 |
| × | Extension a sensation, therefore not without the mind. | 18 |
| M | In ye immaterial hypothesis the wall is white, fire hot etc. | 19 |
|  | Primary ideas prov’d not to exist in matter, after the same manner yt secondary ones are provd not to exist therein. | 20 |
| × | Demonstrations of the infinite divisibility of extension suppose length without breadth ⋀ wch is absurd. | 21 |
|  | or invisible length | 21a |
| 1M | World wthout thought is nec quid nec quantum nec quale etc | 22 |
| M | ‘tis wondrous to contemplate ye world empty’d of intelligences. | 23 |
| + | Nothing properly but persons i.e conscious things do exist, all other things are not so much existences as manners of ye existence of persons. | 24 |
| + | Qu: about the Soul or rather person whether it be not compleatly known. | 25 |
| × | Infinite divisibility of extension does suppose ye external existence of extension but the later is false, ergo ye former also. | 26 |
| 13× | Qu: Blind man made to see would he know motion at 1st sight. | 27 |
| 13× | Motion, figure & extension perceivable by sight are different from those ideas perceived by touch wch goe by the same name. | 28 |
| + | Diagonal incommensurable wth ye side Quaere how this can be in my doctrine? | 29 |

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| N | Qu: how to reconcile Newtons 2 sorts of motion wth my doctrine. | 30 |
| × | Terminations of surfaces and lines not imaginable per se. | 31 |
| 13× | Molyneux’s Blind man would not know the sphere or cube to be bodies or extended at first sight. | 32 |
| + | Extension so far from being incompatible Wth yt ‘tis impossible it should exist without thought. | 33 |
| M.S. | Extension it self or anything extended cannot think these being meer ideas or sensations whose essence we throughly know | 34 |
| 13× | No extension but surface perceivable by sight. | 35 |
| 11M. | Wn we imagine 2 bowls v.g. moving in vacuo, ‘tis onely conceiving a person affected wth those sensations. | 36 |
| 1M. | Extension to exist in a thoughtless thing A is a contradiction. | 37 |
| M1 | or rather in a thing void of perception. Thought seeming to imply action. | 37a |
| + | Qu: if visible motion be proportional to tangible motion | 38 |
| T | In some dreams succession of ideas swifter than at other times. | 39 |
| 1M | If a piece of matter have extension yt must be determin’d to a particular bigness & figure, but etc. | 40 |
| + | Nothing corresponds to our primary ideas wthout but powers, hence a direct & brief demonstration of an active powerfull being distinct from us on whom we depend. etc. | 41 |
| + | The name of colours actually given to tangible qualitys by the relation of ye story of ye German Count. | 42 |
| 13× | Qu: how came visible & tangible qualitys by the same name in all languages? | 43 |

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| + | Qu: whether being might not be the substance of ye soul. or (otherwise thus) whether being added to ye faculties compleat the real essence and adequate definition of the soul? | 44 |
| N | Qu: whether on the supposition of external Bodies it be possible for us to know that any Body is absolutely at rest, since that supposing ideas much slower than at present bodies now apparently moving would then be apparently at rest. | 45 |
| M | Qu: wt can be like a sensation but a sensation? | 46 |
|  | Qu: Did ever any man see any other things besides his own ideas, that he should compare them to these & make these like unto them? | 47 |
| T | The age of a fly for ought that we know may be as long as yt of a man. | 48\*\*\* |
| 31× | Visible distance heterogeneous from tangible distance demonstrated 3 several ways | 49 |
| 31× | 1st if a tangible inch be equal or in any other reason to a visible inch, thence it will follow yt unequals are equals wch is absurd. for at wt distance would the visible inch be placed to make it equal to the tangible inch? |  |
| 31× | 2d One made to see yt had not yet seen his own limbs or anything he touch’d, upon sight of a foot length would know it to be a foot length if tangible foot & visible foot were the same idea, sed falsum id ergo & hoc. |  |
| 31×· | 3dly from Molyneux’s problem wch otherwise is falsely solvd by Locke & him. |  |
| 1M | Nothing but ideas perceivable. | 50 |
|  | A man cannot compare 2 things together without perceiving them each, ergo he cannot say any thing wch is not an idea is like or unlike an idea. | 51 |

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| + | Bodies etc do exist even wn not perceiv’d they being powers in the active Being. | 52 |
| + | Succession a simple idea ⋀ Locke cap. 7. | 53 |
|  | Succession is an abstract *i e.* an unconceivable idea. | 53a |
| 31× | Visible extension [is proportional to tangible extension, also] is encreas’d & diminish’d by parts, hence taken for the same. | 54 |
| × | If extension be without the mind in bodies qu: whether tangible or visible or abstractible or both. | 55 |
| 1× | Mathematical propositions about extension & motion true in a double sense. | 56 |
|  | Extension thought peculiarly inert because not accompany’d wth pleasure & pain; hence thought to exist in. matter as also for yt it was conceiv’d common to 2 senses. | 57 |
|  | as also the constant perception of ‘em | 57a |
| 11×. | Blind at 1st sight could not tell how near wt he saw was to him, nor even whether it be wthout him or in his eye. Qu: would he not think yt later. | 58 |
| 3×1 | Blind at 1st sight could not know yt wt he saw was extended, untill he had seen & touch’d some one self same thing. Not knowing how minimum tangibile would look. | 59 |
| M. | Mem: yt Homogeneous particles be brought in to answer the objection of Gods creating sun, plants etc before animals. | 60 |
| × | In every Bodie 2 infinite series of extension the one of tangible the other of visible. | 61 |
| + | All things to a Blind at 1st seen in a point. | 62 |
| + | Ignorance of Glasses made men think extension to be in bodies. | 63 |

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| M | Homogeneous portions of matter usefull to contemplate them | 64 |
| + | Extension if in matter changes its relation wth minimum visibile wch seems to be fixt. | 65 |
| + | Qu: whether m.v. be fix’d. | 66 |
| 1M. | Each particle of matter if extended must be infinitly extended. or have an infinite series of extension. | 67 |
| 1M | If the world be granted to consist of matter tis the mind gives it beauty & proportion. | 68 |
| 3×1 | Wt I have said onely proves there is no proportion at all times & in all men between a visible & tangible inch v.g. | 69 |
| 3×1 | Tangible & visible extension heterogeneous because they have no common measure: also because their simplest, constituent parts or elements are specifically distinct viz. punctum visibile & tangibile. N.B. The former seems to be no good reason. | 70 |
| M:N. | By immateriality is solv’d the cohesion of bodies, or rather the dispute ceases. | 71 |
| × | Our idea we call extension neither way capable of infinity. i.e. neither infinitely small or great. | 72 |
| + | Greatest possible extension seen under an angle wch must be less than 180 degrees; the legs of wch angle proceed from the ends of the extension. | 73 |
| M | Allowing there be extended solid etc substances without the mind tis impossible the mind should know or perceive them. the mind even according to ye materialists perceiving onely the impressions made upon its brain or rather the ideas attending those impressions. | 74 |
| × | Unite in abstracto not at all divisible it being as it were a point or wthBarrow nothing at all in concreto not divisible ad infinitum there being no one idea diminishable ad infinitum. | 75 |

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| (M)1 | Any subject can have of each sort of primary qualities but one particular at once. Locke b.4. c 3.S.15. | 76 |
| + | Qu: whether we have clear ideas of large numbers themselves, or onely of their relations. | 77 |
| 1M | Of solidity see L.b 2.c.4S.1.S.5 S.6. If any one ask wt solidity is let him put a flint between his hands & he will know. Extension of Body is continuity of solid etc, extension of space is continuity of unsolid etc. | 78\*\*\* |
| 3×1 | Why may not I say visible extension is a continuity of visible points tangible extension is a Continuity of tangible points. | 78a |
| M | Mem. that I take notice that I do not fall in wth Sceptics Fardella etc, in yt I make bodies to exist certainly, wch they doubt of. | 79 |
| M | I am more certain of ye existence & reality of Bodies than Mr Locke since he pretends onely to wt he calls sensitive knowlege, whereas I think I have demonstrative knowlege of their Existence, by them meaning combinations of powers in an unknown substratum. | 80 |
| M | Our ideas we call figure & extension not images of the figure & extension of matter, these (if such there be) being infinitely divisible, those not so. | 81 |
| + | Tis impossible a Material cube should exist, because the edges of a Cube will appear broad to an acute sense. | 82 |
| + | Men die or are in state of annihilation oft in a day. | 83 |
| S | Powers Quaere whether more or one onely? | 84 |
| + | Lengths abstract from breadths are the work of the mind, such do intersect in a point at all angles, after the same way colour is abstract from extension. every position alters the line | 85 |

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| × | Quaere, whether ideas of extension are made up of other ideas v.g. idea of a foot made up of severall ideas of an inch etc? | 86 |
| + | The idea of an inch length not one determin’d idea Hence enquire the reason why we are out in judging of extension by the sight, for wch purpose ‘tis meet also to consider the frequent & sudden changes of extension, by position. | 87 |
| 2×1 | No stated ideas of length without a minimum | 88 |
| M | Material substance banter’d by Locke b.2 c.13 S.19 | 89 |
| M | In my doctrine all absurditys from infinite space etc cease. | 90 |
| (\*)23×1 | Qu: whether if (speaking grosly) the things we see were all of them at all times too small to be felt we should have confounded tangible & visible extension & figure? | 91 |
| T | Qu: whether if succession of ideas in the Eternal mind, a day does not seem to God a 1000 years rather than a 1000 years a day? | 92 |
| + | But one only Colour & its’ degrees. | 93 |
| + | Enquiry about a grand mistake in writers of Dioptricks in assigning the cause of Microscopes magnifying objects. | 94 |
| (+)× | Qu: whether a blind made to see would at 1st give the name of distance to any idea intromitted by sight since he would take distance yt he had perceiv’d by touch to be something existing without his mind, but he would certainly think that no thing seen was without his mind. | 95\*\*\* |
| (S)+ | Space wthout any bodies being in rerum natura, would not be extended as not having parts in that parts are assigned to it wth respect to body from whence also the notion of distance is taken, now without either parts or distance or mind how can there be space or anything beside one uniform no thing? | 96 |

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| (+)× | Two demonstrations that blind made to see would not take all things he saw to be without his mind or not in a point, ye one from microscopic eyes, the other from not perceiving distance i.e. radius of the visual sphere. | 97 |
| M | The Trees are in the Park, that is, whether I will or no whether I imagine any thing about them or no, let me but go thither & open my Eyes by day & I shall not avoid seeing them. | 98 |
| + | Tho swiftness or slowness of motion depends on our ideas it does not therefore follow, that the same force can impell a body over a greater or less space in proportion to or slowness or swiftness of our ideas. | 99\*\*\* |
| 3×1 | By extension blind would mean either the perception caused in his touch by something he calls extended, or else the power of raising that perception, wch power is without in the thing term’d extended. Now he could not know either of these to be in things visible till he had try’d. | 100\*\*\* |
| × | Geometry seems to have for its object tangible extension, figures & motion† & not visible. | 101 |
| 3imagexa1 | The reason explain’d why we see things erect their images being inverted in the eye. | 102 |
| 32×1 | A man will say a body will seem as big as before, tho the visible idea it yields be less than wt it was therefore the bigness or tangible extension of the body is different from the visible extension | 103 |
| × | Number not without the mind in any thing, because tis the mind by considering things as one that makes complex ideas of ‘em tis the mind combines into one, wch by otherwise considering its ideas might make a score of wt was but one just now. | 104 |
| × | Extension or space no simple idea, length, breadth & solidity being three severall ideas. | 105 |
| 3×1 | Depth or solidity nor perceiv’d by sight. | 106 |

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| + | Strange impotence of men. Man without God. Wretcheder than a stone or tree, he having onely the power to be miserable by his unperformed wills, these having no power at all | 107 |
|  | Length, perceivable by hearing, length & breadth by sight, Length breadth & depth by touch. | 108 |
| G | Wt affects us must be a thinking thing for wt thinks not cannot subsist. | 109\*\*\* |
| + | Number not in bodies it being the creature of the mind depending entirely on its’ consideration & being more or less as the mind pleases. | 110\*\*\* |
| +1 | Mem: Quaere whether extension be equally a sensation with colour? | 111\*\*\* |
| × | The Mob use not the word Extension tis an abstract term of the Schools. | 111a |
| P | Round figure a perception or sensation in the mind but in the body is a power L.b 2.c.8 S.8. | 112 |
|  | Mem: mark well the later part of the last cited Section. | 113 |
| 3×1 | Solids or any other tangible things are no otherwise seen than colours felt by the German Count | 114 |
| M | Of & thing causes of mistake | 115 |
| 2×1 | The visible point of he who has microscopical eyes will not be greater or less than mine. | 116 |
| × | Qu: whether the propositions & even axioms of Geometry do not divers of them suppose the existence of lines etc without the mind. | 117 |
| T | Whether motion be the measure of Duration See Locke. b.2 c.14 S.19 | 118 |

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| × | Lines & points conceiv’d as terminations different ideas from these† conceiv’d absolutely. | 119 |
| × | Every position alters a line. | 120 |
| (×)(S) | Blind at 1st would not take colours to be without his mind, but colours would seem to be in the same place with the colour’d extension, therefore extension would not seem to be without the mind. | 121 |
| 2×1 | All visible concentric circles whereof the eye is the center are absolutely equall. | 122 |
| + | Infinite number why absurd. not rightly solv’d by Locke. | 123 |
| 3×1 | Qu: how tis possible we should see flats or right lines | 124 |
| 2×1 | Qu: why the Moon appears greatest in the Horizon? | 125 |

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| 3imagexa1 | Qu: why we see things erect when painted inverted | 126 |
| T | Question put by Mr Deering touching the thief & paradise. | 127 |
| M1 | Matter tho’ allow’d to exist may be no greater than a pin’s head. | 128 |
| + | Motion is proportionable to space describ’d in given time. | 129 |
| + | Velocity not proportionable to Space describ’d in given time. | 130 |
| M1 | No active power but the will, therefore matter if it exists affects us not. | 131\*\*\* |
| + | Magnitude when barely taken for the ratio partium extra partes or rather for coexistence & succession without considering the parts coexisting & succeeding, is infinitely or rather indefinitely or not at all perhaps divisible because it is it self infinite or indefinite, but definite, determin’d magnitudes i.e. lines or surfaces consisting of points, whereby (together wth distance & position) they are determin’d, are resoluble into those points. | 132 |

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| + | Again, magnitude taken for coexistence and succession is not [at] † all divisible but is one simple idea. | 133 |
| + | Simple ideas include no parts nor relations, hardly separated & considered in themselves, not yet rightly singl’d by any Authour. instance in power, red extension etc | 134 |
| M | Space not imaginable by any idea receiv’d from sight, not imaginable, without body moving not even then necessarily existing (I speak of infinite Space) for wt the body has past may be conceiv’d annihilated. | 135\*\*\* |
| M | Qu: wt can we see beside colours, wt can we feel beside, hard, soft cold warm pleasure pain | 136 |
| 3×1 | Qu: why not taste & smell extension? | 137 |
| 3×1 | Qu: why not tangible & visible extensions thought heterogeneous extensions, so well as gustable & olfactible perceptions thought heterogeneous perceptions. or at least why not as heterogeneous as blue & red? | 138 |
| + | Preliminary discourse about singling & abstracting simple ideas. | 139 |
| 2×1 | Moon wn Horizontal does not appear bigger as to visible extension than at other times, hence difficulties & disputes about things seen under equal Angles etc cease. | 140 |
| + | All Potentiae alike indifferent. | 141 |
| + | A.B. wt does he mean by his potentia, is it the will, desire, person or all or neither, or sometimes one sometimes t’other. | 142 |
| + | No agent can be conceiv’d indifferent as to pain or pleasure, | 143 |
| + | We do not properly speaking in a strict philosophical sense make objects more or less pleasant, but the laws of Nature do that. | 144 |

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| (\*)Mo.S | A finite intelligence might have foreseen 4 thousand years agoe the place & circumstances, even the most minute & trivial of my present existence. | 145 |
| (\*)S.Mo. | This true on supposition that uneasiness determines the Will. | 145a |
| (\*)S.Mo. | Doctrines of liberty, prescience etc explain’d by Billiard balls. | 146 |
| + | Wt should we think of an object plac’d as in the difficulty if we saw it clearly? | 147 |
| 3imagexa1 | Wt judgement would he make of uppermost & lowermost who had always seen thro’ an inverting glass. | 148 |
| S.Mo. | According to Locke we have not liberty as to vertue & vice, the Liberty he allows consisting in an Indifferency of the operative Faculties, wch is consecutive to the will, but virtue & vice consist in the will ergo etc. | 149 |
| 2×1 | All lines subtending the same optic angle congruunt (as is evident by an easy experiment) therefore they are equal. | 150 |
| + | We have not pure, simple ideas of blue, red or any other colour (except perhaps black) because all bodies reflect heterogeneal light. | 151\*\*\* |
| + | Qu: whether this be true as to sounds (& other sensations) there being, perhaps, Rays of air wch will onely exhibit one particular sound, as rays of light one particular colour. | 152 |
| + | Colours not definable, not because they are pure, unmixt thoughts, but because we cannot easily distinguish & separate the thoughts they include, or because we want names for their component ideas. | 153 |
| + | By Soul is meant onely a Complex idea made up of existence, willing & perception in a large sense. therefore its is known & it may be defin’d | 154 |
| S | We cannot possibly conceive any active power but the Will. | 155 |

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| + | In moral matters Men think (tis true) that they are free, but this freedom is only the freedom of doing as they please, wch freedom is consecutive to the Will, respecting onely the operative faculties. | 156 |
| + | Men impute their actions to themselves because they will’d them & that not out of ignorance but whereas they knew the consequences, of them whether good or bad. | 157 |
| + | This does not prove men to be indifferent in respect of desiring. | 158 |
| + | If any thing is meant by the potentia of A.B. it must be desire. but I appeal to any man if his desire be indifferent, or (to speak more to the purpose) whether he himself be indifferent in respect of wt he desires, till after he has desir’d it. for as for desire it self or the faculty of desiring that is indifferent as all other faculties are. | 159 |
| + | Actions leading to heaven are in my power if I will them, therefore I will will them. | 160 |
| + | Qu: concerning the progression of wills in infinitum. | 161 |
| + | Herein Mathematiques have the advantage over Metaphysiques & Morality. Their Definitions being of words not yet known to ye Learner are not Disputed, but words in Metaphisiques & Morality being mostly known to all the definitions of them may chance to be controverted. | 162 |
| M | The short jejune way in Mathematiques will not do in Metaphysiques & Ethiques, for yt about Mathematical propositions men have no prejudices, no anticipated opinions to be encounter’d, they not having yet thought on such matters. tis not so in the other 2 mention’d sciences, a man must not onely demonstrate the truth, he must also vindicate it against scruples & establish’d opinions wch contradict it. In short the dry strigose rigid way will not suffice. he must be more ample & copious, else his demonstration tho never so exact will not go down wth most. | 163 |

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| + | Extension seems to consist in variety of homogeneal thoughts coexisting without mixture. | 164 |
| + | or rather visible extension seems to be the coexistence of colours in ye mind. | 165 |
| S.Mo | Enquiring & judging are actions wch depend on the operative faculties wch depend on ye will wch is determin’d by some uneasiness ergo etc- Suppose an agent which is finite perfectly indifferent, & as to desiring not determin’d by any prospect or consideration of good I say, this Agent cannot do an action morally Good. Hence ‘tis evident the suppositions of A:B: are insignificant. | 166 |
| + | Extension, motion, time Number no simple ideas, but include succession in them wch seems to be a simple idea. | 167 |
| × | Mem: to enquire into the angle of Contact. & into fluxions etc. | 168 |
| 2×1 | The sphere of vision is equal whether I look onely in my hand, or on the open firmament. for 1st in both cases the Retina is full. 2d. the Radius’s of both spheres are equall or rather nothing at all to ye sight 3dly equall number of points in one & t’other. | 169 |
| 1×1 | In the Barrovian Case purblind would judge aright | 170 |
| +×1 | Why the Horizontal Moon greater? | 171 |
| +×1 | Why objects seen erect? | 172 |
| N | To wt purpose certain figure & texture connected wth other perceptions? | 173 |
| 2×1 | Men estimate magnitudes, both by angles & distance. Blind at 1st could not know distance, or by pure sight abstracting from experience of connexion of sight & tangible ideas we can’t perceive distance. therefore by pure sight we cannot perceive or judge of extension: | 174 |

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| 2×1 | Qu: whether it be possible to enlarge our sight or make us see at once more or more points than we do by diminishing the punctum visibile below 30”? | 175 |
| I.S. | Speech metaphorical more than we imagine insensible things & their modes circumstances &c being exprest for ye most part by words borrow’d from things sensible. the reason’s plain. Hence Manyfold Mistakes. | 176 |
| S | The grand Mistake is that we think we have Ideas of the Operations of our Minds. certainly this Metaphorical dress is an argument we have not. | 176a |
| G | Qu: How can our idea of God be complex or compounded, wn his essence his simple & uncompounded v. Locke b.2.S 35 | 177 |
| G | omnes reales rerum proprietates continentur in Deo wt means Le Clerc &c by this? | 177a |
| + | The impossibility of defining or discoursing clearly of most things proceeds from the fault & scantiness of language, as much, perhaps, as from obscurity & confusion of Thought. Hence I may clearly & fully understand my own Soul extension, etc & not be able to define them! | 178\*\*\* |
| (\*)M | The substance wood a collection of simple ideas see Locke B.2 C.26. S.1. | 179 |
| + | Mem: concerning strait lines seen to look at them thro’ an orbicular Lattice. | 180 |
| 2×1 | Qu: whether possible that those visible ideas wch are now connected with greater extensions could have been connected with lesser extensions. there seeming to be no necessary connexion between those thoughts. | 181 |
| +× | Speculums seem to diminish or enlarge objets not by altering the optique angle but by altering the Apparent distance. | 182 |
| + | Hence Qu: if blind would think things diminish’d by convexes, or enlarged by concaves? | 183 |

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| P.N. | Motion not one idea, it cannot be perceiv’d at once. | 184 |
| M.P. | Mem: to allow existence to colours in the dark, persons not thinking &c but not an absolute actual existence. ‘Tis prudent to correct mens mistakes without altering their language. This makes truth glide into their souls insensibly. | 185 |
| M.P. | Colours in ye dark do exist really *i.e.* were there light or as soon as light comes we shall see them provided we open our eyes. & that whether we will or no. | 185a |
| + | How the Retina is fill’d by a Looking glass? | 186 |
| + | Convex speculums have the same effect wth concave glasses. | 187 |
| + | Qu: whether concave speculums have the same effect wth Convex glasses? | 188 |
| 2×1 | The reason why convex speculums diminish & concave magnify not yet fully assign’d by any writer I know. | 189 |
| + | Qu: why not objects seen confus’d when yt they seem inverted thro a convex lens? | 190 |
| + | Qu: how to make a glass or speculum which shall magnify or diminish by altering the distance without altering the angle? | 191 |
| + | No identity other than perfect likeness in any individuals besides persons. | 192 |
| N. | As well make tastes, smells, fear, shame, wit, vertue, vice & all thoughts move wth Local motion as immaterial spirit. | 193 |
| + | On account of my doctrine the identity of finite substances must consist in something else than continued existence, or relation to determin’d time and place of beginning to exist. the existence of our thoughts (wch being combin’d make all substances) being frequently interrupted, & they having divers beginnings, & endings. | 194 |

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| S | Qu: Whether Identity of Person consists not in the Will | 194a |
| 2×1 | No necessary connexion between great or little optique angles & great or little extension. | 195 |
| 2×1 | Distance is not perceiv’d, optique angles are not perceiv’d. how then is extension perceiv’d by sight? | 196 |
| 2×1 | Apparent magnitude of a line is not simply as the Optique angle, but directly as the Optique angle, & reciprocally as the confusion etc (i.e the other sensations or want of sensation that attend near vision) hence great mistakes in assigning the magnifying power of glasses. vid: Moly: p. 182. | 197 |
| 2×1 | Glasses or speculums may perhaps magnify or lessen without altering the Optique angle but to no purpose. | 198 |
| 2×1 | Qu: whether Purblind would think objects so much diminish’d by a convex speculum as another? | 199 |
| + | Qu: wherein consists identity of Person? not in actual consciousness, for then I’m not the same person I was this day twelvemonth, but while I think of wt I then did. Not in potential for then all persons may be the same for ought we know. | 200 |
| + | Mem: story of Mr Deering’s Aunt. | 201 |
| + | two sorts of Potential consciousnesses Natural & praeternatural in the last § but one I mean the latter. | 202 |
| 2×1 | If by magnitude be meant the proportion any thing bears to a determin’d tangible extension as inch, foot etc this ‘tis plain cannot be properly & per se perceiv’d by sight. & as for determin’d visible inches, feet etc there can be no such thing obtain’d by the meer act of seeing abstracted from experience etc. | 203 |
| 2×1 | The greatness per se perceivable of the sight, is onely the proportion any visible appearance bears to the others seen at the same time; or (wch is the same thing) the proportion of any particular part of the visual orb to the whole. |  |

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|  | but mark that we perceive not it is an orb, any more than a plain but by reasoning. This is all the greatness the pictures have per se. | 204 |
| 2×1 | Hereby meerly man cannot at all judge of the extension of any object, it not availing to know the object makes such a part of a sphaerical surface except we also know the greatness of the sphaerical surface. for a point may subtend the same angle wth a mile & so create as great an image in the Retina, i.e take up as much of the Orb. | 205 |
| 2×1 | Men judge of magnitude by faintness & vigorousness, by distinctness & confusion, wth some other circumstances by great & little angles. Hence ‘tis plain the ideas of sight wch are now connected with greatness, might have been connected wth smalness & vice versâ. there being no necessary reason why great angle † faintness & distinctness without straining sould stand for great extension, any more than than a great angle, vigorousness & confusion. | 206 |
| + | My end is not to deliver Metaphysiques altogether in a General Scholastique way but in some measure to accommodate them to the Sciences, & shew how they may be usefull in Optiques, Geometry &c. | 207\*\*\* |
| 2×1 | Qu: whether per se proportion of visible magnitudes be perceivable by sight. this is put on account of distinctness & confusedness the act of perception seeming to be as great in viewing any point of the visual orb distinctly as in viewing the whole confusedly. | 208 |
| + | Mem: to correct my Language & make it as Philosophically nice as possible to avoid giving handle. | 209 |
| 2×1 | If men could without straining alter the convexity of their Crystallines they might magnify or diminish the apparent diameters of objects the same optic angle remaining. | 210 |
| 2×1 | The bigness in one sense of the pictures in the fund is not determin’d, for the nearer a man views them, the images of them (as well as other objects) will take up the greater room in the fund of his eye. | 211 |

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| + | Mem: Introduction to contain the design of the whole the nature & manner of demonstrating &c. | 212 |
| 2×1 | Two sorts of bigness accurately to be distinguish’d they being perfectly & Toto Coelo different. the one the proportion that any one appearance has to the sum of appearances perceiv’d at the same time wth it, wch is proportional to angles or if a surface to segments of sphaerical surfaces, the other is tangible bigness. | 213 |
| 2×1 | Qu: wt would happen if the sphaerae of the Retina were enlarg’d or diminish’d? | 214 |
| ×+ | We think by the meer act of vision we perceive distance from us, yet we do not, also that we perceive solids yet we do not, also the inequality of things seen under the same angle, yet we do not. Why may I not add? we think we see extension by meer vision, yet we do not. | 215 |
| ×+ | Extension seems to be perceiv’d by the eye as thoughts by the ear. | 216\*\*\* |
| × | We seem to have clear & distinct ideas of large numbers v.g. 1000 no otherwise than by considering ‘em as form’d by the multiplying of small numbers. | 217 |
| 2×1 | As long as the same angle determines the minimum visibile to two persons, no different conformation of the Eye can make a different appearance of magnitude in the same thing. But it being possible to try the Angle, we may certainly know whether the same thing appears differently big to 2 persons on account of their Eyes. | 218 |
| 2×1 | If a man could see “ objects would appear larger to him than to another: hence there is another sort of purely visible magnitude beside the proportion any appearance bears to the Visual sphere, viz. its proportion to the m.v. | 219 |
| 1×3 | Were there but one & the same Language in the World, & did children speak it naturally as soon as born, & were it not in the Power of men to conceal their thoughts or deceive others but that there were an inseparable |  |

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|  | connexion between words and thoughts, so yt posito uno ponitur alterum by the Laws of Nature. Qu: would not men think they heard thoughts as much as that they see [extension] Distance | 220 |
| + | All our ideas are adequate, our knowlege of the Laws of nature is not perfect & adequate. | 221 |
| M.P. | Men are in the right in judging their simple ideas to be in the things themselves, certainly Heat & colour is as much without the mind as figure, motion, time etc | 222 |
|  | We know many things wch we want words to express. Great things discoverable upon this Principle, for want of considering wch divers men have run into sundry mistakes endeavouring to set forth their knowlege by sounds, wch foundering them they thought the defect was in their knowlege wn in truth it was in their Language. | 223 |
| 3imagexa1 | Query whether the sensations of sight arising from a man’s head be liker the sensations of touch proceeding from thence or from his legs? | 224\*\*\* |
| 3imagexa1 | Or is it onely the constant & long association of ideas entirely different that makes me judge them the same? | 225 |
| 1imagexa3 | Wt I see is onely variety of colours & light. wt I feel is hard or soft, hot or cold, rough or smooth &c. wt resemblance have these thoughts with those? | 226 |
| 13imagexa | A picture painted wth great variety of colours affects the touch in one uniform manner. I cannot therefore conclude that because I see 2 I shall feel 2, because I see angles or inequalitys I shall feel angles or inequalitys. How therefore can I before experience teaches me know that the visible leggs are (because 2) connected wth the tangible ones, or the visible head (because one) connected wth the tangible head? | 227\*\*\* |
| 1M | All things by us conceivable are 1st thoughts 2dly powers to receive thoughts, 3dly powers to cause thoughts neither of all wch can possibly exist in an inert, senseless thing. | 228 |

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| 1×2 | An object wthout a glass may be seen under as great an angle as wth a glass. a glass therefore does not magnify the appearance by the angle. | 229\*\*\* |
| S | Absurd that men should know the soul by idea ideas being inert, thoughtless, Hence Malbranch confuted. | 230 |
| (1×1)23 | I saw gladness in his looks, I saw shame in his face so I see figure. or Distance | 231 |
| 1×2 | Qu: why things seen confusedly thro a convex glass are not magnify’d? | 232\*\*\* |
| 1×2 | Tho we should judge the Horizontal Moon to be more distant, why should we therefore judge her to be greater what Connexion betwixt, the same Angle, farther distant & greaterness? | 233 |
| N | Doctrine affects the Essences of the Corpuscularians. | 234 |
| × | Perfect Circles &c exist not without (for none can so exist whether perfect or no) but in the mind | 235 |
| × | Lines thought Divisible ad infinitum because they are suppos’d to exist without. Also because they are thought the same when view’d by the naked eye & wn view’d thro magnifying glasses. | 236 |
| × | They who knew not Glasses had not so fair a pretence for the Divisibility ad infinitum. | 237 |
| × | No idea of Circle etc in abstract. | 238 |
| + | Metaphisiques as capable of Certainty as Ethiques but not so capable to be demonstrated in a Geometrical way because men see clearer & have not so many prejudices in Ethiques. | 239 |
| 3×1 | Visible ideas come into the mind very distinct, so do tangible ideas, Hence Extension seen & felt. sounds tastes etc are more blended. | 240 |

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| 3×1 | Qu: why not extension intromitted by the taste in conjunction wth the smell seeing tastes & smells are very distinct ideas. | 241 |
| × | Blew & yellow particles mixt while they exhibit an uniform green, their extension is not perceiv’d, but as soon as they exhibit distinct sensations of Blew & yellow then their Extension is perceiv’d. | 242 |
| 3×1 | Distinct perception of visible ideas not so perfect as of tangible, tangible ideas being many at once equally vivid. Hence heterogeneous Extension. | 243 |
| 2×1 | Object: why a mist encreases not the Apparent magnitude of an object in proportion to the faintness? | 244 |
| + | Mem: to Enquire touching the squaring of the Circle etc. | 245 |
| 3imagexa1 | That wch seems smooth & round to the touch may to sight seem quite otherwise. Hence no necessary connexion betwixt visible ideas & tangible ones. | 246 |
| × | In Geometry it is not prov’d that an inch is divisible ad infinitum. | 247 |
| × | Geometry not conversant about our compleat determin’d ideas of figures, for these are not divisible ad infinitum. | 248 |
| × | Particular Circles may be squar’d, for the circumference being given a Diameter may be found betwixt wch & ye true there is not any perceivable difference. therefore there is no difference. Extension being a perception & a perception not perceiv’d is contradiction, nonsense, nothing. In vain to alledge the difference may be seen by Magnifying Glasses. for in yt case there is (‘tis true) a difference perceiv’d but not between the same ideas but others much greater entirely different therefrom. | 249 |
| × | Any visible circle possibly perceivable of any man may be squar’d, by the Common way, most accurately, or even perceivable by any other being see he never so acute i.e. never so small an arch of a Circle this being wt makes the distinction between acute & dull sight, & not ye m:v: as men are, perhaps apt to think. | 250 |

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| × | The same is True of any Tangible Circle, therefore farther Enquiry of Accuracy in squaring or other curves is perfectly needless & time thrown away. | 251 |
| × | Mem: to press wt last precedes more homely & to think on’t again. | 252\*\*\* |
| × | A meer line or distance is not made up of points, does not exist, cannot be imagin’d or have an idea fram’d thereof no more than meer colour without extension. | 253 |
| × | Mem: a great difference between considering length wthout breadth, and having an idea of or imagining length without breadth. | 254 |
| + | Malbranch out touching the ×tallines diminishing. l.1.c.6. | 255 |
| 1×2 | Tis possible (& perhaps not very improbable that is is sometimes so) we may have the greatest pictures from the least objects. therefore no necessary connexion betwixt visible & tangible ideas. these ideas viz. great relation to the Sphaera Visualis or to the M: V: (wch is all that I would have meant by our having a greater picture) and faintness, might possibly have stood for or signify’d small tangible extensions. Certainly the greater relation to S.V: & M:V. does frequently in yt men view little objects near the Eye. | 256 |
| 12× | Malbranch out in asserting we cannot possibly know whether there are 2 men in the world that see a thing of the same bigness. v.L.i c.6 | 257 |
| × | Diagonal of particular square commensurable wth its side they both containing a certain number of M: V: | 258 |
| × | I do not think that surfaces consist of lines *i.e* meer distances. Hence perhaps may be solvd that sophism wch would prove the oblique line equal to the perpendicular between 2 parallels. | 259 |
| × | Suppose an inch represent a mile. 1/1000 of an inch is nothing, but 1/1000 of ye mile represented is something therefore |  |

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|  | 1/1000 of an inch tho’ nothing is not to be neglected, because it represents something *i.e* 1/1000 of a mile. | 260 |
| × | Particular Determin’d lines are not divisible ad infinitum, but lines as us’d by Geometers are so they not being determin’d to any particular finite number of points. Yet a Geometer (He knows not why) will very readily say he can demonstrable an inch line is divisible ad infinitum. | 261\*\*\* |
| 1×3 | A Body moving in the Optique axis not perceiv’d to move by sight meerly & wthout experience. there is (tis true) a successive change of ideas it seems less & less, but besides this there is no visible change of place. | 262 |
| × | Mem: To Enquire most diligently Concerning the Incommensurability of Diagonal & side. whether it Does not go on the supposition of unit being divisible ad infinitum, i.e of the extended thing spoken of being divisible ad infinitum (unit being nothing also V. Barrow Lect. Geom:). & so the infinite indivisibility deduc’d therefrom is a petitio principii. | 263\*\*\* |
| × | The Diagonal is commensurable with the Side. | 264 |
| (M)P | ffrom Malbranch, Locke & my first arguings it cant be prov’d that extension is not in matter ffrom Lockes arguings it can’t be prov’d that Colours, are not in Bodies. | 265 |
|  | Mem: that I was distrustful at 8 years old and Consequently by nature disposed for these new Doctrines. | 266 |
| × | Qu: How can a line consisting of an unequal number of points be divisible [ad infinitum] in two equals | 267 |
| (1×)2 | Mem: To discuss copiously how & why we do not see the Pictures. | 268\*\*\* |
| (M.)P. | Allowing extensions to exist in matter, we cannot know even their proportions Contrary to Malbranch. | 269 |
| 1M | I wonder how men cannot see a truth so obvious, as that extension cannot exist without a a thinking substance. | 270 |

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| M | Species of all sensible things made by the mind, This provd either by turning Men’s Eyes into magnifyers or diminishers. | 271 |
| (2)1× | Yr M.V. is suppose less than mine. Let a 3d person have perfect ideas of both our M:V:s. His idea of my M.V. contains his idea of yrs & somewhat more, therefore tis made up of parts, therefore his Idea of my v.m. is not perfect or just wch diverts the Hypothesis. | 272 |
| 2×1 | Qu: whether a m.v. or T be extended? | 273 |
| 1×2 | Mem. The strange errours men run into about the pictures. | 274 |
| (×)1 2 | We think them small, because should a man be suppos’d to see them their Pictures would take up but little room in the fund of his Eye. | 275 |
| × | It seems all lines can’t be bisected in 2 equall parts, Mem: to examine how the Geometers prove the contrary. | 276 |
| (1 2)× | Tis impossible there should be a M.V. less than mine. if there be mine may become equal to it (because they are homogeneous) by detraction of some part or parts, but it consists not of parts Ergo. &c | 277 |
| 1imagexa3 | Suppose inverting perspectives bound to ye eyes of a child, & continu’d to the years of Manhood, When he looks up or turns up his head he shall behold wt we call under. Qu: wt would he think of up & down? | 278 |
| M | I wonder not at my sagacity in discovering the obvious tho’ amazing truth, I rather wonder at my stupid inadvertency in not finding it out before. ‘tis no witchcraft to see† | 279 |
| 1M | Our simple ideas are so many simple thoughts or perceptions, & that a perception cannot exist without a thing to perceive it or any longer than it is perceiv’d, that a thought cannot be in an unthinking thing, that one uniform simple thought can be like to nothing but another uniform simple thought. Complex thoughts or ideas are onely an |  |

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|  | assemblage of simple ideas and can be the image of nothing or like unto nothing but another assemblage of simple ideas. &c | 280 |
| M | The Cartesian opinion of light & Colours etc is orthodox enough even in their eyes who think the Scripture expression may favour the common opinion. why may not mine also? But there is nothing in Scripture that can possibly be wrested to make against me, but, perhaps, many things for me. | 281 |
| + | Bodies etc do exist whether we think of ‘em or no, they being taken in a twofold sense. Collections of thoughts & collections of powers to cause those thoughts. these later exist, tho perhaps a parte dei† it may be one simple perfect power. | 282 |
| 11×2 | Qu. whether the extension of a plain look’d at straight & slantingly, survey’d minutely & distinctly or in the Bulk and confusedly at once, be the same. N.B. the plain is suppos’d to keep the same distance. | 283 |
| 11×2 | the ideas we have by a successive, curious, inspection of ye minute parts of a plain do not seem to make up the extension of that plain view’d & consider’d all together. | 284 |
| + | Ignorance in some sort requisite in ye Person that should Discover the Principle. | 285 |
| + | Thoughts do most properly signify or are mostly taken for the interior operations of the mind, wherein the mind is active, those yt obey not the acts of Volition, & in wch the mind is passive are more properly call’d sensations or perceptions, But yt is all a case. | 286 |
| × | Extension being the Collection or distinct coexistence of Minimums i.e of perceptions intromitted by sight or touch, it cannot be conceiv’d without a perceiving substance. | 287 |
| P | Malbranch does not prove that the figures & extensions exist not wn the are not perceiv’d. Consequently he does not prove nor can it be prov’d on his principles, that ye sorts are the work of the mind & onely in the mind. | 288 |

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| M.P.1 | The great argument to prove that Extension cannot be in an unthinking substance is that it cannot be conceiv’d distinct from or without all tangible or visible quality | 288a |
| M1 | Tho matter be extended wth an indefinite Extension, yet the mind makes the sorts, they were not before the mind perceiving them. & even now they are not without the mind. Houses trees, &c tho’ indefinitely extended matter do exist. are not without the mind. | 289 |
| M | The great danger of making extension exist without the mind. in yt if it does it must be acknowleg’d infinite immutable eternal etc. wch will be to make either God extended (wch I think dangerous) or an eternal, immutable, infinite, increate being beside God. | 290 |
| M1 | The Principle easily prov’d by plenty of arguments ad absurdum. | 291 |
| I× | finiteness of our mind no excuse for the Geometers. | 292 |
| + | The twofold signification of Bodies viz. combinations of thoughts & combinations of powers to raise thoughts. These, I say, in conjunction wth homogeneous particles, may solve much better the objections from the Creation. than ye supposition that matter does exist upon wch supposition, I think, they cannot be solvd. | 293 |
| + | Bodies taken for Powers do exist wn not perceiv’d but this existence is not actual. wn I say a power exists no more is meant than that if in ye light I open my eyes & look that way I shall see it i.e ye body &c. | 293a\*\*\* |
| + | Quer: whether Blind before sight may not have an idea of light & colours & visible extension After the same manner as we perceive them wth Eyes shut or in ye dark. not imagining but seeing after a sort. | 294\*\*\* |
| ×13 | Visible extension cannot be conceiv’d added to tangible extension. visible & tangible points can’t make one sum. therefore these extensions are heterogeneous. | 295 |

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| 1×1 | A Probable method propos’d whereby one may judge whether in near vision there is a greater distance between the Xtalline & fund than usual. or whether ye Xtalline be onely render’d more convex if the former, then the V.S is enlargd & ye m.v. corresponds to less than 30” or wtever it us’d to correspond to. | 296 |
| 12× | little extension, by distinction made great | 296a |
| 1×3 | Stated measures, inches, feet etc are tangible not visible extensions. | 297\*\*\* |
| M | Locke, More, Raphson etc seem to make God extended. ‘tis nevertheless of great use to religion to take extension out of our idea of God & put a power in its place. it seems dangerous to suppose extension wch is manifestly inert in God. | 298 |
| M | But say you the thought or perception I call extension is not itself in an unthinking thing or matter But it is like something wch is in matter. Well, says I, do you apprehend & conceive wt you say extension is like unto or do you not. If the later, how know you they are alike, how can you compare any things besides yr own ideas. if the former it must be an idea i.e perception thought, or sensation wch to be in an unperceiving thing is a Contradiction. | 299 |
| I. | I abstain from all flourish & pomp of words & figures using a great plainness & simplicity of stile having oft found it difficult to understand those that use the Lofty & Platonic or Subtil & Scholastique strain. | 300\*\*\* |
| M1 | Whatsoever has any of our ideas in it must perceive, it being that very having, that passive reception of ideas that denominates the mind perceiving. that being the very essence of perception, or that wherein perception consists. | 301 |
| 1×2 | The faintness wch alters the Appearance of the Horizontal Moon, rather proceeds from the quantity or Grossness of the intermediate Atmosphere, than from any change of Distance wch is perhaps not considerable enough to be a |  |

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|  | total Cause but may be a partial cause of the Phaenomenon. N.B. the Visual angle is less in the Horizon. | 302 |
| (1)1× | We judge of the distance of bodies as by other things so also by the situation of their pictures in the eye. or (wch is the same thing) according as they appear higher or lower those wch seem higher are farther of etc | 302a |
| 12× | Qu: why we see objects greater in ye dusk whether this can be solv’d by any but my principles. | 303 |
| M | The Reverse of ye Principle introduc’d Scepticism. | 304 |
| M | N.B. On my Principles there is a reality, there are things, there is a rerum Natura. | 305 |
| × | Mem. The surds, Doubling the Cube &c | 306 |
| (a)×13 | We think that if just made to see we shou’d Judge of the Distance & Magnitude of things as we do now. but this is false. So also wt we think so positively of the situation of objects. | 307 |
| × | Hayes’ Keil’s etc method of proving the infinitesimals of ye 3d order absurd, & perfectly contradictious. | 308 |
| × | Angles of Contact, & vêly all angles comprehended by a right line & a curve, cannot be measur’d, the arches intercepted not being similar. | 309\*\*\* |
| + | The danger of Expounding the H: Trinity by extension. | 310 |
| M.P.1 | Qu: why should the magnitude seen at a near distance be deem’d the true one rather than that seen at a farther distance? Why should the Sun be thought many 1000 miles rather than one foot in diameter: both being equally apparent diameters? Certainly Men judg’d of the Sun not in himself but wth relation to themselves. | 311 |
| M | 4 Principles whereby to answer objections viz--1. Bodies do really exist tho not perceiv’d by us. 2. There is a law or course of Nature. |  |

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|  | 3. Language & knowlege are all about ideas, words stand for nothing else. 4. Nothing can be a proof against one side of a contradiction that bears equally hard upon the other. | 312 |
| × | What shall I say? dare I pronounce the admir’d *ακριβεια* Mathematica, that Darling of the Age a trifle? | 313 |
| × | Most certainly no finite Extension divisible ad Infinitum. | 314 |
| ×M | Difficulties about Concentric Circles. | 315 |
| N. | Mem. to Examine & accurately discuss the scholium of the 8th Definition of Mr Newton’s Principia. | 316 |
| × | Ridiculous in the Mathematicians to despise sense. | 317 |
| + | Qu. is it not impossible there shou’d be General ideas? All ideas come from without, they are all particular. The mind, tis true, can consider one thing wthout another, but then consider’d asunder they make not 2 ideas. both together can make but one as for instance Colour & Visible extension. | 318 |
| × | The end of a Mathematical line is nothing. Locke’s argument that the end of his pen is black or white concludes nothing here. | 319 |
| × | Mem: take care how you pretend to define extension, for fear of the Geometers. | 320 |
| × | Qu: why difficult to imagine a minimum. Ans. because we are not us’d to take notice of ‘em singly, they not being able singly to pleasure or hurt us thereby to deserve our regard. | 321 |
| × | Mem. to prove against Keil yt the infinite divisibility of matter makes the half have an equal number of equal parts with the whole. | 322 |
| × | Mem. to examine how far the not comprehending infinity may be admitted as a plea. | 323 |

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| × | Qu. why may not the Mathematicians reject all the extensions below the M. as well as the d d s etc wch are allow’d to be somthing & consequently may be magnify’d by glasses into inches, feet etc as well as the quantitys next below the m? | 324 |
| + | Bigg, little & number are the works of the mind. How therefore can ye extension you suppose in matter be big or little how can it consist of any number of points? | 325 |
| P | Mem: strictly to remark L.b 2.c.8 S.8 | 326 |
| + | Schoolmen compar’d with the Mathematicians | 327 |
| × | Extension is blended wth tangible or visible ideas, & by the mind praescinded therefrom. | 328 |
| × | Mathematiques made easy the Scale does almost all. the Scale can tell us the subtangent in ye Parabola is 2ble the abscisse. | 329 |
| × | Wt need of the Utmost accuracy wn the Mathematicians own in rerum natura they cannot find any thing corresponding wth their nice ideas. | 330\*\*\* |
| × | Newton in sad plight about his Cave intellexeris finitas. | 331 |
| × | One should indeavour to find a progression by trying wth the Scale. | 332\*\*\* |
| × | Newton’s fluxions needless. any thing below a M. might serve for Leibnitz’s Differential Calculus. | 333 |
| × | How can they hang together so well since there are in them (I mean the mathematiques) so many Contradictoriae argutiae v. Barrow Lect: | 334\*\*\* |
| × | A man may read a book of Conics with ease knowing how to try if they are right. he may take ‘em on the credit of the Authour. | 335 |

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| × | Where’s the need of certainty in such trifles? the thing that makes it so much esteem’d in them is that we are thought not capable of getting it elsewhere. But we may in Ethiques & Metaphysiques. | 336 |
| × | The not Leading men into mistakes no argument for the truth of the infinitesimals. they being nothings may, perhaps, do neither good nor harm. except wn they are taken for somthing: & then the contradiction begets a Contradiction. | 337 |
| × | a + 500 nothings = a + 50 nothings an innocent silly truth | 338 |
| M | My Doctrine excellently corresponds wth the Creation I suppose no matter, no stars, sun &c to have existed before. | 339 |
| × | It seems all Circles are not similar figures there not being the same proportion betwixt all circumferences & their diameters. | 340 |
| ×• | When a small line upon Paper represents a mile the Mathematicians do not calculate the 1/10000 of the Paper line they Calculate the 1/10000 of the mile ‘tis to this the have regard, tis of this the think if they think or have any idea at all. the inch perhaps might represent to their imaginations the mile but ye 1/10000 of the inch can not be made to represent anything it not being imaginable. | 341 |
| × | But the 1/10000 of a mile being somwhat they think the 1/10000 of the inch is somwhat, wn they think of yt they imagine they think on this. | 341a\*\*\* |
| × | 3 faults occur in the arguments of the Mathematicians, for divisibility ad infinitum. I. they suppose extension to exist without the mind or not perceiv’d. 2. they suppose that we have an idea of length without breadth. \* or that length without breadth does exist. 3 that unite is divisible ad infinitum. | 342 |
| ×\* | or rather that invisible length does exist. | 342a |

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| × | To suppose a M.S. divisible is to say there are distinguishable ideas where there are no distinguishable ideas. | 343 |
| × | The M.S. is not near so inconceivable as this Signum in magnitudine individuum. | 344 |
| × | Mem: To examine the Math: about their point wt it is something or nothing, & how it differs from the M.S. | 345 |
| × | All might be demonstrated by a new method of indivisibles, easier perhaps & juster than that of Cavallerius. | 346 |
| M.P.1 | Unperceivable perception a contradiction. | 347 |
| G. | Proprietates reales rerum omnium in Deo tam corporum quam spirituum continentur. Clerici Log: cap. 8m. | 348 |
| + | Let my adversaries answer any one of mine i’ll yield--If I don’t answer every one of theirs I’ll yield. | 349 |
| + | The Loss of the excuse may hurt Transubstantiation, but not the Trinity | 350\*\*\* |
|  | By ye excuse is meant the finiteness of our mind making it possible for contradictions to appear true to us. | 350a |
| × | We need not strain our Imaginations to conceive such little things. Bigger may do as well for intesimals since the integer must be an infinite. | 351 |
| × | Evident yt wch has an infinite number of parts must be infinite. | 352 |
| × | Qu: whether extension be resoluble into points id does not consist of. | 353\*\*\* |
| × | Axiom. No reasoning about things whereof we have no idea. Therefore no reasoning about Infinitesimals. | 354 |
| × | nor can it be objected that we reason about Numbers wch are only words & not ideas, for these Infinitesimals are words, of no use, if not suppos’d to stand for Ideas. | 354a |

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| × | Much less infinitesimals of infinitesimals &c. | 355 |
| + | Axiom. No word to be used without an idea. | 356 |
| S | If uneasiness be necessary to set the will at work. Qu: How shall we will in Heaven. | 357 |
| + | Malbranche’s & Bayle’s arguments do not seem to prove against Space, but onely Bodies. | 358 |
| M.P.1 | Our Eyes & Senses inform us not of the existence of Matter or ideas existing existing without the mind. They are not to be Blam’d for the mistake. | 359 |
| × | I defy any man to assign a Right line equal to a Paraboloeid, but that wn lookt at thro a Microscope they may appear unequall. | 360 |
| M | Newton’s Harangue amounts to no more than that gravity is proportional to gravity. | 361 |
| × | One can’t imagine an extended thing without colour. v. Barrow L.G. | 362\*\*\* |
| (M)P | Qu: whether I had not better allow Colours to exist without the Mind taking the Mind for the Active thing wch I call I, my self. Yt seems to be distinct from ye Understanding. | 362a |
| P | Men allow colours, sounds &c not to exist without the mind tho they had no Demonstration they do not. Why may the not allow my Principle with a Demonstration. | 363 |
| P. | The taking extension to be distinct from all other tangible & visible qualities & to make an idea by it self. has made Men take it to be without the Mind. | 363a |
| (×)M | Keils filling the world with a mite this follows from the Divisibility of extension ad infinitum. | 364 |
| (\*)+ | Extension or length without breadth seems to be nothing save the number of points that lie betwixt any 2 points. it seems to consist in meer proportion meer reference of the mind. | 365 |

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| (\*)× | Extension without breadth i.e. invisible, intangible length is not conceivable tis a mistake we are led into by the Doctrine of Abstraction. | 365a |
| (+)× | To what purpose is it to Determine the Focus’s of Glasses Geometrically. | 366 |
| M | Innumerable vessels if Matter v. Cheyne | 367 |
| + | I’ll not admire the Mathematicians. tis wt any one of common sense might attain to by repeated acts. I know it by experience, I am but one of common sense, and I etc | 368 |
| + | By thing I either mean Ideas or that wch has ideas. | 369 |
| + | Nullum Praeclarum ingenium unquam fuit Magnus Mathematicus. Scaliger. | 370 |
| + | A Great Genius cannot stoop to such trifles & minutenesses as they consider. | 371 |
| + | I see no wit in any of them but Newton, The rest are meer triflers, meer Nihilarians. | 372 |
| × | The folly of the Mathematicians in not judging of sensations by their senses. Reason was given us for nobler uses. | 373 |
| × | Sir Isaac owns his book could have been demonstrated on the supposition of indivisibles. | 374 |
| + | Mathematicians have some of them good parts, the more is the pity. Had they not been Mathematicians they had been good for nothing. they were such fools they knew not how to employ their parts. | 375 |
| (+)× | The Mathematicians could not so much as tell wherein truth & certainty consisted till Locke told ‘em. I see the best of them talk of light & colours as if wthout the mind. | 376 |
| M.1 | An idea cannot exist unperceiv’d | 377 |

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| + 1 | All significant words stand for Ideas |  |
| 2 | All knowlege about our ideas |  |
| + 3 | All ideas come from without or from within. |  |
| 4 | If from without it must be by the senses & they are call’d sensations. |  |
| + 5 | If from within they are the operations of the mind & are called thoughts. |  |
| 6 | No sensation can be in a senseless thing. |  |
| 7 | No thought can be in a thoughtless thing. |  |
| + 8 | All our ideas are either sensations or thoughts, by 3.4.5. |  |
| 9 | None of our ideas can be in a thing wch is both thoughtless & senseless. 6.7.8. |  |
| 10 | the bare passive reception or having of ideas is call’d perception |  |
| 11 | Whatever has in it an idea, tho it be never so passive, tho it exert no manner of act about it, yet it must perceive. 10 |  |
| 12 | all ideas either are simple ideas, or made up of simple ideas. |  |
| +13 | that thing wch is like unto another thing must agree wth it in one or more simple ideas. |  |
| 14 | whatever is like a simple idea must either be another |  |
| + | simple idea of the same sort or contain a simple idea of the same sort. 13. |  |
| 15 | nothing like an idea can be in an unperceiving thing. 11. 14. |  |
|  | another demonstration of the same thing |  |
| 16 | Two things cannot be said to be alike or unlike till they have been compar’d |  |
| 17 | Comparing is the viewing two ideas together, & marking wt they agree in & wt they disagree in. |  |
| 18 | The mind can compare nothing but its’ own ideas. 17. |  |
| 19 | Nothing like an idea can be in an ûperceiving thing. 11. 16. 18. | 378 |
|  | These arguments must be proposd shorter & more separate in the Treatise. | 378a |
|  | N.B. Other arguments innumerable both a priori & a posteriori drawn from all the sciences, from the clearest |  |

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|  | plainest most obvious truths whereby to Demonstrate the Principle i.e that neither our Ideas nor any thing like our ideas can possibly be in an unperceiving thing. | 379 |
|  | N.B. Not one argument, of any kind wtsoever, certain or probable, a priori or a posteriori from any art or science, from either sense or reason against it. | 380 |
| × | Mathematicians have no right idea of angles. hence angles of Contact wrongly apply’d to prove extension divisible ad infinitum. | 381 |
| × | We have got the Algebra of pure intelligences | 382 |
| × | We can prove Newton’s propositions \* more accurately more easily & upon truer principles than himself. | 383 |
| (\*)× | to the utmost accuracy wanting nothing of perfection. their solution of Problems themselves must own to fall infinitely short of perfection | 383a\*\*\* |
| × | Barrow owns the Downfall of Geometry. However I’ll Endeavour to Rescue it. so far as it is usefull or real or imaginable or intelligible, but for the nothings I’ll leave them to their admirers. | 384 |
| × | I’ll teach any one the whole course of Mathematiques in 1/100 prt the time that another will. | 385 |
| × | Much Banter got from the prefaces of the Mathematicians. | 386 |
| + | Innumerable vessels if Matter v. Cheyne. | 387 |
| P. | Newton says colour is in the subtil matter. hence Malbranch proves nothing or is mistaken in asserting there is onely figure & motion therein. | 388 |
| × | The Billys use a finite visible line for an I/m | 389 |

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| T | Marsilius ficinus his appearing the moment he died solv’d by my idea of time. | 390 |
| M | The Philosophers lose their Matter, The Mathematicians loose their insensible sensations, the Profane their extended Deity Pray wt do the Rest of Mankind lose, as for bodies &c we have them still. N.B. the future Philosoph: & Mathem: get vastly by ye bargain. | 391 |
| P | There are men who say there are insensible extensions, there are others who say the Wall is not white, the fire is not hot &c We Irish men cannot attain to these truths. | 392 |
| × | The Mathematicians think there are insensible lines, about these they harangue, these cut in a point, at all angles these are divisible ad infinitum. We Irish men can conceive no such lines. | 393 |
| × | The Mathematicians talk of wt they call a point, this they say is not altogether nothing nor is it downright somthing, now we Irish men are apt to think something & nothing are next neighbours. | 394 |
| × | I can square the circle, &c they cannot, wch goes on the best principles | 395 |
| + | Engagements to P. on account of ye treatise that grew up under his Eye, on account also of his approving my harangue. Glorious for P. to be the Protectour of usefull tho newly discover’d Truths. | 396 |
| + | How could I venture thoughts into the world, before I knew the would be of use to the world? and how could I know that till I had try’d how the suited other men’s ideas. | 397 |
| + | I Publish not this so much for anything else as to know whether other men have the same Ideas as we Irishmen. this is my end and not to be inform’d as to my own Particular. | 398 |
| + | The Materialists & Nihilarians need not be of a party. | 399 |

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## Philosophical Commentaries: The Text, Notebook A

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I--Introduction  
M--Matter  
P--Primary & Secondary Qualities  
E--Existence  
T--Time  
S--Soul--Spirit  
G--God  
Mo--Moral Philosophy  
N--Natural Philosophy

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| 1×3 | Qu: if there be not two kinds of visible extension. one perceiv’d by a confus’d view, the other by a distinct successive direction of the optique axis to each point. | 400 |
| I | No general Ideas, the contrary a cause of mistake or confusion in Mathematiques etc. this to be intimated in ye Introduction. | 401 |
| + | The Principle may be apply’d to the difficulties of Conservation cooperation etc. | 402 |
| N | Trifling for the Philosophers to enquire the cause of Magnetical attractions etc, They onely search after coexisting ideas. | 403 |
| M.P. | Quaecunque in Scriptura militant adversus Copernicum, militant pro me. | 404 |
| M.P. | All things in the Scripture wch side with the Vulgar against the Learned side with me also. I side in all things with the Mob. | 405 |
|  | I know there is a mighty sect of Men will oppose me. but yet I may expect to be supported by those whose minds are not so far overgrown wth madness, these are far the greatest part of Mankind. Especially Moralists, Divines, Politicians, in a word all but Mathematicians & Natural Philosophers (I mean only the Hypothetical Gentlemen). Experimental Philosophers have nothing whereat to be offended in me. | 406 |
| + | Newton begs his Principle,† I Demonstrate mine. | 407 |
| M.E. | I must be very particular in explaining wt is meant by things existing in Houses, chambers, fields, caves etc wn not perceiv’d as well as wn perceiv’d. & shew how the Vulgar notion agrees with mine when we narrowly |  |

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|  | inspect into the meaning & definition of the word Existence wch is no simple idea distinct from perceiving & being perceiv’d. | 408 |
| + | The Schoolmen have noble subjects but handle them ill. The Mathematicians have trifling subjects but reason admirably about them. certainly their Method & arguing are excellent. | 409 |
| + | God knows how far our knowlege of Intellectual beings may be enlarg’d from the Principle. | 410 |
| M. | The Reverse of the Principle I take to have been the chief source of all that scepticism & folly all those contradictions & inextricable puzling absurdities, that have in all ages been a reproach to Human Reason. as well as of that Idolatry whether of Images or of Gold etc that blinds the Greatest part of the World. as well as of that shamefull immorality that turns us into Beasts. | 411 |
| E | &unk; vixit & fuit. | 412 |
| +E | *ουσια* the name for substance used by Aristotle the fathers etc. | 413 |
| × | If at the same time we shall make the Mathematiques much more easie & much more accurate, wt can be objected to us? | 414 |
| × | We need not force our Imagination to conceive such very small lines for infinitesimals. they may every whit as well be imagin’d big as little since that the integer must be infinite. | 415 |
| × | Evident that wch has an îfinite number of parts must be infinite. | 416 |
| × | We cannot imagine a line or space infinitely great therefore absurd to talk or make propositions about it. | 417 |
| × | We cannot imagine a line, space etc quovis dato majus. Since yt what we imagine must be datum aliquod. & a thing can’t be greater than it self. | 418 |

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| × | If you call infinite that wch is greater than any assignable by another, then I say in that sence there may be an infinite square, sphere or any other figure wch is absurd. | 419 |
| × | Qu. if extension be resoluble into points it does not consist of. | 420 |
| × | No reasoning about things whereof we have no ideas therefore no Reasoning about Infinitesimals. | 421 |
| + | No word to be used without an idea. | 422 |
| S | If uneasiness be necessary to set the will at work. Qu: How shall we will in Heaven. | 423 |
| + | Bayle’s Malbranch’s etc arguments do not seem to prove against space, but onely against Bodies. | 424 |
| (M)P | I agree in Nothing wth the Cartesians as to ye existence of Bodies & qualities | 424a |
| + | Aristotle as good a Man as Euclid but He was allow’d to have been mistaken. | 425 |
| × | Lines not proper for Demonstration | 426 |
| M | We see the Horse it self, the Church it self it being an Idea & nothing more | 427 |
| M | The Horse it self the Church it self is an Idea i:e object immediate object of thought. | 427a |
| × | Instead of injuring our Doctrine much Benefits Geometry. | 428 |
| E | Existence is percipi or percipere ⋀. the horse is in the stable, the Books are in the study as before. | 429 |
|  | ⋀ or velle i:e. agere | 429a |
| N | In Physiques I have a vast view of things soluble hereby but have not Leisure. | 430 |

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| N | Hyps & such like unaccountable things confirm my Doctrine. | 431 |
| × | Angle not well Defin’d see Pardie’s Geometry by Harris etc: this one ground of Trifling | 432 |
| + | One idea not the cause of another, one power not the cause of another. The cause of all natural things is onely God. Hence trifling to enquire after second Causes. This Doctrine gives a most suitable idea of the Divinity. | 433 |
| N | Absurd to study Astronomy & other the like Doctrines as speculative sciences. | 434 |
| N | The absurd account of Memory by the Brain etc makes for me. | 435 |
| + | How was light created before man? even so were Bodies created before man. | 436 |
| E1 | Impossible any thing Besides that wch thinks & is thought on should exist. | 437 |
|  | Making thought to be active | 437a |
| × | That wch is visible cannot be made up of invisible things. | 438 |
| × | M.S. is that wherein there are not contain’d distinguishable sensible parts. now how can that wch hath not sensible parts be divided into sensible parts? if you say it may be be divided into insensible parts. I say these are nothings. | 439 |
| × | Extension abstract from sensible qualities is no sensation, I grant, but then there is no such idea as any one may try. there is onely a Considering the number of points without the sort of them, & this makes more for me. since it must be in a Considering thing. | 440 |
| 1×12 | Mem: before I have shewn the Distinction between visible & tangible extension I must not mention them as distinct, I must not mention M.T. & M.V. but in general M.S. etc. | 441 |

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| × | this belongs to Geometry | 441a |
| 1×3 | Qu: whether a M.V. be of any colour? a M.T. of any tangible quality? | 442\*\*\* |
| 1×3 | If visible extension be the object of Geometry ‘tis that which is survey’d by the optique axis. | 443 |
| P | I may say the pain is in my finger etc according to my Doctrine. | 444 |
| × | Mem: nicely to discuss wt is meant when we say a line consists of a certain number of inches or points etc A Circle of a certain number of square inches, points etc. Certainly we may think of a Circle, or have its’ idea in our mind without thinking of points or square inches etc. whence it should seem the idea of a Circle is not made up of the ideas of points square inches etc. | 445 |
| × | Qu: is any more than this meant by the foregoing Expressions viz. that squares or points may be perceived in or made out of a Circle etc. or that squares points etc are actually in it i.e. are perceivable in it. | 446 |
| ×+ | A line in abstract or distance is the number of points between two points. There is also distance between a Slave & an Emperour, between a Peasant & Philosopher, between a drachm & a pound, a farthing & a Crown etc in all wch distance signifies the number of intermediate ideas. | 447 |
| × | Halley’s Doctrine about the Proportion between Infinitely great quantities vanishes. When men speak of Infinite quantities, either they mean finite quantities or else talk of [that whereof they have] no idea. both wch are absurd. | 448 |
| \* | that need not have been blotted out, ‘tis good sense if we do but determine wt we mean by thing and Idea. | 448a |
| × | If the Disputations of the Schoolemen are blam’d for intricacy triflingness & confusion, yet it must be acknowleg’d that in the main they treated of great & important subjects. If we admire the Method & acuteness of the |  |

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|  | Math: the length, the subtilty, the exactness of their Demonstrations, we must nevertheless be forced to grant that they are for the most part about trifling subjects & perhaps nothing at all. | 449 |
| + | Motion on 2d thoughts seems to be a simple idea | 450 |
| P1 | Motion distinct from ye thing moved is not Conceivable. | 450a |
| N | Mem: to take notice of Newton for Defining it also of Locke’s wisdom in leaving it undefin’d. | 451 |
| + | ut ordo partium Temporis est immutabilis, sic etiam ordo partium Spatii. Moveantur hae de locis suis et movebuntur, (ut ita dicam) de seipsis. Truly Number is immoveable that we will allow with Newton. | 452\*\*\* |
| P | Ask a Cartesian whether he is wont to imagine his globules without colour, pellucidness is a colour. The colour of ordinary light of the Sun is white. Newton in the right in assigning colours to the rays of light. | 453\*\*\* |
| 1×1 | A man born Blind would not imagine Space as we do. we give it always some dilute or duskish or dark colour. in short we imagine it as visible or intromitted by the Eye wch he would not do. | 454 |
| N | Proinde vim inferunt sacris literis qui voces hasce (v. tempus, spatium, motus) de quantitatibus mensuratis ibi interpretantur. Newton p. 10. | 455\*\*\* |
| N | I differ from Newton in that I think the recession ab axe motus is not the effect or index or measure of motion, but of the vis impressa. it sheweth not wt is truly moved but wt has the force impress’d on it. or rather that wch hath an impressed force. | 456 |
| × | D & P are not proportional in all Circles. dd is to ¼dp as d to P/4 but d & P/4 are not in the same proportion in all Circles. Hence ‘tis nonsense to seek the terms of one general proportion whereby to rectify all peripheries or of another whereby to square all Circles. | 457 |

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| × | N.B. if the Circle be squar’d Arithmetically, ‘tis squar’d Geometrically. Arithmetic or numbers being nothing but lines & proportions of lines when apply’d to Geometry. | 458 |
| ×+ | Mem. to remark Cheyne & his Doctrine of infinites | 459 |
| × | Extension, motion, Time do each of them include the idea of succession. & so far forth they seem to be of Mathematical Consideration. Number consisting in succession & distinct perception wch also consists in succession for things at once perceiv’d are jumbled & mixt together in the mind. Time and motion cannot be conceiv’d without succession, & extension qua Mathemat: cannot be conceiv’d but as consisting of parts wch may be distinctly & successively perceiv’d. Extension perceiv’d at once & in confuso does not belong to Math. | 460 |
| + | The simple idea call’d Power seems obscure or rather none at all. but onely the relation ‘twixt cause & Effect. Wn I ask whether A can move B. if A be an intelligent thing. I mean no more than whether the volition of A that B move be attended with the motion of B, if A be be senseless whether the impulse of A against B be follow’d by ye motion of B. | 461 |
| × | Barrows arguing against indivisibles, lect. I. p. 16 is a petitio principii, for the Demonstration of Archimedes supposeth the circumference to consist of more than 24 points. moreover it may perhaps be necessary to suppose the divisibility ad infinitum, in order to Demonstrate that the radius is equal to the side of the Hexagon. | 462 |
| × | Shew me an argument against indivisibles that does not go on some false supposition. | 463 |
| × | A great number of insensibles. or thus. two invisibles say you put together become visible therefore that m.v. contains or is made up of Invisibles. I answer. the m.v. does not comprise, is not compos’d of Invisibles. all the matter amounts to this viz. whereas I had no idea a while agoe I have an idea now. It remains for you to prove that I came by the present idea because there were 2 |  |

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|  | invisibles added together. I say the invisibles are nothings, cannot exist, include a contradiction. | 464 |
| + | I am young, I am an upstart, I am a pretender, I am vain, very well. I shall Endeavour patiently to bear up under the most lessening, vilifying appellations the pride & rage of man can devise. But one thing, I know, I am not guilty of. I do not pin my faith on the sleeve of any great man. I act not out of prejudice & prepossession. I do not adhere to any opinion because it is an old one, a receiv’d one, a fashionable one, or one that I have spent much time in the study and cultivation of. | 465\*\*\* |
| × | Sense rather than Reason & demonstration ought to be employ’d about lines & figures, these being things sensible, for as for those you call insensible we have prov’d them to be nonsense, nothing. | 466 |
| I | If in some things I differ from a Philosopher I profess to admire, ‘tis for that very thing on account whereof I admire him namely the love of truth. this etc | 467 |
| I | wherever my Reader finds me talk very positively I desire he’d not take it ill. I see no reason why certainty should be confin’d to the Mathematicians | 468 |
| × | I say there are no incommensurables, no surds, I say the side of any square may be assign’d in numbers. Say you assign unto me the side of the square 10. I ask wt 10, 10 feet, inches etc or 10 points. if the later; I deny there is any such square, tis impossible 10 points should compose a square. if the former, resolve yr 10 square inches, feet etc into points & the number of points must necessarily be a square number whose side is easily assignable. | 469 |
| × | A mean proportional cannot be found betwixt any two given lines. it can onely be found betwixt those the numbers of whose points multiply’d together produce a square number. thus betwixt a line of 2 inches & a line of 5 inches, a mean geometrical cannot be found except the number of points contain’d in 2 inches multiply’d by ye number of points contain’d in 5 inches make a square number. | 470 |

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| × | If the wit & industry of the Nihilarians were employ’d about the usefull & practical Mathematiques, wt advantage had it brought to Mankind? | 471\*\*\* |
| M.E | You ask me whether the books are in the study now wn no one is there to see them. I answer yes. you ask me are we not in the wrong for imagining things to exist wn they are not actually perceiv’d by the senses. I answer no. the existence of our ideas consists in being perceiv’d, imagin’d thought on whenever they are imagin’d or thought on they do exist. Whenever they are mention’d or discours’d of they are imagin’d & thought on therefore you can at no time ask me whether they exist or no, but by reason of yt very question they must necessarily exist. | 472 |
| E | But say you then a Chimaera does exist. I answer it doth in one sense. i.e it is imagin’d. but it must be well noted that existence is vulgarly restrain’d to actuall perception. & that I use the word Existence in a larger sense than ordinary. | 473 |
| + | N.B. according to my Doctrine all things are entia rationis i.e. solum habent esse in Intellectu. | 474 |
| E | according to my Doctrine all are not entia rationis the distinction between ens rionis & ens reale is kept up by it as well as any other Doctrine. | 474a |
| ×(\*) | You ask me whether there can be an infinite Idea? I answer in one sense there may. thus the visual sphere tho ever so small is infinite. i.e. has no end. But if by infinite you mean an extension consisting of innumerable points. then I ask yr pardon. points tho never so many may be number’d the multitude of points or feet, inches etc hinders not their numbrableness in the least. Many or most are numerable as well as few or least. also if by infinite idea. you mean an idea too great to be comprehended or perceiv’d all at once. you must excuse me. I think such an infinite is no less than a contradiction. | 475 |
| \* | i.e hinders not their being nameable. | 475a |

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| M1 | The sillyness of the Currant Doctrine makes much for me. they commonly suppose a material world, figures, motions, bulks of various sizes etc according to their own confession to no purpose, all our sensations may be & sometimes actually are without them. nor can men so much as conceive it possible they should concur in any wise to the production of them. | 476 |
| M1 | Ask a man I mean a Cartesian why he supposes this vast structure, this compages of Bodies. he shall be at a stand, he’ll not have One word to say. wch sufficiently shews the folly of the hypothesis: | 477 |
| M | or rather why he supposes all ys Matter, for bodies & their qualitys I do allow to exist independently of Our mind. | 477a |
| S | Qu: how is the soul distinguish’d from its’ ideas? certainly if there were no sensible ideas there could be no soul, no perception, remembrance, love, fear etc. no faculty could be exerted. | 478 |
| S | The soul is the will properly speaking & as it is distinct from Ideas. | 478a\*\*\* |
| S | The grand, puzling question whether I sleep or wake? easily solv’d. | 479\*\*\* |
| × | Qu: whether minima or meer minima may not be compar’d by their sooner & later evanescency as well as by more or less points. So that one sensibile may be greater than another tho it exceeds it not by one point. | 480 |
| × | Circles on several radius’s are not similar figures they having neither all nor any an infinite number of sides. Hence in Vain to enquire after 2 terms of one & ye same proportion that should constantly express the reason of the d to the p in all Circles. | 481 |
| × | Mem: to remark Wallis’s harangue that the aforesaid Proportion can neither be express’d by rational numbers nor surds. | 482 |

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| × | We can no more have an idea of length without breadth or visibility than of a General figure. | 483 |
| (×)+ | One idea may be like another idea tho’ they Contain no common simple idea. thus the simple idea red is in some sense like the simple idea blue. tis liker it than sweet or shrill. But then those ideas wch are so said to be alike agree both in their connexion with another simple idea viz. extension & in their being receiv’d by one & ye same sense. But after all nothing can be like an idea but an idea. | 484 |
|  | This I do not altogether approve of | 484a |
| + | No sharing betwixt God & Nature or second Causes in my Doctrine. | 485\*\*\* |
| M | Materialists must allow the Earth to be actually mov’d by the Attractive power of every stone that falls from the air. with many other the like absurditys. | 486 |
| × | Enquire concerning the Pendulum Clock etc. whether those inventions of Huygens etc may be attained to by my Doctrine. | 487 |
| + | The “ “ & “ “ ‘ & “ “ “ etc of time are to be cast away & neglected as so many noughts or nothings. | 488 |
| + | Mem. to make experiments concerning Minimums & their colours. whether they have any or no. & whether they can be of that green wch seems to be compounded of yellow & blue. | 489 |
| S | Qu: whether it were not better not to call the operations of the mind ideas, confining this term to things sensible? | 490 |
| E | Mem: Diligently to set forth how that many of the Ancient philosophers run into so great absurditys as even to deny the existence of motion and those other things they perceiv’d actually by their senses. this sprung from their not knowing wt existence was and wherein it consisted this the source of all their Folly, ‘tis on the |  |

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|  | Discovering of the nature & meaning & import of Existence that I chiefly insist. This puts a wide difference betwixt the Sceptics & me. This I think wholly new. I am sure ‘tis new to me | 491 |
| × | We have learn’d from Mr. Locke. that there may be and that there are several glib, coherent, methodical Discourses wch nevertheless amount to just nothing. this by him intimated with relation to the Scholemen. We may apply it to the Mathematicians. | 492 |
| + | Power no simple Idea. it means nothing but the Relation between Cause & Effect. | 493 |
| + | Qu: How can all words be said to stand for ideas? The word Blue stands for a Colour without any extension or abstract from extension. But we have not an idea of Colour without extension. we cannot imagine Colour without extension. | 494 |
| + | Locke seems wrongly to assign a Double use of words one for communicating & the other for recording our thoughts. Tis absurd to use words for the recording our thoughts to our selves: or in our private meditations. | 495 |
| + | No one abstract simple idea like another two simple ideas may be connected with one & the same 3d simple idea, or be intromitted by one & the same sense. But consider’d in themselves they can have nothing common & consequently no likeness. | 496 |
| + | Qu: How can there be any abstract ideas of Colours? it seems not so easily as of tastes or sounds. But then all abstract ideas whatsoever are particular. I can by no means conceive a general idea. ‘Tis one thing to abstract one idea from another of a different kind. & another thing to abstract an idea from all particulars of the same kind. | 497 |
| N | Mem. much to Recommend & approve of Experimental Philosophy. | 498\*\*\* |

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| S | What means Cause as distinguish’d from Occasion? nothing but a Being wch wills wn the Effect follows the volition. Those things that happen from without we are not the Cause of therefore there is some other Cause of them i.e. there is a being that wills these perceptions in us. | 499 |
| S | it should be said nothing but a Will, a being wch wills being unintelligible. | 499a |
| × | One square cannot be double of another. Hence the Pythagoric Theorem is false. | 500 |
| 1×1 | Some writers of Catoptrics absurd enough to place the apparent place of ye object in the Barrovian Case behind the eye. | 501 |
| + | Blew & yellow chequers still diminishing terminate in green. This may help to prove the composition of green. | 502 |
| + | There is in green 2 foundations of 2 relations of likeness to blew & yellow. therefore Green is compounded. | 503 |
| + | A mixt cause will produce a mixt Effect therefore Colours are all compounded that we see. | 504 |
| + | Mem: to Consider Newton’s two sorts of Green. | 505 |
| + | N.B. my Abstract & general Doctrines ought not to be condemn’d by the Royall Society Tis wt Their Meeting did ultimately intend. v. Sprat’s History S.R. | 506 |
| I | Mem. to Premise a Definition of Idea. | 507 |
| Mo. | The 2 great Principles of Morality. the Being of a God & the Freedom of Man: these to be handled in the beginning of the Second Book. | 508 |
| × | Subvertitur Geometria ut non practica sed Speculativa. | 509 |
| × | Archimedes’s proposition about squaring the Circle has nothing to do with circumferences containing less than 96 points. & if the circumference contain 96 points it may be apply’d but nothing will follow against indivisibles. v. Barrow. | 510 |

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| × | Those Curve lines that you can Rectify Geometrically. Compare them with their equal right lines & by a Microscope you shall discern an inequality. Hence my squaring of the Circle as good & exact as the best. | 511 |
| M | Qu: whether the substance of Body or any thing else, be any more than the Collection of Ideas included in that thing. Thus the substance of any particular Body is extension solidity figure. of General Body no idea. | 512\*\*\* |
| I | Mem: most carefully to inculcate & set forth how that the Endeavouring to Express abstract philosophic Thoughts by words unavoidably runs a man into Difficulties. This to be done in the Introduction. | 513 |
| × | Mem: to Endeavour most accurately to understand wt is meant by this axiom: Quae sibi mutuo congruunt aequalia sunt. | 514 |
| × | Qu: wt the Geometers mean by equality of lines & whether according to their definition of equality a curve line can possibly be equal to a right line. | 515 |
| × | If wth me you call those lines equal wch contain an equal number of points. then there will be no difficulty. that curve is equal to a right line wch contains as [many]† points as the right. one doth. | 516 |
| M | I take not away substances. I ought not to be accus’d of discarding Substance out of the reasonable World. I onely reject the Philosophic sense (wch in effect is no sense) of the word substance. Ask a man never † tainted with their jargon wt he means by corporeal substance, or the substance of Body, He shall answer Bulk, Solidity & such like sensible qualitys. These I retain. the Philosophic nec quid nec quantum nec quale whereof I have no idea I discard. if a man may be said to discard that wch never had any being was never so much as imagin’d or conceiv’d. | 517 |
| M | N.B. I am more for reality than any other Philosophers, they make a thousand doubts & know not certainly but we may be deceiv’d. I assert the direct Contrary. | 517a |

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| M | In short be not angry you lose nothing. whether real or chimerical wtever you can in any wise conceive or imagine be it ever so wild so extravagant & absurd much good may it do you. you may enjoy it for me. I’ll not deprive you of it. | 518 |
| × | A line in the sense of Mathematicians is not meer distance. this evident in that there are curve lines. | 519 |
| × | Curves perfectly incomprehensible inexplicable, absurd except we allow points. | 520 |
| I | If men look for a thing where its’ not to be found. be they never so sagacious it is lost labour. if a simple clumsey man know where the Game lies. He tho afoot † shall catch it sooner than the most fleet & dexterous that seek it elsewhere. Men choose to hunt for truth & knowlege any where rather than in their own Understanding where ‘tis to be found. | 521 |
| 1M | All knowlege onely about ideas. V. Locke B.4 c. 1. | 522 |
| S | It seems improper & liable to difficulties to make the Word Person stand for an Idea, or to make our selves Ideas or thinking things ideas. | 523\*\*\* |
| I | General Ideas Cause of much Trifling & Mistake. | 524 |
| × | Mathematicians seem not to speak clearly & coherently of Equality. They no where define wt they mean by that word when apply’d to Lines. | 525 |
| + | Locke says the modes of simple Ideas besides extension & number are counted by degrees. I deny there are any modes or degrees of simple Ideas. Wt He terms such are complex Ideas as I have prov’d in Green. | 526 |
| × | Wt do the Mathematicians mean by Considering Curves as Polygons? either they are Polygons or they are not. if they are why do they give them the Name of Curves? why do not they constantly call them Polygons & treat them as such. If they are not polygons I think it absurd | 527 |

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|  | to use polygons in their stead. wt is this but to pervert language to adapt an idea to a name that belongs not to it but to a different idea? |  |
| × | The Mathematicians should look to their axiom Quae congruunt sunt aequalia. I know not what they mean by bidding me put one Triangle on another. the under Triangle is no Triangle, nothing at all, it not being perceiv’d. I ask must sight be judge of this Congruentia or not. if it must then all Lines seen under the same Angle are equal wch they will not acknowlege. Must the Touch be Judge? But we cannot touch or feel Lines & Surfaces, such as Triangles etc according to the Mathematicians themselves. Much less can we feel a line or Triangle that’s cover’d by another Line or Triangle. | 528 |
| × | Do you mean by saying one triangle is equall to another that they both take up equal spaces. But then the Question recurs wt mean you by equal spaces, if you mean spatia congruentia answer the above difficulties. | 529 |
| × | I can mean (for my part) nothing else by equal Triangles than Triangles containing equal numbers of Points. | 530 |
| × | I can mean nothing by equal lines but lines wch tis indifferent whether of them I take, lines in wch I observe by my senses no difference, & wch therefore have the same Name. | 530a |
| × | Must the Imagination be Judge in the aforemention’d Case. but then Imagination cannot go beyond the Touch & Sight. Say you Pure Intellect must be Judge. I reply that Lines & Triangles are not operations of the Mind. | 531 |
|  | If I speak positively & with the air of a Mathematician in things of which I am certain. tis to avoid Disputes to make Men careful to think before they censure. To Discuss my Arguments before they go to refute them. I would by no means injure truth & Certainty by an affected modesty & submission to Better Judgements. Wt I lay before you are undoubted Theorems not |  |

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|  | plausible conjectures of my own nor learn’d opinions of other men. I pretend not to prove them by figures, analogy or Authority. Let them stand or fall by their own Evidence. | 532 |
| N | When you speak of the Corpuscularian Essences of Bodys mem: to reflect on sect: 11 & 12 b.4.c.3. Locke. Motion supposes not solidity a meer Colour’d Extension may give us the Idea of motion. | 533 |
| P | Any subject can have of each sort of primary Qualities but one particular at once. Lib. 4.c. 3 S 15 Locke. | 534 |
| M | Well say you according to this new Doctrine all is but meer Idea, there is nothing wch is not an ens rationis. I answer things are as real & exist in rerum natura as much as ever. the distinction betwixt entia Realia & entia rationis may be made as properly now as ever. Do but think before you speak. Endeavour rightly to comprehend my meaning & you’ll agree with me in this. | 535 |
| N | ffruitless the Distinction twixt real & nominal Essences. | 536 |
|  | We are not acquainted with the meaning of our words, Real, Extension, Existence, power, matter, Lines, Infinite, point, & many more are frequently in our mouths when little clear & determin’d answers them in our Understandings. This must be well inculcated. | 537 |
| M | Vain is the Distinction twixt Intellectual & Material World V. Locke Lib. 4.c.3. S 27 where he says that is far more beautifull than this. | 538 |
| S.Mo. | ffoolish in Men to despise the senses. if it were not....† ye mind could have no knowlege no thought at all. All.... † of Introversion, meditation, contemplation & spiritual acts as if these could be exerted before we had ideas from without by the senses are manifestly absurd. This may be of great use in that it makes the Happyness of the Life to come more conceivable & agreeable to our present nature. The Schoolemen & Refiners in Philosophy Gave the Greatest part of Mankind no more tempting Idea of Heaven or the Joys of the Blest. | 539\*\*\* |

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| × | The Vast, Widespread, Universal Cause of our Mistakes. Is that we do not consider our own notions, I mean consider them in them selves, fix, settle & determine them. We regarding them with relation to each other only. In short we are much out in study the relations of things before we study them absolutely & in themselves. Thus we study to find out the Relations of figures to one another, the Relations also of Number. without Endeavouring rightly to understand the Nature of Extension & Number in themselves This we think is of no concern of no difficulty but if I mistake not tis of the last Importance. | 540 |
| Mo | I allow not of the Distinction there is made twix’t Profit & Pleasure. | 541\*\*\* |
| Mo | I’d never blame a Man for acting upon Interest. he’s a fool that acts on any other Principle. the not understanding † these things has been of ill consequence in Morality. | 542 |
| + | My positive Assertions are no less modest than those that are introduc’d wth it seems to me, I suppose etc since I declare once for all, that all I write or think is entirely about things as they appear to me. It concerns no man else any farther than his thoughts agree with mine. This in the Preface. | 543 |
| I | Two things are apt to confound men in their Reasonings one with another. 1st. words signifying the operations of the mind are taken from sensible Ideas. 2dly. words as Used by the Vulgar are taken in some Latitude, their signification is confused. Hence if a man use ym in a determin’d settled signification he is at a hazard either of not being understood or of speaking improperly. All this remedyed by studying the Understanding. | 544 |
| × | Unite no simple Idea. I have no Idea meerly answering the word one. all Number consists in Relations. | 545 |
| + | Entia realia & Entia rationis a foolish distinction of the Schoolemen. | 546\*\*\* |

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| [Words] † | there not so foolish neither | 546a |
| M.P. | We have an intuitive Knowlege of the Existence of other things besides our selves & even praecedaneous to the Knowlege of our own Existence. in that we must have Ideas or else we cannot think. | 547 |
| S | We move our Legs our selves. ‘tis we that will their movement. Herein I differ from Malbranch. | 548 |
| Mo× | Mem: nicely to discuss Lib.4.c.4. Locke. | 549 |
|  | it is of ye Reality of Knowlege | 549a |
| M | Mem: again & again to mention & illustrate the Doctrine of the Reality of Things Rerum Natura etc. | 550 |
| M+ | Wt I say is Demonstration, perfect Demonstration. Whenever men have fix’d & determin’d Ideas annex’d to their words they can hardly be mistaken. Stick but to my Definition of Likeness & tis a Demonstration yt Colours are not simple Ideas. All Reds being like etc. So also in other things. This to be heartily insisted on. | 551 |
| E | The abstract Idea of Being or Existence is never thought of by the Vulgar. they never use those words standing for abstract Ideas. | 552 |
| M | I must not say the words thing, substance etc have been the Cause of mistakes. But the not reflecting one their meaning. I will be still for retaining the words. I only desire that men would think before they speak & settle the meaning of their words. | 553 |
| (Mo)× | I approve not of that which Locke says viz truth consists in the joyning & separating of signs. | 554 |
| I | Locke cannot explain general Truth or Knowlege without treating of words & propositions. This makes for me against general Ideas--v. Locke Lib.4:ch:6. | 555 |

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| I | Men have been very industrious in travelling forward they have gone a great way. But few or none have gone backward beyond the Principles. On that side there lys much terra incognita to be travel’d over & discover’d by me. A vast field for invention: | 556 |
| × | Twelve inches not the same Idea with a foot. Because a Man may perfectly conceive a foot who never thought of an inch. | 557 |
| × | A foot is equal to or the same with twelve inches in this respect viz. the contain both the same number of points. | 558 |
| + | [Forasmuch as] to be used. | 559 |
|  | Mem: to mention somewhat wch may Encourage the study of Politiques & testify of me yt I am well dispos’d toward them. | 560 |
| I | If men did not use words for Ideas they would never have thought of abstract ideas. certainly genera & species are not abstract general ideas. These include a contradiction in their nature v. Locke Lib.4 S.9.c.7. | 561 |
|  | A various or mixt cause must necessarily produce a various or mixt effect. This demonstrable from the Definition of a Cause. wch way of Demonstrating must be frequently made use of in my Treatise & to that end Definitions often praemis’d. Hence ‘tis evident that according to Newton’s Doctrines Colours cannot be simple ideas. | 562 |
| M | I am the farthest from Scepticism of any. man. I know with an intuitive knowlege the existence of other things as well as my own Soul. this is wt Locke nor scarce any other Thinking Philosopher will pretend to. | 563\*\*\* |
| I | Doctrine of Abstraction of very evil consequence in all the Sciences. Mem: Bacon’s remark. Entirely owing to Language. | 564 |
| + | Locke greatly out in reckoning the recording our Ideas by words amongst the uses & not the abuses of Language. | 565 |

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| I | Of great use & ye last Importance to Contemplate a man put into the world alone wth admirable abilitys. & see how after long experience he would know wthout words. Such a one would never think of Genera & Species or abstract general Ideas. | 566 |
| I | Wonderful in Locke that he could wn advanc’d in years see at all thro a mist yt had been so long a gathering & was consequently thick. This more to be admir’d than yt he didn’t see farther. | 567 |
| + | Identity of Ideas may be taken in a Double sense either as including or excluding Identity of Circumstances. such as time, place etc. | 568 |
| Mo | I am glad the People I converse with are not all richer, wiser etc than I. This is agreeable to Reason, is no sin. Tis certain that if the Happyness of my Acquaintance encreases & mine not proportionably, mine much decrease. The not understanding this & the Doctrine about relative Good discuss’d with French, Madden etc to be noted as 2 Causes of mistake in Judging of moral Matters. | 569 |
| + | Mem: to observe (wn you talk of the Division of Ideas into simple & complex) that there may be another cause of the Undefinableness of certain Ideas besides that which Locke gives viz. the want of Names. | 570\*\*\* |
| M | Mem: To begin the 1st Book not with mention of Sensation & Reflection but instead of those † to use perception or thought in general. | 571 |
| S | I Defy any man to Imagine or conceive perception without an Idea or an Idea without perception | 572 |
| E | Locke’s very supposition that matter & motion should exist before thought is absurd, includes a manifest Contradiction. | 573 |
| × | Locke’s harangue about coherent, methodical Discourses amounting to nothing, apply’d to the Mathematicians. | 574 |

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| × | They talk of determining all the points of a Curve by an Aequation wt mean they by this. wt would they signify by the word points. Do they stick to the Definition of Euclid. | 575 |
| S | We think we know not the Soul because we have no imaginable or sensible Idea annex’d to that sound. This the Effect of prejudice. | 576 |
| S | Certainly we do not know it. this will be plain if we examine wt we mean by the word knowlege. Neither doth this argue any defect in our knowlege no more than our not knowing a contradiction | 576a |
| + | The very existence of Ideas constitutes the soul. | 577 |
| S | Consciousness, perception, existence of Ideas seem to be all one. | 578 |
| + | Consult, ransack yr Understanding wt find you there besides several perceptions or thoughts. Wt mean you by the word mind you must mean something that you perceive or yt you do not perceive. a thing not perceived is a contradiction. to mean (also) a thing you do not perceive is a contradiction. We are in all this matter strangely abused by words. | 579 |
| + | Mind is a congeries of Perceptions. Take away Perceptions & you take away the Mind put the Perceptions & you put the mind. | 580 |
| + | Say you the Mind is not the Perceptions. but that thing perceives. I answer you are abus’d by the words that & thing these are vague empty words † wthout a meaning. | 581 |
| S | The having Ideas is not the same thing with Perception. a Man may have Ideas when he only Imagines. But then this Imagination presupposeth Perception. | 582 |
| M. | That wch extreamly strengthens us in prejudice is yt we think we see an empty space. wch I shall Demonstrate to be false in the 3d Book. | 583\*\*\* |

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|  | There may be Demonstrations used even in Divinity. I mean in reveal’d Theology, as contradistinguish’d from natural. for tho the Principles may be founded in Faith yet this hinders not but that legitimate Demonstrations might be built thereon. Provided still that we define the words we use & never go beyond our Ideas. Hence ‘twere no very hard matter for those who hold Episcopacy or Monarchy to be establish’d jure Divino. to demonstrate their Doctrines if they are true. But to pretend to demonstrate or reason any thing about the Trinity is absurd here an implicit Faith becomes us. | 584 |
| S | Qu: if there be any real Difference betwixt certain Ideas of Reflexion & others of Sensation. e.g. ‘twixt perception & white, black, sweet etc. wherein I pray you does the perception of white differ from white. Mea........† | 585 |
|  | I shall Demonstrate all my Doctrines. the Nature of Demonstration to be set forth & insisted on in the Introduction. In that I must needs differ from Locke forasmuch as he makes all Demonstration to be about abstract Ideas wch I say we have not nor can have. | 586 |
| S | The Understanding seemeth not to differ from its perceptions or Ideas. Qu: wt must one think of the Will & passions. | 587 |
| E | A good Proof that Existence is nothing without or distinct from Perception may be Drawn from Considering a Man put into the World without company. | 588 |
| E | There was a smell i.e. there was a smell perceiv’d. Thus we see that common speech confirms my Doctrine | 589 |
| T | No broken Intervals of Death or Annihilation. Those Intervals are nothing. Each Person’s time being measured to him by his own Ideas. | 590 |
| I | We are frequently puzzl’d & at a loss in obtaining clear & determin’d meanings of words commonly in use. & that because we imagine words stand for general Ideas which are altogether inconceivable. | 591 |

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| I | A stone is a stone. this a nonsensical Proposition. & such as the Solitary Man would never think on. nor do I believe he would ever think on this viz. The whole is equal to its’ Parts. etc. | 592 |
| E | Let it not be said that I take away Existence. I onely declare the meaning of the Word so far as I can comprehend it. | 593 |
| I | If you take away abstraction, how do men differ from Beasts. I answer by shape. By Language rather by Degrees of more & less. | 594 |
| + | Wt means Locke by inferences in words, consequences of Words as somthing different from consequences of Ideas. I conceive no such thing. | 595 |
| I | N.B. Much Complaint about the Imperfection of Language. | 596 |
| M | But perhaps some man may say an inert thoughtless substance may exist tho’ not extended, moved etc. but wth other properties whereof we have no Idea. But even this I shall demonstrate to be Impossible wn I come to treat more particularly of Existence. | 597 |
| + | Will not rightly distinguish’d from Desire by Locke. it seeming to superadd nothing to the Idea of an Action but the Uneasiness for its’ absence or non Existence. | 598 |
| S | Mem: to enquire diligently into that strange Mistery viz. How it is that I can cast about, think of this or that Man, place, action wn nothing appears to Introduce them into my thoughts. wn they have no perceivable connexion wth the Ideas suggested by my senses at the present. | 599 |
| I | Tis not to be imagin’d wt a marvellous emptiness & scarcity of Ideas that man shall descry who will lay aside all use of Words in his Meditations. | 600 |
| M | Incongruous in Locke to fancy we want a sense proper to see substances withal. | 601 |

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| I | Locke owns that Abstract Ideas were made in order to naming. | 602 |
| 1×M | The common Errour of the Opticians, that we judge of Distance by Angles strengthens’ men in their prejudice that they see things without and distant from their mind. | 603 |
| E | I am persuaded would Men but examine wt they mean by the Word Existence they wou’d agree with me. | 604 |
| × | c.20 S.8 B.4 of Locke makes for me against the Mathematicians. | 605 |
| M | The supposition that things are distinct from Ideas takes away all real Truth, & consequently brings in a Universal Scepticism, since all our knowlege & contemplation is confin’d barely to our own Ideas. | 606 |
| I | Qu: whether the Solitary Man would not find it necessary to make use of words to record his Ideas if not in memory or meditation yet, at least, in writing without which he could scarce retain his Knowlege. | 607\*\*\* |
| + | We read in History there was a time when fears & jealousies, Privileges of Parliament, Malignant Party & such like expressions of too unlimited & doubtfull a meaning were words of much sway. Also the Words Church, Whig, Tory etc. contribute very much to faction & Dispute. | 608 |
| S | The Distinguishing betwixt an Idea and perception of the Idea has been one great cause of Imagining material substances. | 609 |
| S | That God & Blessed Spirits have Will is a manifest Argument against Lockes proofs that the will cannot be conceiv’d put into action without a Previous Uneasiness. | 610 |
| S | The act of the Will or volition is not uneasiness for that uneasiness may be without volition. | 611 |
| S. | It is not so very evident that an Idea or at least Uneasiness may be without all Volition or act. | 611a |

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| S | Volition is distinct from the object or Idea for the same reason. | 612 |
| S | Also from uneasiness & Idea together. | 613 |
| \* | the Understanding not distinct from particular perceptions or Ideas. | 614\*\*\* |
| \* | The Understanding taken for a faculty is not really distinct from ye Will. | 614a |
| \* | The Will not distinct from Particular volitions. | 615 |
| \* | This alter’d hereafter | 615a |
| S | To ask whether a man can will either side is an absurd question. for they word can presupposes volition. | 616 |
| N | Anima Mundi. Substantial fforms, Omniscient radical Heat. Plastic vertue. Hylarchic principle. All these vanish. | 617 |
| M | Newton proves that gravity is proportional to gravity. I think that’s all. | 618\*\*\* |
| + | Qu: whether it be the vis inertiae that makes it difficult to move a stone or the vis attractrix or both or neither. | 619 |
|  | Mem: to express the Doctrines as fully & copiously & clearly as may be. also to be full and particular in answering objections. | 620 |
| S | To say ye Will is a power. Volition is an act. This is idem per idem. | 621\*\*\* |
| + | Wt makes men despise extension motion etc & separate them from the essence of the soul is that they imagine them to be distinct from thought & to exist in unthinking substance. | 622 |
| + | An extended may have passive modes of thinking, not active | 623 |

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| + | There might be Idea, there might be uneasiness. there might be the greatest uneasiness. wthout any volition. therefore the | 624 |
| M.+ | Matter once allow’d. I defy any man to prove that God is not matter. | 625\*\*\* |
| S | Man is free. There is no difficulty in this proposition if we but settle the signification of the word free, if we had an Idea annext to the word free & would but contemplate that Idea. | 626 |
| S | We are imposed on by the words, will, determine, agent, free, can etc. | 627\*\*\* |
| S | Uneasiness precedes not every Volition. This evident by experience. | 628\*\*\* |
| S | Trace an Infant in the Womb. mark the train & Succession of its Ideas. observe how volition comes into the Mind. This may perhaps acquaint you with its nature. | 629 |
| S | Complacency seems rather to determine or precede or coincide wth & constitute the Essence of volition than uneasiness. | 630 |
| S | You tell me according to my Doctrine a Man is not free. I answer. tell me wt you mean by the word free & I shall resolve you. | 631 |
| N | Qu: wt do men mean when they talk of one Body’s touching another. I say you never saw one Body touch. or (rather) I say I never saw one Body that I could say touch’d this or that other. for that if my optiques were improv’d I should see intervalls & other bodies betwixt those wch now seem to touch. | 632 |
| × | Mem: upon all occasions to use the Utmost Modesty. to Confute the Mathematicians wth the utmost civility & respect. not to stile them Nihilarians etc: | 633 |
|  | N.B. to rein in yr Satyrical nature. | 634 |

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| S | Tis folly to define volition an act of the mind ordering. for neither act nor ordering can themselves be understood without Volition. | 635 |
|  | Blame me not if I use my words sometimes in some latitude. ‘tis wt cannot be helpt. Tis the fault of Language that you cannot always apprehend the clear & determinate meaning of my words. | 636 |
| + | Say you there must be a thinking substance. Somthing unknown wch perceives & supports & ties together the Ideas. Say I, make it appear there is any need of it & you shall have it for me. I care not to take away any thing I can see the least reason to think should exist. | 637 |
| + | I affirm ‘tis manifestly absurd. no excuse in ye world can be given why a man should use a word without an idea. Certainly we shall find that wtever word we make use of in matter of pure reasoning has or ought to have a compleat Idea annext to it. i.e: its’ meaning or the sense we take it in must be compleatly known. | 638 |
| + | Tis demonstrable a Man can never be brought to Imagine any thing should exist whereof he has no Idea. Whoever says he does, banters himself with Words. | 639 |
| G | We Imagine a great difference & distance in respect of Knowlege, power &c betwixt a Man & a Worm. the like distance † betwixt Man & God may be Imagin’d. or Infinitely greater. | 640 |
| G | We find in our own minds a great Number of different Ideas. We may Imagine in God a Greater Number. i.e. that Our’s in Number or the Number of ours is inconsiderable in respect thereof. The Words difference & number old & known we apply to that wch is unknown. but I am embrangled in words. tis scarce possible it should be otherwise. | 641 |
|  | the chief thing I do or pretend to do is onely to remove the mist or veil of Words. This has occasion’d Ignorance & confusion. This has ruin’d the Scholemen & Mathematicians, Lawyers & Divines. | 642 |

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| S | The grand Cause of perplexity & darkness in treating of the Will, is that we Imagine it to be an object of thought (to speak wth the vulgar), we think we may perceive, contemplate & view it like any of our Ideas whereas in truth ‘tis no idea. Nor is there any Idea of it. tis toto coelo different from the Understanding i.e. from all our Ideas. If you say the will or rather a Volition is something I answer there is an Homonymy in the word thing wn apply’d to Ideas & volitions & understanding & will. all ideas are passive, volitions active...† | 643 |
| S | Thing & Idea are much wt words of the same extent & meaning. why therefore do I not use the word thing? Answ: because thing is of greater latitude than Idea. Thing comprehends also volitions or actions. now these are no ideas. | 644 |
| S | There can be perception wthout volition. Qu: whether there can be volition without perception. | 645 |
| E | Existence not conceivable without perception or volition not distinguish’d therefrom. | 646 |
| T | N.B. severall distinct Ideas can be perceiv’d by Sight & Touch at once. not so by the other senses. ‘Tis this diversity of sensations in other senses chiefly but sometimes in touch & sight (as also diversity of volitions whereof there cannot be more than one at once, or rather it seems there cannot for of that I doubt) gives us the Idea of Time. or is Time it self. | 647 |
| × | Wt would the Solitary Man think of number? | 648 |
| S | There are innate Ideas i.e. Ideas created with us. | 649 |
| S | Locke seems to be mistaken wn he says thought is not essential to the mind. | 650 |
| S | Certainly the mind always & constantly thinks & we know this too In Sleep & trances the mind exists not there is no time no succession of Ideas. | 651 |

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| S | To say the mind exists’ without thinking is a Contradiction, nonsense, nothing. | 652 |
| S | Folly to enquire wt determines the Will. Uneasiness etc are Ideas, therefore unactive, therefore can do nothing therefore cannot determine the Will. | 653 |
| S | Again. wt mean you by determine? | 654 |
| N.T. | for want of rightly Understanding, time, motion, existence etc Men are forc’d into such absurd contradictions as this v.g. light moves 16 diameters of Earth in a second of Time. | 655 |
| S | Twas the opinion that Ideas could exist unperceiv’d or before perception that made Men think perception was somewhat different from the Idea perceived, yt it was an Idea of Reflexion whereas the thing perceiv’d was an idea of Sensation. I say twas this made ‘em think the understanding took it in receiv’d it from without wch could never be did not they think it existed without. | 656 |
| S | To ask have we an idea of ye Will or volition is nonsense. an idea can resemble nothing but an idea. | 657 |
| M | properly speaking Idea is the picture of the Imagination’s making this is ye likeness of & refer’d to the real Idea or (if you will) thing. | 657a |
| S | If you ask wt thing it is that wills. I answer if you mean Idea by the Word thing or any thing like any Idea, then I say tis no thing at all that wills’. This how extravagant soever it may seem yet is a certain truth. we are cheated by these general terms, thing, is etc. | 658 |
| S+ | Again if by is you mean is perceived or dos’ perceive. I say nothing wch is perceived or does perceive Wills. | 659 |
| S | The referring Ideas to things wch are not Ideas, the using the Term, Idea of, is one great cause of mistake, as in other matters so also in this. | 660 |
| S | Some words there are wch do not stand for Ideas v.g. particles Will etc | 661 |

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| S | particles stand for volitions & their concomitant Ideas | 661a |
| + | There seem to be but two Colours wch are simple Ideas. viz. those exhibited by the most & least refrangible Rays. being the Intermediate ones may be formed by composition. | 662 |
| S | I have no Idea of a Volition or act of the mind neither has any other Intelligence for that were a contradiction. | 663 |
| + | N.B. Simple Ideas viz. Colours are not devoid of all sort of Composition. tho it must be granted they are not made up of distinguishable Ideas. yet there is another sort of composition. Men are wont to call those things compounded in which we do not actually discover the component ingredients. Bodies are said to be compounded of Chymical Principles wch nevertheless come not into view till after the dissolution of the Bodies. & wch were not could not be discerned in the Bodies whilst remaining entire. | 664 |
| S | If by Idea you mean object of the Understanding. Then certainly the Will is no Idea, or we have no idea annext to the word Will. | 665 |
| I | All our knowlege is about particular ideas according to Locke. All our sensations are particular Ideas as is evident. wt use then do we make of general Ideas, since we neither know, nor perceive them. | 666 |
| S | Tis allow’d that Particles stand not for Ideas & yet they are not said to be empty useless sounds. The truth on’t is they stand for the operations of the mind i.e. volitions. | 667 |
| Mo. | Locke says all our knowlege is about Particulars. if so, pray wt is the following ratiocination but a jumble of words Omnis Homo est animal, omne animal vivit, ergo omnis Homo vivit. it amounts (if you annex particular Ideas to the Words animal & vivit) to no more than this. Omnis Homo est Homo, omnis Homo est Homo, ergo omnis Homo est Homo. A mere Sport & trifling with sounds. | 668 |

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| Mo | We have no Ideas of vertues & vices, no Ideas of Moral Actions wherefore it may be Question’d whether we are capable of arriving at Demonstration about them, the morality consisting in the Volition chiefly. | 669 |
| E | Strange it is that Men should be at a loss to find their Idea of Existence since that (if such there be distinct from Perception) it is brought into the mind by all the Ways of Sensation & Reflection; methinks it should be most familiar to us & we best Acquainted with it. | 670 |
| E | This I am sure I have no such idea of Existence or annext to the Word Existence. & if others have that’s nothing to me. they can Never make me sensible of it, simple Ideas being uncommunicable by Language. | 671\*\*\* |
| S | Say you the unknown substratum of Volitions & Ideas, is somthing whereof I have no Idea. I ask is there any other Being wch has or can have an Idea of it. if there be then it must be it self an Idea wch you will think absurd. | 672 |
| S | There is somewhat active in most perceptions i.e such as ensue upon our Volitions, such as we can prevent & stop v.g I turn my eyes towards the Sun I open them all this is active. | 672a |
| S | Things are two-fold active or inactive, The Existence of Active things is to act, of inactive to be perceiv’d. | 673 |
| S.E. | Distinct from or without perception there is no volition; therefore neither is their existence without perception. | 674 |
| G | God May comprehend all Ideas even the Ideas wch are painfull & unpleasant without being in any degree pained thereby. Thus we our selves can imagine the pain of a burn etc without any misery or uneasiness at all. | 675 |
| N Mo. × | Truth. three sorts thereof Natural, Mathematical & Moral. | 676 |
| (Mo)× | Agreement of relation onely where Numbers do obtain. of Coexistence in nature, of signification or Including or thinking by Including in Morality. | 677 |

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| I | Gyant who shakes the Mountain that’s on him must be acknowleg’d. I or rather Thus. I am no more to be reckon’d stronger than Locke than a pigmy should be reckon’d stronger than a Gyant because he could throw of the Molehill wch lay upon him, & the Gyant could onely shake or shove the Mountain that oppresed him This in the Preface. | 678\*\*\* |
| I | Promise to extend our knowlege & clear it of those shamefull Contradictions wch Embarrass it. Something like this to begin the Introduction in a modest way. | 679 |
| I | Whoever shall pretend to censure any part--I desire He would read out the Whole, else he may perhaps not understand me. in the Preface or Introd: | 680 |
| S | Doctrine of Identity best explain’d by Takeing the Will for Volitions, the Understanding for Ideas. The difficulty of Consciousness of wt are never acted etc ++ solv’d thereby. | 681 |
| I | I must acknowlege my self beholding to the Philosophers have gone before me. They have given good rules tho perhaps they do not always observe them. Similitude of Adventurers who tho they them selves attained not the desir’d Port, they by their wrecks have made known the Rocks & sands, whereby the Passage of aftercomers is made more secure & easy. Pref: or Introd: | 682 |
| Mo | The opinion that men had Ideas of Moral actions has render’d the Demonstrating Ethiques very difficult to them. | 683 |
| S | An Idea being it self unactive cannot be the resemblance or image of an Active thing. | 684 |
| I | Excuse to be made in the Introduction for the using the Word Idea viz. because it has obtain’d. But a Caution must be added. | 685 |
|  | Scripture & possibility are the onely proofs with Malbranch add to these wt he calls a great propension to think so. this perhaps may be question’d. perhaps men if they think before they speak will not be found so thoroughly perswaded of the Existence of Matter. | 686 |

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| M | On second thoughts I am, on t’other extream I am certain of that wch Malbranch seems to doubt of. viz the existence of Bodies. | 686a |
| I.&c. | Mem: to bring the killing blow at the last v.g. in the matter of Abstraction to bring Lockes general triangle at the last. | 687 |
| I | They give good rules tho perhaps they themselves do not always observe them. they speak much of clear & distinct Ideas. tho at the same they talk of General, abstract ideas etc I’ll in [stance] in Lockes opinion of abstraction he being as clear a writer as I have met with. Such was the Candour of this great Man that I perswade my Self were he alive. he would not be offended that I differ from him seeing that even in so doing. I follow his advice viz. to use my own Judgement, see with my own eyes & not with anothers. Introd: | 688 |
| S | The word thing as comprising or standing for Idea & volition usefull. as standing for Idea and Archetype without the Mind Mischievous & useless. | 689 |
| Mo | To demonstrate Morality it seems one need only make a Dictionary of Words & see which included which. at least. This is the greatest part & bulk of the Work. | 690 |
| IMo. | Lockes instances of Demonstration in Morality are according to his own Rule trifling Propositions. | 691 |
| P.S. | Qu: How comes it that some Ideas are confessedly allow’d by all to be onely in the mind, & others as generally taken to be without the mind. if according to you All are equally & only in the mind. Ans. because that in proportion to the Pleasure & pain Ideas are attended with desire aversion & other actions wch include volition now volition is by all grant’d to be in Spirit. | 692 |
| I | If Men would lay aside words in thinking ‘tis impossible they should ever mistake save only in Matters of Fact. I mean it seems impossible they should Be positive & secure that any thing was true wch in truth is not so. certainly I |  |

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|  | cannot err in matter of simple perception. so far as we can in reasoning go without the help of signs there we have certain knowlege. indeed in long deductions made by signs there may be slips of Memory. | 693 |
| MO. | From my Doctrine there follows a cure for Pride. we are only to be praised for those things wch are our own, or of our own Doing, Natural Abilitys are not consequences of Our Volitions. | 694 |
| M | Mem: candidly to take Notice that Locke holds some dangerous opinions. such as the Infinity & eternity of space. The Possibility of Matter’s Thinking. | 695 |
| I | Once more I desire my Reader may be upon his guard against the Fallacy of Words, Let him beware that I do not impose on him by plausible empty talk that common dangerous way of cheating men into absurditys. Let him not regard my Words any otherwise than as occasions of bringing into his mind determin’d significations so far as they fail of this they are Gibberish, Jargon & deserve not the name of Language. I desire & warn him not to expect to find truth in my Book or any where but in his own Mind. wtever I see my self tis impossible I can paint it out in words. | 696 |
| Mo. | N.B. To Consider well wt is meant by that wch Locke saith Concerning Algebra that it supplys intermediate Ideas. Also to think of a Method affording the same use in Morals etc that this doth in Mathematiques. | 697 |
| (Mo)× | Homo is not proved to be Vivens by means of any intermediate Idea. I dont fully agree wth Locke in wt he says concerning Sagacity in finding out Intermediate Ideas in Matter capable of Demonstration & the use thereof; as if that were the onely Means of Improving & enlarging Demonstrative Knowlege. | 698 |
| S | There is a difference betwixt Power & Volition. There may be volition without Power. But there can be no Power without Volition. Power implyeth volition & at the same time a Connotation of the Effects following the Volition. | 699 |

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| M.S | We have assuredly an Idea of substance. twas absurd of Locke to think we had a name without a Meaning. this might prove Acceptable to the Stillingfleetians. | 700 |
| M.S | The substance of Body we know, the substance of Spirit we do not know it not being knowable. it being purus actus. | 701 |
| I | Words have ruin’d & over run all the Sciences, Law Physique Chymistry, Astrology. etc | 702 |
| I | Abstract Ideas only to be had amongst the Learned. The Vulgar never think they have any such, nor truly do they find any want of them. Genera & Species & abstract Ideas are terms unknown to them. | 703 |
| S | Locke’s out. The case is different. we can have an Idea of Body without motion, but not of Soul without Thought. | 704 |
| Mo. | God Ought to be worship’d. This Easily demonstrated when once we ascertain the signification of the word God, worship, ought. | 705 |

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| S | No Perception according to Locke is active. Therefore no perception (i.e. no Idea) can be the image of or like unto that wch is altogether active & not at all passive i.e. the Will. | 706 |
| S | I can will the calling to mind somthing that is past, tho at the same time that wch I call to mind was not in my thoughts before that Volition of mine, & consequently I could have had no uneasiness for the want of it. | 707 |
| S | The will & the Understanding may very well be thought two distinct beings. | 708 |
| S | Sed quia voluntas raro agit nisi ducente desiderio. v. Locke’s Epistles p. 479 ad Limburgum. | 709 |
| 1×3 | You cannot say the M.T. is like or one with the M.V. because they be both Minima, just perceiv’d & next door |  |

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|  | to nothing. You may as well say the M.T. is the same with or like unto a sound so small that it is scarce perceiv’d. | 710 |
| + | Extension seems to be a Mode of some tangible or sensible quality according as it is seen or felt. | 711 |
| S | The Spirit the Active thing that wch is Soul & God is the Will alone The Ideas are effects impotent things. | 712 |
| S | The Concrete of of the Will & understanding I must call Mind not person, lest offence be given, there being but one acknowleged to be God. Mem: Carefully to omit Defining of Person, or making much mention of it. | 713 |
| S | You ask do these volitions make one Will. wt you ask is meerly about a Word. Unite being no more. | 714 |
|  | N.B. To use utmost Caution not to give the least Handle of offence to the Church or Church-men. | 715 |
| I | Even to speak somwhat favourably of the Schoolmen & shew that they who blame them for Jargon are not free from it themselves. Introd: | 716 |
| Introd | Locke’s great oversight seems to be that he did not Begin wth his Third Book at least that he had not some thought of it at first. Certainly the 2 1st books don’t agree wth wt he says in ye 3d. | 717 |
| M | If Matter is once allow’d to exist Clippings of beards & parings of nails may Think for ought that Locke can tell Tho he seems positive of the Contrary. | 718 |
|  | Since I say men cannot mistake in short reasoning about things demonstrable if they lay aside words. it will be expected This treatise will Contain nothing but wt is certain & evident Demonstration. & in truth I Hope you will find nothing in it but wt is such. certainly I take it all for such. Introd: | 719 |

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| I | When I say I will reject all Propositions wherein I know not fully & adequately & clearly so far as knowable the Thing meant thereby This is not to be extended to propositions in the Scripture. I speak of Matters of Reason & Philosophy not Revelation, In this I think an Humble Implicit faith becomes us just (where we cannot comprehend & Understand the proposition) such as a popish peasant gives to propositions he hears at Mass in Latin. This proud men may call blind, popish, implicit, irrational. for my part I think it more irrational to pretend to dispute at cavil & ridicule holy mysteries i.e propositions about things out of our reach that are altogether above our knowlege out of our reach. wn I shall come to plenary knowlege of the meaning of any Text then I shall yield an explicit belief. Introd. | 720 |
| + | Complexation of Ideas twofold. ys refers to colours being complex Ideas. | 721 |
| × | Côsidering length without breadth is considering any length be the Breadth wt it will. | 722 |
| M | I may say earth, plants etc were created before Man there being other intelligences to perceive them before Man was created. | 723 |
| M | There is a Philosopher who says we can get an idea of substance by no way of Sensation or Reflection. & seems to imagine that we want a sense proper for it. Truly if we had a new sense it could only give us a new Idea. now I suppose he will not say substance according to him is an Idea. for my part I own I have no Idea can stand for substance in his or ye Schoolmen’s sense of that word. But take it in the common vulgar sense & then we see & feel substance. | 724 |
| E | N.B. That not common usage but the Schools coined the Word Existence supposed to stand for an abstract general Idea. | 725 |
| 1× | Writers of Optics mistaken in their principles both in judging of Magnitudes & distances. | 726 |

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| I | Tis evident yt wn the Solitary man should be taught to speak the words would give him no other new Ideas (save only the sounds) beside wt he had before. If he had not could not have an abstract Idea before, he cannot have it after he is taught to speak. | 727 |
| I | & complex Ideas wch tho’ unknown before may be signify’d by Language. | 727a |
| Mo | Homo est Homo etc comes at last to Petrus est Petrus etc Now if these identical Propositions are sought after in the Mind they will not be found. there are no identical mental Propositions tis all about sounds & terms. | 728 |
| Mo | Hence we see the Doctrine of Certainty by Ideas & proving by intermediate Ideas comes to Nothing. | 729 |
| MO | We may have certainty & knowlege without Ideas ⋀. | 730 |
| Mo | ⋀ i.e without other Ideas than the Words & their standing for one idea i.e. their being to be used indifferently. | 730a |
| (\*)Mo | It seems to me that we have no certainty about Ideas. but onely about words. tis improper to say I am certain I see, I feel etc. there are no Mental propositions form’d answering to these Words & in simple perception tis allowed by all there is no affirmation or negation & consequently no certainty. | 731 |
| \* | this seems wrong certainty real certainty is of sensible Ideas pro hic & nunc. I may be certain without affirmation or negation. | 731a |
| (Mo)× | The reason why we can demonstrate so well about signs is that they are perfectly arbitrary & in our power, made at pleasure. | 732 |
| (Mo)× | The Obscure ambiguous term Relation wch is said to be the largest field of Knowlege confounds us, deceives us. | 733 |
| (Mo)× | Let any Man shew me a Demonstration not verbal that does not depend either on some false principle or at best | 734 |

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| × [[sic]] | on some principle of Nature which is ye effect of God’s will and we know not how soon it may be changed. |  |
| I | Qu: wt becomes of the aeternae veritates? Ansr they vanish. | 735 |
| I | But say you I find it very difficult to look beneath the words & uncover my Ideas. Say I use will make it easy. In the sequel of My Book the Cause of this difficulty shall be more clearly made out. | 736 |
| I | To view the deformity of Errour we need onely undress it. | 737 |
| E | Cogito ergo sum, Tautology, no mental Proposition. answering thereto. | 738 |
| (N)(Mo)× | Knowlege or certainty or perception of agreement of Ideas as to Identity & diversity & real existence Vanisheth of relation becometh meerly Nominal of Coexistence remaineth. Locke thought in this later our knowlege was little or nothing whereas in this onely real knowlege seemeth to be found. | 739 |
| PM | We must wth the Mob place certainty in the senses. | 740 |
| + | Tis a mans duty, tis the fruit of friendship, to speak well of his friend, wonder not therefore that I do wt I do. | 741 |
| I | A Man of slow Parts may overtake Truth &c Introd: Even my shortsightedness might perhaps be aiding to me in this Matter, twill make me bring the object nearer to my thoughts. A Purblind Person etc Introd: | 742 |
| S | Locke to Limborch etc Talk of Judicium Intellectus preceding the Volition I think Judicium includes Volition I can by no means distinguish these Judicium, Intellectus, indifferentia, Uneasiness so many things accompanying or preceding every Volition as e.g. the motion of my hand. | 743 |
| S | Qu: wt mean you by My perceptions, my Volitions? Res, all the perceptions I perceive or conceive etc are mine, all the Volitions I am Conscious to are mine. | 744 |

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| S | Homo est agens liberum. wt mean they by Homo & agens in this place? | 745 |
| E | Will any man say that Brutes have ye ideas, unity & Existence? I believe not. yet if they are suggested by all the ways of sensation, tis strange they should want them. | 746 |
| I | It is a strange thing & deserves our attention, that the more time & pains men have consum’d in the study of Philosophy by so much the more they look upon themselves to be ignorant & weak Creatures, they discover flaws & imperfections in their Faculties wch Other Men never spy out. they find themselves under a Necessity of admitting many inconsistent irreconcilable opinions for true. There is nothing they touch with their hand or behold with their eyes but has its dark sides much larger & more numerous than wt is perceiv’d. & at length turn scepticks at least in most things etc I imagine all this proceeds from etc Exord: Introd: | 747 |
| I | These men with a supercilious Pride disdain the common single informations of sense. they grasp at Knowlege by sheaves & bundles (‘tis well if catching at two much at once they hold nothing but emptyness & air). they in ye depths of their understanding Contemplate Abstract Ideas. etc Introduction | 748 |
| 1×2 | It seems not improbable that the most comprehensive & sublime Intellects see more M.V.s at once i.e. that their Visual spheres are the largest. | 749 |
| × | Words (by them meaning all sort of signs) are so necessary that instead of being (wn duly us’d or in their own Nature) prejudicial to the Advancement of knowlege, or an hindrance to knowlege that wthout them there could in Mathematiques themselves be no demonstration. | 750\*\*\* |
|  | Mem: To be eternally banishing Metaphisics &c & recalling Men to Common Sense. | 751 |
| S | We cannot Conceive other Minds besides our own but as so many selves. We suppose ourselves affected wth such & such thoughts & such & such sensations. | 752 |

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| S.I. | Qu: whether Composition of Ideas be not that faculty which chiefly serves to discriminate us from Brutes. I question whether a Brute does or can imagine a Blue Horse or Chimera. | 753 |
| N | Naturalists do not distinguish betwixt Cause & occasion. Useful to enquire after coexisting Ideas or occasions. | 754 |
| Mo. | Morality may be Demonstrated as mixt Mathematics. | 755 |
| S | Perception is passive but this not distinct from Idea therefore there can be no Idea of volition. | 756 |
| M | Why I use not the Word thing instead of Idea? Intr. | 757 |
| × | Algebraic Species or letters are denominations of Denominations, therefore Arithmetic to be treated of before Algebra. | 758 |
| × | 2 Crowns are called ten shillings hence may appear the nature of Numbers. | 759 |
| × | Complex Ideas are the Creatures of the Mind. hence may appear the Nature of Numbers. this to be deeply discuss’d. | 760 |
| × | I am better inform’d & shall know more by telling me there are 10000 men than by shewing me them all drawn up. I shall better be able to judge of the Bargain you’d have me make wn you tell me how much (i.e. the name of ye) mony lies on ye Table than by offering & shewing it without naming. In short I regard not the Idea the looks but the names. hence may appear the Nature of Numbers. | 761 |
| × | Children are unacquainted with Numbers till they have made some Progress in language. This could not be if they were Ideas suggested by all the senses. | 762 |
| × | Numbers are nothing but Names, never Words. | 763 |
| × | Mem: Imaginary roots to unravel that Mystery. | 764 |

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| × | Ideas of Utility are annexed to Numbers. | 765 |
| × | In Arithmetical Problems Men seek not any Idea of Number. they onely seek a Denomination. this is all can be of use to them. | 766 |
| × | Take away the signs from Arithmetic & Algebra, & pray wt remains? | 767\*\*\* |
| × | These are sciences purely Verbal, & entirely useless but for Practise in Societys of Men. No speculative knowlege, no comparing of Ideas in them. | 768 |
| Mo. | Sensual Pleasure is the Summum Bonum. This the Great Principle of Morality. This once rightly understood all the Doctrines even the severest of the [Gospels]† may cleerly be Demonstrated. | 769 |
| × | Qu: whether Geometry may not be properly reckon’d, among the Mixt Mathematics. Arithmetic and Algebra being the only abstracted pure i.e. entirely Nominal. Geometry being an application of these to Points. | 770\*\*\* |
| ×Mo | Locke of Trifling Propositions. Mem: well to observe & con over that chapter. | 771 |
| E.× | Existence, Extension etc are abstract i.e. no ideas. they are words unknown & useless to the Vulgar. | 772 |
| Mo. | Sensual Pleasure qua Pleasure is Good & desirable. by a Wise Man. but if it be Contemptible tis not quâ pleasure but qua pain or Cause of pain. or (wch is the same thing) of loss of greater pleasure. | 773 |
| I | Wn I consider the more objects we see at once the more distant they are, & that Eye wch beholds a great many things can see none of them near. | 774 |
| I.M | By Idea I mean any sensible or imaginable thing. | 775 |
| S | Agreeable to my Doctrine of Certainty. He that acts not in order to the obtaining of eternal Happyness must be an infidel at least he is not certain of a future Judgement. | 776 |

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| S | To be sure or certain of wt we do not actually perceive (I say perceive not imagine) We must not be altogether Passive, there must be a disposition to act, there must be assent, wch is active, nay wt do I talk There must be Actual Volition: | 777 |
| × | Wt do we demonstrate in Geometry but that lines are equal or unequal i.e. may or may not be called by the same name? | 778 |
| I.M. | I approve of this axiom of the Schoolemen nihil est in intellectu quod non prius fuit in sensu. I wish they had stuck to it. it had never taught them the Doctrine of Abstract Ideas. | 779 |
| S.G. | Nihil dat quod non habet or the effect is contained in ye Cause is an axiom I do not Understand or believe to be true. | 780 |
| E | Whoever shall cast his eyes on the writings of Old or New Philosophers & see the Noise is made about formal & objective Being Will etc. | 781 |
| G | Absurd to Argue the Existence of God from his Idea. we have no Idea of God. tis impossible! | 782 |
| M.E. | Cause of much errour & Confusion that Men Knew not. wt was meant by Reality. | 783 |
| I | Descartes in Med: 2. say’s the Notion of this particular wax is less clear than that of Wax in General. & in the same Med: a little before he forbears to Consider Bodies in general because (says he) these General Conceptions are usually confused. | 784 |
| M.S. | Descartes in Med: 3 Calls himself a thinking substance & a stone an extended substance. & adds that they both agree in this that they are substances. & in the next paragraph he Calls extension a Mode of substance. | 785 |
| S | Tis commonly said by the Philosophers that if the soul of Man were self existent it would have given it self all possible perfection. this I do not understand. | 786 |

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| Mo | Mem. to excite men to the pleasures of the Eye & the Ear wch surfeit not, nor bring those evils after them as others. | 787 |
| S | We see no variety or difference betwixt the Volitions, only between their effects. Tis One Will one Act distinguish’d by the effects. This will, this Act is the Spirit, operative, Principle, Soul etc. | 788 |
|  | No mention of fears & jealousies, nothing like a party. | 789 |
| M. | Locke in his 4th book & Descartes in Med. 6. use the same argument for the Existence of objects viz. that sometimes we see feel etc against our will. | 790 |
| S | While I exist or have any Idea I am eternally, constantly willing, my acquiescing in the present State is willing. | 791 |
| E | The Existence of any thing imaginable is nothing different from Imagination or perception. Volition or Will wch is not imaginable regard must not be had to its’ existence at least in the first Book. | 792 |
| Mo. | There are four sorts of Propositions. Gold is a Metall, Gold is yellow; Gold is fixt, ⋀ Gold is not a stone. of wch ye 1st 2nd & 3d are only Nominal & have no mental propositions answering them. | 793 |
|  | Also of non-coexistence as Gold is not blue. | 793a |
| M | Mem. in vindication of the senses effectually to confute wt Descartes saith in ye last par. of the last Med: viz. that the senses oftener inform him falsly than truely. That sense of pain tells me not my foot is bruised or broken but I having frequently observed these two Ideas viz of that peculiar pain & bruised foot go together do erroneously take them to be inseparable by a necessity of Nature as if Nature were any thing but the Ordinance of the free Will of God. | 794 |

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| M.S. | Descartes owns we know not a substance immediately by it self but by this alone that it is the subject of several acts. Answer to 2d objection of Hobbs. | 795 |
| S | Hobbs in some degree falls in wth Locke saying thought is to the Mind or him self as dancing to the Dancer. object: | 796 |
| S | Hobbs in his object. 3. ridicules those expressions of the Scholastiques the Will wills etc so does Locke. I am of another Mind. | 797 |
| S | Descartes in answer to Object: 3. of Hobbs owns he is distinct from thought as a thing from its modus or manner. | 798 |
| E.S. | Opinion that existence was distinct from perception of Horrible Consequence it is the foundation of Hobbs’s doctrine. etc. | 799 |
| M.P.E. | Malbranch in his Illustration differs widely from me He doubts of the existence of Bodies I doubt not in the least of this. | 800 |
| P | I differ from the Cartesians in that I make extension, Colour etc to exist really in Bodies & independent of Our Mind. All ys carefully & lucidly to be set forth. | 801 |
| M.P | Not to mention the Combinations of Powers but to say the things the effects themselves to really exist even wn not actually perceiv’d but still with relation to perception. | 802 |
| × | The great use of the Indian figures above the Roman shews Arithmetic to be about Signs not Ideas, or not Ideas different from the Characters themselves. | 803 |
| (Mo.×)N | Reasoning there may be about things or Ideas Actions but Demonstration can be only Verbal. I question, no matter etc | 804 |
| G | Quoth Descartes the Idea of God is not made by me for I can neither add to nor subtract from it. No more can he add to or take from any other Idea even of his own making. | 805 |

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| S | The not distinguishing twixt Will & Ideas is a Grand Mistake wth Hobbs. He takes those things for nothing wch are not Ideas. | 806 |
| M. | Say you, at this rate all’s nothing but Idea meer phantasm. I answer every thing as real as ever. I hope to call a thing Idea makes it not the less real. truly I should perhaps have stuck to ye word thing and not mention’d the Word Idea were it not for a Reason & I think a good one too wch I shall give in ye Second Book. | 807 |
| I.S. | Idea is ye object or Subject of thought; yt I think on wtever it be, I call Idea. thought it self, or Thinking is no Idea tis an act i.e. Volition i.e. as contradistinguish’d to effects, the Will. | 808 |
| I.Mo. | Locke in B.4.c.5. assigns not ye right cause why Mental Propositions are so difficult. it is not because of Complex but because of abstract Ideas. ye Idea of a Horse is as Complex as that of Fortitude. yet in saying ye Horse is White I form a Mental Proposition with ease but wn I say Fortitude is a Vertue I shall find a Mental proposition hardly or not at all to be come at. | 809 |
| S. | Pure Intellect I understand not. | 810 |
|  | Locke is in ye right in those things wherein He differs from ye Cartesians & they cannot but allow of his opinions if they stick to their own principles or cause of Existence & other abstract Ideas. | 812 |
| G.S. | The propertys of all things are in God i.e. there is in the Deity Understanding as well as Will. He is no Blind agent & in truth a blind Agent is a Contradiction. | 812 |
| G | I am certain there is a God, tho I do not perceive him have no intuition of him. this not difficult if we rightly understand wt is meant by certainty. | 813 |
| S | It seems that the Soul taken for the Will is immortal, Incorruptible | 814 |
| S | Qu: whether perception must of necessity precede volition? | 815 |

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| S.Mo. | Errour is not in the Understanding but in ye Will. wt I understand or perceive, that I understand there can be no Errour in this. | 816 |
| (Mo.)N | Mem: to take notice of Lockes Woman afraid of a wetting in ye Introd: to shew there may be reasoning about Ideas or things. | 817 |
| M. | Say Descartes & Malbranch God hath given us strong inclinations to think our Ideas proceed from Bodies. or that Bodies do exist. Pray wt mean they by this. Would they have it that the Ideas of imagination are images of & proceed from the Ideas of Sense. this is true but cannot be their meaning for they speak of Ideas of sense themselves as proceeding from being like unto I know not wt. | 818 |
| M.S. | Cartesius per Ideam Vult omne id quod habet esse objectivum in Intellectu. V. Tract: de Methodo. | 819 |
| S | Qu: may not there be an Understanding without a Will. | 820 |
| S | Understanding is in some sort an Action. | 821 |
| S | Silly of Hobbs etc to speak of ye Will as if it were Motion wth wch it has no likeness. | 822 |
| M. | Ideas of Sense are the Real things or Archetypes. Ideas of Imagination, Dreams etc are copies, images of these. | 823 |
| M. | My Doctrines rightly understood all that Philosophy of Epicurus, Hobbs, Spinoza etc wch has been a Declared Enemy of Religion Comes to ye Ground. | 824 |
| G. | Hobbs & Spinosa make God Extended. Locke also seems to do the same. | 825 |
| I.E. | Ens, res, aliquid dicuntur termini transcendentales. Spinosa p. 76. prop. 40. Eth. part. 2. gives an odd account of their original. also of the original of all Universals Homo, Canis etc: | 826 |
| G. | Spinosa (vid:Pref.oper:Posthum:) will Have God to be Omnium Rerum Causa immanens & to countenance this |  |

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|  | produces that of St. Paul, in him we live etc. Now this of St. Paul may be explain’d by my Doctrine as well as Spinosa’s or Locke’s or Hobbs’ or Raphson’s etc. | 827 |
| S | The Will is purus actus or rather pure Spirit not imaginable, not sensible, not intelligible, in no wise the object of ye Understanding, no wise perceivable. | 828 |
| S. | Substance of a Spirit is that it acts, causes, wills, operates, or if you please (to avoid the quibble yt may be made on ye word it) to act, cause, will, operate its’ substance is not knowable not being an Idea. | 829\*\*\* |
| G. | Why may we not conceive it possible for God to create things out of Nothing. certainly we our selves create in some wise whenever we imagine. | 830 |
| G.N. | Ex nihilo nihil fit. this (saith Spinoza op:posth:p 464) & ye like are called veritates aeternae because nullam fidem habent extra mentem. to make this axiom have a positive signification, one should express it thus. Every Idea has a Cause i.e. is produced. by a Will. | 831 |
| P. | The Philosophers Talk much of a distinction twixt absolute & relative things, or twixt things consider’d in their own nature & the same things considered with respect to us. I know not wt they mean by things consider’d in themselves. This is nonsense, Jargon. | 832 |
| S | It seems there can be no perception, no Idea without Will, being there are no Ideas so indifferent but one had rather Have them than annihilation, or annihilation than them. or if there be such an equall Ballance there must be an equal mixture of pleasure & pain to Cause it. there being No Ideas perfectly void of all pain & uneasiness But wt are preferable to annihilation. | 833 |
| × | Recipe in animum tuum per cogitationem vehementem rerum ipsarum non literarum aut sonorum imagines. Hobbs against Wallis. | 834 |
| × | Tis a perfection we may imagine in superior spirits that they can see a great deal at once with the Utmost Clearness & distinction whereas we can only see a point. | 835 |

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| M. | Treating of Matter I had better say the proportion & Beauty of Things than their species (wch Locke hath proved already) are the Workmanship of the Mind. | 836 |
| × | Mem: wn I treat of Mathematiques to enquire into ye Controversy twixt Hobbes & Wallis. | 837 |
| G. | Every sensation of mine wch happens in Consequence of the general, known Laws of nature & is from without i.e. independent of my Will demonstrates the Being of a God. i.e. of an unextended incorporeal Spirit wch is omniscient, omnipotent etc. | 838 |
| Mo. | One great Cause of Miscarriage in Men’s affairs is that they too much regard the Present. | 839 |
| M. | I say not with J.S. that we see solids I reject his Solid Philosophy. Solidity being only perceived by touch. | 840 |
| S | It seems to me that Will & understanding Volitions & ideas cannot be severed, that either cannot be possibly without the other. | 841 |
| E.S. | Some Ideas or other I must have so long as I exist or Will. But no one Idea or sort of Ideas is essential. | 842 |
| M. | The distinction between Idea & Ideatum I cannot otherwise conceive than by making one the effect or consequence of Dream, reverie, Imagination the other of sense & the Constant laws of Nature. | 843 |
| P. | Dico quod Extensio non concipitur in se & per se contra quam dicit Spinoza in ep: 1st ad Oldenburgium. | 844 |
| G. | My Definition of ye Word God I think Much clearer than that of Descartes & Spinoza viz. ens summè perfectum, & absolute Infinitum or ens constans infinitis attributis quorum unumquodque est infinitum. | 845\*\*\* |
| ×. | Tis chiefly the Connexion betwixt Tangible & Visible Ideas that deceives & not the visible Ideas themselves. | 846 |

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| S. | But the Grand Mistake is that we know not wt we mean by we or selves or mind etc. tis most sure & certain that our Ideas are distinct from the Mind i.e. the Will, the Spirit. | 847 |
| S. | I must not Mention the Understanding as a faculty or part of the Mind, I must include Understanding & Will etc in the word Spirit by wch I mean all that is active. I must not say that the Understanding differs not from the particular Ideas, or the Will from particular Volitions. | 848 |
| S | The Spirit, the Mind, is neither a Volition nor an Idea. | 849 |
| N.S. | I say there are no Causes (properly speaking) but Spiritual, nothing active but Spirit. Say you, this is only Verbal, tis only annexing a new sort of signification to the word Cause, & why may not others as well retain the old one, & call one Idea the Cause of another wch always follows it. I answer, if you do so, I shall drive you into many absurditys. I say you cannot avoid running into opinions you’ll be glad to disown if you stick firmly to that signification of the Word Cause. | 850\*\*\* |
| Mo. | In Valuing Good we reckon too much on ye present & our own. | 851 |
| Mo. | There be two sorts of Pleasure the one is ordain’d as a spur or incitement to somewhat else & has a visible relation & subordination thereto, the other is not. Thus the pleasure of eating is of the former sort, of Musick is ye later sort. These may be used for recreation, those not but in order to their End. | 852 |
| (Mo.)(N.)× | Three sorts of usefull knowlege, that of coexistence to be treated of in our Principles of Natural Philosophy, that of Relation in Mathematiques, that of definition, or inclusion, or Words (wch perhaps differs not from that of Relation) in Morality. | 853 |
| S | Will, Understanding, desire, Hatred etc so far forth as they are acts or active differ not, all their difference consists in their objects, circumstances etc. | 854 |

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| N. | We must carefully distinguish betwixt two sorts of Causes Physical & Spirituall; | 855 |
| N. | Those may more properly be Called occasions yet (to comply) we may term them Causes. but then we must mean Causes yt do nothing. | 856\*\*\* |
| S | According to Locke we must be in an Eternal uneasyness so long as we live, bating the time of sleep or Trance etc. for He will have even the Continuance of an action to be in his sense an action & so requirs a volition & this an uneasiness. | 857 |
| I | I must not pretend to promise much of Demonstration, I must cancell all passages that look like that sort of Pride, that raising of Expectation in my Readers. | 858 |
| I. | If this be the Case, surely a Man had better not Philosophize at all, No more than a Deform’d Person Ought to covet to behold himself by the Reflex light of a Mirrour. | 859 |
| I. | Or thus, like Deformed Persons who having beheld themselves by the reflex light of a Mirrour are displeas’d with their Discovery. | 860 |
| M.1 | What can an Idea be like but another Idea, we can compare it with Nothing else, a Sound like a Sound, a Colour like a Colour. | 861 |
| M.1 | Is it not nonsense to say a Smell is like a thing wch cannot be smelt, a Colour is like a thing which cannot be seen. | 862 |
| M.S. | Bodies exist without the Mind i.e. are not the Mind, but distinct from it. This I allow, the Mind being altogether different therefrom. | 863 |
| P. | Certainly we should not see Motion if there was no diversity of Colours. | 864 |
| P. | Motion is an abstract Idea i.e. there is no such Idea that Can be conceived by it self. | 865 |

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| I | Contradictions cannot be both true. Men are oblig’d to answer Objections drawn from Consequences. Introd. | 866 |
| S. | The Will & Volition are words not used by the Vulgar, the Learned are banter’d by their meaning abstract Ideas. | 867 |
| × | Speculative Math: as if a Man was all day making hard knots on purpose to unty them again. | 868 |
| ×132 | Tho it might have been otherwise yet it is convenient the same thing wch is M.V. should be also M.T. or very near it. | 869 |
| S | I must not give the Soul or Mind the Scholastique Name pure act, but rather pure Spirit or active Being. | 870 |
| S | I must not say the Will & Understanding are all one but that they are both Abstract Ideas i.e. none at all. they not being even ratione different from the Spirit, Qua faculties, or Active. | 871 |
| S | Dangerous to make Idea & thing terms Convertible, that were the Way to prove spirits are Nothing. | 872 |
| Mo.× | Qu: whether Veritas stands not for an Abstract Idea. | 873 |
| M | Tis plain the Moderns must by their own Principles own there are no Bodies i.e. no sort of Bodies without the Mind i.e. unperceived. | 874 |
| S.G. | Qu: whether the Will can be the object of Prescience or any knowlege. | 875 |
| P | If there were only one Ball in the World it Could not be moved. there could be no variety of Appearance. | 876 |
| × | According to the Doctrine of Infinite Divisibility there must be some smell of a Rose v.g. at an infinite distance from it. | 877 |
| M. | Extension tho it exist only in the Mind, yet is no Property of the Mind, The Mind can exist without it |  |

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|  | tho it cannot without the Mind. But in Book 2 I shall at large shew the difference there is betwixt the Soul & Body or Extended being: | 878 |
| S | Tis an absurd Question wch Locke puts whether Man be free to Will? | 879\*\*\* |
| × | Mem. to enquire into the reason of the Rule for Determining Questions in Algebra. | 880 |
| × | It has already been observ’d by others that names are no where of more necessary use than in Numbering. | 881 |
| M.P.\* | I will grant you that extension, Colour etc may be said to be without the Mind in a double respect i.e. as independent of our Will & as distinct from the Mind. | 882 |
| MoN× | Certainly it is not impossible but a man may arrive at the knowlege of all real truth as well without as with Signs had he a Memory & imagination most strong & capacious. therefore reasoning & science doth not altogether depend upon Words or Names. | 883 |
| N | I think not that things fall out of necessity, the connexion of no two Ideas is necessary. ‘tis all the result of freedom i.e tis all Voluntary. | 884 |
| M.1. | One simple Idea can be the pattern or resemblance only of another. So far as they differ one cannot resemble the other. | 885 |
| M.S. | If a man with his Eyes shut Imagines to Himself the Sun & firmament you will not say he or his Mind is the Sun or Extended. tho Neither sun or firmament be without his Mind. | 886 |
| S | Tis strange to find Philosophers doubting & disputing whether they have Ideas of spiritual things or no. Surely tis easy to know. Vid. De Vries de id:In.p.64 | 887 |
| S | De Vries will have it that we know the Mind [as we do Hunger not by Idea but sense or] † Conscientia So will Malbranch. This is a vain distinction | 888 |

# Berkeley, An Essay Towards A New Theory Of Vision (1709)

*The Works of George Berkeley, Bishop of Cloyne*, (ed.s) A. A. Luce and T. E. Jessop, 9 vols, vol 1 (London: Nelson, 1948-1957).

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## DEDICATION

TO THE RIGHT HONOURABLE

**Sir John Percivale, Bart.**

ONE OF

HER MAJESTY'S MOST HONOURABLE

PRIVY COUNCIL

IN THE KINGDOM OF IRELAND

SIR,  
I could not, without doing violence to my self, forbear upon this occasion to give some publick testimony of the great and well-grounded esteem I have conceived for you, ever since I had the honour and happiness of your acquaintance. The outward advantages of fortune, and the early honours with which you are adorned, together with the reputation you are known to have, amongst the best and most considerable men, may well imprint veneration and esteem on the minds of those who behold you from a distance. But these are not the chief motives that inspire me with the respect I bear you. A nearer approach has given me the view of something in your person, infinitely beyond the external ornaments of honour and estate. I mean, an intrinsic stock of vertue and good sense, a true concern for religion, and disinterested love of your country. Add to these an uncommon proficiency in the best and most useful parts of knowledge; together with (what in my mind is a perfection of the first rank) a surpassing goodness of nature. All which I have collected, not from the uncertain reports of fame, but from my own experience. Within these few months that I have the honour to be known unto you, the many delightful hours I have passed in your agreeable and improving conversation have afforded me the opportunity of discovering in you many excellent qualities, which at once fill me with admiration and esteem. That one at those years, and in those circumstances of wealth and greatness, should continue proof against the charms of luxury and those criminal pleasures so fashionable and predominant in the age we

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live in. That he should preserve a sweet and modest behaviour, free from that insolent and assuming air, so familiar to those who are placed above the ordinary rank of men. That he should manage a great fortune with that prudence and inspection, and at the same time expend it with that generosity and nobleness of mind, as to shew himself equally remote from a sordid parsimony and a lavish, inconsiderate profusion of the good things he is intrusted with. This, surely, were admirable and praise-worthy. But that he should moreover by an impartial exercise of his reason, and constant perusal of the Sacred Scriptures, endeavour to attain a right notion of the principles of natural and revealed religion. That he should with the concern of a true patriot have the interest of the publick at heart, and omit no means of informing himself what may be prejudicial or advantageous to his country, in order to prevent the one and promote the other. In fine, that by a constant application to the most severe and useful studies, by a strict observation of the rules of honour and vertue, by frequent and serious reflexions on the mistaken measures of the world and the true end and happiness of mankind, he should in all respects qualify himself bravely to run the race that is set before him, to deserve the character of *Great* and *Good* in this life, and be ever happy hereafter. This were amazing and almost incredible. Yet all this, and more than this, SIR, might I justly say of you; did either your modesty permit, or your character stand in need of it. I know it might deservedly be thought a vanity in me to imagine that any thing coming from so obscure a hand as mine could add a lustre to your reputation. But I am withal sensible how far I advance the interest of my own, by laying hold on this opportunity to make it known, that I am admitted into some degree of intimacy with a person of your exquisite judgment. And with that view I have ventured to make you an address of this nature, which the goodness I have ever experienced in you inclines me to hope will meet with a favourable reception at your hands. Tho' I must own, I have your pardon to ask for touching on what may possibly be offensive to a vertue you are possest of in a very distinguishing degree. Excuse me, SIR, if it was out of my power to mention the name of Sir JOHN PERCIVALE without paying some tribute to that extraordinary and surprising merit whereof I have so clear and affecting an *idea*, and which, I am sure, cannot be exposed in too full a light for the imitation of others. Of late, I have been agreeably imployed

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in considering the most noble, pleasant, and comprehensive of all the senses. The fruit of that (labour shall I call it or) diversion is what I now present you with, in hopes it may give some entertainment to one who, in the midst of business and vulgar enjoyments, preserves a relish for the more refined pleasures of thought and reflexion. My thoughts concerning*Vision* have led me into some notions so far out of the common road that it had been improper to address them to one of a narrow and contracted *Genius.* But you, SIR, being master of a large and free understanding, raised above the power of those prejudices that enslave the far greater part of mankind, may deservedly be thought a proper patron for an attempt of this kind. Add to this that you are no less disposed to forgive than qualifyed to discern whatever faults may occur in it. Nor do I think you defective in any one point necessary to form an exact judgment on the most abstract and difficult things, so much as in a just confidence of your own abilities. And in this one instance, give me leave to say, you shew a manifest weakness of judgment. With relation to the following *Essay*, I shall only add that I beg your pardon for laying a trifle of that nature in your way at a time when you are engaged in the important affairs of the nation, and desire you to think that I am with all sincerity and respect,

SIR,

Your most faithful and most humble servant,

GEORGE BERKELEY.

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| 136 | The same thing doth not affect both sight and touch |
| 137 | The same idea of motion not common to sight and touch |
| 138 | The way wherein we apprehend motion by sight, easily collected from what hath been said |
| 139 | *Qu.* How visible and tangible ideas came to have the same name if not of the same kind |
| 140 | This accounted for without supposing them of the same kind |
| 141 | *Obj.* That a tangible square is liker to a visible square than to a visible circle |
| 142 | *Answ.* That a visible square is fitter than a visible circle to represent a tangible square |
| 143 | But it doth not hence follow, that a visible square is like a tangible square |
| 144 | Why we are more apt to confound visible with tangible ideas than other signs with the things signified |
| 145 | Several other reasons hereof, assigned |
| 146 | Reluctancy in rejecting any opinion, no argument of its truth |
| 147 | Proper objects of vision the language of the Author of nature |
| 148 | In it there is much admirable, and deserving our attention |
| 149 | Question propos'd concerning the object of geometry |
| 150 | At first view we are apt to think visible extension the object of geometry |
| 151 | Visible extension shewn not to be the object of geometry |
| 152 | Words may as well be thought the object of geometry as visible extension |
| 153 | It is propos'd to inquire what progress an intelligence that cou'd see but not feel, might make in geometry |
| 154 | He cannot understand those Parts which relate to solids, and their surfaces, and lines generated by their section |
| 155 | Nor even the elements of plain geometry |
| 156 | The proper objects of sight incapable of being managed as geometrical figures |
| 157 | The opinion of those who hold plain figures to be the immediate objects of sight, considered |
| 158 | Plains no more the immediate objects of sight, than solids |
| 159 | Difficult to enter precisely into the thoughts of the above-mentioned intelligence |

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## AN ESSAY TOWARDS A NEW THEORY OF VISION

1 My design is to shew the manner wherein we perceive by sight the distance, magnitude, and situation of objects. Also to consider the difference there is betwixt the ideas of sight and touch, and whether there be any idea common to both senses.

2 It is, I think, agreed by all, that distance, of it self and immediately, cannot be seen: For distance being a line directed end-wise to the eye, it projects only one point in the fund of the eye, which point remains invariably the same, whether the distance be longer or shorter.

3 I find it also acknowledged, that the estimate we make of the distance of objects considerably remote, is rather an act of judgment grounded on experience, than of sense. For example, when I perceive a great number of intermediate objects, such as houses, fields, rivers, and the like, which I have experienced to take up a considerable space, I thence form a judgment or conclusion, that the object I see beyond them is at a great distance. Again, when an object appears faint and small, which at a near distance I have experienced to make a vigorous and large appearance, I instantly conclude it to be far off: And this, 'tis evident, is the result of experience; without which, from the faintness and littleness I should not have inferred any thing concerning the distance of objects.

4 But when an object is placed at so near a distance, as that the interval between the eyes bears any sensible proportion to it, the opinion of speculative men is, that the two optic axes (the fancy that we see only with one eye at once being exploded) concurring at the object do there make an angle, by means of which,

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according as it is greater or lesser, the object is perceived to be nearer or farther off.[†1](view?docId=berkeley/berkeley.01.xml;chunk.id=div.berkeley.v1.10;toc.id=div.berkeley.v1.10;brand=default" \l "berk.v1.44fm)

5 Betwixt which, and the foregoing manner of estimating distance, there is this remarkable difference: That, whereas there was no apparent, necessary connexion between small distance and a large and strong appearance, or between great distance and a little and faint appearance, there appears a very necessary connexion between an obtuse angle and near distance, and an acute angle and farther distance. It does not in the least depend upon experience, but may be evidently known by any one before he had experienced it, that the nearer the concurrence of the optic axes, the greater the angle, and the remoter their concurrence is, the lesser will be the angle comprehended by them.

6 There is another way mentioned by optic writers, whereby they will have us judge of those distances, in respect of which the breadth of the pupil hath any sensible bigness: And that is the greater or lesser divergency of the rays, which issuing from the visible point, do fall on the pupil: that point being judged nearest, which is seen by most diverging rays; and that remoter, which is seen by less diverging rays: And so on, the apparent distance still increasing, as the divergency of the rays decreases, till at length it becomes infinite, when the rays that fall on the pupil are to sense parallel. And after this manner it is said we perceive distance when we look only with one eye.

7 In this case also, it is plain we are not beholding to experience: It being a certain, necessary truth, that the nearer the direct rays falling on the eye approach to a parallelism, the farther off is the point of their intersection, or the visible point from whence they flow.

8 Now though the accounts here given of perceiving near distance by sight are received for true, and accordingly made use of in determining the apparent places of objects, they do nevertheless seem very unsatisfactory: And that for these following reasons.

9 It is evident that when the mind perceives any idea, not

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immediately and of it self, it must be by the means of some other idea: Thus, for instance, the passions which are in the mind of another are of themselves to me invisible. I may nevertheless perceive them by sight, though not immediately, yet by means of the colours they produce in the countenance. We often see shame or fear in the looks of a man, by perceiving the changes of his countenance to red or pale.

10 Moreover it is evident that no idea, which is not it self perceived can be the means of perceiving any other idea. If I do not perceive the redness or paleness of a man's face themselves, it is impossible I should perceive by them the passions which are in his mind.

11 Now from sect. II., it is plain that distance is in its own nature imperceptible, and yet it is perceived by sight. It remains, therefore, that it be brought into view by means of some other idea, that is it self immediately perceived in the act of vision.

12 But those lines and angles, by means whereof some men pretend to explain the perception of distance, are themselves not at all perceived, nor are they in truth ever thought of by those unskilful in optics. I appeal to any one's experience, whether upon sight of an object, he computes its distance by the bigness of the angle made by the meeting of the two optic axes? Or whether he ever thinks of the greater or lesser divergency of the rays, which arrive from any point to his pupil? Every one is himself the best judge of what he perceives, and what not. In vain shall any man tell me, that I perceive certain lines and angles which introduce into my mind the various ideas of distance, so long as I my self am conscious of no such thing.

13 Since, therefore, those angles and lines are not themselves perceived by sight, it follows from sect. X., that the mind does not by them judge of the distance of objects.

14 The truth of this assertion will be yet farther evident to any one that considers those lines and angles have no real existence in nature, being only an hypothesis fram'd by the mathematicians, and by them introduced into optics, that they might treat of that science in a geometrical way.

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15 The last reason I shall give for rejecting that doctrine is, that though we should grant the real existence of those optic angles, &c., and that it was possible for the mind to perceive them; yet these principles would not be found sufficient to explain the phænomena of distance, as shall be shewn hereafter.

16 Now, it being already shewn that distance is suggested to the mind by the mediation of some other idea which is it self perceived in the act of seeing, it remains that we inquire what ideas, or sensations there be that attend vision, unto which we may suppose the ideas of distance are connected, and by which they are introduced into the mind. And *first*, It is certain by experience, that when we look at a near object with both eyes, according as it approaches or recedes from us, we alter the disposition of our eyes, by lessening or widening the interval between the pupils. This disposition or turn of the eyes is attended with a sensation, which seems to me to be that which in this case brings the idea of greater or lesser distance into the mind.

17 Not that there is any natural or necessary connexion between the sensation we perceive by the turn of the eyes, and greater or lesser distance; but because the mind has by constant experience found the different sensations corresponding to the different dispositions of the eyes, to be attended each with a different degree of distance in the object; there has grown an habitual or customary connexion between those two sorts of ideas, so that the mind no sooner perceives the sensation arising from the different turn it gives the eyes, in order to bring the pupils nearer or farther asunder, but it withal perceives the different idea of distance which was wont to be connected with that sensation: just as upon hearing a certain sound, the idea is immediately suggested to the understanding which custom had united with it.

18 Nor do I see, how I can easily be mistaken in this matter. I know evidently that distance is not perceived of it self. That by consequence, it must be perceived by means of some other idea which is immediately perceived, and varies with the different degrees of distance. I know also that the sensation arising from the turn of the eyes is of it self immediately perceived, and various degrees thereof are connected with different distances, which

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never fail to accompany them into my mind, when I view an object distinctly with both eyes, whose distance is so small that in respect of it the interval between the eyes has any considerable magnitude.

19 I know it is a received opinion, that by altering the disposition of the eyes, the mind perceives whether the angle of the optic axes, or the lateral angles comprehended between the interval of the eyes and the optic axes, are made greater or lesser; and that accordingly by a kind of natural geometry, it judges the point of their intersection to be nearer, or farther off. But that this is not true, I am convinced by my own experience, since I am not conscious that I make any such use of the perception I have by the turn of my eyes. And for me to make those judgments, and draw those conclusions from it, without knowing that I do so, seems altogether incomprehensible.

20 From all which it follows, that the judgment we make of the distance of an object, viewed with both eyes, is entirely the result of experience. If we had not constantly found certain sensations arising from the various disposition of the eyes, attended with certain degrees of distance, we should never make those sudden judgments from them, concerning the distance of objects; no more than we would pretend to judge of a man's thoughts by his pronouncing words we had never heard before.

21 *Secondly*, An object placed at a certain distance from the eye, to which the breadth of the pupil bears a considerable proportion, being made to approach, is seen more confusedly: And the nearer it is brought, the more confused appearance it makes. And this being found constantly to be so, there ariseth in the mind an habitual connexion between the several degrees of confusion and distance; the greater confusion still implying the lesser distance, and the lesser confusion, the greater distance of the object.

22 This confused appearance of the object doth therefore seem to be the medium, whereby the mind judgeth of distance in those cases, wherein the most approved writers of optics will have it judge by the different divergency, with which the rays flowing from the radiating point fall on the pupil. No man, I believe, will pretend to see or feel those imaginary angles, that

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the rays are supposed to form according to their various inclinations on his eye. But he cannot choose seeing whether the object appear more or less confused. It is therefore a manifest consequence from what hath been demonstrated, that instead of the greater, or lesser divergency of the rays, the mind makes use of the greater or lesser confusedness of the appearance, thereby to determine the apparent place of an object.

23 Nor doth it avail to say, there is not any necessary connexion between confused vision and distance, great or small. For I ask any man, what necessary connexion he sees between the redness of a blush and shame? And yet no sooner shall he behold that colour to arise in the face of another, but it brings into his mind the idea of that passion which hath been observed to accompany it.

24 What seems to have misled the writers of optics in this matter is, that they imagine men judge of distance, as they do of a conclusion in mathematics; betwixt which and the premises it is indeed absolutely requisite there be an apparent, necessary connexion: But it is far otherwise, in the sudden judgments men make of distance. We are not to think, that brutes and children, or even grown reasonable men, whenever they perceive an object to approach, or depart from them, do it by virtue of geometry and demonstration.

25 That one idea may suggest another to the mind, it will suffice that they have been observed to go together, without any demonstration of the necessity of their coexistence, or without so much as knowing what it is that makes them so to coexist. Of this there are innumerable instances of which no one can be ignorant.

26 Thus, greater confusion having been constantly attended with nearer distance, no sooner is the former idea perceived, but it suggests the latter to our thoughts. And if it had been the ordinary course of Nature that the farther off an object were placed, the more confused it should appear, it is certain the very same perception, that now makes us think an object approaches, would then have made us to imagine it went farther off. That perception, abstracting from custom and experience, being equally fitted to produce the Idea of great distance, or small distance, or no distance at all.

27 *Thirdly*, An object being placed at the distance above specified, and brought nearer to the eye, we may nevertheless prevent, at least for some time, the appearance's growing more

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confused, by straining the eye. In which case, that sensation supplies the place of confused vision, in aiding the mind to judge of the distance of the object; it being esteemed so much the nearer, by how much the effort or straining of the eye in order to distinct vision is greater.

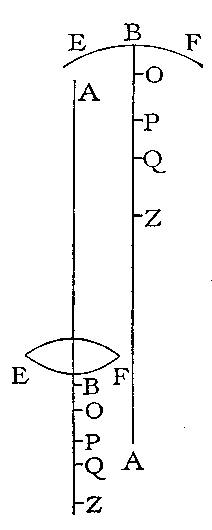
28 I have here set down those sensations or ideas, that seem to be the constant and general occasions of introducing into the mind the different ideas of near distance. It is true in most cases, that divers other circumstances contribute to frame our idea of distance, to wit, the particular number, size, kind, &c., of the things seen. Concerning which, as well as all other the forementioned occasions which suggest distance, I shall only observe, they have none of them, in their own nature, any relation or connexion with it: Nor is it possible they should ever signify the various degrees thereof, otherwise than as by experience they have been found to be connected with them.

29 I shall proceed upon these principles to account for a phænomenon, which has hitherto strangely puzzled the writers of optics, and is so far from being accounted for by any of their theories of vision, that it is, by their own confession, plainly repugnant to them: and of consequence, if nothing else cou'd be objected, were alone sufficient to bring their credit in question. The whole difficulty I shall lay before you in the words of the learned Dr. *Barrow*, with which he concludes his optic lectures.

Hæc sunt, quæ circa partem opticæ præcipue mathematicam dicenda mihi suggessit meditatio. Circa reliquas, (quæ *φυσικώτεραι* sunt, adeoque sæpiuscule pro certis principiis plausibiles conjecturas venditare necessum habent) nihil fere quicquam admodum verisimile succurrit, a pervulgatis (ab iis, inquam, quæ *Keplerus, Scheinerus, Cartesius*, et post illos alii tradiderunt) alienum aut diversum. Atqui tacere malo, quam toties oblatam cramben reponere. Proinde receptui cano; nec ita tamen ut prorsus discedam anteaquam improbam quandam difficultatem (pro sinceritate quam et vobis et veritati debeo minime dissimulandam) in medium protulero, quæ doctrinæ nostræ, hactenus inculcatæ, se objicit adversam, ab ea saltem nullam admittit solutionem. Illa, breviter, talis est: *Lenti vel speculo cavo* *EBF* exponatur punctum visibile A, ita distans ut radii ex A manantes ex inflexione versus axem AB cogantur. Sitque radiationis limes (seu puncti A imago, qualem supra passim statuimus) punctum Z. Inter hoc autem et inflectentis verticem B uspiam positus concipiatur oculus. Quæri jam potest ubi loci debeat punctum A apparere? Retrorsum

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ad punctum Z videri non fert natura (cum omnis impressio sensum afficiens proveniat a partibus A) ac experientia reclamat. Nostris autem e placitis consequi videtur, ipsum ad partes anticas apparens ab intervallo longissime dissito, (quod et maximum sensibile quodvis intervallum quodammodo exsuperet) apparere. Cum enim quo radiis

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minus divergentibus attingitur objectum, eo (seclusis utique prænotionibus et præjudiciis) longius abesse sentiatur; et quod parallelos ad oculum radios projicit, remotissime positum æstimetur. Exigere ratio videtur, ut quod convergentibus radiis apprehenditur, adhuc magis, si fieri posset, quoad apparentiam elongetur. Quin et circa casum hunc generatim inquiri possit, quidnam omnino sit, quod apparentem puncti A locum determinet, faciatque quod constanti ratione nunc propius, nunc remotius appareat? Cui itidem dubio, nihil quicquam ex hactenus dictorum *analogia*, responderi posse videtur, nisi debere punctum A perpetuo longissime semotum videri. Verum experientia secus attestatur, illud pro diversa oculi inter puncta B, Z, positione varie distans; nunquam fere (si unquam) longinquius ipso A libere spectato, subinde vero multo propinquius adparere; quinimo, quo oculum appellentes radii magis convergunt eo speciem objecti propius accedere. Nempe, si puncto B admoveatur *oculus*, suo (ad lentem) fere nativo in loco conspicitur punctum A (vel æque distans, ad *speculum*;) ad O reductus oculus ejusce speciem appropinquantem cernit; ad P adhuc vicinius ipsum existimat; ac ita sensim, donec alicubi tandem, velut ad Q, constituto oculo objectum summe propinquum apparens, in meram confusionem incipiat evanescere. Quæ sane cuncta rationibus atque decretis nostris repugnare videntur, aut cum iis saltem parum amice conspirant. Neque nostram tantum sententiam pulsat hoc experimentum; at ex æquo cæteras quas norim omnes, veterem imprimis ac vulgatam nostræ præ reliquis affinem ita convellere videtur, ut ejus vi coactus doctissimus A. Tacquetus isti principio (cui pene soli totam inædificaverat *Catoptricam* suam) ceu infido ac inconstanti renunciarit, adeoque suam ipse doctrinam labefactarit; id tamen, opinor, minime facturus, si rem totam inspexisset penitius, atque difficultatis fundum attigisset. Apud me vero non ita pollet hæc, nec eousque præpollebit ulla difficultas, ut ab iis, quæ manifeste rationi consentanea video, discedam; præsertim quum ut hic accidit, ejusmodi difficultas in singularis cujuspiam casus disparitate fundetur. Nimirum in præsente

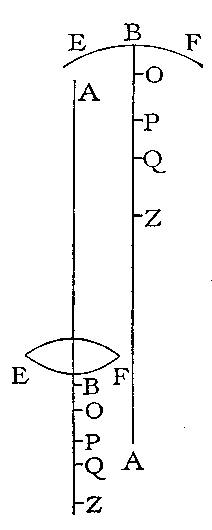
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casu peculiare quiddam, naturæ subtilitati involutum, delitescit, ægre fortassis, nisi perfectius explorato videndi modo, detegendum. Circa quod nil, fateor, hactenus excogitare potui, quod adblandiretur animo meo, nedum plane satisfaceret. Vobis itaque nodum hunc, utinam feliciore conatu, resolvendum committo.

*In English as follows.*

"I have here delivered what my thoughts have suggested to me, concerning that part of optics which is more properly mathematical. As for the other parts of that science (which being rather physical, do consequently abound with plausible conjectures instead of certain principles) there has in them scarce any thing occur'd to my observation different from what has been already said by *Kepler, Scheinerus, Descartes*, and others. And methinks, I had better say nothing at all, than repeat that which has been so often said by others. I think it therefore high time to take my leave of this subject: But before I quit it for good and all, the fair and ingenuous dealing that I owe both to you and to truth, obligeth me to acquaint you with a certain untoward difficulty, which seems directly opposite to the doctrine I have been hitherto inculcating, at least, admits of no solution from it. In short it is this. Before the double convex glass or concave speculum EBF, let the point A be placed, at such a distance that the rays proceeding from A, after refraction or reflexion, be brought to unite somewhere in the Ax AB. And suppose the point of union (*i.e.* the image of the point A, as hath been already set forth) to be Z; between which and B, the vertex of the glass or speculum, conceive the eye to be any where placed. The question now is, where the point A ought to appear? Experience shews that it doth not appear behind at the point Z, and it were contrary to nature that it shou'd; since all the impression which affects the sense comes from towards A. But from our tenets it shou'd seem to follow that it wou'd appear before the eye at a vast distance off, so great as shou'd in some sort surpass all sensible distance. For since if we exclude all anticipations and prejudices, every object appears by so much the farther off, by how much the rays it sends to the eye are less diverging. And that object is thought to be most remote from which parallel rays proceed unto the eye. Reason wou'd make one think, that object shou'd appear at

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yet a greater distance which is seen by converging rays. Moreover it may in general be asked concerning this case, what it is that determines the apparent place of the point A, and maketh it to appear after a constant manner, sometimes nearer, at other times farther off?  
  
   
  
To which doubt, I see nothing that can be answer'd agreeable to the principles we have laid down except only that the point A ought always to appear extremely remote. But on the contrary, we are assur'd by experience that the point A appears variously distant, according to the different situations of the eye between the points B and Z. And that it doth almost never (if at all) seem farther off, than it wou'd if it were beheld by the naked eye, but on the contrary, it doth sometimes appear much nearer. Nay, it is even certain that by how much the rays falling on the eye do more converge, by so much the nearer does the object seem to approach. For the eye being placed close to the point B, the object A appears nearly in its own natural place, if the point B is taken in the glass, or at the same distance, if in the speculum. The eye being brought back to O, the object seems to draw near: and being come to P it beholds it still nearer. And so on by little and little, till at length the eye being placed somewhere, suppose at Q, the object appearing extremely near, begins to vanish into meer confusion. All which doth seem repugnant to our principles, at least, not rightly to agree with them. Nor is our tenet alone struck at by this experiment, but likewise all others that ever came to my knowledge are, every whit as much, endanger'd by it. The ancient one especially (which is most commonly received, and comes nearest to mine) seems to be so effectually overthrown thereby, that the most learned Tacquet has been forced to reject that principle, as false and uncertain, on which alone he had built almost his whole Catoptrics, and consequently by taking away the foundation, hath himself pulled down the superstructure he had raised on it. Which, nevertheless, I do not believe he wou'd have done, had

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he but consider'd the whole matter more thoroughly, and examined the difficulty to the bottom. But as for me, neither this nor any other difficulty shall have so great an influence on me, as to make me renounce that which I know to be manifestly agreeable to reason: Especially when, as it here falls out, the difficulty is founded in the peculiar nature of a certain odd and particular case. For in the present case something peculiar lies hid, which being involved in the subtilty of nature will, perhaps, hardly be discovered till such time, as the manner of vision is more perfectly made known. Concerning which, I must own, I have hitherto been able to find out nothing that has the least shew of probability, not to mention certainty. I shall, therefore, leave this knot to be untied by you, wishing you may have better success in it than I have had.'

30 The ancient and receiv'd principle, which Dr. *Barrow* here mentions as the main foundation of Tacquet's *Catoptrics*, is that *every visible point seen by reflection from a speculum, shall appear placed at the intersection of the reflected ray, and the perpendicular of incidence.* Which intersection in the present case, happening to be behind the eye, it greatly shakes the authority of that principle, whereon the aforementioned author proceeds throughout his whole *Catoptrics,* in determining the apparent place of objects seen by reflexion from any kind of speculum.

31 Let us now see how this phænomenon agrees with our tenets. The eye the nearer it is placed to the point B in the foregoing figures, the more distinct is the appearance of the object; but as it recedes to O, the appearance grows more confused; and at P it sees the object yet more confused; and so on till the eye being brought back to Z sees the object in the greatest confusion of all. Wherefore by sect. XXI. the object shou'd seem to approach the eye gradually as it recedes from the point B, that is at O it shou'd (in consequence of the principle I have laid down in the aforesaid section) seem nearer than it did at B, and at P nearer than at O, and at Q nearer than at P; and so on, till it quite vanishes at Z. Which is the very matter of fact, as any one that pleases may easily satisfy himself by experiment.

32 This case is much the same as if we shou'd suppose an Englishman to meet a foreigner, who used the same words with the English, but in a direct contrary signification. The Englishman

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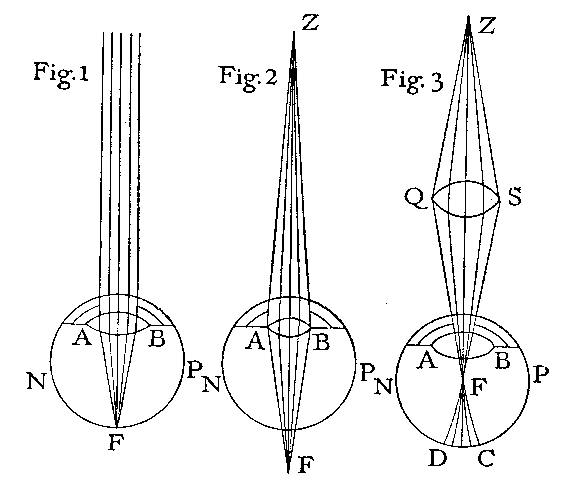
wou'd not fail to make a wrong judgment, of the ideas annexed to those sounds, in the mind of him that used them. Just so, in the present case the object speaks (if I may so say) with words that the eye is well acquainted with, that is, confusions of appearance; but whereas heretofore the greater confusions were always wont to signify nearer distances, they have in this case a direct, contrary signification, being connected with the greater distances. Whence it follows, that the eye must unavoidably be mistaken, since it will take the confusions in the sense it has been used to, which is directly opposed to the true.

33 This phænomenon as it entirely subverts the opinion of those who will have us judge of distance by lines and angles, on which supposition it is altogether inexplicable, so it seems to me no small confirmation of the truth of that principle whereby it is explained. But in order to a more full explication of this point, and to shew how far the hypothesis of the mind's judging by the various divergency of rays may be of use in determining the apparent place of an object, it will be necessary to premise some few things, which are already well known to those who have any skill in dioptrics.

34 *First*, Any radiating point is then distinctly seen when the rays proceeding from it are, by the refractive power of the crystalline, accurately reunited in the retina or fund of the eye: But if they are reunited, either before they arrive at the retina, or after they have past it, then there is confused vision.

35 *Secondly*, Suppose in the adjacent figures NP represent an eye duly framed, and retaining its natural figure. In Fig. I. the rays falling nearly parallel on the eye, are by the crystalline AB refracted, so as their focus or point of union F falls exactly on the retina: But if the rays fall sensibly diverging on the eye, as in Fig. 2. then their focus falls beyond the retina: Or if the rays are made to converge by the lens QS before they come at the eye, as in Fig. 3. their focus F will fall before the retina. In which two last cases it is evident from the foregoing section that the appearance of the point Z is confused. And by how much the greater is the convergency, or divergency, of the rays falling on the pupil, by so much the farther will the point of their reunion be from the retina, either before or behind it, and consequently the point Z will appear by so much the more confused. And this, by the bye, may shew us the difference between confused and faint vision. Confused vision is when the rays proceeding

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from each distinct point of the object are not accurately recollected in one corresponding point on the retina, but take up some space thereon: So that rays from different points become mixed and confused together. This is opposed to a distinct vision, and attends near objects. Faint vision is, when by reason of the distance of the object or grossness of the interjacent medium few rays arrive from the object to the eye. This is opposed to vigorous or clear vision, and attends remote objects. But to return.  
  
 

36 The eye, or (to speak truly) the mind perceiving only the confusion it self, without ever considering the cause from which it proceeds, doth constantly annex the same degree of distance to the same degree of confusion. Whether that confusion be occasioned by converging or by diverging rays it matters not. Whence it follows, that the eye viewing the object Z through the glass QS (which by refraction causeth the rays ZQ, ZS, &c., to converge) shou'd judge it to be at such a nearness, at which if it were placed, it wou'd radiate on the eye with rays diverging to that degree, as wou'd produce the same confusion which is now produced by converging rays, i.e. would cover a portion of the

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retina equal to DC *vid.* Fig. 3 *supra.* But then this must be understood (to use Dr. Barrow's phrase) *seclusis prænotionibus & præjudiciis*, in case we abstract from all other circumstances of vision, such as the figure, size, faintness, &c., of the visible objects; all which do ordinarily concur to form our idea of distance, the mind having by frequent experience observed their several sorts or degrees to be connected with various distances.

37 It plainly follows from what hath been said, that a person perfectly purblind (*i.e.*that could not see an object distinctly, but when placed close to his eye) would not make the same wrong judgment that others do, in the forementioned case. For, to him, greater confusions constantly suggesting greater distances, he must, as he recedes from the glass, and the object grows more confused, judge it to be at a farther distance; contrary to what they do, who have had the perception of the objects growing more confused, connected with the idea of approach.

38 Hence also it doth appear, there may be good use of computation by lines and angles in optics; not that the mind judgeth of distance immediately by them, but because it judgeth by somewhat which is connected with them, and to the determination whereof they may be subservient. Thus the mind judging of the distance of an object by the confusedness of its appearance, and this confusedness being greater or lesser to the naked eye, according as the object is seen by rays more or less diverging, it follows that a man may make use of the divergency of the rays in computing the apparent distance, though not for its own sake, yet on account of the confusion with which it is connected. But, so it is, the confusion it self is entirely neglected by mathematicians, as having no necessary relation with distance, such as the greater or lesser angles of divergency are conceived to have. And these (especially for that they fall under mathematical computation) are alone regarded, in determining the apparent places of objects, as though they were the sole and immediate cause of the judgments the mind makes of distance. Whereas, in truth, they shou'd not at all be regarded in themselves, or any otherwise, than as they are supposed to be the cause of confused vision.

39 The not considering of this has been a fundamental and perplexing oversight. For proof whereof, we need go no farther than the case before us. It having been observed, that the most diverging rays brought into the mind the idea of nearest distance, and that still, as the divergency decreased, the distance increased: and it being thought, the connexion between the various degrees

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of divergency and distance was immediate, this naturally leads one to conclude, from an ill grounded analogy, that converging rays shall make an object appear at an immense distance: And that, as the convergency increases, the distance (if it were possible) should do so likewise. That this was the cause of Dr. *Barrow's* mistake, is evident from his own words which we have quoted. Whereas had the learned Doctor observ'd that diverging and converging rays, how opposite soever they may seem, do nevertheless agree in producing the same effect, to wit, confusedness of vision, greater degrees whereof are produced indifferently, either as the divergency or convergency of the rays increaseth. And that it is by this effect, which is the same in both, that either the divergency or convergency is perceived by the eye; I say, had he but considered this, it is certain he would have made a quite contrary judgment, and rightly concluded, that those rays which fall on the eye with greater degrees of convergency should make the object from whence they proceed, appear by so much the nearer. But it is plain, it was impossible for any man to attain to a right notion of this matter, so long as he had regard only to lines and angles, and did not apprehend the true nature of vision, and how far it was of mathematical consideration.

40 Before we dismiss this subject, it is fit we take notice of a query relating thereto, proposed by the ingenious Mr. *Molyneux*, in his *Treatise of Dioptrics*,[†1](view?docId=berkeley/berkeley.01.xml;chunk.id=div.berkeley.v1.10;toc.id=div.berkeley.v1.10;brand=default" \l "berk.v1.49fm) where speaking of this difficulty, he has these words: 'And so he (*i.e.* Dr. *Barrow*) leaves this difficulty to the solution of others, which I (after so great an example) shall do likewise; but with the resolution of the same admirable author of not quitting the evident doctrine which we have before laid down, for determining the *locus objecti*, on account of being pressed by one difficulty, which seems inexplicable till a more intimate knowledge of the visive faculty be obtained by mortals. In the mean time, I propose it to the consideration of the ingenious, whether the *locus apparens* of an object placed as in this 9th Section be not as much before the eye, as the distinct base is behind the eye?' To which query we may venture to answer in the negative. For in the present case, the rule for determining the distance of the distinct base, or respective focus from the glass is this: *As the difference between the distance of the object and focus is to the focus or focal length, so the distance of the object from the*

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*glass is to the distance of the respective focus or distinct base from the glass.*[†1](view?docId=berkeley/berkeley.01.xml;chunk.id=div.berkeley.v1.10;toc.id=div.berkeley.v1.10;brand=default" \l "berk.v1.50fm) Let us now suppose the object to be placed at the distance of the focal length, and one half of the focal length from the glass, and the eye close to the glass, hence it will follow by the rule, that the distance of the distinct base behind the eye is double the true distance of the object before the eye. If therefore Mr. Molyneux's conjecture held good, it would follow that the eye should see the object twice as far off as it really is; and in other cases at three or four times its due distance, or more. But this manifestly contradicts experience, the object never appearing, at farthest, beyond its due distance. What ever, therefore, is built on this supposition (*vid. Corol.* I. *Prop.* 57, *ibid.*) comes to the ground along with it.

41 From what hath been premis'd it is a manifest consequence, that a man born blind, being made to see, wou'd, at first, have no idea of distance by sight; the sun and stars, the remotest objects as well as the nearer, would all seem to be in his eye, or rather in his mind. The objects intromitted by sight, would seem to him (as in truth they are) no other than a new set of thoughts or sensations, each whereof is as near to him, as the perceptions of pain or pleasure, or the most inward passions of his soul. For our judging objects perceived by sight to be at any distance, or without the mind, is (*vid.*sect. XXVIII.) intirely the effect of experience, which one in those circumstances could not yet have attained to.

42 It is indeed otherwise upon the common supposition, that men judge of distance by the angle of the optic axes, just as one in the dark, or a blind-man by the angle comprehended by two sticks, one whereof he held in each hand. For if this were true, it would follow that one blind from his birth being made to see, shou'd stand in need of no new experience, in order to perceive distance by sight. But that this is false, has, I think, been sufficiently demonstrated.

43 And perhaps upon a strict inquiry, we shall not find that even those, who from their birth have grown up in a continued habit of seeing, are irrecoverably prejudiced on the other side, to wit, in thinking what they see to be at a distance from them. For at this time it seems agreed on all hands, by those who have had any thoughts of that matter, that colours, which are the proper

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and immediate object of sight, are not without the mind. But then it will be said, by sight we have also the ideas of extension, and figure, and motion; all which may well be thought without, and at some distance from the mind, though colour should not. In answer to this, I appeal to any man's experience, whether the visible extension of any object doth not appear as near to him, as the colour of that object; nay, whether they do not both seem to be in the very same place. Is not the extension we see coloured, and is it possible for us, so much as in thought, to separate and abstract colour from extension? Now, where the extension is, there surely is the figure, and there the motion too. I speak of those which are perceived by sight.

44 But for a fuller explication of this point, and to shew that the immediate objects of sight are not so much as the ideas or resemblances of things placed at a distance, it is requisite that we look nearer into the matter, and carefully observe what is meant in common discourse, when one says, that which he sees is at a distance from him. Suppose, for example, that looking at the moon I should say it were fifty or sixty semidiameters of the earth distant from me. Let us see what moon this is spoken of: It is plain it cannot be the visible moon, or any thing like the visible moon, or that which I see, which is only a round, luminous plain, of about thirty visible points in diameter. For in case I am carried from the place where I stand directly towards the moon, it is manifest the object varies, still as I go on; and by the time that I am advanced fifty or sixty semidiameters of the earth, I shall be so far from being near a small, round, luminous flat, that I shall perceive nothing like it; this object having long since disappeared, and if I would recover it, it must be by going back to the earth from whence I set out. Again, suppose I perceive by sight the faint and obscure idea of something, which I doubt whether it be a man, or a tree, or a tower, but judge it to be at the distance of about a mile. It is plain I cannot mean, that what I see is a mile off, or that it is the image or likeness of any thing which is a mile off, since that every step I take towards it, the appearance alters, and from being obscure, small, and faint, grows clear, large, and vigorous. And when I come to the mile's end, that which I saw first is quite lost, neither do I find any thing in the likeness of it.

45 In these and the like instances, the truth of the matter

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stands thus: Having of a long time experienced certain ideas, perceivable by touch, as distance, tangible figure, and solidity, to have been connected with certain ideas of sight, I do upon perceiving these ideas of sight, forthwith conclude what tangible ideas are, by the wonted ordinary course of Nature like to follow. Looking at an object I perceive a certain visible figure and colour, with some degree of faintness and other circumstances, which from what I have formerly observed, determine me to think, that if I advance forward so many paces or miles, I shall be affected with such and such ideas of touch: So that in truth and strictness of speech, I neither see distance it self, nor any thing that I take to be at a distance. I say, neither distance, nor things placed at a distance are themselves, or their ideas, truly perceived by sight. This I am persuaded of, as to what concerns my self; and I believe whoever will look narrowly into his own thoughts, and examine what he means by saying, he sees this or that thing at a distance, will agree with me, that what he sees only suggests to his understanding, that after having passed a certain distance, to be measured by the motion of his body, which is perceivable by touch, he shall come to perceive such and such tangible ideas which have been usually connected with such and such visible ideas. But that one might be deceived by these suggestions of sense, and that there is no necessary connexion between visible and tangible ideas suggested by them, we need go no farther than the next looking-glass or picture to be convinced. Note that when I speak of tangible ideas, I take the word idea for any the immediate object of sense, or understanding, in which large signification it is commonly used by the moderns.

46 From what we have shewn it is a manifest consequence, that the ideas of space, outness, and things placed at a distance, are not, strictly speaking, the object of sight; they are not otherwise perceived by the eye than by the ear. Sitting in my study I hear a coach drive along the street; I look through the casement and see it; I walk out and enter into it; thus, common speech would incline one to think, I heard, saw, and touched the same thing, to wit, the coach. It is nevertheless certain, the ideas intromitted by each sense are widely different, and distinct from each other; but having been observed constantly to go together, they are spoken of as one and the same thing. By the variation of the noise I perceive the different distances of the coach, and know

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that it approaches before I look out. Thus by the ear I perceive distance, just after the same manner as I do by the eye.

47 I do not nevertheless say, I hear distance in like manner as I say that I see it, the ideas perceived by hearing not being so apt to be confounded with the ideas of touch, as those of sight are; so likewise a man is easily convinced that bodies and external things are not properly the object of hearing, but only sounds, by the mediation whereof the idea of this or that body or distance is suggested to his thoughts. But then one is with more difficulty brought to discern the difference there is betwixt the ideas of sight and touch: Though it be certain a man no more sees or feels the same thing, than he hears and feels the same thing.

48 One reason of which seems to be this. It is thought a great absurdity to imagine that one and the same thing should have any more than one extension, and one figure. But the extension and figure of a body, being let into the mind two ways, and that indifferently, either by sight or touch, it seems to follow that we see the same extension, and the same figure which we feel.

49 But if we take a close and accurate view of things, it must be acknowledged that we never see and feel one and the same object. That which is seen is one thing, and that which is felt is another; if the visible figure and extension be not the same with the tangible figure and extension, we are not to infer that one and the same thing has divers extensions. The true consequence is, that the objects of sight and touch are two distinct things. It may perhaps require some thought rightly to conceive this distinction. And the difficulty seems not a little increased, because the combination of visible ideas hath constantly the same name as the combination of tangible ideas wherewith it is connected: which doth of necessity arise from the use and end of language.

50 In order therefore to treat accurately and unconfusedly of vision, we must bear in mind that there are two sorts of objects apprehended by the eye, the one primarily and immediately, the other secondarily and by intervention of the former. Those of the first sort neither are, nor appear to be, without the mind, or at any distance off; they may indeed grow greater or smaller, more confused, or more clear, or more faint, but they do not, cannot approach or recede from us. Whenever we say an object is at a distance, whenever we say it draws near, or goes farther off, we must always mean it of the latter sort, which properly

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belong to the touch, and are not so truly perceived, as suggested by the eye in like manner as thoughts by the ear.

51 No sooner do we hear the words of a familiar language pronounced in our ears, but the ideas corresponding thereto present themselves to our minds; in the very same instant the sound and the meaning enter the understanding: So closely are they united, that it is not in our power to keep out the one, except we exclude the other also. We even act in all respects as if we heard the very thoughts themselves. So likewise the secondary objects, or those which are only suggested by sight, do often more strongly affect us, and are more regarded than the proper objects of that sense; along with which they enter into the mind, and with which they have a far more strict connexion, than ideas have with words. Hence it is, we find it so difficult to discriminate between the immediate and mediate objects of sight, and are so prone to attribute to the former, what belongs only to the latter. They are, as it were, most closely twisted, blended, and incorporated together. And the prejudice is confirmed and riveted in our thoughts by a long tract of time, by the use of language, and want of reflexion. However, I believe any one that shall attentively consider what we have already said, and shall say upon this subject before we have done, (especially if he pursue it in his own thoughts) may be able to deliver himself from that prejudice. Sure I am 'tis worth some attention, to whoever wou'd understand the true nature of vision.

52 I have now done with distance, and proceed to shew how it is, that we perceive by sight the magnitude of objects. It is the opinion of some that we do it by angles, or by angles in conjunction with distance; but neither angles nor distance being perceivable by sight, and the things we see being in truth at no distance from us, it follows, that as we have shewn lines and angles not to be the medium the mind makes use of in apprehending the apparent place, so neither are they the medium whereby it apprehends the apparent magnitude of objects.

53 It is well known that the same extension at a near distance shall subtend a greater angle, and at a farther distance, a lesser angle. And by this principle (we are told) the mind estimates the magnitude of an object, comparing the angle under which it is seen with its distance, and thence inferring the magnitude thereof. What inclines men to this mistake (beside the humour

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of making one see by geometry) is, that the same perceptions or ideas which suggest distance, do also suggest magnitude. But if we examine it, we shall find they suggest the latter, as immediately as the former. I say, they do not first suggest distance, and then leave it to the judgment to use that as a medium, whereby to collect the magnitude; but they have as close and immediate a connexion with the magnitude, as with the distance; and suggest magnitude as independently of distance, as they do distance independently of magnitude. All which will be evident to whoever considers what hath been already said, and what follows.

54 It hath been shewn, there are two sorts of objects apprehended by sight; each whereof hath its distinct magnitude, or extension. The one, properly tangible, *i.e.* to be perceived and measured by touch, and not immediately falling under the sense of seeing: The other, properly and immediately visible, by mediation of which the former is brought in view. Each of these magnitudes are greater or lesser, according as they contain in them more or fewer points, they being made up of points or minimums. For, whatever may be said of extension in abstract, it is certain sensible extension is not infinitely divisible. There is a *Minimum Tangibile,* and a *Minimum Visibile*, beyond which sense cannot perceive. This every one's experience will inform him.

55 The magnitude of the object which exists without the mind, and is at a distance, continues always invariably the same: But the visible object still changing as you approach to, or recede from the tangible object, it hath no fixed and determinate greatness. Whenever therefore, we speak of the magnitude of any thing, for instance a tree or a house, we must mean the tangible magnitude, otherwise there can be nothing steady and free from ambiguity spoken of it. But though the tangible and visible magnitude in truth belong to two distinct objects: I shall nevertheless (especially since those objects are called by the same name, and are observed to coexist) to avoid tediousness and singularity of speech, sometimes speak of them as belonging to one and the same thing.

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56 Now in order to discover by what means the magnitude of tangible objects is perceived by sight, I need only reflect on what passes in my own mind, and observe what those things be which introduce the ideas of greater or lesser into my thoughts, when I look on any object. And these I find to be, *first*, the magnitude or extension of the visible object, which being immediately perceived by sight, is connected with that other which is tangible, and placed at a distance. Secondly, the confusion or distinctness. And thirdly, The vigorousness or faintness of the aforesaid visible appearance. *Cæteris paribus*, by how much the greater or lesser the visible object is, by so much the greater or lesser do I conclude the tangible object to be. But, be the idea immediately perceived by sight never so large, yet if it be withal confused, I judge the magnitude of the thing to be but small. If it be distinct and clear, I judge it greater. And if it be faint, I apprehend it to be yet greater. What is here meant by confusion and faintness, hath been explained in sect. XXXV.

57 Moreover the judgments we make of greatness do, in like manner as those of distance, depend on the disposition of the eye, also on the figure, number, and situation of objects and other circumstances that have been observed to attend great or small tangible magnitudes. Thus, for instance, the very same quantity of visible extension, which in the figure of a tower doth suggest the idea of great magnitude, shall in the figure of a man suggest the idea of much smaller magnitude. That this is owing to the experience we have had of the usual bigness of a tower and a man, no one, I suppose, need be told.

58 It is also evident, that confusion or faintness have no more a necessary connexion with little or great magnitude, than they have with little or great distance. As they suggest the latter, so they suggest the former to our minds. And by consequence, if it were not for experience, we should no more judge a faint or confused appearance to be connected with great or little magnitude, than we should that it was connected with great or little distance.

59 Nor will it be found, that great or small visible magnitude hath any necessary relation to great or small tangible magnitude: So that the one may certainly be inferred from the other. But, before we come to the proof of this, it is fit we consider the difference there is betwixt the extension and figure which is the proper

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object of touch, and that other which is termed visible; and how the former is principally, though not immediately taken notice of, when we look at any object. This has been before mentioned, but we shall here inquire into the cause thereof. We regard the objects that environ us in proportion as they are adapted to benefit or injure our own bodies, and thereby produce in our minds the sensations of pleasure or pain. Now bodies operating on our organs, by an immediate application, and the hurt or advantage arising there-from, depending altogether on the tangible, and not at all on the visible, qualities of any object: This is a plain reason why those should be regarded by us much more than these: and for this end the visive sense seems to have been bestowed on animals, to wit, that by the perception of visible ideas (which in themselves are not capable of affecting, or any wise altering the frame of their bodies) they may be able to foresee (from the experience they have had, what tangible ideas are connected with such and such visible ideas) the damage or benefit which is like to ensue, upon the application of their own bodies to this or that body which is at a distance. Which foresight, how necessary it is to the preservation of an animal, every one's experience can inform him. Hence it is, that when we look at an object, the tangible figure and extension thereof are principally attended to; whilst there is small heed taken of the visible figure and magnitude, which, though more immediately perceived, do less concern us, and are not fitted to produce any alteration in our bodies.

60 That the matter of fact is true, will be evident to any one who considers that a man placed at ten foot distance, is thought as great, as if he were placed at the distance only of five foot: which is true, not with relation to the visible, but tangible greatness of the object. The visible magnitude being far greater at one station than it is at the other.

61 Inches, feet, &c. are settled stated lengths, whereby we measure objects, and estimate their magnitude, we say, for example, an object appears to be six inches or six foot long. Now, that this cannot be meant of visible inches, &c., is evident, because a visible inch is it self no constant, determinate magnitude, and cannot therefore serve to mark out and determine the magnitude of any other thing. Take an inch mark'd upon a ruler; view it, successively, at the distance of half a foot, a foot, a foot

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and a half, &c. from the eye: at each of which, and at all the intermediate distances, the inch shall have a different visible extension, *i.e.* there shall be more or fewer points discerned in it. Now I ask which of all these various extensions is that stated, determinate one, that is agreed on for a common measure of other magnitudes? No reason can be assigned, why we should pitch on one, more than another: And except there be some invariable, determinate extension fixed on to be marked by the word inch, it is plain, it can be used to little purpose; and to say, a thing contains this or that number of inches, shall imply no more than that it is extended, without bringing any particular idea of that extension into the mind. Farther, an inch and a foot, from different distances, shall both exhibit the same visible magnitude, and yet at the same time you shall say, that one seems several times greater than the other. From all which it is manifest, that the judgments we make of the magnitude of objects by sight, are altogether in reference to their tangible extension. Whenever we say an object is great, or small, of this or that determinate measure, I say, it must be meant of the tangible, and not the visible extension, which, though immediately perceived, is nevertheless little taken notice of.

62 Now, that there is no necessary connexion between these two distinct extensions is evident from hence: Because our eyes might have been framed in such a manner as to be able to see nothing but what were less than the *minimum tangibile.* In which case, it is not impossible we might have perceived all the immediate objects of sight, the very same that we do now: But unto those visible appearances, there would not be connected those different tangible magnitudes, that are now. Which shews, the judgments we make of the magnitude of things placed at a distance, from the various greatness of the immediate objects of sight, do not arise from any essential or necessary, but only a customary tie, which has been observed between them.

63 Moreover, it is not only certain, that any idea of sight might not have been connected with this or that idea of touch, which we now observe to accompany it: But also, that the greater visible magnitudes might have been connected with, and introduced into our minds lesser tangible magnitudes, and the lesser visible magnitudes greater tangible magnitudes. Nay, that it actually is so, we have daily experience; that object

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which makes a strong and large appearance, not seeming near so great as another, the visible magnitude whereof is much less, but more faint, and the appearance upper, or which is the same thing painted lower on the *retina*, which faintness and situation suggest both greater magnitude and greater distance.

64 From which, and from sect. LVII. and LVIII. it is manifest, that as we do not perceive the magnitudes of objects immediately by sight, so neither do we perceive them by the mediation of any thing which has a necessary connexion with them. Those ideas that now suggest unto us the various magnitudes of external objects, before we touch them, might possibly have suggested no such thing: Or they might have signified them, in a direct contrary manner, so that the very same ideas, on the perception whereof we judge an object to be small, might as well have served to make us conclude it great. Those ideas being in their own nature equally fitted to bring into our minds the idea of small or great, or no size at all of outward objects; just as the words of any language are in their own nature indifferent to signify this or that thing, or nothing at all.

65 As we see distance, so we see magnitude. And we see both, in the same way that we see shame or anger in the looks of a man. Those passions are themselves invisible, they are nevertheless let in by the eye along with colours and alterations of countenance, which are the immediate object of vision: And which signify them for no other reason, than barely because they have been observed to accompany them. Without which experience, we should no more have taken blushing for a sign of shame, than of gladness.

66 We are nevertheless exceeding prone to imagine those things, which are perceived only by the mediation of others, to be themselves the immediate objects of sight; or, at least, to have in their own nature a fitness to be suggested by them, before ever they had been experienced to coexist with them. From which prejudice every one, perhaps, will not find it easy to emancipate himself, by any the clearest convictions of reason. And there are some grounds to think, that if there was one only invariable and universal language in the world, and that men were born with the faculty of speaking it, it would be the opinion of many, that the ideas in other men's minds were properly perceived by the ear, or had at least a necessary and inseparable tie with

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the sounds that were affixed to them. All which seems to arise from want of a due application of our discerning faculty, thereby to discriminate between the ideas that are in our understandings, and consider them apart from each other; which would preserve us from confounding those that are different, and make us see what ideas do, and what do not include or imply this or that other idea.

67 There is a celebrated phænomenon, the solution whereof I shall attempt to give, by the principles that have been laid down, in reference to the manner wherein we apprehend by sight the magnitude of objects. The apparent magnitude of the moon when placed in the horizon, is much greater than when it is in the meridian. Though the angle under which the diameter of the moon is seen, be not observed greater in the former case, than in the latter: And the horizontal moon doth not constantly appear of the same bigness, but at some times seemeth far greater than at others.

68 Now in order to explain the reason of the moon's appearing greater than ordinary in the horizon, it must be observed, that the particles which compose our atmosphere intercept the rays of light proceeding from any object to the eye; and by how much the greater is the portion of atmosphere, interjacent between the object and the eye, by so much the more are the rays intercepted; and by consequence the appearance of the object rendered more faint, every object appearing more vigorous or more faint, in proportion as it sendeth more or fewer rays into the eye. Now, between the eye and the moon, when situated in the horizon, there lies a far greater quantity of atmosphere, than there does when the moon is in the meridian. Whence it comes to pass that the appearance of the horizontal moon is fainter, and therefore by sect. LVI. it shou'd be thought bigger in that situation, than in the meridian, or in any other elevation above the horizon.

69 Farther, the air being variously impregnated, sometimes more and sometimes less with vapours and exhalations fitted to retund and intercept the rays of light, it follows, that the appearance of the horizontal moon hath not always an equal faintness, and by consequence that luminary, though in the very same situation, is at one time judged greater than at another.

70 That we have here given the true account of the phænomena

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of the horizontal moon, will, I suppose, be farther evident to any one from the following considerations. *First*, it is plain, that which in this case suggests the idea of greater magnitude, must be something which is it self perceived; for, that which is unperceived cannot suggest to our perception any other thing. *Secondly*, it must be something that does not constantly remain the same, but is subject to some change or variation, since the appearance of the horizontal moon varies, being at one time greater than at another. And yet, *thirdly*, it cannot be the visible figure or magnitude, since that remains the same, or is rather lesser, by how much the moon is nearer to the horizon. It remains therefore, that the true cause is that affection or alteration of the visible appearance, which proceeds from the greater paucity of rays arriving at the eye, and which I term faintness: Since this answers all the forementioned conditions, and I am not conscious of any other perception that doth.

71 Add to this, that in misty weather it is a common observation, that the appearance of the horizontal moon is far larger than usual, which greatly conspires with, and strengthens our opinion. Neither wou'd it prove in the least irreconcilable with what we have said, if the horizontal moon shou'd chance sometimes to seem enlarged beyond its usual extent, even in more serene weather. For we must not only have regard to the mist, which happens to be in the place where we stand; we ought also to take into our thoughts, the whole sum of vapours and exhalations, which lie betwixt the eye and the moon: All which cooperating to render the appearance of the moon more faint, and thereby increase its magnitude, it may chance to appear greater than it usually does, even in the horizontal position, at a time when, though there be no extraordinary fog or haziness, just in the place where we stand; yet, the air between the eye and the moon, taken all together, may be loaded with a greater quantity of interspersed vapours and exhalations, than at other times.

72 It may be objected, that in consequence of our principles,

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the interposition of a body in some degree opaque, which may intercept a great part of the rays of light, shou'd render the appearance of the moon in the meridian as large, as when it is viewed in the horizon. To which I answer, it is not faintness anyhow applied, that suggests greater magnitude, there being no necessary, but only an experimental connexion between those two things: It follows, that the faintness, which enlarges the appearance, must be applied in such sort, and with such circumstances, as have been observed to attend the vision of great magnitudes. When from a distance we behold great objects, the particles of the intermediate air and vapours, which are themselves unperceivable, do interrupt the rays of light, and thereby render the appearance less strong and vivid; now, faintness of appearance caused in this sort, hath been experienced to coexist with great magnitude. But when it is caused by the interposition of an opaque sensible body, this circumstance alters the case, so that a faint appearance this way caused, doth not suggest greater magnitude, because it hath not been experienced to coexist with it.

73 Faintness, as well as all other ideas or perceptions which suggest magnitude or distance, doth it in the same way that words suggest the notions to which they are annexed. Now, it is known, a word pronounced with certain circumstances, or in a certain context with other words, hath not always the same import and signification that it hath when pronounced in some other circumstances, or different context of words. The very same visible appearance as to faintness and all other respects, if placed on high, shall not suggest the same magnitude that it would if it were seen at an equal distance, on a level with the eye. The reason whereof is, that we are rarely accustomed to view objects at a great height; our concerns lie among things situated rather before than above us; and accordingly our eyes are not placed on the top of our heads, but in such a position as is most convenient for us to see distant objects standing in our way. And this situation of them being a circumstance which usually attends the vision of distant objects, we may from hence account for (what is commonly observed) an object's appearing of different magnitude, even with respect to its horizontal extension, on the top of

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a steeple, for example, an hundred feet high to one standing below, from what it would if placed at an hundred feet distance on a level with his eye. For it hath been shewn, that the judgment we make on the magnitude of a thing, depends not on the visible appearance alone, but also on divers other circumstances, any one of which being omitted or varied may suffice to make some alteration in our judgment. Hence, the circumstance of viewing a distant object in such a situation as is usual, and suits with the ordinary posture of the head and eyes being omitted, and instead thereof a different situation of the object, which requires a different posture of the head taking place, it is not to be wondered at, if the magnitude be judged different: but it will be demanded, why an high object shou'd constantly appear less than an equidistant low object of the same dimensions, for so it is observed to be; it may indeed be granted that the variation of some circumstances may vary the judgment made on the magnitude of high objects, which we are less used to look at: But it does not hence appear, why they shou'd be judged less rather than greater? I answer, that in case the magnitude of distant objects was suggested by the extent of their visible appearance alone, and thought proportional thereto, it is certain they wou'd then be judged much less than now they seem to be, *vide* sect. LXXIX. But several circumstances concurring to form the judgment we make on the magnitude of distant objects, by means of which they appear far larger than others, whose visible appearance hath an equal or even greater extension; it follows, that upon the change or omission of any of those circumstances, which are wont to attend the vision of distant objects, and so come to influence the judgments made on their magnitude, they shall proportionably appear less than otherwise they would. For any of those things that caused an object to be thought greater, than in proportion to its visible extension, being either omitted or applied without the usual circumstances, the judgment depends more intirely on the visible extension, and consequently the object must be judged less. Thus in the present case, the situation of the thing seen being different from what it usually is in those objects we have occasion to view, and whose magnitude we observe, it follows, that the very same object, being an hundred feet high, shou'd seem less than if it was an hundred feet off on (or nearly on) a level with the eye. What has been here set

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forth seems to me to have no small share in contributing to magnify the appearance of the horizontal moon, and deserves not to be passed over in the explication of it.

74 If we attentively consider the phænomenon before us, we shall find the not discerning between the mediate and immediate objects of sight, to be the chief cause of the difficulty that occurs in the explication of it. The magnitude of the visible moon, or that which is the proper and immediate object of vision, is no greater when the moon is in the horizon, than when it is in the meridian. How comes it, therefore, to seem greater in one situation than the other? What is it can put this cheat on the understanding? It has no other perception of the moon, than what it gets by sight: And that which is seen, is of the same extent, I say, the visible appearance hath the same, or rather a less magnitude when the moon is viewed in the horizontal, than when in the meridional position: And yet it is esteemed greater in the former than in the latter. Herein consists the difficulty, which doth vanish and admit of a most easy solution, if we consider that as the visible moon is not greater in the horizon than in the meridian, so neither is it thought to be so. It hath been already shewn, that in any act of vision, the visible object absolutely, or in it self, is little taken notice of, the mind still carrying its view from that to some tangible ideas, which have been observed to be connected with it, and by that means come to be suggested by it. So that when a thing is said to appear great or small, or whatever estimate be made of the magnitude of any thing, this is meant not of the visible, but of the tangible object. This duly considered, it will be no hard matter to reconcile the seeming contradiction there is, that the moon should appear of a different bigness, the visible magnitude thereof remaining still the same. For by sect. LVI. the very same visible extension, with a different faintness, shall suggest a different tangible extension. When therefore the horizontal moon is said to appear greater than the meridional moon, this must be understood not of a greater visible extension, but of a greater tangible or real extension, which by reason of the more than ordinary faintness of the visible appearance, is suggested to the mind along with it.

75 Many attempts have been made by learned men, to account for this appearance. Gassendus, Descartes, Hobbes, and several others, have employed their thoughts on that subject;

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but how fruitless and unsatisfactory their endeavours have been, is sufficiently shewn in*The Philosophical Transactions*,[†1](view?docId=berkeley/berkeley.01.xml;chunk.id=div.berkeley.v1.10;toc.id=div.berkeley.v1.10;brand=default" \l "berk.v1.53fm) where you may see their several opinions at large set forth and confuted, not without some surprise at the gross blunders that ingenious men have been forced into, by endeavouring to reconcile this appearance with the ordinary Principles of optics. Since the writing of which, there hath been published in the*Transactions*[†2](view?docId=berkeley/berkeley.01.xml;chunk.id=div.berkeley.v1.10;toc.id=div.berkeley.v1.10;brand=default" \l "berk.v1.54fm) another paper relating to the same affair, by the celebrated Dr. Wallis, wherein he attempts to account for that phænomena, which, though it seems not to contain any thing new, or different from what had been said before by others, I shall nevertheless consider in this place.

76 His opinion, in short, is this; We judge not of the magnitude of an object by the visual angle alone, but by the visual angle in conjunction with the distance. Hence, though the angle remain the same, or even become less, yet if withal the distance seem to have been increased, the object shall appear greater. Now, one way whereby we estimate the distance of any thing, is by the number and extent of the intermediate objects: When therefore the moon is seen in the horizon, the variety of fields, houses, &c., together with the large prospect of the wide extended land or sea, that lies between the eye and the utmost limb of the horizon, suggest unto the mind the idea of greater distance, and consequently magnify the appearance. And this, according to Dr. Wallis, is the true account of the extraordinary largeness attributed by the mind to the horizontal moon, at a time when the angle subtended by its diameter is not one jot greater than it used to be.

77 With reference to this opinion, not to repeat what hath been already said concerning distance, I shall only observe, *first*, that if the prospect of interjacent objects be that which suggests the idea of farther distance, and this idea of farther distance be the cause that brings into the mind the idea of greater magnitude, it should hence follow, that if one looked at the horizontal moon from behind a wall, it would appear no bigger than ordinary. For in that case, the wall interposing cuts off all that prospect of sea and land, &c., which might otherwise increase the apparent distance, and thereby the apparent magnitude of

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the moon. Nor will it suffice to say, the memory doth even then suggest all that extent of land, &c., which lies within the horizon; which suggestion occasions a sudden judgment of sense, that the moon is farther off and larger than usual. For ask any man, who from such a station beholding the horizontal moon, shall think her greater than usual, whether he hath at that time in his mind any idea of the intermediate objects, or long tract of land that lies between his eye and the extreme edge of the horizon? And whether it be that idea which is the cause of his making the aforementioned judgment? He will, I suppose, reply in the negative, and declare the horizontal moon shall appear greater than the meridional, though he never thinks of all or any of those things that lie between him and it. *Secondly*, it seems impossible by this hypothesis to account for the moon's appearing in the very same situation, at one time greater than at another; which nevertheless has been shewn to be very agreeable to the principles we have laid down, and receives a most easy and natural explication from them. For the further clearing up of this point, it is to be observed that what we immediately and properly see are only lights and colours in sundry situations and shades, and degrees of faintness and clearness, confusion and distinctness. All which visible objects are only in the mind; nor do they suggest ought external, whether distance or magnitude, otherwise than by habitual connexion as words do things. We are also to remark, that, beside the straining of the eyes, and beside the vivid and faint, the distinct and confused appearances (which bearing some proportion to lines and angles, have been substituted instead of them, in the foregoing part of this treatise), there are other means which suggest both distance and magnitude; particularly, the situation of visible points, or objects, as upper or lower; the former suggesting a farther distance and greater magnitude, the latter a nearer distance and lesser magnitude: All which is an effect only of custom and experience; there being really nothing intermediate in the line of distance, between the uppermost and lowermost, which are both æquidistant, or rather at no distance from the eye, as there is also nothing in upper or lower, which by necessary

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connexion should suggest greater or lesser magnitude. Now, as these customary, experimental means of suggesting distance, do likewise suggest magnitude, so they suggest the one as immediately as the other. I say, they do not (*vide* sect. LIII) first suggest distance, and then leave the mind from thence to infer or compute magnitude, but suggest magnitude as immediately and directly as they suggest distance.

78 This phænomenon of the horizontal moon is a clear instance of the insufficiency of lines and angles, for explaining the way wherein the mind perceives and estimates the magnitude of outward objects. There is nevertheless a use of computation by them, in order to determine the apparent magnitude of things, so far as they have a connexion with, and are proportional to those other ideas or perceptions which are the true and immediate occasions that suggest to the mind the apparent magnitude of things. But this in general may, I think, be observed concerning mathematical computation in optics: That it can never be very precise and exact, since the judgments we make of the magnitude of external things do often depend on several circumstances, which are not proportionable to, or capable of being defined by lines and angles.

79 From what has been said, we may safely deduce this consequence, to wit, that a man born blind, and made to see, wou'd, at first opening of his eyes, make a very different judgment of the magnitude of objects intromitted by them, from what others do. He would not consider the ideas of sight, with reference to, or as having any connexion with the ideas of touch: His view of them being entirely terminated within themselves, he can no otherwise judge them great or small, than as they contain a greater or lesser number of visible points. Now, it being certain that any visible point can cover or exclude from view only one other visible point, it follows, that whatever object intercepts the view of another, hath an equal number of visible points with it; and consequently they shall both be thought by him to have the same magnitude. Hence it is evident, one in those circumstances would judge his thumb, with which he might hide a tower, or hinder its being seen, equal to that tower, or his hand, the interposition whereof might conceal the firmament from his view, equal to the firmament: How great an inequality soever there may, in our apprehensions, seem to be betwixt those two things, because

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of the customary and close connexion that has grown up in our minds between the objects of sight and touch, whereby the very different and distinct ideas of those two senses are so blended and confounded together, as to be mistaken for one and the same thing; out of which prejudice we cannot easily extricate our selves.

80 For the better explaining the nature of vision, and setting the manner wherein we perceive magnitudes in a due light, I shall proceed to make some observations concerning matters relating thereto, whereof the want of reflexion, and duly separating between tangible and visible ideas, is apt to create in us mistaken and confused notions. And *first*, I shall observe that the *minimum visibile* is exactly equal in all beings whatsoever, that are endowed with the visive faculty. No exquisite formation of the eye, no peculiar sharpness of sight, can make it less in one creature than in another; for it not being distinguishable into parts, nor in any wise consisting of them, it must necessarily be the same to all. For suppose it otherwise, and that the *minimum visibile* of a mite, for instance, be less than the *minimum visibile* of a man; the latter therefore may by detraction of some part be made equal to the former: It doth therefore consist of parts, which is inconsistent with the notion of a *minimum visibile,* or point.

81 It will perhaps be objected that the *minimum visibile* of a man doth really and in it self contain parts whereby it surpasses that of a mite, though they are not perceivable by the man. To which I answer, the *minimum visibile* having (in like manner as all other the proper and immediate objects of sight) been shewn not to have any existence without the mind of him who sees it, it follows there cannot be any part of it that is not actually perceived, and therefore visible. Now for any object to contain several distinct visible parts, and at the same time to be a *minimum visibile*, is a manifest contradiction.

82 Of these visible points we see at all times an equal number. It is every whit as great when our view is contracted and bounded by near objects, as when it is extended to larger and remoter.

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For it being impossible that one *minimum visibile* should obscure or keep out of sight more than one other, it is a plain consequence, that when my view is on all sides bounded by the walls of my study, I see just as many visible points as I could, in case that by the removal of the study-walls and all other obstructions, I had a full prospect of the circumjacent fields, mountains, sea, and open firmament; for so long as I am shut up within the walls, by their interposition, every point of the external objects is covered from my view: But each point that is seen being able to cover or exclude from sight one only other corresponding point, it follows, that whilst my sight is confined to those narrow walls, I see as many points, or*minima visibilia*, as I should were those walls away, by looking on all the external objects, whose prospect is intercepted by them. Whenever therefore we are said to have a greater prospect at one time than another, this must be understood with relation not to the proper and immediate, but the secondary and mediate objects of vision, which, as hath been shewn, properly belong to the touch.

83 The visive faculty considered with reference to its immediate objects, may be found to labour of two defects, *First*, in respect of the extent or number of visible points that are at once perceivable by it, which is narrow and limited to a certain degree. It can take in at one view but a certain determinate number of *minima visibilia*, beyond which it cannot extend its prospect. *Secondly*, our sight is defective in that its view is not only narrow, but also for the most part confused; of those things that we take in at one prospect, we can see but a few at once clearly and unconfusedly; and the more we fix our sight on any one object, by so much the darker and more indistinct shall the rest appear.

84 Corresponding to these two defects of sight, we may imagine as many perfections, to wit, 1*st*, that of comprehending in one view a greater number of visible points. 2*dly*, of being able to view them all equally and at once, with the utmost clearness and distinction. That those perfections are not actually in some intelligences of a different order and capacity from ours, it is impossible for us to know.

85 In neither of those two ways do microscopes contribute to the improvement of sight; for when we look through a microscope, we neither see more visible points, nor are the collateral points more distinct than when we look with the naked eye, at

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objects placed in a due distance. A microscope brings us as it were into a new world: It presents us with a new scene of visible objects, quite different from what we behold with the naked eye. But herein consists the most remarkable difference, to wit, that whereas the objects perceived by the eye alone, have a certain connexion with tangible objects, whereby we are taught to foresee what will ensue upon the approach or application of distant objects to the parts of our own body, which much conduceth to its preservation; there is not the like connexion between things tangible and those visible objects that are perceived by help of a fine microscope.

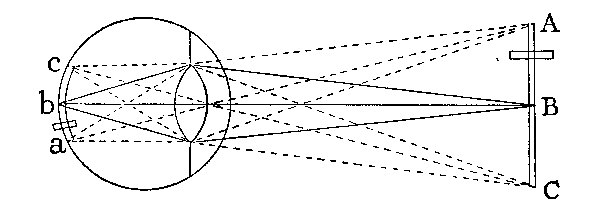
86 Hence it is evident, that were our eyes turned into the nature of microscopes, we should not be much benefited by the change; we should be deprived of the forementioned advantage we at present receive by the visive faculty; and have left us only the empty amusement of seeing, without any other benefit arising from it. But in that case, it will perhaps be said, our sight would be endued with a far greater sharpness and penetration than it now hath. But I wou'd fain know wherein consists, that sharpness, which is esteemed so great an excellency of sight. It is certain from what we have already shewn, that the *minimum visibile* is never greater or lesser, but in all cases constantly the same: and in the case of microscopical eyes, I see only this difference, to wit, that upon the ceasing of a certain observable connexion betwixt the divers perceptions of sight and touch, which before enabled us to regulate our actions by the eye, it would now be rendered utterly unserviceable to that purpose.

87 Upon the whole, it seems that if we consider the use and end of sight, together with the present state and circumstances of our being, we shall not find any great cause to complain of any defect or imperfection in it, or easily conceive how it could be mended. With such admirable wisdom is that faculty contrived, both for the pleasure and convenience of life.

88 Having finished what I intended to say, concerning the distance and magnitude of objects, I come now to treat of the manner wherein the mind perceives by sight their situation. Among the discoveries of the last age, it is reputed none of the least, that the manner of vision hath been more clearly explained than ever it had been before. There is, at this day, no one

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ignorant, that the pictures of external objects are painted on the *retina*, or fund of the eye. That we can see nothing which is not so painted: And that, according as the picture is more distinct or confused, so also is the perception we have of the object: But then in this explication of vision, there occurs one mighty difficulty. The objects are painted in an inverted order on the bottom of the eye: The upper part of any object being painted on the lower part of the eye, and the lower part of the object on the upper part of the eye: And so also as to right and left. Since therefore the pictures are thus inverted, it is demanded how it comes to pass that we see the objects erect and in their natural posture?



89 In answer to this difficulty, we are told, that the mind, perceiving an impulse of a ray of light on the upper part of the eye, considers this ray as coming in a direct line from the lower part of the object; and in like manner tracing the ray that strikes on the lower part of the eye, it is directed to the upper part of the object. Thus in the adjacent figure C the lower point of the object ABC is projected on *c* the upper part of the eye. So likewise, the highest point A is projected on *a* the lowest part of the eye, which makes the representation *cba* inverted: But the mind considering the stroke that is made on *c* as coming in the straight line C*c* from the lower end of the object; and the stroke or impulse on *a,* as coming in the line A*a* from the upper end of the object, is directed to make a right judgment of the situation of the object ABC, notwithstanding the picture of it is inverted. This is illustrated by conceiving a blind man, who,

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holding in his hands two sticks that cross each other, doth with them touch the extremities of an object, placed in a perpendicular situation. It is certain, this man will judge that to be the upper part of the object which he touches with the stick held in the undermost hand, and that to be the lower part of the object which he touches with the stick in his uppermost hand. This is the common explication of the erect appearance of objects, which is generally received and acquiesced in, being (as Mr. Molyneux tells us[†1](view?docId=berkeley/berkeley.01.xml;chunk.id=div.berkeley.v1.10;toc.id=div.berkeley.v1.10;brand=default" \l "berk.v1.57fm)) *allowed by all men as satisfactory.*

90 But this account to me does not seem in any degree true. Did I perceive those impulses, decussations, and directions of the rays of light, in like manner as hath been set forth, then, indeed, it wou'd not at first view be altogether void of probability. And there might be some pretence for the comparison of the blind man and his cross sticks. But the case is far otherwise. I know very well that I perceive no such thing. And of consequence, I cannot thereby make an estimate of the situation of objects. I appeal to any one's experience, whether he be conscious to himself, that he thinks on the intersection made by the radious pencils, or pursues the impulses they give in right lines, whenever he perceives by sight the position of any object? To me it seems evident, that crossing and tracing of the rays, is never thought on by children, idiots, or in truth by any other, save only those who have applied themselves to the study of optics. And for the mind to judge of the situation of objects by those things, without perceiving them, or to perceive them without knowing it, is equally beyond my comprehension. Add to this, that the explaining the manner of vision by the example of cross sticks, and hunting for the object along the axes of the radious pencils, doth suppose the proper objects of sight to be perceived at a distance from us, contrary to what hath been demonstrated.

91 It remains, therefore, that we look for some other explication of this difficulty: And I believe it not impossible to find

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one, provided we examine it to the bottom, and carefully distinguish between the ideas of sight and touch; which cannot be too oft inculcated in treating of vision: But more especially throughout the consideration of this affair, we ought to carry that distinction in our thoughts: For that from want of a right understanding thereof, the difficulty of explaining erect vision seems chiefly to arise.

92 In order to disentangle our minds from whatever prejudices we may entertain with relation to the subject in hand, nothing seems more apposite, than the taking into our thoughts the case of one born blind, and afterwards, when grown up, made to see. And though perhaps it may not be an easy task to divest our selves intirely of the experience received from sight, so as to be able to put our thoughts exactly in the posture of such a one's; we must, nevertheless, as far as possible, endeavour to frame true conceptions of what might reasonably be supposed to pass in his mind.

93 It is certain that a man actually blind, and who had continued so from his birth, would by the sense of feeling attain to have ideas of upper and lower. By the motion of his hand he might discern the situation of any tangible object placed within his reach. That part on which he felt himself supported, or towards which he perceived his body to gravitate, he would term lower, and the contrary to this upper; and accordingly denominate whatsoever objects he touched.

94 But then, whatever judgments he makes concerning the situation of objects, are confined to those only that are perceivable by touch. All those things that are intangible, and of a spiritual nature, his thoughts and desires, his passions, and in general all the modifications of his soul, to these he would never apply the terms upper and lower, except only in a metaphorical sense. He may, perhaps, by way of allusion, speak of high or low thoughts: But those terms in their proper signification, would never be applied to any thing, that was not conceived to exist without the mind. For a man born blind, and remaining in the same state, could mean nothing else by the words higher and lower, than a greater or lesser distance from the earth: Which distance he would measure by the motion or application of his hand, or some other part of his body. It is, therefore, evident, that all those things

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which, in respect of each other, would by him be thought higher or lower, must be such as were conceived to exist without his mind, in the ambient space.

95 Whence it plainly follows, that such a one, if we suppose him made to see, would not at first sight think, that any thing he saw was high or low, erect or inverted; for it hath been already demonstrated in sect. XLI. that he would not think the things he perceived by sight to be at any distance from him, or without his mind. The objects to which he had hitherto been used to apply the terms up and down, high and low, were such only as affected, or were some way perceived by his touch: But the proper objects of vision make a new set of ideas, perfectly distinct and different from the former, and which can in no sort make themselves perceived by touch. There is, therefore, nothing at all that could induce him to think those terms applicable to them: Nor would he ever think it, till such time as he had observed their connexion with tangible objects, and the same prejudice began to insinuate it self into his understanding, which from their infancy had grown up in the understandings of other men.

96 To set this matter in a clearer light, I shall make use of an example. Suppose the above-mentioned blind person, by his touch, perceives a man to stand erect. Let us inquire into the manner of this. By the application of his hand to the several parts of a human body, he had perceived different tangible ideas, which being collected into sundry complex ones have distinct names annexed to them. Thus one combination of a certain tangible figure, bulk, and consistency of parts is called the head, another the hand, a third the foot, and so of the rest: All which complex ideas could, in his understanding, be made up only of ideas perceivable by touch. He had also by his touch obtained an idea of earth or ground, towards which he perceives the parts of his body to have a natural tendency. Now, by erect nothing more being meant, than that perpendicular position of a man, wherein his feet are nearest to the earth, if the blind person by moving his hand over the parts of the man who stands before him, perceives the tangible ideas that compose the head, to be farthest from, and those that compose the feet to be nearest to, that other combination of tangible ideas which he calls earth: he will denominate that man erect. But if we suppose him on

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a sudden to receive his sight, and that he behold a man standing before him, it is evident in that case, he would neither judge the man he sees to be erect nor inverted; for he never having known those terms applied to any other save tangible things, or which existed in the space without him, and what he sees neither being tangible, nor perceived as existing without, he could not know that in propriety of language they were applicable to it.

97 Afterwards, when upon turning his head or eyes up and down to the right and left, he shall observe the visible objects to change, and shall also attain to know, that they are called by the same names, and connected with the objects perceived by touch; then, indeed, he will come to speak of them and their situation, in the same terms that he has been used to apply to tangible things: and those that he perceives by turning up his eyes, he will call upper, and those that by turning down his eyes, he will call lower.

98 And this seems to me the true reason why he should think those objects uppermost that are painted on the lower part of his eye: For, by turning the eye up they shall be distinctly seen; as likewise those that are painted on the highest part of the eye shall be distinctly seen, by turning the eye down, and are for that reason esteemed lowest: for we have shewn that to the immediate objects of sight, considered in themselves, he would not attribute the terms high and low. It must therefore be on account of some circumstances which are observed to attend them: And these, it is plain, are the actions of turning the eye up and down, which suggest a very obvious reason, why the mind should denominate the objects of sight accordingly high or low. And without this motion of the eye, this turning it up and down in order to discern different objects, doubtless erect, inverse, and other the like terms relating to the position of tangible objects, would never have been transferred, or in any degree apprehended to belong to the ideas of sight: The meer act of seeing including nothing in it to that purpose; whereas the different situations of the eye naturally direct the mind to make a suitable judgment of the situation of objects intromitted by it.

99 Farther, when he has by experience learned the connexion there is between the several ideas of sight and touch, he will be able, by the perception he has of the situation of visible things in respect of one another, to make a sudden and true estimate of the situation of outward, tangible things corresponding to

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them. And thus it is, he shall perceive by sight the situation of external objects, which do not properly fall under that sense.

100 I know we are very prone to think, that if just made to see, we should judge of the situation of visible things as we do now: But, we are also as prone to think, that at first sight, we should in the same way apprehend the distance and magnitude of objects, as we do now: Which hath been shewn to be a false and groundless persuasion. And for the like reasons, the same censure may be passed on the positive assurance, that most men, before they have thought sufficiently of the matter, might have of their being able to determine by the eye at first view, whether objects were erect or inverse.

101 It will, perhaps, be objected to our opinion, that a man, for instance, being thought erect when his feet are next the earth, and inverted when his head is next the earth, it doth hence follow, that by the meer act of vision, without any experience or altering the situation of the eye, we should have determined whether he were erect or inverted: For both the earth it self, and the limbs of the man who stands thereon, being equally perceived by sight, one cannot choose seeing what part of the man is nearest the earth, and what part farthest from it, i.e. whether he be erect or inverted.

102 To which I answer, the ideas which constitute the tangible earth and man, are intirely different from those which constitute the visible earth and man. Nor was it possible, by virtue of the visive faculty alone, without superadding any experience of touch, or altering the position of the eye, ever to have known, or so much as suspected, there had been any relation or connexion between them: Hence, a man at first view would not denominate any thing he saw earth, or head, or foot; and consequently, he cou'd not tell by the meer act of vision, whether the head or feet were nearest the earth: Nor, indeed, wou'd we have thereby any thought of earth or man, erect or inverse, at all: Which will be made yet more evident if we nicely observe, and make a particular comparison between the ideas of both senses.

103 That which I see is only variety of light and colours. That which I feel is hard or soft, hot or cold, rough or smooth. What similitude, what connexion have those ideas with these? Or how is it possible, that any one should see reason to give one and the same name to combinations of ideas so very different, before he had experienced their coexistence? We do not find

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there is any necessary connexion betwixt this or that tangible quality, and any colour whatsoever. And we may sometimes perceive colours, where there is nothing to be felt. All which doth make it manifest that no man, at first receiving of his sight, would know there was any agreement between this or that particular object of his sight, and any object of touch he had been already acquainted with: The colours therefore of the head would to him no more suggest the idea of head, than they would the idea of foot.

104 Farther, we have at large shewn (*vid.* sect. LXIII. and LXIV.) there is no discoverable, necessary connexion, between any given visible magnitude, and any one particular tangible magnitude; but that it is intirely the result of custom and experience, and depends on foreign and accidental circumstances, that we can by the perception of visible extension inform our selves, what may be the extension of any tangible object connected with it. Hence it is certain that neither the visible magnitude of head or foot, wou'd bring along with them into the mind, at first opening of the eyes, the respective tangible magnitudes of those parts.

105 By the foregoing section, it is plain the visible figure of any part of the body hath no necessary connexion with the tangible figure thereof, so as at first sight to suggest it to the mind: For figure is the termination of magnitude; whence it follows, that no visible magnitude, having in its own nature an aptness to suggest any one particular tangible magnitude, so neither can any visible figure be inseparably connected with its corresponding tangible figure: So as of it self and in a way prior to experience, it might suggest it to the understanding. This will be farther evident, if we consider that what seems smooth and round to the touch, may to sight, if viewed through a microscope, seem quite otherwise.

106 From all which laid together and duly considered, we may clearly deduce this inference. In the first act of vision, no idea entering by the eye would have a perceivable connexion with the ideas to which the names earth, man, head, foot, &c., were annexed in the understanding of a person blind from his birth; so as in any sort to introduce them into his mind, or make themselves be called by the same names, and reputed the same things with them, as afterwards they come to be.

107 There doth, nevertheless, remain one difficulty, which

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perhaps may seem to press hard on our opinion, and deserve not to be passed over: For though it be granted that neither the colour, size, nor figure of the visible feet have any necessary connexion with the ideas that compose the tangible feet, so as to bring them at first sight into my mind, or make me in danger of confounding them before I had been used to, and for some time experienced their connexion: yet thus much seems undeniable, namely, that the number of the visible feet, being the same with that of the tangible feet, I may from hence without any experience of sight, reasonably conclude, that they represent or are connected with the feet rather than the head. I say, it seems the idea of two visible feet will sooner suggest to the mind the idea of two tangible feet than of one head; so that the blind man upon first reception of the visive faculty might know which were the feet or two, and which the head or one.

108 In order to get clear of this seeming difficulty, we need only observe, that diversity of visible objects doth not necessarily infer diversity of tangible objects corresponding to them. A picture painted with great variety of colours affects the touch in one uniform manner; it is therefore evident, that I do not by any necessary consecution, independent of experience, judge of the number of things tangible, from the number of things visible. I shou'd not therefore at first opening my eyes conclude, that because I see two I shall feel two. How, therefore can I, before experience teaches me, know that the visible legs, because two, are connected with the tangible legs, or the visible head, because one, is connected with the tangible head? The truth is, the things I see are so very different and heterogeneous from the things I feel, that the perception of the one would never have suggested the other to my thoughts, or enabled me to pass the least judgment thereon, until I had experienced their connexion.

109 But for a fuller illustration of this matter, it ought to be considered that number (however some may reckon it amongst the primary qualities) is nothing fixed and settled, really existing in things themselves. It is intirely the creature of the mind, considering, either an idea by it self, or any combination of ideas to which it gives one name, and so makes it pass for an unit. According as the mind variously combines its ideas, the unit varies; and as the unit, so the number, which is only a collection

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of units, doth also vary. We call a window one, a chimney one, and yet a house in which there are many windows, and many chimneys, hath an equal right to be called one, and many houses go to the making of one city. In these and the like instances, it is evident the unit constantly relates to the particular draughts the mind makes of its ideas, to which it affixes names, and wherein it includes more or less, as best suits its own ends and purposes. Whatever therefore the mind considers as one, that is an unit. Every combination of ideas is considered as one thing by the mind, and in token thereof is marked by one name. Now, this naming and combining together of ideas is perfectly arbitrary, and done by the mind in such sort, as experience shews it to be most convenient: Without which, our ideas had never been collected into such sundry distinct combinations as they now are.

110 Hence it follows, that a man born blind, and afterwards, when grown up, made to see would not in the first act of vision parcel out the ideas of sight into the same distinct collections that others do, who have experienced which do regularly coexist and are proper to be bundled up together under one name. He would not, for example, make into one complex idea, and thereby esteem and unite, all those particular ideas, which constitute the visible head or foot. For there can be no reason assigned why he should do so, barely upon his seeing a man stand upright before him: There croud into his mind the ideas which compose the visible man, in company with all the other ideas of sight perceived at the same time: But all these ideas offered at once to his view, he would not distribute into sundry distinct combinations, till such time as by observing the motion of the parts of the man and other experiences, he comes to know which are to be separated, and which to be collected together.

111 From what hath been premised, it is plain the objects of sight and touch make, if I may so say, two sets of ideas which are widely different from each other. To objects of either kind, we indifferently attribute the terms high and low, right and left, and such like, denoting the position or situation of things: But then we must well observe that the position of any object is determined with respect only to objects of the same sense. We say any object of touch is high or low, according as it is more or less distant from the tangible earth: And in like manner we denominate any object of sight high or low, in proportion as it is more or less distant from the visible earth: But to define the situation of visible things, with relation to the distance they bear

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from any tangible thing, or *vice versa*, this were absurd and perfectly unintelligible. For all visible things are equally in the mind, and take up no part of the external space: And consequently are equidistant from any tangible thing, which exists without the mind.

112 Or rather to speak truly, the proper objects of sight are at no distance, neither near nor far, from any tangible thing. For if we inquire narrowly into the matter we shall find that those things only are compared together in respect of distance, which exist after the same manner, or appertain unto the same sense. For by the distance between any two points, nothing more is meant than the number of intermediate points: If the given points are visible, the distance between them is marked out by the number of the interjacent visible points: If they are tangible, the distance between them is a line consisting of tangible points; but if they are one tangible and the other visible, the distance between them doth neither consist of points perceivable by sight nor by touch,*i.e.* it is utterly inconceivable. This, perhaps, will not find an easy admission into all men's understanding: However, I should gladly be informed whether it be not true, by any one who will be at the pains to reflect a little, and apply it home to his thoughts.

113 The not observing what has been delivered in the two last sections, seems to have occasioned no small part of the difficulty that occurs in the business of erect appearances. The head, which is painted nearest the earth, seems to be farthest from it; and on the other hand, the feet, which are painted farthest from the earth, are thought nearest to it. Herein lies the difficulty, which vanishes if we express the thing more clearly and free from ambiguity, thus: How comes it that, to the eye, the visible head which is nearest the tangible earth, seems farthest from the earth, and the visible feet, which are farthest from the tangible earth, seem nearest the earth? The question being thus proposed, who sees not the difficulty is founded on a supposition, that the eye, or visive faculty, or rather the soul by means thereof, should judge of the situation of visible objects, with reference to their distance from the tangible earth? Whereas it is evident the tangible earth is not

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perceived by sight: And it hath been shewn in the two last preceding sections, that the location of visible objects is determined only by the distance they bear from one another; and that it is nonsense to talk of distance, far or near, between a visible and tangible thing.

114 If we confine our thoughts to the proper objects of sight, the whole is plain and easy. The head is painted farthest from, and the feet nearest to the visible earth; and so they appear to be. What is there strange or unaccountable in this? Let us suppose the pictures in the fund of the eye, to be the immediate objects of the sight. The consequence is, that things should appear in the same posture they are painted in; and is it not so? The head which is seen, seems farthest from the earth which is seen; and the feet which are seen, seem nearest to the earth which is seen; and just so they are painted.

115 But, say you, the picture of the man is inverted, and yet the appearance is erect: I ask, what mean you by the picture of the man, or, which is the same thing, the visible man's being inverted? You tell me it is inverted, because the heels are uppermost, and the head undermost? Explain me this. You say, that by the head's being undermost, you mean that it is nearest to the earth; and by the heels being uppermost, that they are farthest from the earth. I ask again, what earth you mean? You cannot mean the earth that is painted on the eye, or the visible earth: For the picture of the head is farthest from the picture of the earth, and the picture of the feet nearest to the picture of the earth; and accordingly the visible head is farthest from the visible earth, and the visible feet nearest to it. It remains, therefore, that you mean the tangible earth, and so determine the situation of visible things with respect to tangible things; contrary to what hath been demonstrated in sect. CXI. and CXII. The two distinct provinces of sight and touch should be considered apart, and as if their objects had no intercourse, no manner of relation to one another, in point of distance or position.

116 Farther, what greatly contributes to make us mistake in this matter is, that when we think of the pictures in the fund of the eye, we imagine our selves looking on the fund of another's eye, or another looking on the fund of our own eye, and beholding the pictures painted thereon. Suppose two eyes A and B: A from

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some distance looking on the pictures in B sees them inverted, and for that reason concludes they are inverted in B: But this is wrong. There are projected in little on the bottom of A, the images of the pictures of, suppose man, earth, &c., which are painted on B. And besides these, the eye B it self, and the objects which environ it, together with another earth, are projected in a larger size on A. Now, by the eye A, these larger images are deemed the true objects, and the lesser only pictures in miniature. And it is with respect to those greater images, that it determines the situation of the smaller images: So that comparing the little man with the great earth, A judges him inverted, or that the feet are farthest from, and the head nearest to the great earth. Whereas, if A compare the little man with the little earth, then he will appear erect, i.e. his head shall seem farthest from, and his feet nearest to the little earth. But we must consider that B does not see two earths as A does: It sees only what is represented by the little pictures in A, and consequently shall judge the man erect: For, in truth, the man in B is not inverted, for there the feet are next the earth; but it is the representation of it in A which is inverted, for there the head of the representation of the picture of the man in B is next the earth, and the feet farthest from the earth, meaning the earth which is without the representation of the pictures in B. For if you take the little images of the pictures in B, and consider them by themselves, and with respect only to one another, they are all erect and in their natural posture.

117 Farther, there lies a mistake in our imagining that the pictures of external objects are painted on the bottom of the eye. It hath been shewn there is no resemblance between the ideas of sight, and things tangible. It hath likewise been demonstrated, that the proper objects of sight do not exist without the mind. Whence it clearly follows, that the pictures painted on the bottom of the eye, are not the pictures of external objects. Let any one consult his own thoughts, and then say what affinity, what likeness there is between that certain variety and disposition of colours, which constitute the visible man, or picture of a man, and that other combination of far different ideas, sensible by touch, which compose the tangible man. But if this be the case, how come they to be accounted pictures or images, since that supposes them to copy or represent some originals or other?

118 To which I answer: In the forementioned instance, the

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eye A takes the little images, included within the representation of the other eye B, to be pictures or copies, whereof the archetypes are not things existing without, but the larger pictures projected on its own fund: and which by A are not thought pictures, but the originals, or true things themselves. Though if we suppose a third eye C, from a due distance to behold the fund of A, then indeed the things projected thereon, shall, to C, seem pictures or images, in the same sense that those projected on B do to A.

119 Rightly to conceive this point, we must carefully distinguish between the ideas of sight and touch, between the visible and tangible eye; for certainly on the tangible eye, nothing either is or seems to be painted. Again, the visible eye, as well as all other visible objects, hath been shewn to exist only in the mind, which perceiving its own ideas, and comparing them together, calls some *pictures* in respect of others. What hath been said, being rightly comprehended and laid together, doth, I think, afford a full and genuine explication of the erect appearance of objects; which phænomenon, I must confess, I do not see how it can be explained by any theories of vision hitherto made publick.

120 In treating of these things, the use of language is apt to occasion some obscurity and confusion, and create in us wrong ideas: For language being accommodated to the common notions and prejudices of men, it is scarce possible to deliver the naked and precise truth, without great circumlocution, impropriety, and (to an unwary reader) seeming contradictions: I do, therefore, once for all desire whoever shall think it worth his while to understand what I have written concerning vision, that he would not stick in this or that phrase, or manner of expression, but candidly collect my meaning from the whole sum and tenor of my discourse, and laying aside the words as much as possible, consider the bare notions themselves, and then judge whether they are agreeable to truth and his own experience, or no.

121 We have shewn the way wherein the mind by mediation of visible ideas doth perceive or apprehend the distance, magnitude, and situation of tangible objects. I come now to inquire more particularly concerning the difference between the ideas of sight and touch, which are called by the same names, and see

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whether there be any idea common to both senses. From what we have at large set forth and demonstrated in the foregoing parts of this treatise, it is plain there is no one self same numerical extension, perceived both by sight and touch; but that the particular figures and extensions perceived by sight, however they may be called by the same names, and reputed the same things, with those perceived by touch, are nevertheless different, and have an existence distinct and separate from them: So that the question is not now concerning the same numerical ideas, but whether there be any one and the same sort or species of ideas equally perceivable to both senses? or, in other words, whether extension, figure, and motion perceived by sight, are not specifically distinct from extension, figure, and motion perceived by touch?

122 But before I come more particularly to discuss this matter, I find it proper to consider extension in abstract: For of this there is much talk, and I am apt to think, that when men speak of extension, as being an idea common to two senses, it is with a secret supposition, that we can single out extension from all other tangible and visible qualities, and form thereof an abstract idea, which idea they will have common both to sight and touch. We are therefore to understand by extension in abstract, an idea of extension; for instance, a line or surface, intirely stript of all other sensible qualities and circumstances that might determine it to any particular existence; it is neither black nor white, nor red, nor hath it any colour at all, or any tangible quality whatsoever, and consequently it is of no finite determinate magnitude: For that which bounds or distinguishes one extension from another, is some quality or circumstance wherein they disagree.

123 Now I do not find that I can perceive, imagine, or any wise frame in my mind such an abstract idea as is here spoken of. A line or surface, which is neither black, nor white, nor blue, nor yellow, &c. nor long, nor short, nor rough, nor smooth, nor square, nor round, &c. is perfectly incomprehensible. This I am sure of as to my self; how far the faculties of other men may reach, they best can tell.

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124 It is commonly said, that the object of geometry is abstract extension; but geometry contemplates figures: Now, figure is the termination of magnitude, but we have shewn that extension in abstract hath no finite determinate magnitude, whence it clearly follows that it can have no figure, and consequently is not the object of geometry. It is indeed a tenet as well of the modern as of the ancient philosophers, that all general truths are concerning universal abstract ideas; without which, we are told, there could be no science, no demonstration of any general proposition in geometry. But it were no hard matter, did I think it necessary to my present purpose, to shew that propositions and demonstrations in geometry might be universal, though they who make them never think of abstract general ideas of triangles or circles.

125 After reiterated endeavours to apprehend the general idea of a triangle, I have found it altogether incomprehensible. And surely if any one were able to introduce that idea into my mind, it must be the author of the *Essay concerning Human Understanding*; He, who has so far distinguished himself from the generality of writers, by the clearness and significancy of what he says. Let us therefore see how this celebrated author describes the general, or abstract idea of a triangle. 'It must be (says he) neither oblique, nor rectangular, neither equilateral, equicrural, nor scalenum; but all and none of these at once. In effect it is somewhat imperfect that cannot exist; an idea, wherein some parts of several different and inconsistent ideas are put together' *Essay on Hum. Understand. B.* iv. *C.* 7. *S.* 9. This is the idea which he thinks needful for the enlargement of knowledge, which is the subject of mathematical demonstration, and without which we could never come to know any general proposition concerning triangles. That author acknowledges it doth 'require some pains and skill to form this general idea of a triangle.'*ibid.* But had he called to mind what he says in another place, to wit, 'That ideas of mixed modes wherein any inconsistent ideas are put together cannot so much as exist in the mind, *i.e.* be

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conceived.' *vid.* B. iii. *C.* 10. *S.* 33. *ibid.* I say, had this occurred to his thoughts, it is not improbable he would have owned it above all the pains and skill he was master of, to form the above-mentioned idea of a triangle, which is made up of manifest, staring contradictions. That a man who thought so much, and laid so great a stress on clear and determinate ideas, shou'd nevertheless talk at this rate, seems very surprising. But the wonder will lessen if it be considered, that the source whence this opinion flows, is the prolific womb which has brought forth innumerable errors and difficulties, in all parts of philosophy, and in all the sciences: But this matter, taken in its full extent, were a subject too vast and comprehensive to be insisted on in this place. And so much for extension in abstract.

126 Some, perhaps, may think pure space, *vacuum*, or trine dimension to be equally the object of sight and touch: But though we have a very great propension, to think the ideas of outness and space to be the immediate object of sight; yet if I mistake not, in the foregoing parts of this essay, that hath been clearly demonstrated to be a mere delusion, arising from the quick and sudden suggestion of fancy, which so closely connects the idea of distance with those of sight, that we are apt to think it is it self a proper and immediate object of that sense, till reason corrects the mistake.

127 It having been shewn that there are no abstract ideas of figure, and that it is impossible for us, by any precision of thought, to frame an idea of extension separate from all other visible and tangible qualities, which shall be common both to sight and touch: The question now remaining is, whether the particular extensions, figures, and motions perceived by sight be of the same kind, with the particular extensions, figures, and motions perceived by touch? In answer to which, I shall venture to lay down the following proposition: *The extension, figures, and motions, perceived by sight are specifically distinct from the ideas of touch, called by the same names, nor is there any such thing as one idea or kind of idea common to*

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*both senses.* This proposition may, without much difficulty, be collected from what hath been said in several places of this essay. But because it seems so remote from, and contrary to, the received notions and settled opinion of mankind, I shall attempt to demonstrate it more particularly, and at large, by the following arguments.

128 When upon perception of an idea, I range it under this or that sort, it is because it is perceived after the same manner, or because it has a likeness or conformity with, or affects me in the same way as the ideas of the sort I rank it under. In short, it must not be intirely new, but have something in it old, and already perceived by me: it must, I say, have so much at least, in common with the ideas I have before known and named as to make me give it the same name with them. But it has been, if I mistake not, clearly made out, that a man born blind wou'd not at first reception of his sight, think the things he saw were of the same nature with the objects of touch, or had any thing in common with them; but that they were a new set of ideas, perceived in a new manner, and intirely different from all he had ever perceived before: So that he would not call them by the same name, nor repute them to be of the same sort, with any thing he had hitherto known.

129 *Secondly*, light and colours are allowed by all to constitute a sort or species intirely different from the ideas of touch: Nor will any man, I presume, say they can make themselves perceived by that sense: But there is no other immediate object of sight besides light and colours. It is therefore a direct consequence, that there is no idea common to both senses.

130 It is a prevailing opinion, even amongst those who have thought and writ most accurately concerning our ideas, and the ways whereby they enter into the understanding, that something more is perceived by sight, than barely light and colours with their variations. Mr. Locke termeth sight, 'The most comprehensive of all our senses, conveying to our minds the ideas of light and colours, which are peculiar only to that sense; and also the far different ideas of space, figure, and motion.' *Essay on Human Understand.*B. ii. C. 9. S. 9. Space or distance, we have shewn, is not otherwise the object of sight than of hearing.

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*vid.* sect. XLVI. And as for figure and extension, I leave it to any one, that shall calmly attend to his own clear and distinct ideas, to decide whether he has any idea intromitted immediately and properly by sight, save only light and colours: Or whether it be possible for him to frame in his mind a distinct abstract idea of visible extension, or figure, exclusive of all colour; and on the other hand, whether he can conceive colour without visible extension? For my own part, I must confess, I am not able to attain so great a nicety of abstraction; in a strict sense, I see nothing but light and colours, with their several shades and variations. He who beside these doth also perceive by sight ideas far different and distinct from them, hath that faculty in a degree more perfect and comprehensive than I can pretend to. It must be owned, that by the mediation of light and colours, other far different ideas are suggested to my mind: but so they are by hearing, which beside sounds which are peculiar to that sense, doth by their mediation suggest not only space, figure, and motion, but also all other ideas whatsoever that can be signified by words.

131 *Thirdly*, it is, I think, an axiom universally received, that quantities of the same kind may be added together, and make one intire sum. Mathematicians add lines together; but they do not add a line to a solid, or conceive it as making one sum with a surface: These three kinds of quantity being thought incapable of any such mutual addition, and consequently of being compared together, in the several ways of proportion, are by them esteemed intirely disparate and heterogeneous. Now let any one try in his thoughts to add a visible line or surface to a tangible line or surface, so as to conceive them making one continued sum or whole. He that can do this, may think them homogeneous; but he that cannot must, by the foregoing axiom, think them heterogeneous: A blue, and a red line I can conceive added together into one sum, and making one continued line; but to make, in my thoughts, one continued line of a visible and tangible line added together is, I find, a task far more difficult, and even insurmountable; and I leave it to the reflexion and experience of every particular person to determine for himself.

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132 A farther confirmation of our tenet may be drawn from the solution of Mr.*Molyneux's* problem, published by Mr. *Locke* in his *Essay*: Which I shall set down as it there lies, together with Mr. Locke's opinion of it, '*Suppose a man born blind, and now adult, and taught by his touch to distinguish between a cube and a sphere of the same metal, and nighly of the same bigness, so as to tell, when he felt one and t'other, which is the cube and which the sphere. Suppose then the cube and sphere placed on a table, and the blind man to be made to see:* Quaere, *Whether by his sight, before he touched them, he could now distinguish and tell which is the globe, which the cube.* To which the acute and judicious proposer answers: *Not. For though he has obtained the experience of how a globe, how a cube affects his touch; yet he has not yet attained the experience, that what affects his touch so or so must affect his sight so or so: Or that a protuberant angle in the cube, that pressed his hand unequally, shall appear to his eye, as it doth in the cube.* I agree with this thinking gentleman, whom I am proud to call my friend, in his answer to this his problem; and am of opinion, that the blind man, at first sight would not be able with certainty to say, which was the globe, which the cube, whilst he only saw them.' (*Essay on Human Understanding,* B. ii. C. 9. S. 8).

133 Now, if a square surface perceived by touch be of the same sort with a square surface perceived by sight; it is certain the blind man here mentioned might know a square surface as soon as he saw it: It is no more but introducing into his mind, by a new inlet, an idea he has been already well acquainted with. Since therefore he is supposed to have known by his touch, that a cube is a body terminated by square surfaces; and that a sphere is not terminated by square surfaces: upon the supposition that a visible and tangible square differ only *in numero,* it follows, that he might know, by the unerring mark of the square surfaces, which was the cube, and which not, while he only saw them. We must therefore allow, either that visible

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extension and figures are specifically distinct from tangible extension and figures, or else, that the solution of this problem, given by those two thoughtful and ingenious men, is wrong.

134 Much more might be laid together in proof of the proposition I have advanced: but what has been said is, if I mistake not, sufficient to convince any one that shall yield a reasonable attention: And, as for those that will not be at the pains of a little thought, no multiplication of words will ever suffice to make them understand the truth, or rightly conceive my meaning.

135 I cannot let go the above-mentioned problem without some reflexion on it. It hath been made evident, that a man blind from his birth would not, at first sight, denominate any thing he saw, by the names he had been used to appropriate to ideas of touch, *vid.*sect. CVI. Cube, sphere, table, are words he has known applied to things perceivable by touch, but to things perfectly intangible he never knew them applied. Those words, in their wonted application, always marked out to his mind bodies, or solid things which were perceived by the resistance they gave: But there is no solidity, no resistance or protrusion perceived by sight. In short, the ideas of sight are all new perceptions, to which there be no names annexed in his mind; he cannot therefore understand what is said to him concerning them: And to ask of the two bodies he saw placed on the table, which was the sphere, which the cube, were to him a question downright bantering and unintelligible; nothing he sees being able to suggest to his thoughts the idea of body, distance, or in general of any thing he had already known.

136 It is a mistake, to think the same thing affects both sight and touch. If the same angle or square, which is the object of touch, be also the object of vision, what should hinder the blind man, at first sight, from knowing it? For though the manner wherein it affects the sight, be different from that wherein it affected his touch; yet, there being, beside this manner or circumstance, which is new and unknown, the angle or figure, which is old and known, he cannot choose but discern it.

137 Visible figure and extension having been demonstrated to be of a nature, intirely different and heterogeneous from tangible figure and extension, it remains that we inquire concerning motion. Now that visible motion is not of the same sort with tangible motion, seems to need no farther proof, it being

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an evident corollary from what we have shewn concerning the difference there is between visible and tangible extension: But for a more full and express proof hereof, we need only observe, that one who had not yet experienced vision, would not at first sight know motion. Whence it clearly follows, that motion perceivable by sight is of a sort distinct from motion perceivable by touch. The antecedent I prove thus: By touch he could not perceive any motion, but what was up or down, to the right or left, nearer or farther from him; besides these, and their several varieties or complications, it is impossible he should have any idea of motion. He would not therefore think any thing to be motion, or give the name motion to any idea, which he cou'd not range under some or other of those particular kinds thereof. But from sect. XCV. it is plain that by the meer act of vision, he could not know motion upwards or downwards, to the right or left, or in any other possible direction. From which I conclude, he wou'd not know motion at all at first sight. As for the idea of motion in abstract, I shall not waste paper about it, but leave it to my reader to make the best he can of it. To me it is perfectly unintelligible.

138 The consideration of motion may furnish a new field for inquiry: But since the manner wherein the mind apprehends by sight the motion of tangible objects, with the various degrees thereof, may be easily collected, from what hath been said concerning the manner wherein that sense doth suggest their various distances, magnitudes, and situations, I shall not enlarge any farther on this subject, but proceed to inquire what may be alledged with greatest appearance of reason, against the proposition we have shewn to be true: For where there is so much prejudice to be encountered, a bare and naked demonstration of the truth will scarce suffice. We must also satisfy the scruples that men may raise in favour of their preconceived notions, shew whence the mistake arises, how it came to spread, and carefully disclose and root out those false persuasions that an early prejudice might have implanted in the mind.

139 *First*, therefore, it will be demanded, how visible extension and figures come to be called by the same name with tangible extension and figures, if they are not of the same kind with them? It must be something more than humour or accident, that could

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occasion a custom so constant and universal as this, which has obtained in all ages and nations of the world, and amongst all ranks of men, the learned as well as the illiterate.

140 To which I answer, we can no more argue a visible and tangible square to be of the same species, from their being called by the same name, than we can, that a tangible square and the monosyllable consisting of six letters, whereby it is marked, are of the same species because they are both called by the same name. It is customary to call written words, and the things they signify, by the same name: For words not being regarded in their own nature, or otherwise than as they are marks of things, it had been superfluous, and beside the design of language, to have given them names distinct from those of the things marked by them. The same reason holds here also. Visible figures are the marks of tangible figures, and from sect. LIX. it is plain, that in themselves they are little regarded, or upon any other score than for their connexion with tangible figures, which by nature they are ordained to signify. And because this language of nature does not vary in different ages or nations, hence it is, that in all times and places, visible figures are called by the same names as the respective tangible figures suggested by them, and not because they are alike, or of the same sort with them.

141 But, say you, surely a tangible square is liker to a visible square, than to a visible circle: It has four angles, and as many sides; so also has the visible square, but the visible circle has no such thing, being bounded by one uniform curve, without right lines or angles, which makes it unfit to represent the tangible square, but very fit to represent the tangible circle. Whence it clearly follows, that visible figures are patterns of, or of the same species with the respective tangible figures represented by them; that they are like unto them, and of their own nature fitted to represent them, as being of the same sort; and that they are in no respect arbitrary signs, as words.

142 I answer, it must be acknowledged, the visible square is fitter than the visible circle, to represent the tangible square, but then it is not because it is liker, or more of a species with it; but because the visible square contains in it several distinct parts, whereby to mark the several distinct, corresponding parts of a tangible square, whereas the visible circle doth not. The square perceived by touch, hath four distinct, equal sides, so also hath it four distinct equal angles. It is therefore necessary that the

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visible figure which shall be most proper to mark it, contain four distinct, equal parts corresponding to the four sides of the tangible square; as likewise four other distinct and equal parts, whereby to denote the four equal angles of the tangible square. And accordingly we see the visible figures contain in them distinct visible parts, answering to the distinct tangible parts of the figures signified or suggested by them.

143 But it will not hence follow, that any visible figure is like unto, or of the same species with its corresponding tangible figure, unless it be also shewn that not only the number, but also the kind of the parts be the same in both. To illustrate this, I observe that visible figures represent tangible figures, much after the same manner that written words do sounds. Now, in this respect, words are not arbitrary, it not being indifferent, what written word stands for any sound: But it is requisite, that each word contain in it so many distinct characters, as there are variations in the sound it stands for. Thus the single letter *a* is proper to mark one simple uniform sound; and the word *adultery* is accommodated to represent the sound annexed to it, in the formation whereof, there being eight different collisions, or modifications of the air by the organs of speech, each of which produces a difference of sound, it was fit the word representing it should consist of as many distinct characters, thereby to mark each particular difference or part of the whole sound: And yet no body, I presume, will say, the single letter *a*, or the word*adultery*, are like unto, or of the same species with the respective sounds by them represented. It is indeed arbitrary that, in general, letters of any language represent sounds at all; but when that is once agreed, it is not arbitrary what combination of letters shall represent this or that particular sound. I leave this with the reader to pursue, and apply it in his own thoughts.

144 It must be confessed that we are not so apt to confound other signs with the things signified, or to think them of the same species, as we are visible and tangible ideas. But a little consideration will shew us how this may be, without our supposing them of a like nature. These signs are constant and universal, their connexion with tangible ideas has been learnt at our first entrance into the world; and ever since, almost every moment of our lives, it has been occurring to our thoughts, and fastening and striking deeper on our minds. When we observe that signs are variable, and of human institution; when we remember, there was a time

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they were not connected in our minds, with those things they now so readily suggest; but that their signification was learned by the slow steps of experience: This preserves us from confounding them. But when we find the same signs suggest the same things all over the world; when we know they are not of human institution, and cannot remember that we ever learned their signification, but think that at first sight they would have suggested to us the same things they do now: All this persuades us they are of the same species as the things respectively represented by them, and that it is by a natural resemblance they suggest them to our minds.

145 Add to this, that whenever we make a nice survey of any object, successively directing the optic axis to each point thereof; there are certain lines and figures described by the motion of the head or eye, which being in truth perceived by feeling, do nevertheless so mix themselves, as it were, with the ideas of sight, that we can scarce think but they appertain to that sense. Again, the ideas of sight enter into the mind, several at once, more distinct and unmingled, than is usual in the other senses beside the touch. Sounds, for example, perceived at the same instant, are apt to coalesce, if I may so say, into one sound: But we can perceive at the same time great variety of visible objects, very separate and distinct from each other. Now tangible extension being made up of several distinct coexistent parts, we may hence gather another reason, that may dispose us to imagine a likeness or analogy between the immediate objects of sight and touch. But nothing, certainly, doth more contribute to blend and confound them together, than the strict and close connexion they have with each other. We cannot open our eyes, but the ideas of distance, bodies, and tangible figures are suggested by them. So swift and sudden, and unperceived is the transition from visible to tangible ideas, that we can scarce forbear thinking them equally the immediate object of vision.

146 The prejudice, which is grounded on these, and whatever other causes may be assigned thereof, sticks so fast, that it is impossible without obstinate striving and labour of the mind, to get intirely clear of it. But then the reluctancy we find, in rejecting any opinion, can be no argument of its truth, to whoever considers what has been already shewn, with regard to the prejudices we entertain concerning the distance, magnitude, and situation of objects; prejudices so familiar to our minds, so confirmed and inveterate, as they will hardly give way to the clearest demonstration.

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147 Upon the whole, I think we may fairly conclude, that the proper objects of vision constitute an universal language of the Author of nature, whereby we are instructed how to regulate our actions, in order to attain those things that are necessary to the preservation and well-being of our bodies, as also to avoid whatever may be hurtful and destructive of them. It is by their information that we are principally guided in all the transactions and concerns of life. And the manner wherein they signify, and mark unto us the objects which are at a distance, is the same with that of languages and signs of human appointment, which do not suggest the things signified, by any likeness or identity of nature, but only by an habitual connexion, that experience has made us to observe between them.

148 Suppose one who had always continued blind, be told by his guide, that after he has advanced so many steps, he shall come to the brink of a precipice, or be stopt by a wall; must not this to him seem very admirable and surprizing? He cannot conceive how it is possible for mortals to frame such predictions as these, which to him would seem as strange and unaccountable as prophesy doth to others. Even they who are blessed with the visive faculty, may (though familiarity make it less observed) find therein sufficient cause of admiration. The wonderful art and contrivance wherewith it is adjusted to those ends and purposes for which it was apparently designed, the vast extent, number, and variety of objects that are at once with so much ease, and quickness, and pleasure suggested by it: All these afford subject for much and pleasing speculation, and may, if any thing, give us some glimmering, analogous prænotion of things which are placed beyond the certain discovery and comprehension of our present state.

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149 I do not design to trouble my self with drawing corollaries from the doctrine I have hitherto laid down. If it bears the test, others may, so far as they shall think convenient, employ their thoughts in extending it farther, and applying it to whatever purposes it may be subservient to: Only, I cannot forbear making some inquiry concerning the object of geometry, which the subject we have been upon doth naturally lead one to. We have shewn there is no such idea as that of extension in abstract, and that there are two kinds of sensible extension and figures, which are intirely distinct and heterogeneous from each other. Now, it is natural to inquire which of these is the object of geometry.

150 Some things there are, which at first sight incline one to think geometry conversant about visible extension. The constant use of the eyes, both in the practical and speculative parts of that science, doth very much induce us thereto. It would, without doubt, seem odd to a mathematician to go about to convince him, the diagrams he saw upon paper were not the figures, or even the likeness of the figures, which make the subject of the demonstration. The contrary being held an unquestionable truth, not only by mathematicians, but also by those who apply themselves more particularly to the study of logick; I mean, who consider the nature of science, certainty, and demonstration: It being by them assigned as one reason of the extraordinary clearness and evidence of geometry, that in this science the reasonings are free from those inconveniences, which attend the use of arbitrary signs, the very ideas themselves being copied out, and exposed to view upon paper. But, by the bye, how well this agrees with what they likewise assert of abstract ideas, being the object of geometrical demonstration, I leave to be considered.

151 To come to a resolution in this point, we need only observe what hath been said in sect. LIX. LX. LXI., where it is shewn that visible extensions in themselves are little regarded, and have no settled determinate greatness, and that men measure altogether, by the application of tangible extension to tangible extension. All which makes it evident, that visible extension and figures are not the object of geometry.

152 It is therefore plain that visible figures are of the same use in geometry, that words are: and the one may as well be accounted the object of that science, as the other; neither of them being any otherwise concerned therein, than as they represent

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or suggest to the mind the particular tangible figures connected with them. There is indeed this difference between the signification of tangible figures by visible figures, and of ideas by words: That whereas the latter is variable and uncertain, depending altogether on the arbitrary appointment of men, the former is fixed and immutably the same in all times and places. A visible square, for instance, suggests to the mind the same tangible figure in Europe that it doth in America. Hence it is that the voice of the Author of nature, which speaks to our eyes, is not liable to that misinterpretation and ambiguity, that languages of human contrivance are unavoidably subject to.

153 Though what has been said may suffice to shew what ought to be determined, with relation to the object of geometry; I shall nevertheless, for the fuller illustration thereof, consider the case of an intelligence, or unbodied spirit, which is supposed to see perfectly well, *i.e.* to have a clear perception of the proper and immediate objects of sight, but to have no sense of touch. Whether there be any such being in nature or no is beside my purpose to inquire. It sufficeth, that the supposition contains no contradiction in it. Let us now examine, what proficiency such a one may be able to make in geometry. Which speculation will lead us more clearly to see, whether the ideas of sight can possibly be the object of that science.

154 *First*, then, it is certain the aforesaid intelligence could have no idea of a solid, or quantity of three dimensions, which followeth from its not having any idea of distance. We indeed are prone to think, that we have by sight the ideas of space and solids, which ariseth from our imagining that we do, strictly speaking, see distance, and some parts of an object at a greater distance than others, which hath been demonstrated to be the effect of the experience we have had, what ideas of touch are connected with such and such ideas attending vision: But the intelligence here spoken of is supposed to have no experience of touch. He would not, therefore, judge as we do, nor have any idea of distance, outness, or profundity, nor consequently of space or body, either immediately or by suggestion. Whence it is plain, he can have no notion of those parts of geometry which relate to the mensuration of solids, and their convex or concave surfaces, and contemplate the properties of lines generated

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by the section of a solid. The conceiving of any part whereof, is beyond the reach of his faculties.

155 Farther, he cannot comprehend the manner wherein geometers describe a right line or circle; the rule and compass with their use, being things of which it is impossible he should have any notion: Nor is it an easier matter for him to conceive the placing of one plain or angle on another, in order to prove their equality: Since that supposeth some idea of distance, or external space. All which makes it evident, our pure intelligence could never attain to know so much as the first elements of plain geometry. And perhaps, upon a nice inquiry, it will be found, he cannot even have an idea of plain figures any more than he can of solids; since some idea of distance is necessary, to form the idea of a geometrical plain, as will appear to whoever shall reflect a little on it.

156 All that is properly perceived by the visive faculty amounts to no more than colours with their variations, and different proportions of light and shade: But the perpetual mutability and fleetingness of those immediate objects of sight, render them incapable of being managed after the manner of geometrical figures; nor is it in any degree useful that they should. It is true, there are divers of them perceived at once; and more of some, and less of others: But accurately to compute their magnitude, and assign precise determinate proportions, between things so variable and inconstant, if we suppose it possible to be done, must yet be a very trifling and insignificant labour.

157 I must confess, it seems to be the opinion of some ingenious men, that flat or plain figures are immediate objects of sight, though they acknowledge solids are not. And this opinion of theirs is grounded on what is observed in painting, wherein (say they) the ideas immediately imprinted on the mind are only of plains variously coloured, which by a sudden act of the judgment are changed into solids: But, with a little attention we shall find the plains here mentioned, as the immediate objects of sight, are not visible, but tangible plains. For when we say that pictures are plains: we mean thereby, that they appear to the touch smooth and uniform. But then this smoothness and uniformity, or, in other words, this plainness of the picture, is not perceived immediately by vision: For it appeareth to the eye various and multiform.

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158 From all which we may conclude, that plains are no more the immediate object of sight than solids. What we strictly see are not solids, nor yet plains variously coloured; they are only diversity of colours. And some of these suggest to the mind solids, and others plain figures; just as they have been experienced to be connected with the one, or the other: So that we see plains, in the same way that we see solids; both being equally suggested by the immediate objects of sight, which accordingly are themselves denominated plains and solids: But though they are called by the same names with the things marked by them, they are nevertheless of a nature intirely different, as hath been demonstrated.

159 What hath been said is, if I mistake not, sufficient to decide the question we proposed to examine, concerning the ability of a pure spirit, such as we have described, to know *geometry*: It is, indeed, no easy matter for us to enter precisely into the thoughts of such an intelligence; because we cannot, without great pains, cleverly separate and disintangle in our thoughts the proper objects of sight from those of touch which are connected with them. This, indeed, in a compleat degree, seems scarce possible to be performed: Which will not seem strange to us, if we consider how hard it is, for any one to hear the words of his native language pronounced in his ears without understanding them. Though he endeavour to disunite the meaning from the sound, it will nevertheless intrude into his thoughts, and he shall find it extreme difficult, if not impossible, to put himself exactly in the posture of a foreigner, that never learned the language, so as to be affected barely with the sounds themselves, and not perceive the signification annexed to them. By this time, I suppose, it is clear that neither abstract nor visible extension makes the object of geometry; the not discerning of which may perhaps, have created some difficulty and useless labour in mathematics.

Footnotes

[†1](view?docId=berkeley/berkeley.01.xml;chunk.id=div.berkeley.v1.9;toc.id=div.berkeley.v1.9;brand=default" \l "berk.v1.44tm) See what Descartes and others have written on this Subject.

[†1](view?docId=berkeley/berkeley.01.xml;chunk.id=div.berkeley.v1.9;toc.id=div.berkeley.v1.9;brand=default" \l "berk.v1.49tm) Par. I. Prop. 31, Sect. 9.

[†1](view?docId=berkeley/berkeley.01.xml;chunk.id=div.berkeley.v1.9;toc.id=div.berkeley.v1.9;brand=default" \l "berk.v1.50tm) Molyneux Dioptr., Par. I. Prop. 5.

[†1](view?docId=berkeley/berkeley.01.xml;chunk.id=div.berkeley.v1.9;toc.id=div.berkeley.v1.9;brand=default" \l "berk.v1.53tm) Phil. Trans. Num. 187. p. 314.

[†2](view?docId=berkeley/berkeley.01.xml;chunk.id=div.berkeley.v1.9;toc.id=div.berkeley.v1.9;brand=default" \l "berk.v1.54tm) Numb. 137. p. 323.

[†1](view?docId=berkeley/berkeley.01.xml;chunk.id=div.berkeley.v1.9;toc.id=div.berkeley.v1.9;brand=default" \l "berk.v1.57tm) Diopt. par. 2. c. 7. p. 289.

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# Berkeley, *A Treatise concerning The Principles of Human Knowledge* (1710)

## Title

Wherein the chief causes of error and

difficulty in the Sciences, with the

grounds of Scepticism, Atheism,

and Irreligion, are inquired into[[1]](#footnote-1)

## DEDICATION

TO THE RIGHT HONOURABLE

Thomas, Earl of Pembroke, &c.

KNIGHT OF THE MOST NOBLE ORDER OF THE GARTER,

AND ONE OF THE LORDS OF

HER MAJESTY’S MOST HONOURABLE

PRIVY COUNCIL.

MY LORD,

You’ll, perhaps, wonder that an obscure person, who has not the honour to be known to Your Lordship, should presume to address you in this manner. But that a man, who has written something with a design to promote useful knowledge and religion in the world, should make choice of Your Lordship for his patron, will not be thought strange by any one that is not altogether unacquainted with the present state of the Church and learning, and consequently ignorant how great an ornament and support you are to both. Yet, nothing could have induced me to make you this present of my poor endeavours, were I not encouraged by that candour and native goodness, which is so bright a part in Your Lordship’s character. I might add, my Lord, that the extraordinary favour and bounty you have been pleased to shew towards our Society, gave me hopes, you’d not be unwilling to countenance the studies of one of its members. These considerations determined me to lay this treatise at Your Lordship’s feet. And the rather, because I was ambitious to have it known, that I am with the truest and most profound respect, on account of that learning and virtue which the world so justly admires in Your Lordship,

My Lord,

Your Lordship’s most humble and devoted Servant,

GEORGE BERKELEY.[[2]](#footnote-2)

## THE PREFACE

*What I here make public has, after a long and scrupulous inquiry, seem’d to me evidently true, and not unuseful to be known, particularly to those who are tainted with scepticism, or want a demonstration of the existence and immateriality of* GOD, *or the natural immortality of the soul. Whether it be so or no, I am content the reader should impartially examine. Since I do not think my self any farther concerned for the success of what I have written, than as it is agreeable to* truth. *But to the end* this *may not suffer, I make it my request that the reader suspend his judgment, till he has once*, at least, *read the whole through with that degree of attention and thought which the subject matter shall seem to deserve. For as there are some passages that, taken by themselves, are very liable (nor could it be remedied) to gross misinterpretation, and to be charged with most absurd consequences, which, nevertheless, upon an entire perusal will appear not to follow from them: so likewise, though the whole should be read over, yet, if this be done transiently, ‘tis very probable my sense may be mistaken; but to a thinking reader, I flatter my self, it will be throughout clear and obvious. As for the characters of novelty and singularity, which some of the following notions may seem to bear, ‘tis, I hope, needless to make any apology on that account. He must surely be either very weak, or very little acquainted with the sciences, who shall reject a truth, that is capable of demonstration, for no other reason but because it’s newly known and contrary to the prejudices of mankind. Thus much I thought fit to premise, in order to prevent, if possible, the hasty censures of a sort of men, who are too apt to condemn an opinion before they rightly comprehend it.[[3]](#footnote-3)*

## INTRODUCTION

**i1** Philosophy being nothing else but the study of wisdom and truth, it may with reason be expected, that those who have spent most time and pains in it should enjoy a greater calm and serenity of mind, a greater clearness and evidence of knowledge, and be less disturbed with doubts and difficulties than other men. Yet so it is we see the illiterate bulk of mankind that walk the high-road of plain, common sense, and are governed by the dictates of Nature, for the most part easy and undisturbed. To them nothing that’s familiar appears unaccountable or difficult to comprehend. They complain not of any want of evidence in their senses, and are out of all danger of becoming *sceptics.* But no sooner do we depart from sense and instinct to follow the light of a superior principle, to reason, meditate, and reflect on the nature of things, but a thousand scruples spring up in our minds, concerning those things which before we seemed fully to comprehend. Prejudices and errors of sense do from all parts discover themselves to our view; and endeavouring to correct these by reason we are insensibly drawn into uncouth paradoxes, difficulties, and inconsistences, which multiply and grow upon us as we advance in speculation; till at length, having wander’d through many intricate mazes, we find our selves just where we were, or, which is worse, sit down in a forlorn scepticism.

**i2** The cause of this is thought to be the obscurity of things, or the natural weakness and imperfection of our understandings. It is said the faculties we have are few, and those designed by Nature for the support and comfort of life, and not to penetrate into the inward essence and constitution of things. Besides, the mind of man being finite, when it treats of things which partake of infinity, it is not to be wondered at, if it run into absurdities and contradictions; out of which it is impossible it should ever extricate it self, it being of the nature of infinite not to be comprehended by that which is finite.

**i3** But perhaps we may be too partial to our selves in placing[[4]](#footnote-4) the fault originally in our faculties, and not rather in the wrong use we make of them. It is a hard thing to suppose, that right deductions from true principles should ever end in consequences which cannot be maintained or made consistent. We should believe that God has dealt more bountifully with the sons of men, than to give them a strong desire for that knowledge, which he had placed quite out of their reach. This were not agreeable to the wonted, indulgent methods of Providence, which, whatever appetites it may have implanted in the creatures, doth usually furnish them with such means as, if rightly made use of, will not fail to satisfy them. Upon the whole, I am inclined to think that the far greater part, if not all, of those difficulties which have hitherto amused philosophers, and blocked up the way to knowledge, are entirely owing to our selves. That we have first raised a dust, and then complain, we cannot see.

**i4** My purpose therefore is, to try if I can discover what those principles are, which have introduced all that doubtfulness and uncertainty, those absurdities and contradictions into the several sects of philosophy; insomuch that the wisest men have thought our ignorance incurable, conceiving it to arise from the natural dulness and limitation of our faculties. And surely it is a work well deserving our pains, to make a strict inquiry concerning the first principles of *human knowledge*, to sift and examine them on all sides: especially since there may be some grounds to suspect that those lets and difficulties, which stay and embarrass the mind in its search after truth, do not spring from any darkness and intricacy in the objects, or natural defect in the understanding, so much as from false principles which have been insisted on, and might have been avoided.

**i5** How difficult and discouraging soever this attempt may seem, when I consider how many great and extraordinary men have gone before me in the same designs: yet I am not without some hopes, upon the consideration that the largest views are not always the clearest, and that he who is short-sighted will be[[5]](#footnote-5) obliged to draw the object nearer, and may, perhaps, by a close and narrow survey discern that which had escaped far better eyes.

**i6** In order to prepare the mind of the reader for the easier conceiving what follows, it is proper to premise somewhat, by way of introduction, concerning the nature and abuse of language. But the unravelling this matter leads me in some measure to anticipate my design, by taking notice of what seems to have had a chief part in rendering speculation intricate and perplexed, and to have occasioned innumerable errors and difficulties in almost all parts of knowledge. And that is the opinion that the mind hath a power of framing *abstract ideas* or notions of things. He who is not a perfect stranger to the writings and disputes of philosophers, must needs acknowledge that no small part of them are spent about abstract ideas. These are in a more especial manner, thought to be the object of those sciences which go by the name of *Logic* and *Metaphysics*, and of all that which passes under the notion of the most abstracted and sublime learning, in all which one shall scarce find any question handled in such a manner, as does not suppose their existence in the mind, and that it is well acquainted with them.

**i7** It is agreed on all hands, that the qualities or modes of things do never really exist each of them apart by it self, and separated from all others, but are mixed, as it were, and blended together, several in the same object. But we are told, the mind being able to consider each quality singly, or abstracted from those other qualities with which it is united, does by that means frame to it self abstract ideas. For example, there is perceived by sight an object extended, coloured, and moved: this mixed or compound idea the mind resolving into its simple, constituent[[6]](#footnote-6) parts, and viewing each by it self, exclusive of the rest, does frame the abstract ideas of extension, colour, and motion. Not that it is possible for colour or motion to exist without extension: but only that the mind can frame to it self by *abstraction* the idea of colour exclusive of extension, and of motion exclusive of both colour and extension.

**i8** Again, the mind having observed that in the particular extensions perceived by sense, there is something common and alike in all, and some other things peculiar, as this or that figure or magnitude, which distinguish them one from another; it considers apart or singles out by it self that which is common, making thereof a most abstract idea of extension, which is neither line, surface, nor solid, nor has any figure or magnitude but is an idea entirely prescinded from all these. So likewise the mind by leaving out of the particular colours perceived by sense, that which distinguishes them one from another, and retaining that only which is common to all, makes an idea of colour in abstract which is neither red, nor blue, nor white, nor any other determinate colour. And in like manner by considering motion abstractedly not only from the body moved, but likewise from the figure it describes, and all particular directions and velocities, the abstract idea of motion is framed; which equally corresponds to all particular motions whatsoever that may be perceived by sense.

**i9** And as the mind frames to it self abstract ideas of qualities or modes, so does it, by the same precision or mental separation, attain abstract ideas of the more compounded beings, which include several coexistent qualities. For example, the mind having observed that Peter, James, and John, resemble each other, in certain common agreements of shape and other qualities, leaves out of the complex or compounded idea it has of Peter, James, and any other particular man, that which is peculiar to each, retaining only what is common to all; and so makes an abstract idea wherein all the particulars equally partake, abstracting entirely from and cutting off all those circumstances and differences, which might determine it to any particular existence. And after this manner it is said we come by the abstract idea of *man* or, if you please, humanity or human nature; wherein it is true there is included colour, because there is no man but has some colour, but then it can be neither white, nor black, nor any[[7]](#footnote-7) particular colour; because there is no one particular colour wherein all men partake. So likewise there is included stature, but then it is neither tall stature nor low stature, nor yet middle stature, but something abstracted from all these. And so of the rest. Moreover, there being a great variety of other creatures that partake in some parts, but not all, of the complex idea of *man*, the mind leaving out those parts which are peculiar to men, and retaining those only which are common to all the living creatures, frameth the idea of *animal*, which abstracts not only from all particular men, but also all birds, beasts, fishes, and insects. The constituent parts of the abstract idea of animal are body, life, sense, and spontaneous motion. By *body* is meant, body without any particular shape or figure, there being no one shape or figure common to all animals, without covering, either of hair or feathers, or scales, &c. nor yet naked: hair, feathers, scales, and nakedness being the distinguishing properties of particular animals, and for that reason left out of the *abstract idea.* Upon the same account the spontaneous motion must be neither walking, nor flying, nor creeping, it is nevertheless a motion, but what that motion is, it is not easy to conceive.

**i10** Whether others have this wonderful faculty of *abstracting their ideas*, they best can tell: for my self I find indeed I have a faculty of imagining, or representing to my self the ideas of those particular things I have perceived and of variously compounding and dividing them. I can imagine a man with two heads or the upper parts of a man joined to the body of a horse. I can consider the hand, the eye, the nose, each by it self abstracted or separated from the rest of the body. But then whatever hand or eye I imagine, it must have some particular shape and colour. Likewise the idea of man that I frame to my self, must be either of a white, or a black, or a tawny, a straight, or a crooked, a tall, or a low, or a middle-sized man. I cannot by any effort of thought conceive the abstract idea above described. And it is equally impossible for me to form the abstract idea of motion distinct from the body moving, and which is neither swift nor slow, curvilinear nor rectilinear; and the like may be said of all other abstract general ideas whatsoever. To be plain, I own my self able to abstract in one sense, as when I consider some particular parts or qualities separated from others, with which though they are united in some object, yet, it is possible they may really exist[[8]](#footnote-8) without them. But I deny that I can abstract one from another, or conceive separately, those qualities which it is impossible should exist so separated; or that I can frame a general notion by abstracting from particulars in the manner aforesaid. Which two last are the proper acceptations of *abstraction.* And there are grounds to think most men will acknowledge themselves to be in my case. The generality of men which are simple and illiterate never pretend to *abstract notions.* It is said they are difficult and not to be attained without pains and study. We may therefore reasonably conclude that, if such there be, they are confined only to the learned.

**i11** I proceed to examine what can be alleged in defence of the doctrine of abstraction, and try if I can discover what it is that inclines the men of speculation to embrace an opinion, so remote from common sense as that seems to be. There has been a late deservedly esteemed philosopher, who, no doubt, has given it very much countenance by seeming to think the having abstract general ideas is what puts the widest difference in point of understanding betwixt man and beast. “The having of general ideas (*saith he*) is that which puts a perfect distinction betwixt man and brutes, and is an excellency which the faculties of brutes do by no means attain unto. For it is evident we observe no footsteps in them of making use of general signs for universal ideas; from which we have reason to imagine that they have not the faculty of *abstracting* or making general ideas, since they have no use of words or any other general signs. *And a little after.* Therefore, I think, we may suppose that it is in this that the species of brutes are discriminated from men, and ‘tis that proper difference wherein they are wholly separated, and which at last widens to so wide a distance. For if they have any ideas at all, and are not bare machines (as some would have them) we cannot deny them to have some reason. It seems as evident to me that they do some of them in certain instances reason as that they have sense, but it is only in particular ideas, just as they receive them from their senses. They are the best of them tied up within those narrow bounds, and have not (as I think) the faculty to enlarge them by any kind of *abstraction.*” *Essay on Hum. Underst.* B.2. C.11. Sect 10. and 11. I readily agree with this learned author, that the faculties[[9]](#footnote-9) of brutes can by no means attain to *abstraction.* But then if this be made the distinguishing property of that sort of animals, I fear a great many of those that pass for men must be reckoned into their number. The reason that is here assigned why we have no grounds to think brutes have abstract general ideas, is that we observe in them no use of words or any other general signs; which is built on this supposition, to wit, that the making use of words, implies the having general ideas. From which it follows, that men who use language are able to abstract or generalize their ideas. That this is the sense and arguing of the author will further appear by his answering the question he in another place puts. “Since all things that exist are only particulars, how come we by general terms?” *His answer is*, “Words become general by being made the signs of general ideas.” *Essay on Hum. Underst. B.3. C.3. Sect. 6.* But it seems that a word becomes general by being made the sign, not of an abstract general idea but, of several particular ideas, any one of which it indifferently suggests to the mind. For example, when it is said *the change of motion is proportional to the impressed force*, or that *whatever has extension is divisible*; these propositions are to be understood of motion and extension in general, and nevertheless it will not follow that they suggest to my thoughts an idea of motion without a body moved, or any determinate direction and velocity, or that I must conceive an abstract general idea of extension, which is neither line, surface nor solid, neither great nor small, black, white, nor red, nor of any other determinate colour. It is only implied that whatever motion I consider, whether it be swift or slow, perpendicular, horizontal or oblique, or in whatever object, the axiom concerning it holds equally true. As does the other of every particular extension, it matters not whether line, surface or solid, whether of this or that magnitude or figure.

**i12** By observing how ideas become general, we may the better judge how words are made so. And here it is to be noted that I do not deny absolutely there are general ideas, but only that there are any *abstract general ideas;* for in the passages above quoted, wherein there is mention of general ideas, it is always supposed that they are formed by *abstraction*, after the manner set forth in Sect. viii. and ix.. Now if we will annex a meaning to our words, and speak only of what we can conceive, I believe we shall[[10]](#footnote-10) acknowledge, that an idea, which considered in it self is particular, becomes general, by being made to represent or stand for all other particular ideas of the same sort. To make this plain by an example, suppose a geometrician is demonstrating the method, of cutting a line in two equal parts. He draws, for instance, a black line of an inch in length, this which in it self is a particular line is nevertheless with regard to its signification general, since as it is there used, it represents all particular lines whatsoever; so that what is demonstrated of it, is demonstrated of all lines, or, in other words, of a line in general. And as that particular line becomes general, by being made a sign, so the name *line* which taken absolutely is particular, by being a sign is made general. And as the former owes its generality, not to its being the sign of an abstract or general line, but of all particular right lines that may possibly exist, so the latter must be thought to derive its generality from the same cause, namely, the various particular lines which it indifferently denotes.

**i13** To give the reader a yet clearer view of the nature of abstract ideas, and the uses they are thought necessary to, I shall add one more passage out of the *Essay on Human Understanding*, which is as follows. “*Abstract ideas* are not so obvious or easy to children or the yet unexercised mind as particular ones. If they seem so to grown men, it is only because by constant and familiar use they are made so. For when we nicely reflect upon them, we shall find that general ideas are fictions and contrivances of the mind, that carry difficulty with them, and do not so easily offer themselves, as we are apt to imagine. For example, does it not require some pains and skill to form the general idea of a triangle (which is yet none of the most abstract comprehensive and difficult) for it must be neither oblique nor rectangle, neither equilateral, equicrural, nor scalenon, but*all and none* of these at once. In effect, it is something imperfect that cannot exist, an idea wherein some parts of several different and *inconsistent* ideas are put together. It is true the mind in this imperfect state has need of such ideas, and makes all the haste to them it can, for the conveniency of communication and enlargement of knowledge, to both which it is naturally very much inclined. But yet one has reason to suspect such ideas are marks of our imperfection. At least this is enough to shew that the most abstract and general ideas are not those that the mind is first and most easily acquainted with, nor such as its earliest[[11]](#footnote-11) knowledge is conversant about.” B.4. C.7. Sect. 9. If any man has the faculty of framing in his mind such an idea of a triangle as is here described, it is in vain to pretend to dispute him out of it, nor would I go about it. All I desire is, that the reader would fully and certainly inform himself whether he has such an idea or no. And this, methinks, can be no hard task for any one to perform. What more easy than for any one to look a little into his own thoughts, and there try whether he has, or can attain to have, an idea that shall correspond with the description that is here given of the general idea of a triangle, which is, *neither oblique, nor rectangle, equilateral, equicrural, nor scalenon, but all and none of these at once?*

**i14** Much is here said of the difficulty that abstract ideas carry with them, and the pains and skill requisite to the forming them. And it is on all hands agreed that there is need of great toil and labour of the mind, to emancipate our thoughts from particular objects, and raise them to those sublime speculations that are conversant about abstract ideas. From all which the natural consequence should seem to be, that so difficult a thing as the forming abstract ideas was not necessary for *communication*, which is so easy and familiar to all sorts of men. But we are told, if they seem obvious and easy to grown men, *It is only because by constant and familiar use they are made so.* Now I would fain know at what time it is, men are employed in surmounting that difficulty, and furnishing themselves with those necessary helps for discourse. It cannot be when they are grown up, for then it seems they are not conscious of any such pains-taking; it remains therefore to be the business of their childhood. And surely, the great and multiplied labour of framing abstract notions, will be found a hard task for that tender age. Is it not a hard thing to imagine, that a couple of children cannot prate together, of their sugar-plumbs and rattles and the rest of their little trinkets, till they have first tacked together numberless inconsistencies, and so framed in their minds *abstract general ideas*, and annexed them to every common name they make use of?

**i15** Nor do I think them a whit more needful for the *enlargement of knowledge* than for *communication.* It is I know a point much insisted on, that all knowledge and demonstration are about universal notions, to which I fully agree: but then it doth not appear to me that those notions are formed by *abstraction* in the manner premised; *universality*, so far as I can comprehend, not consisting in the absolute, positive nature or conception of[[12]](#footnote-12) any thing, but in the relation it bears to the particulars signified or represented by it: by virtue whereof it is that things, names, or notions, being in their own nature *particular*, are rendered *universal.* Thus when I demonstrate any proposition concerning triangles, it is to be supposed that I have in view the universal idea of a triangle; which ought not to be understood as if I could frame an idea of a triangle which was neither equilateral nor scalenon nor equicrural. But only that the particular triangle I consider, whether of this or that sort it matters not, doth equally stand for and represent all rectilinear triangles whatsoever, and is in that sense *universal.* All which seems very plain and not to include any difficulty in it.

**i16** But here it will be demanded, how we can know any proposition to be true of all particular triangles, except we have first seen it demonstrated of the abstract idea of a triangle which equally agrees to all? For because a property may be demonstrated to agree to some one particular triangle, it will not thence follow that it equally belongs to any other triangle, which in all respects is not the same with it. For example, having demonstrated that the three angles of an isosceles rectangular triangle are equal to two right ones, I cannot therefore conclude this affection agrees to all other triangles, which have neither a right angle, nor two equal sides. It seems therefore that, to be certain this proposition is universally true, we must either make a particular demonstration for every particular triangle, which is impossible, or once for all demonstrate it of the *abstract idea of a triangle*, in which all the particulars do indifferently partake, and by which they are all equally represented. To which I answer, that though the idea I have in view whilst I make the demonstration, be, for instance, that of an isosceles rectangular triangle, whose sides are of a determinate length, I may nevertheless be certain it extends to all other rectilinear triangles, of what sort or bigness soever. And that, because neither the right angle, nor the equality, nor determinate length of the sides, are at all concerned in the demonstration. It is true, the diagram I have in view includes all these particulars, but then there is not the least mention made of them in the proof of the proposition. It is not said, the three angles are equal to two right ones, because one of them is a right angle, or because the sides comprehending it are of the same length. Which sufficiently shews that the right angle might have been oblique, and the sides unequal, and for all that the[[13]](#footnote-13) demonstration have held good. And for this reason it is, that I conclude that to be true of any obliquangular or scalenon, which I had demonstrated of a particular right-angled, equicrural triangle; and not because I demonstrated the proposition of the abstract idea of a triangle. And here it must be acknowledged that a man may consider a figure merely as triangular, without attending to the particular qualities of the angles, or relations of the sides. So far he may abstract: but this will never prove, that he can frame an abstract general inconsistent idea of a triangle. In like manner we may consider Peter so far forth as man, or so far forth as animal, without framing the forementioned abstract idea, either of man or of animal, in as much as all that is perceived is not considered.

**i17** It were an endless, as well as an useless thing, to trace the *Schoolmen*, those great masters of abstraction, through all the manifold inextricable labyrinths of error and dispute, which their doctrine of abstract natures and notions seems to have led them into. What bickerings and controversies, and what a learned dust have been raised about those matters, and what mighty advantage hath been from thence derived to mankind, are things at this day too clearly known to need being insisted on. And it had been well if the ill effects of that doctrine were confined to those only who make the most avowed profession of it. When men consider the great pains, industry and parts, that have for so many ages been laid out on the cultivation and advancement of the sciences, and that notwithstanding all this, the far greater part of them remain full of darkness and uncertainty, and disputes that are like never to have an end, and even those that are thought to be supported by the most clear and cogent demonstrations, contain in them paradoxes which are perfectly irreconcilable to the understandings of men, and that taking all together, a small portion of them doth supply any real benefit to mankind, otherwise than by being an innocent diversion and amusement: I say, the consideration of all this is apt to throw them into a despondency, and perfect contempt of all study. But this may perhaps cease, upon a view of the false principles that have obtained in the world, amongst all which there is none, methinks,[[14]](#footnote-14) hath a more wide influence over the thoughts of speculative men, than this of abstract general ideas.

**i18** I come now to consider the source of this prevailing notion, and that seems to me to be language. And surely nothing of less extent than reason it self could have been the source of an opinion so universally received. The truth of this appears as from other reasons, so also from the plain confession of the ablest patrons of abstract ideas, who acknowledge that they are made in order to naming; from which it is a clear consequence, that if there had been no such thing as speech or universal signs, there never had been any thought of abstraction. See B. 3 C. 6. Sect. 39 *and elsewhere of the Essay on Human Understanding.* Let us therefore examine the manner wherein words have contributed to the origin of that mistake. First then, ‘tis thought that every name hath, or ought to have, one only precise and settled signification, which inclines men to think there are certain *abstract, determinate ideas*, which constitute the true and only immediate signification of each general name. And that it is by the mediation of these abstract ideas, that a general name comes to signify any particular thing. Whereas, in truth, there is no such thing as one precise and definite signification annexed to any general name, they all signifying indifferently a great number of particular ideas. All which doth evidently follow from what has been already said, and will clearly appear to any one by a little reflexion. To this it will be objected, that every name that has a definition, is thereby restrained to one certain signification. For example, a *triangle* is defined to be a*plain surface comprehended by three right lines*; by which that name is limited to denote one certain idea and no other. To which I answer, that in the definition it is not said whether the surface be great or small, black or white, nor whether the sides are long or short, equal or unequal, nor with what angles they are inclined to each other; in all which there may be great variety, and consequently there is no one settled idea which limits the signification of the word *triangle.* ’Tis one thing for to keep a name constantly to the same definition, and another to make it stand every where for the same idea: the one is necessary, the other useless and impracticable.

**i19** But to give a farther account how words came to produce[[15]](#footnote-15) the doctrine of abstract ideas, it must be observed that it is a received opinion, that language has no other end but the communicating our ideas, and that every significant name stands for an idea. This being so, and it being withal certain, that names, which yet are not thought altogether insignificant, do not always mark out particular conceivable ideas, it is straightway concluded that they stand for abstract notions. That there are many names in use amongst speculative men, which do not always suggest to others determinate particular ideas, is what no body will deny. And a little attention will discover, that it is not necessary (even in the strictest reasonings) significant names which stand for ideas should, every time they are used, excite in the understanding the ideas they are made to stand for: in reading and discoursing, names being for the most part used as letters are in *algebra*, in which though a particular quantity be marked by each letter, yet to proceed right it is not requisite that in every step each letter suggest to your thoughts, that particular quantity it was appointed to stand for.

**i20** Besides, the communicating of ideas marked by words is not the chief and only end of language, as is commonly supposed. There are other ends, as the raising of some passion, the exciting to, or deterring from an action, the putting the mind in some particular disposition; to which the former is in many cases barely subservient, and sometimes entirely omitted, when these can be obtained without it, as I think doth not infrequently happen in the familiar use of language. I entreat the reader to reflect with himself, and see if it doth not often happen either in hearing or reading a discourse, that the passions of fear, love, hatred, admiration, disdain, and the like, arise immediately in his mind upon the perception of certain words, without any ideas coming between. At first, indeed, the words might have occasioned ideas that were fit to produce those emotions; but, if I mistake not, it will be found that when language is once grown familiar, the hearing of the sounds or sight of the characters is oft immediately attended with those passions, which at first were wont to be produced by the intervention of ideas, that are now quite omitted. May we not, for example, be affected with the promise of a *good thing*, though we have not an idea of what it is? Or is not the being threatened with danger sufficient to excite a dread, though we think not of any particular evil likely to befall us, nor yet frame[[16]](#footnote-16) to our selves an idea of danger in abstract? If any one shall join ever so little reflection of his own to what has been said, I believe it will evidently appear to him, that general names are often used in the propriety of language without the speaker’s designing them for marks of ideas in his own, which he would have them raise in the mind of the hearer. Even proper names themselves do not seem always spoken, with a design to bring into our view the ideas of those individuals that are supposed to be marked by them. For example, when a Schoolman tells me *Aristotle hath said it*, all I conceive he means by it, is to dispose me to embrace his opinion with the deference and submission which custom has annexed to that name. And this effect may be so instantly produced in the minds of those who are accustomed to resign their judgment to the authority of that philosopher, as it is impossible any idea either of his person, writings, or reputation should go before. Innumerable examples of this kind may be given, but why should I insist on those things, which every one’s experience will, I doubt not, plentifully suggest unto him?

**i21** We have, I think, shewn the impossibility of *abstract ideas.* We have considered what has been said for them by their ablest patrons; and endeavoured to shew they are of no use for those ends, to which they are thought necessary. And lastly, we have traced them to the source from whence they flow, which appears to be language. It cannot be denied that words are of excellent use, in that by their means all that stock of knowledge which has been purchased by the joint labours of inquisitive men in all ages and nations, may be drawn into the view and made the possession of one single person. But at the same time it must be owned that most parts of knowledge have been strangely perplexed and darkened by the abuse of words, and general ways of speech wherein they are delivered. Since therefore words are so apt to impose on the understanding, whatever ideas I consider, I shall endeavour to take them bare and naked into my view, keeping out of my thoughts, so far as I am able, those names which long[[17]](#footnote-17) and constant use hath so strictly united with them; from which I may expect to derive the following advantages.

**i22** First, I shall be sure to get clear of all controversies purely verbal; the springing up of which weeds in almost all the sciences has been a main hindrance to the growth of true and sound knowledge. Secondly, this seems to be a sure way to extricate my self out of that fine and subtile net of *abstract ideas*, which has so miserably perplexed and entangled the minds of men, and that with this peculiar circumstance, that by how much the finer and more curious was the wit of any man, by so much the deeper was he like to be ensnared, and faster held therein. Thirdly, so long as I confine my thoughts to my own ideas divested of words, I do not see how I can easily be mistaken. The objects I consider, I clearly and adequately know. I cannot be deceived in thinking I have an idea which I have not. It is not possible for me to imagine, that any of my own ideas are alike or unlike, that are not truly so. To discern the agreements or disagreements there are between my ideas, to see what ideas are included in any compound idea, and what not, there is nothing more requisite, than an attentive perception of what passes in my own understanding.

**i23** But the attainment of all these advantages doth presuppose an entire deliverance from the deception of words, which I dare hardly promise my self; so difficult a thing it is to dissolve an union so early begun, and confirmed by so long a habit as that betwixt words and ideas. Which difficulty seems to have been very much increased by the doctrine of *abstraction.* For so long as men thought abstract ideas were annexed to their words, it doth not seem strange that they should use words for ideas: it being found an impracticable thing to lay aside the word, and retain the abstract idea in the mind, which in it self was perfectly inconceivable. This seems to me the principal cause, why those men who have so emphatically recommended to others, the laying aside all use of words in their meditations, and contemplating their bare ideas, have yet failed to perform it themselves. Of late many have been very sensible of the absurd opinions and insignificant disputes, which grow out of the abuse of words. And in order to remedy these evils they advise well, that we attend to the ideas signified, and draw off our attention from the[[18]](#footnote-18) words which signify them. But how good soever this advice may be, they have given others, it is plain they could not have a due regard to it themselves, so long as they thought the only immediate use of words was to signify ideas, and that the immediate signification of every general name was a *determinate, abstract idea.*

**i24** But these being known to be mistakes, a man may with greater ease prevent his being imposed on by words. He that knows he has no other than particular ideas, will not puzzle himself in vain to find out and conceive the abstract idea, annexed to any name. And he that knows names do not always stand for ideas, will spare himself the labour of looking for ideas, where there are none to be had. It were therefore to be wished that every one would use his utmost endeavours, to obtain a clear view of the ideas he would consider, separating from them all that dress and encumbrance of words which so much contribute to blind the judgment and divide the attention. In vain do we extend our view into the heavens, and pry into the entrails of the earth, in vain do we consult the writings of learned men, and trace the dark footsteps of antiquity; we need only draw the curtain of words, to behold the fairest tree of knowledge, whose fruit is excellent, and within the reach of our hand.

**i25** Unless we take care to clear the first principles of knowledge, from the embarras and delusion of words, we may make infinite reasonings upon them to no purpose; we may draw consequences from consequences, and be never the wiser. The farther we go, we shall only lose our selves the more irrecoverably, and be the deeper entangled in difficulties and mistakes. Whoever therefore designs to read the following sheets, I entreat him to make my words the occasion of his own thinking, and endeavour to attain the same train of thoughts in reading, that I had in writing them. By this means it will be easy for him to discover the truth or falsity of what I say. He will be out of all danger of being deceived by my words, and I do not see how he can be led into an error by considering his own naked, undisguised ideas.[[19]](#footnote-19)

## OF THE PRINCIPLES OF HUMAN KNOWLEDGE PART I (Basics)

**1** It is evident to any one who takes a survey of the objects of human knowledge, that they are either ideas actually imprinted on the senses, or else such as are perceived by attending to the passions and operations of the mind, or lastly ideas formed by help of memory and imagination, either compounding, dividing, or barely representing those originally perceived in the aforesaid ways. By sight I have the ideas of light and colours with their several degrees and variations. By touch I perceive, for example, hard and soft, heat and cold, motion and resistance, and of all these more and less either as to quantity or degree. Smelling furnishes me with odours; the palate with tastes, and hearing conveys sounds to the mind in all their variety of tone and composition. And as several of these are observed to accompany each other, they come to be marked by one name, and so to be reputed as one thing. Thus, for example, a certain colour, taste, smell, figure and consistence having been observed to go together, are accounted one distinct thing, signified by the name *apple.* Other collections of ideas constitute a stone, a tree, a book, and the like sensible things; which, as they are pleasing or disagreeable, excite the passions of love, hatred, joy, grief, and so forth.

**2** But besides all that endless variety of ideas or objects of knowledge, there is likewise something which knows or perceives them, and exercises divers operations, as willing, imagining, remembering about them. This perceiving, active being is what[[20]](#footnote-20) I call *mind, spirit, soul* or *my self.* By which words I do not denote any one of my ideas, but a thing entirely distinct from them, wherein they exist, or, which is the same thing, whereby they are perceived; for the existence of an idea consists in being perceived.

**3** That neither our thoughts, nor passions, nor ideas formed by the imagination, exist without the mind, is what every body will allow. And it seems no less evident that the various sensations or ideas imprinted on the sense, however blended or combined together (that is, whatever objects they compose) cannot exist otherwise than in a mind perceiving them. I think an intuitive knowledge may be obtained of this, by any one that shall attend to what is meant by the term *exist* when applied to sensible things. The table I write on, I say, exists, that is, I see and feel it; and if I were out of my study I should say it existed, meaning thereby that if I was in my study I might perceive it, or that some other spirit actually does perceive it. There was an odour, that is, it was smelled; there was a sound, that is to say, it was heard; a colour or figure, and it was perceived by sight or touch. This is all that I can understand by these and the like expressions. For as to what is said of the absolute existence of unthinking things without any relation to their being perceived, that seems perfectly unintelligible. Their *esse* is *percipi*, nor is it possible they should have any existence, out of the minds or thinking things which perceive them.

**4** It is indeed an opinion strangely prevailing amongst men, that houses, mountains, rivers, and in a word all sensible objects have an existence natural or real, distinct from their being perceived by the understanding. But with how great an assurance and acquiescence soever this principle may be entertained in the world; yet whoever shall find in his heart to call it in question, may, if I mistake not, perceive it to involve a manifest contradiction. For what are the forementioned objects but the things we perceive by sense, and what do we perceive besides our own ideas or sensations; and is it not plainly repugnant that any one of these or any combination of them should exist unperceived?

**5** If we throughly examine this tenet, it will, perhaps, be found at bottom to depend on the doctrine of *abstract ideas.* For can there be a nicer strain of abstraction than to distinguish the existence of sensible objects from their being perceived, so as to conceive them existing unperceived? Light and colours, heat[[21]](#footnote-21) and cold, extension and figures, in a word the things we see and feel, what are they but so many sensations, notions, ideas or impressions on the sense; and is it possible to separate, even in thought, any of these from perception? For my part I might as easily divide a thing from it self. I may indeed divide in my thoughts or conceive apart from each other those things which, perhaps, I never perceived by sense so divided. Thus I imagine the trunk of a human body without the limbs, or conceive the smell of a rose without thinking on the rose it self. So far I will not deny I can abstract, if that may properly be called *abstraction*, which extends only to the conceiving separately such objects, as it is possible may really exist or be actually perceived asunder. But my conceiving or imagining power does not extend beyond the possibility of real existence or perception. Hence as it is impossible for me to see or feel anything without an actual sensation of that thing, so is it impossible for me to conceive in my thoughts any sensible thing or object distinct from the sensation or perception of it.

**6** Some truths there are so near and obvious to the mind, that a man need only open his eyes to see them. Such I take this important one to be, to wit, that all the choir of heaven and furniture of the earth, in a word all those bodies which compose the mighty frame of the world, have not any subsistence without a mind, that their being is to be perceived or known; that consequently so long as they are not actually perceived by me, or do not exist in my mind or that of any other created spirit, they must either have no existence at all, or else subsist in the mind of some eternal spirit: it being perfectly unintelligible and involving all the absurdity of abstraction, to attribute to any single part of them an existence independent of a spirit. To be convinced of which, the reader need only reflect and try to separate in his own thoughts the being of a sensible thing from its being perceived.

**7** From what has been said, it follows, there is not any other substance than *spirit*, or that which perceives. But for the fuller proof of this point, let it be considered, the sensible qualities are[[22]](#footnote-22) colour, figure, motion, smell, taste, and such like, that is, the ideas perceived by sense. Now for an idea to exist in an unperceiving thing, is a manifest contradiction; for to have an idea is all one as to perceive: that therefore wherein colour, figure, and the like qualities exist, must perceive them; hence it is clear there can be no unthinking substance or *substratum* of those ideas.

## OF THE PRINCIPLES OF HUMAN KNOWLEDGE PART I (Objections and Replies)

**8** But say you, though the ideas themselves do not exist without the mind, yet there may be things like them whereof they are copies or resemblances, which things exist without the mind, in an unthinking substance. I answer, an idea can be like nothing but an idea; a colour or figure can be like nothing but another colour or figure. If we look but ever so little into our thoughts, we shall find it impossible for us to conceive a likeness except only between our ideas. Again, I ask whether those supposed originals or external things, of which our ideas are the pictures or representations, be themselves perceivable or no? If they are, then they are ideas, and we have gained our point; but if you say they are not, I appeal to any one whether it be sense, to assert a colour is like something which is invisible; hard or soft, like something which is intangible; and so of the rest.

**9** Some there are who make a distinction betwixt *primary* and *secondary* qualities: by the former, they mean extension, figure, motion, rest, solidity or impenetrability and number: by the latter they denote all other sensible qualities, as colours, sounds, tastes, and so forth. The ideas we have of these they acknowledge not to be the resemblances of any thing existing without the mind or unperceived; but they will have our ideas of the primary qualities to be patterns or images of things which exist without the mind, in an unthinking substance which they call *matter.* By matter therefore we are to understand an inert, senseless substance,[[23]](#footnote-23) in which extension, figure, and motion, do actually subsist. But it is evident from what we have already shewn, that extension, figure and motion are only ideas existing in the mind, and that an idea can be like nothing but another idea, and that consequently neither they nor their archetypes can exist in an unperceiving substance. Hence it is plain, that the very notion of what is called *matter* or *corporeal substance*, involves a contradiction in it.

**10** They who assert that figure, motion, and the rest of the primary or original qualities do exist without the mind, in unthinking substances, do at the same time acknowledge that colours, sounds, heat, cold, and such like secondary qualities, do not, which they tell us are sensations existing in the mind alone, that depend on and are occasioned by the different size, texture and motion of the minute particles of matter. This they take for an undoubted truth, which they can demonstrate beyond all exception. Now if it be certain, that those original qualities are inseparably united with the other sensible qualities, and not, even in thought, capable of being abstracted from them, it plainly follows that they exist only in the mind. But I desire any one to reflect and try, whether he can by any abstraction of thought, conceive the extension and motion of a body, without all other sensible qualities. For my own part, I see evidently that it is not in my power to frame an idea of a body extended and moved, but I must withal give it some colour or other sensible quality which is acknowledged to exist only in the mind. In short, extension, figure, and motion, abstracted from all other qualities, are inconceivable. Where therefore the other sensible qualities are, there must these be also, to wit, in the mind and no where else.

**11** Again, *great* and *small, swift* and *slow*, are allowed to exist no where without the mind, being entirely relative, and changing as the frame or position of the organs of sense varies. The extension therefore which exists without the mind, is neither great nor small, the motion neither swift nor slow, that is, they are nothing at all. But say you, they are extension in general, and motion in general: thus we see how much the tenet of extended,[[24]](#footnote-24) moveable substances existing without the mind, depends on that strange doctrine of *abstract ideas.* And here I cannot but remark, how nearly the vague and indeterminate description of matter or corporeal substance, which the modern philosophers are run into by their own principles, resembles that antiquated and so much ridiculed notion of *materia prima*, to be met with in Aristotle and his followers. Without extension solidity cannot be conceived; since therefore it has been shewn that extension exists not in an unthinking substance, the same must also be true of solidity.

**12** That number is entirely the creature of the mind, even though the other qualities be allowed to exist without, will be evident to whoever considers, that the same thing bears a different denomination of number, as the mind views it with different respects. Thus, the same extension is one or three or thirty six, according as the mind considers it with reference to a yard, a foot, or an inch. Number is so visibly relative, and dependent on men’s understanding, that it is strange to think how any one should give it an absolute existence without the mind. We say one book, one page, one line; all these are equally units, though some contain several of the others. And in each instance it is plain, the unit relates to some particular combination of ideas arbitrarily put together by the mind.

**13** Unity I know some will have to be a simple or uncompounded idea, accompanying all other ideas into the mind. That I have any such idea answering the word *unity*, I do not find; and if I had, methinks I could not miss finding it; on the contrary it should be the most familiar to my understanding, since it is said to accompany all other ideas, and to be perceived by all the ways of sensation and reflexion. To say no more, it is an *abstract idea.*

**14** I shall farther add, that after the same manner, as modern philosophers prove certain sensible qualities to have no existence in matter, or without the mind, the same thing may be likewise proved of all other sensible qualities whatsoever. Thus, for instance, it is said that heat and cold are affections only of the mind, and not at all patterns of real beings, existing in the corporeal substances which excite them, for that the same body which appears cold to one hand, seems warm to another. Now why may we not as well argue that figure and extension are not patterns or resemblances of qualities existing in matter, because[[25]](#footnote-25) to the same eye at different stations, or eyes of a different texture at the same station, they appear various, and cannot therefore be the images of any thing settled and determinate without the mind? Again, it is proved that sweetness is not really in the sapid thing, because the thing remaining unaltered the sweetness is changed into bitter, as in case of a fever or otherwise vitiated palate. Is it not as reasonable to say, that motion is not without the mind, since if the succession of ideas in the mind become swifter, the motion, it is acknowledged, shall appear slower without any alteration in any external object.

**15** In short, let any one consider those arguments, which are thought manifestly to prove that colours and tastes exist only in the mind, and he shall find they may with equal force, be brought to prove the same thing of extension, figure, and motion. Though it must be confessed this method of arguing doth not so much prove that there is no extension or colour in an outward object, as that we do not know by sense which is the true extension or colour of the object. But the arguments foregoing plainly shew it to be impossible that any colour or extension at all, or other sensible quality whatsoever, should exist in an unthinking subject without the mind, or in truth, that there should be any such thing as an outward object.

**16** But let us examine a little the received opinion. It is said extension is a mode or accident of matter, and that matter is the *substratum* that supports it. Now I desire that you would explain what is meant by matter’s *supporting* extension: say you, I have no idea of matter, and therefore cannot explain it. I answer, though you have no positive, yet if you have any meaning at all, you must at least have a relative idea of matter; though you know not what it is, yet you must be supposed to know what relation it bears to accidents, and what is meant by its supporting them. It is evident *support* cannot here be taken in its usual or literal sense, as when we say that pillars support a building: in what sense therefore must it be taken?

**17** If we inquire into what the most accurate philosophers declare themselves to mean by *material substance*; we shall find them acknowledge, they have no other meaning annexed to those sounds, but the idea of being in general, together with the relative[[26]](#footnote-26) notion of its supporting accidents. The general idea of being appeareth to me the most abstract and incomprehensible of all other; and as for its supporting accidents, this, as we have just now observed, cannot be understood in the common sense of those words; it must therefore be taken in some other sense, but what that is they do not explain. So that when I consider the two parts or branches which make the signification of the words *material substance*, I am convinced there is no distinct meaning annexed to them. But why should we trouble ourselves any farther, in discussing this material *substratum* or support of figure and motion, and other sensible qualities? Does it not suppose they have an existence without the mind? And is not this a direct repugnancy, and altogether inconceivable?

**18** But though it were possible that solid, figured, moveable substances may exist without the mind, corresponding to the ideas we have of bodies, yet how is it possible for us to know this? Either we must know it by sense, or by reason. As for our senses, by them we have the knowledge only of our sensations, ideas, or those things that are immediately perceived by sense, call them what you will: but they do not inform us that things exist without the mind, or unperceived, like to those which are perceived. This the materialists themselves acknowledge. It remains therefore that if we have any knowledge at all of external things, it must be by reason, inferring their existence from what is immediately perceived by sense. But what reason can induce us to believe the existence of bodies without the mind, from what we perceive, since the very patrons of matter themselves do not pretend, there is any necessary connexion betwixt them and our ideas? I say it is granted on all hands (and what happens in dreams, phrensies, and the like, puts it beyond dispute) that it is possible we might be affected with all the ideas we have now, though no bodies existed without, resembling them. Hence it is evident the supposition of external bodies is not necessary for the producing our ideas: since it is granted they are produced sometimes, and might possibly be produced always in the same order we see them in at present, without their concurrence.[[27]](#footnote-27)

**19** But though we might possibly have all our sensations without them, yet perhaps it may be thought easier to conceive and explain the manner of their production, by supposing external bodies in their likeness rather than otherwise; and so it might be at least probable there are such things as bodies that excite their ideas in our minds. But neither can this be said; for though we give the materialists their external bodies, they by their own confession are never the nearer knowing how our ideas are produced: since they own themselves unable to comprehend in what manner body can act upon spirit, or how it is possible it should imprint any idea in the mind. Hence it is evident the production of ideas or sensations in our minds, can be no reason why we should suppose matter or corporeal substances, since that is acknowledged to remain equally inexplicable with, or without this supposition. If therefore it were possible for bodies to exist without the mind, yet to hold they do so, must needs be a very precarious opinion; since it is to suppose, without any reason at all, that God has created innumerable beings that are entirely useless, and serve to no manner of purpose.

**20** In short, if there were external bodies, it is impossible we should ever come to know it; and if there were not, we might have the very same reasons to think there were that we have now. Suppose, what no one can deny possible, an intelligence, without the help of external bodies, to be affected with the same train of sensations or ideas that you are, imprinted in the same order and with like vividness in his mind. I ask whether that intelligence hath not all the reason to believe the existence of corporeal substances, represented by his ideas, and exciting them in his mind, that you can possibly have for believing the same thing? Of this there can be no question; which one consideration is enough to make any reasonable person suspect the strength of whatever arguments he may think himself to have, for the existence of bodies without the mind.

**21** Were it necessary to add any farther proof against the existence of matter, after what has been said, I could instance several of those errors and difficulties (not to mention impieties) which have sprung from that tenet. It has occasioned numberless controversies and disputes in philosophy, and not a few of far greater moment in religion. But I shall not enter into the detail of them in this place, as well because I think, arguments *à posteriori* are unnecessary for confirming what has been, if I mistake not,[[28]](#footnote-28) sufficiently demonstrated *à priori*, as because I shall hereafter find occasion to say somewhat of them.

**22** I am afraid I have given cause to think me needlessly prolix in handling this subject. For to what purpose is it to dilate on that which may be demonstrated with the utmost evidence in a line or two, to any one that is capable of the least reflexion? It is but looking into your own thoughts, and so trying whether you can conceive it possible for a sound, or figure, or motion, or colour, to exist without the mind, or unperceived. This easy trial may make you see, that what you contend for, is a downright contradiction. Insomuch that I am content to put the whole upon this issue; if you can but conceive it possible for one extended moveable substance, or in general, for any one idea or any thing like an idea, to exist otherwise than in a mind perceiving it, I shall readily give up the cause: And as for all that *compages* of external bodies which you contend for, I shall grant you its existence, though you cannot either give me any reason why you believe it exists, or assign any use to it when it is supposed to exist. I say, the bare possibility of your opinion’s being true, shall pass for an argument that it is so.

**23** But say you, surely there is nothing easier than to imagine trees, for instance, in a park, or books existing in a closet, and no body by to perceive them. I answer, you may so, there is no difficulty in it: but what is all this, I beseech you, more than framing in your mind certain ideas which you call *books* and *trees*, and at the same time omitting to frame the idea of any one that may perceive them? But do not you your self perceive or think of them all the while? This therefore is nothing to the purpose: it only shows you have the power of imagining or forming ideas in your mind; but it doth not shew that you can conceive it possible, the objects of your thought may exist without the mind: to make out this, it is necessary that you conceive them existing unconceived or unthought of, which is a manifest repugnancy. When we do our utmost to conceive the existence of external bodies, we are all the while only contemplating our own ideas. But the mind taking no notice of itself, is deluded to think it can and doth conceive bodies existing unthought of or without the mind; though at the same time they are apprehended by or exist[[29]](#footnote-29) in it self. A little attention will discover to any one the truth and evidence of what is here said, and make it unnecessary to insist on any other proofs against the existence of material substance.

**24** It is very obvious, upon the least inquiry into our own thoughts, to know whether it be possible for us to understand what is meant, by the *absolute existence of sensible objects in themselves, or without the mind.* To me it is evident those words mark out either a direct contradiction, or else nothing at all. And to convince others of this, I know no readier or fairer way, than to entreat they would calmly attend to their own thoughts: and if by this attention, the emptiness or repugnancy of those expressions does appear, surely nothing more is requisite for their conviction. It is on this therefore that I insist, to wit, that the absolute existence of unthinking things are words without a meaning, or which include a contradiction. This is what I repeat and inculcate, and earnestly recommend to the attentive thoughts of the reader.

**25** All our ideas, sensations, or the things which we perceive, by whatsoever names they may be distinguished, are visibly inactive, there is nothing of power or agency included in them. So that one idea or object of thought cannot produce, or make any alteration in another. To be satisfied of the truth of this, there is nothing else requisite but a bare observation of our ideas. For since they and every part of them exist only in the mind, it follows that there is nothing in them but what is perceived. But whoever shall attend to his ideas, whether of sense or reflexion, will not perceive in them any power or activity; there is therefore no such thing contained in them. A little attention will discover to us that[[30]](#footnote-30) the very being of an idea implies passiveness and inertness in it, insomuch that it is impossible for an idea to do any thing, or, strictly speaking, to be the cause of any thing: neither can it be the resemblance or pattern of any active being, as is evident from *Sect.* 8. Whence it plainly follows that extension, figure and motion, cannot be the cause of our sensations. To say therefore, that these are the effects of powers resulting from the configuration, number, motion, and size of corpuscles, must certainly be false.

**26** We perceive a continual succession of ideas, some are anew excited, others are changed or totally disappear. There is therefore some cause of these ideas whereon they depend, and which produces and changes them. That this cause cannot be any quality or idea or combination of ideas, is clear from the preceding section. It must therefore be a substance; but it has been shewn that there is no corporeal or material substance: it remains therefore that the cause of ideas is an incorporeal active substance or spirit.

**27** A spirit is one simple, undivided, active being: as it perceives ideas, it is called the *understanding*, and as it produces or otherwise operates about them, it is called the *will.* Hence there can be no idea formed of a soul or spirit: for all ideas whatever, being passive and inert, *vide Sect.* 25, they cannot represent unto us, by way of image or likeness, that which acts. A little attention will make it plain to any one, that to have an idea which shall be like that active principle of motion and change of ideas, is absolutely impossible. Such is the nature of *spirit* or that which acts, that it cannot be of it self perceived, but only by the effects which it produceth. If any man shall doubt of the truth of what is here delivered, let him but reflect and try if he can frame the idea of any power or active being; and whether he hath ideas of two principal powers, marked by the names *will* and *understanding*, distinct from each other as well as from a third idea of substance or being in general, with a relative notion of its supporting or being the subject of the aforesaid powers, which is signified by the name *soul* or *spirit.* This is what some hold; but so far as I can see, the words *will, soul, spirit*, do not stand for different ideas, or in[[31]](#footnote-31) truth, for any idea at all, but for something which is very different from ideas, and which being an agent cannot be like unto, or represented by, any idea whatsoever. Though it must be owned at the same time, that we have some notion of soul, spirit, and the operations of the mind, such as willing, loving, hating, in as much as we know or understand the meaning of those words.

**28** I find I can excite ideas in my mind at pleasure, and vary and shift the scene as oft as I think fit. It is no more than willing, and straightway this or that idea arises in my fancy: and by the same power it is obliterated, and makes way for another. This making and unmaking of ideas doth very properly denominate the mind active. Thus much is certain, and grounded on experience: but when we talk of unthinking agents, or of exciting ideas exclusive of volition, we only amuse our selves with words.

**29** But whatever power I may have over my own thoughts, I find the ideas actually perceived by sense have not a like dependence on my will. When in broad day-light I open my eyes, it is not in my power to choose whether I shall see or no, or to determine what particular objects shall present themselves to my view; and so likewise as to the hearing and other senses, the ideas imprinted on them are not creatures of my will. There is therefore some other will or spirit that produces them.

**30** The ideas of sense are more strong, lively, and distinct than those of the imagination; they have likewise a steadiness, order, and coherence, and are not excited at random, as those which are the effects of human wills often are, but in a regular train or series, the admirable connexion whereof sufficiently testifies the wisdom and benevolence of its Author. Now the set rules or established methods, wherein the mind we depend on excites in us the ideas of sense, are called the *Laws of Nature*: and these we learn by experience, which teaches us that such and such ideas[[32]](#footnote-32) are attended with such and such other ideas, in the ordinary course of things.

**31** This gives us a sort of foresight, which enables us to regulate our actions for the benefit of life. And without this we should be eternally at a loss: we could not know how to act any thing that might procure us the least pleasure, or remove the least pain of sense. That food nourishes, sleep refreshes, and fire warms us; that to sow in the seed-time is the way to reap in the harvest, and, in general, that to obtain such or such ends, such or such means are conducive, all this we know, not by discovering any necessary connexion between our ideas, but only by the observation of the settled laws of Nature, without which we should be all in uncertainty and confusion, and a grown man no more know how to manage himself in the affairs of life, than an infant just born.

**32** And yet this consistent uniform working, which so evidently displays the goodness and wisdom of that governing spirit whose will constitutes the Laws of Nature, is so far from leading our thoughts to him, that it rather sends them a wandering after second causes. For when we perceive certain ideas of sense constantly followed by other ideas, and we know this is not of our doing, we forthwith attribute power and agency to the ideas themselves, and make one the cause of another, than which nothing can be more absurd and unintelligible. Thus, for example, having observed that when we perceive by sight a certain round luminous figure, we at the same time perceive by touch the idea or sensation called *heat*, we do from thence conclude the sun to be the cause of heat. And in like manner perceiving the motion and collision of bodies to be attended with sound, we are inclined to think the latter an effect of the former.

**33** The ideas imprinted on the senses by the Author of Nature are called *real things*: and those excited in the imagination being less regular, vivid and constant, are more properly termed *ideas*, or *images of things*, which they copy and represent. But then our sensations, be they never so vivid and distinct, are nevertheless *ideas*, that is, they exist in the mind, or are perceived by it, as truly as the ideas of its own framing. The ideas of sense are allowed to have more reality in them, that is, to be more strong, orderly, and coherent than the creatures of the mind; but this is no argument that they exist without the mind. They are also less dependent on the spirit, or thinking substance which perceives them, in that they are excited by the will of another and more powerful spirit: yet still they are *ideas*, and certainly no *idea*,[[33]](#footnote-33) whether faint or strong, can exist otherwise than in a mind perceiving it.

**34** Before we proceed any farther, it is necessary to spend some time in answering objections which may probably be made against the principles hitherto laid down. In doing of which, if I seem too prolix to those of quick apprehensions, I hope it may be pardoned, since all men do not equally apprehend things of this nature; and I am willing to be understood by every one. First then, it will be objected that by the foregoing principles, all that is real and substantial in Nature is banished out of the world: and instead thereof a chimerical scheme of ideas takes place. All things that exist, exist only in the mind, that is, they are purely notional. What therefore becomes of the sun, moon, and stars? What must we think of houses, rivers, mountains, trees, stones; nay, even of our own bodies? Are all these but so many chimeras and illusions on the fancy? To all which, and whatever else of the same sort may be objected, I answer, that by the principles premised, we are not deprived of any one thing in Nature. Whatever we see, feel, hear, or any wise conceive or understand, remains as secure as ever, and is as real as ever. There is a *rerum natura*, and the distinction between realities and chimeras retains its full force. This is evident from *Sect.* 29, 30, and 33, where we have shewn what is meant by *real things* in opposition to *chimeras*, or ideas of our own framing; but then they both equally exist in the mind, and in that sense are alike *ideas.*

**35** I do not argue against the existence of any one thing that we can apprehend, either by sense or reflexion. That the things I see with mine eyes and touch with my hands do exist, really exist, I make not the least question. The only thing whose existence we deny, is that which philosophers call matter or corporeal substance. And in doing of this, there is no damage done to the rest of mankind, who, I dare say, will never miss it. The atheist indeed will want the colour of an empty name to support his impiety; and the philosophers may possibly find, they have lost a great handle for trifling and disputation.[[34]](#footnote-34)

**36** If any man thinks this detracts from the existence or reality of things, he is very far from understanding what hath been premised in the plainest terms I could think of. Take here an abstract of what has been said. There are spiritual substances, minds, or human souls, which will or excite ideas in themselves at pleasure: but these are faint, weak, and unsteady in respect of others they perceive by sense, which being impressed upon them according to certain rules or laws of Nature, speak themselves the effects of a mind more powerful and wise than human spirits. These latter are said to have more *reality* in them than the former: by which is meant that they are more affecting, orderly, and distinct, and that they are not fictions of the mind perceiving them. And in this sense, the sun that I see by day is the real sun, and that which I imagine by night is the idea of the former. In the sense here given of *reality*, it is evident that every vegetable, star, mineral, and in general each part of the mundane system, is as much a *real being* by our principles as by any other. Whether others mean any thing by the term *reality* different from what I do, I entreat them to look into their own thoughts and see.

**37** It will be urged that thus much at least is true, to wit, that we take away all corporeal substances. To this my answer is, that if the word *substance* be taken in the vulgar sense, for a combination of sensible qualities, such as extension, solidity, weight, and the like; this we cannot be accused of taking away. But if it be taken in a philosophic sense, for the support of accidents or qualities without the mind: then indeed I acknowledge that we take it away, if one may be said to take away that which never had any existence, not even in the imagination.

**38** But, say you, it sounds very harsh to say we eat and drink ideas, and are clothed with ideas. I acknowledge it does so, the word *idea* not being used in common discourse to signify the several combinations of sensible qualities, which are called *things*: and it is certain that any expression which varies from the familiar use of language, will seem harsh and ridiculous. But this doth not concern the truth of the proposition, which in other words is no more than to say, we are fed and clothed with those things which we perceive immediately by our senses. The hardness or softness, the colour, taste, warmth, figure, and such like qualities, which combined together constitute the several sorts of victuals and[[35]](#footnote-35) apparel, have been shewn to exist only in the mind that perceives them; and this is all that is meant by calling them *ideas*; which word, if it was as ordinarily used as *thing*, would sound no harsher nor more ridiculous than it. I am not for disputing about the propriety, but the truth of the expression. If therefore you agree with me that we eat and drink, and are clad with the immediate objects of sense which cannot exist unperceived or without the mind: I shall readily grant it is more proper or conformable to custom, that they should be called things rather than ideas.

**39** If it be demanded why I make use of the word *idea*, and do not rather in compliance with custom call them things. I answer, I do it for two reasons: first, because the term *thing*, in contradistinction to *idea*, is generally supposed to denote somewhat existing without the mind: secondly, because *thing* hath a more comprehensive signification than *idea*, including spirits or thinking things as well as ideas. Since therefore the objects of sense exist only in the mind, and are withal thoughtless and inactive, I chose to mark them by the word *idea*, which implies those properties.

**40** But say what we can, some one perhaps may be apt to reply, he will still believe his senses, and never suffer any arguments, how plausible soever, to prevail over the certainty of them. Be it so, assert the evidence of sense as high as you please, we are willing to do the same. That what I see, hear and feel doth exist, that is to say, is perceived by me, I no more doubt than I do of my own being. But I do not see how the testimony of sense can be alleged, as a proof for the existence of any thing, which is not perceived by sense. We are not for having any man turn *sceptic*, and disbelieve his senses; on the contrary we give them all the stress and assurance imaginable; nor are there any principles more opposite to scepticism, than those we have laid down, as shall be hereafter clearly shewn.

**41** Secondly, it will be objected that there is a great difference betwixt real fire, for instance, and the idea of fire, betwixt dreaming or imagining one’s self burnt, and actually being so: this and the like may be urged in opposition to our tenets. To all which the answer is evident from what hath been already said, and I shall only add in this place, that if real fire be very different from[[36]](#footnote-36) the idea of fire, so also is the real pain that it occasions, very different from the idea of the same pain: and yet no body will pretend that real pain either is, or can possibly be, in an unperceiving thing or without the mind, any more than its idea.

**42** Thirdly, it will be objected that we see things actually without or at a distance from us, and which consequently do not exist in the mind, it being absurd that those things which are seen at the distance of several miles, should be as near to us as our own thoughts. In answer to this, I desire it may be considered, that in a dream we do oft perceive things as existing at a great distance off, and yet for all that, those things are acknowledged to have their existence only in the mind.

**43** But for the fuller clearing of this point, it may be worth while to consider, how it is that we perceive distance and things placed at a distance by sight. For that we should in truth see external space, and bodies actually existing in it, some nearer, others farther off, seems to carry with it some opposition to what hath been said, of their existing no where without the mind. The consideration of this difficulty it was, that gave birth to my *Essay towards a new Theory of Vision*, which was published not long since. Wherein it is shewn that *distance* or outness is neither immediately of it self perceived by sight, nor yet apprehended or judged of by lines and angles, or any thing that hath a necessary connexion with it: but that it is only suggested to our thoughts, by certain visible ideas and sensations attending vision, which in their own nature have no manner of similitude or relation, either with distance, or things placed at a distance. But by a connexion taught us by experience, they come to signify and suggest them to us, after the same manner that words of any language suggest the ideas they are made to stand for. Insomuch that a man born blind, and afterwards made to see, would not, at first sight, think the things he saw, to be without his mind, or at any distance from him. See *Sect.* 41 of the forementioned treatise.

**44** The ideas of sight and touch make two species, entirely distinct and heterogeneous. The former are marks and prognostics of the latter. That the proper objects of sight neither exist without the mind, nor are the images of external things, was shewn even in that treatise. Though throughout the same, the contrary be[[37]](#footnote-37) supposed true of tangible objects: not that to suppose that vulgar error, was necessary for establishing the notion therein laid down; but because it was beside my purpose to examine and refute it in a discourse concerning *vision.* So that in strict truth the ideas of sight, when we apprehend by them distance and things placed at a distance, do not suggest or mark out to us things actually existing at a distance, but only admonish us what ideas of touch will be imprinted in our minds at such and such distances of time, and in consequence of such or such actions. It is, I say, evident from what has been said in the foregoing parts of this treatise, and in *Sect.* 147, and elsewhere of the essay concerning vision, that visible ideas are the language whereby the governing spirit, on whom we depend, informs us what tangible ideas he is about to imprint upon us, in case we excite this or that motion in our own bodies. But for a fuller information in this point, I refer to the essay it self.

**45** Fourthly, it will be objected that from the foregoing principles it follows, things are every moment annihilated and created anew. The objects of sense exist only when they are perceived: the trees therefore are in the garden, or the chairs in the parlour, no longer than while there is some body by to perceive them. Upon shutting my eyes all the furniture in the room is reduced to nothing, and barely upon opening them it is again created. In answer to all which, I refer the reader to what has been said in *Sect.* 3, 4, &*c.* and desire he will consider whether he means any thing by the actual existence of an idea, distinct from its being perceived. For my part, after the nicest inquiry I could make, I am not able to discover that any thing else is meant by those words. And I once more entreat the reader to sound his own thoughts, and not suffer himself to be imposed on by words. If he can conceive it possible either for his ideas or their archetypes to exist without being perceived, then I give up the cause: but if he cannot, he will acknowledge it is unreasonable for him to stand up in defence of he knows not what, and pretend to charge on me as an absurdity, the not assenting to those propositions which at bottom have no meaning in them.

**46** It will not be amiss to observe, how far the received principles of philosophy are themselves chargeable with those pretended absurdities. It is thought strangely absurd that upon closing my eyelids, all the visible objects round me should be reduced to nothing; and yet is not this what philosophers commonly acknowledge, when they agree on all hands, that light and colours, which alone are the proper and immediate objects of[[38]](#footnote-38) sight, are mere sensations that exist no longer than they are perceived? Again, it may to some perhaps seem very incredible, that things should be every moment creating, yet this very notion is commonly taught in the Schools. For the Schoolmen, though they acknowledge the existence of matter, and that the whole mundane fabrick is framed out of it, are nevertheless of opinion that it cannot subsist without the divine conservation, which by them is expounded to be a continual creation.

**47** Farther, a little thought will discover to us, that though we allow the existence of matter or corporeal substance, yet it will unavoidably follow from the principles which are now generally admitted, that the particular bodies of what kind soever, do none of them exist whilst they are not perceived. For it is evident from *Sect.* XI. and the following sections, that the matter philosophers contend for, is an incomprehensible somewhat which hath none of those particular qualities, whereby the bodies falling under our senses are distinguished one from another. But to make this more plain, it must be remarked, that the infinite divisibility of matter is now universally allowed, at least by the most approved and considerable philosophers, who on the received principles demonstrate it beyond all exception. Hence it follows, that there is an infinite number of parts in each particle of matter, which are not perceived by sense. The reason therefore, that any particular body seems to be of a finite magnitude, or exhibits only a finite number of parts to sense, is, not because it contains no more, since in itself it contains an infinite number of parts, but because the sense is not acute enough to discern them. In proportion therefore as the sense is rendered more acute, it perceives a greater number of parts in the object, that is, the object appears greater, and its figure varies, those parts in its extremities which were before unperceivable, appearing now to bound it in very different lines and angles from those perceived by an obtuser sense. And at length, after various changes of size and shape, when the sense becomes infinitely acute, the body shall seem infinite. During all which there is no alteration in the body, but only in the sense. Each body therefore considered in it self, is infinitely extended, and consequently void of all shape or figure. From which it[[39]](#footnote-39) follows, that though we should grant the existence of matter to be ever so certain, yet it is withal as certain, the materialists themselves are by their own principles forced to acknowledge, that neither the particular bodies perceived by sense, nor any thing like them exists without the mind. Matter, I say, and each particle thereof is according to them infinite and shapeless, and it is the mind that frames all that variety of bodies which compose the visible world, any one whereof does not exist longer than it is perceived.

**48** If we consider it, the objection proposed in *Sect.* 45 will not be found reasonably charged on the principles we have premised, so as in truth to make any objection at all against our notions. For though we hold indeed the objects of sense to be nothing else but ideas which cannot exist unperceived; yet we may not hence conclude they have no existence except only while they are perceived by us, since there may be some other spirit that perceives them, though we do not. Wherever bodies are said to have no existence without the mind, I would not be understood to mean this or that particular mind, but all minds whatsoever. It does not therefore follow from the foregoing principles, that bodies are annihilated and created every moment, or exist not at all during the intervals between our perception of them.

**49** Fifthly, it may perhaps be objected, that if extension and figure exist only in the mind, it follows that the mind is extended and figured; since extension is a mode or attribute, which (to speak with the Schools) is predicated of the subject in which it exists. I answer, those qualities are in the mind only as they are perceived by it, that is, not by way of *mode* or *attribute*, but only by way of *idea*; and it no more follows, that the soul or mind is extended because extension exists in it alone, than it does that it is red or blue, because those colours are on all hands acknowledged to exist in it, and no where else. As to what philosophers say of subject and mode, that seems very groundless and unintelligible. For instance, in this proposition, a die is hard, extended and square, they will have it that the word *die* denotes a subject or substance, distinct from the hardness, extension and figure, which are predicated of it, and in which they exist. This I cannot[[40]](#footnote-40) comprehend: to me a die seems to be nothing distinct from those things which are termed its modes or accidents. And to say a die is hard, extended and square, is not to attribute those qualities to a subject distinct from and supporting them, but only an explication of the meaning of the word *die.*

**50** Sixthly, you will say there have been a great many things explained by matter and motion: take away these, and you destroy the whole corpuscular philosophy, and undermine those mechanical principles which have been applied with so much success to account for the *phenomena.* In short, whatever advances have been made, either by ancient or modern philosophers, in the study of Nature, do all proceed on the supposition, that corporeal substance or matter doth really exist. To this I answer, that there is not any one *phenomenon* explained on that supposition, which may not as well be explained without it, as might easily be made appear by an induction of particulars. To explain the *phenomena*, is all one as to shew, why upon such and such occasions we are affected with such and such ideas. But how matter should operate on a spirit, or produce any idea in it, is what no philosopher will pretend to explain. It is therefore evident, there can be no use of matter in natural philosophy. Besides, they who attempt to account for things, do it not by corporeal substance, but by figure, motion, and other qualities, which are in truth no more than mere ideas, and therefore cannot be the cause of any thing, as hath been already shewn. See *Sect.* 25.

**51** Seventhly, it will upon this be demanded whether it does not seem absurd to take away natural causes, and ascribe every thing to the immediate operation of spirits? We must no longer say upon these principles that fire heats, or water cools, but that a spirit heats, and so forth. Would not a man be deservedly laughed at, who should talk after this manner? I answer, he would so; in such things we ought to *think with the learned, and speak with the vulgar.* They who to demonstration are convinced of the truth[[41]](#footnote-41) of the Copernican system, do nevertheless say the sun rises, the sun sets, or comes to the meridian: and if they affected a contrary style in common talk, it would without doubt appear very ridiculous. A little reflexion on what is here said will make it manifest, that the common use of language would receive no manner of alteration or disturbance from the admission of our tenets.

**52** In the ordinary affairs of life, any phrases may be retained, so long as they excite in us proper sentiments, or dispositions to act in such a manner as is necessary for our well-being, how false soever they may be, if taken in a strict and speculative sense. Nay this is unavoidable, since propriety being regulated by custom, language is suited to the received opinions, which are not always the truest. Hence it is impossible, even in the most rigid philosophic reasonings, so far to alter the bent and genius of the tongue we speak, as never to give a handle for cavillers to pretend difficulties and inconsistencies. But a fair and ingenuous reader will collect the sense, from the scope and tenor and connexion of a discourse, making allowances for those inaccurate modes of speech, which use has made inevitable.

**53** As to the opinion that there are no corporeal causes, this has been heretofore maintained by some of the Schoolmen, as it is of late by others among the modern philosophers, who though they allow matter to exist, yet will have God alone to be the immediate efficient cause of all things. These men saw, that amongst all the objects of sense, there was none which had any power or activity included in it, and that by consequence this was likewise true of whatever bodies they supposed to exist without the mind, like unto the immediate objects of sense. But then, that they should suppose an innumerable multitude of created beings, which they acknowledge are not capable of producing any one effect in Nature, and which therefore are made to no manner of purpose, since God might have done every thing as well without them; this I say, though we should allow it possible, must yet be a very unaccountable and extravagant supposition.[[42]](#footnote-42)

**54** In the eighth place, the universal concurrent assent of mankind may be thought by some, an invincible argument in behalf of matter, or the existence of external things. Must we suppose the whole world to be mistaken? And if so, what cause can be assigned of so widespread and predominant an error? I answer, first, that upon a narrow inquiry, it will not perhaps be found, so many as is imagined do really believe the existence of matter or things without the mind. Strictly speaking, to believe that which involves a contradiction, or has no meaning in it, is impossible: and whether the foregoing expressions are not of that sort, I refer it to the impartial examination of the reader. In one sense indeed, men may be said to believe that matter exists, that is, they act as if the immediate cause of their sensations, which affects them every moment and is so nearly present to them, were some senseless unthinking being. But that they should clearly apprehend any meaning marked by those words, and form thereof a settled speculative opinion, is what I am not able to conceive. This is not the only instance wherein men impose upon themselves, by imagining they believe those propositions they have often heard, though at bottom they have no meaning in them.

**55** But secondly, though we should grant a notion to be ever so universally and stedfastly adhered to, yet this is but a weak argument of its truth, to whoever considers what a vast number of prejudices and false opinions are every where embraced with the utmost tenaciousness, by the unreflecting (which are the far greater) part of mankind. There was a time when the Antipodes and motion of the earth were looked upon as monstrous absurdities, even by men of learning: and if it be considered what a small proportion they bear to the rest of mankind, we shall find that at this day, those notions have gained but a very inconsiderable footing in the world.

**56** But it is demanded, that we assign a cause of this prejudice, and account for its obtaining in the world. To this I answer, that men knowing they perceived several ideas, whereof they themselves were not the authors, as not being excited from within, nor depending on the operation of their wills, this made them maintain, those ideas or objects of perception had an existence independent of, and without the mind, without ever dreaming that a contradiction was involved in those words. But philosophers having plainly seen, that the immediate objects of perception do not exist without the mind, they in some degree corrected the[[43]](#footnote-43) mistake of the vulgar, but at the same time run into another which seems no less absurd, to wit, that there are certain objects really existing without the mind, or having a subsistence distinct from being perceived, of which our ideas are only images or resemblances, imprinted by those objects on the mind. And this notion of the philosophers owes its origin to the same cause with the former, namely, their being conscious that they were not the authors of their own sensations, which they evidently knew were imprinted from without, and which therefore must have some cause, distinct from the minds on which they are imprinted.

**57** But why they should suppose the ideas of sense to be excited in us by things in their likeness, and not rather have recourse to *spirit* which alone can act, may be accounted for, first, because they were not aware of the repugnancy there is, as well in supposing things like unto our ideas existing without, as in attributing to them power or activity. Secondly, because the supreme spirit which excites those ideas in our minds, is not marked out and limited to our view by any particular finite collection of sensible ideas, as human agents are by their size, complexion, limbs, and motions. And thirdly, because his operations are regular and uniform. Whenever the course of Nature is interrupted by a miracle, men are ready to own the presence of a superior agent. But when we see things go on in the ordinary course, they do not excite in us any reflection; their order and concatenation, though it be an argument of the greatest wisdom, power, and goodness in their Creator, is yet so constant and familiar to us, that we do not think them the immediate effects of a *free spirit*: especially since inconstancy and mutability in acting, though it be an imperfection, is looked on as a mark of *freedom.*

**58** Tenthly, it will be objected, that the notions we advance, are inconsistent with several sound truths in philosophy and mathematics. For example, the motion of the earth is now universally admitted by astronomers, as a truth grounded on the clearest and most convincing reasons; but on the foregoing principles, there can be no such thing. For motion being only an idea, it follows that if it be not perceived, it exists not; but the motion of the earth is not perceived by sense. I answer, that tenet, if rightly understood, will be found to agree with the principles we have premised: for the question, whether the earth moves or no, amounts in reality to no more than this, to[[44]](#footnote-44) wit, whether we have reason to conclude from what hath been observed by astronomers, that if we were placed in such and such circumstances, and such or such a position and distance, both from the earth and sun, we should perceive the former to move among the choir of the planets, and appearing in all respects like one of them: and this, by the established rules of Nature, which we have no reason to mistrust, is reasonably collected from the phenomena.

**59** We may, from the experience we have had of the train and succession of ideas in our minds, often make, I will not say uncertain conjectures, but sure and well-grounded predictions, concerning the ideas we shall be affected with, pursuant to a great train of actions, and be enabled to pass a right judgment of what would have appeared to us, in case we were placed in circumstances very different from those we are in at present. Herein consists the knowledge of Nature, which may preserve its use and certainty very consistently with what hath been said. It will be easy to apply this to whatever objections of the like sort may be drawn from the magnitude of the stars, or any other discoveries in astronomy or Nature.

**60** In the eleventh place, it will be demanded to what purpose serves that curious organization of plants, and the admirable mechanism in the parts of animals; might not vegetables grow, and shoot forth leaves and blossoms, and animals perform all their motions, as well without as with all that variety of internal parts so elegantly contrived and put together, which being ideas have nothing powerful or operative in them, nor have any necessary connexion with the effects ascribed to them? If it be a spirit that immediately produces every effect by a *fiat*, or act of his will, we must think all that is fine and artificial in the works, whether of man or Nature, to be made in vain. By this doctrine, though an artist hath made the spring and wheels, and every movement of a watch, and adjusted them in such a manner as he knew would produce the motions he designed; yet he must think all this done to no purpose, and that it is an intelligence which directs the index, and points to the hour of the day. If so, why may not the intelligence do it, without his being at the pains of making the movements, and putting them together? Why does not an empty case serve as well as another? And how comes it to pass, that whenever there is any fault in the going of a watch, there is some corresponding disorder to be found in the movements, which being mended by a skilful hand, all is right again? The[[45]](#footnote-45) like may be said of all the clockwork of Nature, great part whereof is so wonderfully fine and subtile, as scarce to be discerned by the best microscope. In short, it will be asked, how upon our principles any tolerable account can be given, or any final cause assigned of an innumerable multitude of bodies and machines framed with the most exquisite art, which in the common philosophy have very apposite uses assigned them, and serve to explain abundance of phenomena.

**61** To all which I answer, first, that though there were some difficulties relating to the administration of providence, and the uses by it assigned to the several parts of Nature, which I could not solve by the foregoing principles, yet this objection could be of small weight against the truth and certainty of those things which may be proved *à priori*, with the utmost evidence. Secondly, but neither are the received principles free from the like difficulties; for it may still be demanded, to what end God should take those round-about methods of effecting things by instruments and machines, which no one can deny might have been effected by the mere command of his will, without all that *apparatus*: nay, if we narrowly consider it, we shall find the objection may be retorted with greater force on those who hold the existence of those machines without the mind; for it has been made evident, that solidity, bulk, figure, motion and the like, have no *activity* or *efficacy* in them, so as to be capable of producing any one effect in Nature. See *Sect.* 25. Whoever therefore supposes them to exist (allowing the supposition possible) when they are not perceived, does it manifestly to no purpose; since the only use that is assigned to them, as they exist unperceived, is that they produce those perceivable effects, which in truth cannot be ascribed to any thing but spirit.

**62** But to come nearer the difficulty, it must be observed, that though the fabrication of all those parts and organs be not absolutely necessary to the producing any effect, yet it is necessary to the producing of things in a constant, regular way, according to the Laws of Nature. There are certain general laws that run through the whole chain of natural effects: these are learned by the observation and study of Nature, and are by men applied as well to the framing artificial things for the use and ornament of life, as to the explaining the various *phenomena*: which explication consists only in shewing the conformity any particular[[46]](#footnote-46) phenomenon hath to the general Laws of Nature, or, which is the same thing, in discovering the *uniformity* there is in the production of natural effects; as will be evident to whoever shall attend to the several instances, wherein philosophers pretend to account for appearances. That there is a great and conspicuous use in these regular constant methods of working observed by the Supreme Agent, hath been shewn in *Sect.* 31. And it is no less visible, that a particular size, figure, motion and disposition of parts are necessary, though not absolutely to the producing any effect, yet to the producing it according to the standing mechanical Laws of Nature. Thus, for instance, it cannot be denied that God, or the intelligence which sustains and rules the ordinary course of things might, if he were minded to produce a miracle, cause all the motions on the dial-plate of a watch, though no body had ever made the movements, and put them in it: but yet if he will act agreeably to the rules of mechanism, by him for wise ends established and maintained in the Creation, it is necessary that those actions of the watchmaker, whereby he makes the movements and rightly adjusts them, precede the production of the aforesaid motions; as also that any disorder in them be attended with the perception of some corresponding disorder in the movements, which being once corrected all is right again.

**63** It may indeed on some occasions be necessary, that the Author of Nature display his overruling power in producing some appearance out of the ordinary series of things. Such exceptions from the general rules of Nature are proper to surprise and awe men into an acknowledgement of the Divine Being: but then they are to be used but seldom, otherwise there is a plain reason why they should fail of that effect. Besides, God seems to choose the convincing our reason of his attributes by the works of Nature, which discover so much harmony and contrivance in their make, and are such plain indications of wisdom and beneficence in their Author, rather than to astonish us into a belief of his being by anomalous and surprising events.

**64** To set this matter in a yet clearer light, I shall observe that what has been objected in *Sect.* 60 amounts in reality to no more than this: ideas are not any how and at random produced, there being a certain order and connexion between them, like to that of cause and effect: there are also several combinations of them, made in a very regular and artificial manner, which seem like so many instruments in the hand of Nature, that being[[47]](#footnote-47) hid as it were behind the scenes, have a secret operation in producing those appearances which are seen on the theatre of the world, being themselves discernible only to the curious eye of the philosopher. But since one idea cannot be the cause of another, to what purpose is that connexion? And since those instruments, being barely *inefficacious perceptions* in the mind, are not subservient to the production of natural effects; it is demanded why they are made, or, in other words, what reason can be assigned why God should make us, upon a close inspection into his works, behold so great variety of ideas, so artfully laid together, and so much according to rule; it not being credible, that he would be at the expense (if one may so speak) of all that art and regularity to no purpose?

**65** To all which my answer is, first, that the connexion of ideas does not imply the relation of *cause* and *effect*, but only of a mark or *sign* with the thing *signified.* The fire which I see is not the cause of the pain I suffer upon my approaching it, but the mark that forewarns me of it. In like manner, the noise that I hear is not the effect of this or that motion or collision of the ambient bodies, but the sign thereof. Secondly, the reason why ideas are formed into machines, that is, artificial and regular combinations, is the same with that for combining letters into words. That a few original ideas may be made to signify a great number of effects and actions, it is necessary they be variously combined together: and to the end their use be permanent and universal, these combinations must be made by *rule*, and with *wise contrivance.* By this means abundance of information is conveyed unto us, concerning what we are to expect from such and such actions, and what methods are proper to be taken, for the exciting such and such ideas: which in effect is all that I conceive to be distinctly meant, when it is said that by discerning the figure, texture, and mechanism of the inward parts of bodies, whether natural or artificial, we may attain to know the several uses and properties depending thereon, or the nature of the thing.

**66** Hence it is evident, that those things which under the notion of a cause co-operating or concurring to the production of effects, are altogether inexplicable, and run us into great absurdities, may be very naturally explained, and have a proper and obvious use assigned them, when they are considered only as marks or signs for our information. And it is the searching after,[[48]](#footnote-48) and endeavouring to understand those signs instituted by the Author of Nature, that ought to be the employment of the natural philosopher, and not the pretending to explain things by corporeal causes; which doctrine seems to have too much estranged the minds of men from that active principle, that supreme and wise spirit, *in whom we live, move, and have our being.*

**67** In the twelfth place, it may perhaps be objected, that though it be clear from what has been said, that there can be no such thing as an inert, senseless, extended, solid, figured, moveable substance, existing without the mind, such as philosophers describe matter: yet if any man shall leave out of his idea of *matter*, the positive ideas of extension, figure, solidity and motion, and say that he means only by that word, an inert senseless substance, that exists without the mind, or unperceived, which is the occasion of our ideas, or at the presence whereof God is pleased to excite ideas in us: it doth not appear, but that matter taken in this sense may possibly exist. In answer to which I say, first, that it seems no less absurd to suppose a substance without accidents, than it is to suppose accidents without a substance. But secondly, though we should grant this unknown substance may possibly exist, yet where can it be supposed to be? That it exists not in the mind is agreed, and that it exists not in place is no less certain; since all extension exists only in the mind, as hath been already proved. It remains therefore that it exists no where at all.

**68** Let us examine a little the description that is here given us of *matter.* It neither acts, nor perceives, nor is perceived: for this is all that is meant by saying it is an inert, senseless, unknown substance; which is a definition entirely made up of negatives, excepting only the relative notion of its standing under or supporting: but then it must be observed, that it *supports* nothing at all; and how nearly this comes to the description of a *non-entity*, I desire may be considered. But, say you, it is the *unknown occasion*, at the[[49]](#footnote-49) presence of which, ideas are excited in us by the will of God. Now I would fain know how any thing can be present to us, which is neither perceivable by sense nor reflexion, nor capable of producing any idea in our minds, nor is at all extended, nor hath any form, nor exists in any place. The words *to be present*, when thus applied, must needs be taken in some abstract and strange meaning, and which I am not able to comprehend.

**69** Again, let us examine what is meant by *occasion*: so far as I can gather from the common use of language, that word signifies, either the agent which produces any effect, or else something that is observed to accompany, or go before it, in the ordinary course of things. But when it is applied to matter as above described, it can be taken in neither of those senses. For matter is said to be passive and inert, and so cannot be an agent or efficient cause. It is also unperceivable, as being devoid of all sensible qualities, and so cannot be the occasion of our perceptions in the latter sense: as when the burning my finger is said to be the occasion of the pain that attends it. What therefore can be meant by calling matter an *occasion*? This term is either used in no sense at all, or else in some sense very distant from its received signification.

**70** You will perhaps say that matter, though it be not perceived by us, is nevertheless perceived by God, to whom it is the occasion of exciting ideas in our minds. For, say you, since we observe our sensations to be imprinted in an orderly and constant manner, it is but reasonable to suppose there are certain constant and regular occasions of their being produced. That is to say, that there are certain permanent and distinct parcels of matter, corresponding to our ideas, which, though they do not excite them in our minds, or any ways immediately affect us, as being altogether passive and unperceivable to us, they are nevertheless to God, by whom they are perceived, as it were so many occasions to remind him when and what ideas to imprint on our minds: that so things may go on in a constant uniform manner.[[50]](#footnote-50)

**71** In answer to this I observe, that as the notion of matter is here stated, the question is no longer concerning the existence of a thing distinct from *spirit* and *idea*, from perceiving and being perceived: but whether there are not certain ideas, of I know not what sort, in the mind of God, which are so many marks or notes that direct him how to produce sensations in our minds, in a constant and regular method: much after the same manner as a musician is directed by the notes of music to produce that harmonious train and composition of sound, which is called a *tune*; though they who hear the music do not perceive the notes, and may be entirely ignorant of them. But this notion of matter seems too extravagant to deserve a confutation. Besides, it is in effect no objection against what we have advanced, to wit, that there is no senseless, unperceived *substance.*

**72** If we follow the light of reason, we shall, from the constant uniform method of our sensations, collect the goodness and wisdom of the *spirit* who excites them in our minds. But this is all that I can see reasonably concluded from thence. To me, I say, it is evident that the being of a *spirit infinitely wise, good, and powerful* is abundantly sufficient to explain all the appearances of Nature. But as for *inert senseless matter*, nothing that I perceive has any the least connexion with it, or leads to the thoughts of it. And I would fain see any one explain any the meanest phenomenon in Nature by it, or shew any manner of reason, though in the lowest rank of probability, that he can have for its existence; or even make any tolerable sense or meaning of that supposition. For as to its being an occasion, we have, I think, evidently shewn that with regard to us it is no occasion: it remains therefore that it must be, if at all, the occasion to God of exciting ideas in us; and what this amounts to, we have just now seen.

**73** It is worth while to reflect a little on the motives which induced men to suppose the existence of material substance; that so having observed the gradual ceasing, and expiration of those motives or reasons, we may proportionably withdraw the assent that was grounded on them. First therefore, it was thought that colour, figure, motion, and the rest of the sensible qualities or accidents, did really exist without the mind; and for this reason, it seemed needful to suppose some unthinking *substratum* or *substance* wherein they did exist, since they could not be conceived to exist by themselves. Afterwards, in process of time, men being[[51]](#footnote-51) convinced that colours, sounds, and the rest of the sensible secondary qualities had no existence without the mind, they stripped this *substratum* or material substance of those qualities, leaving only the primary ones, figure, motion, and such like, which they still conceived to exist without the mind, and consequently to stand in need of a material support. But it having been shewn, that none, even of these, can possibly exist otherwise than in a spirit or mind which perceives them, it follows that we have no longer any reason to suppose the being of *matter.* Nay, that it is utterly impossible there should be any such thing, so long as that word is taken to denote an *unthinking substratum* of qualities or accidents, wherein they exist without the mind.

**74** But though it be allowed by the *materialists* themselves, that matter was thought of only for the sake of supporting accidents; and the reason entirely ceasing, one might expect the mind should naturally, and without any reluctance at all, quit the belief of what was solely grounded thereon. Yet the prejudice is riveted so deeply in our thoughts, that we can scarce tell how to part with it, and are therefore inclined, since the *thing* it self is indefensible, at least to retain the *name*; which we apply to I know not what abstracted and indefinite notions of *being*, or *occasion*, though without any shew or reason, at least so far as I can see. For what is there on our part, or what do we perceive amongst all the ideas, sensations, notions, which are imprinted on our minds, either by sense or reflexion, from whence may be inferred the existence of an inert, thoughtless, unperceived occasion? and on the other hand, on the part of an *all-sufficient spirit*, what can there be that should make us believe, or even suspect, he is *directed* by an inert occasion to excite ideas in our minds?

**75** It is a very extraordinary instance of the force of prejudice, and much to be lamented, that the mind of man retains so great a fondness against all the evidence of reason, for a stupid thoughtless *somewhat*, by the interposition whereof it would, as it were, skreen it self from the providence of God, and remove him farther off from the affairs of the world. But though we do the utmost we can, to secure the belief of *matter*, though when reason forsakes us, we endeavour to support our opinion on the bare possibility of the thing, and though we indulge our selves in the full scope of an imagination not regulated by reason, to make out that poor[[52]](#footnote-52) *possibility*, yet the upshot of all is, that there are certain *unknown ideas* in the mind of God; for this, if any thing, is all that I conceive to be meant by *occasion* with regard to God. And this, at the bottom, is no longer contending for the *thing*, but for the *name.*

**76** Whether therefore there are such ideas in the mind of God, and whether they may be called by the name *matter*, I shall not dispute. But if you stick to the notion of an unthinking substance, or support of extension, motion, and other sensible qualities, then to me it is most evidently impossible there should be any such thing. Since it is a plain repugnancy, that those qualities should exist in or be supported by an unperceiving substance.

**77** But say you, though it be granted that there is no thoughtless support of extension, and the other qualities or accidents which we perceive; yet there may, perhaps, be some inert unperceiving substance, or *substratum* of some other qualities, as incomprehensible to us as colours are to a man born blind, because we have not a sense adapted to them. But if we had a new sense, we should possibly no more doubt of their existence, than a blind man made to see does of the existence of light and colours. I answer, first, if what you mean by the word *matter* be only the unknown support of unknown qualities, it is no matter whether there is such a thing or no, since it no way concerns us: and I do not see the advantage there is in disputing about we know not *what*, and we know not *why.*

**78** But secondly, if we had a new sense, it could only furnish us with new ideas or sensations: and then we should have the same reason against their existing in an unperceiving substance, that has been already offered with relation to figure, motion, colour, and the like. Qualities, as hath been shewn, are nothing else but *sensations* or *ideas*, which exist only in a *mind* perceiving them; and this is true not only of the ideas we are acquainted with at present, but likewise of all possible ideas whatsoever.

**79** But you will insist, what if I have no reason to believe the existence of matter, what if I cannot assign any use to it, or explain[[53]](#footnote-53) any thing by it, or even conceive what is meant by that word? Yet still it is no contradiction to say that matter exists, and that this matter is *in general* a *substance*, or *occasion of ideas*; though, indeed, to go about to unfold the meaning, or adhere to any particular explication of those words, may be attended with great difficulties. I answer, when words are used without a meaning, you may put them together as you please, without danger of running into a contradiction. You may say, for example, that *twice two* is equal to *seven*, so long as you declare you do not take the words of that proposition in their usual acceptation, but for marks of you know not what. And by the same reason you may say, there is an inert thoughtless substance without accidents, which is the occasion of our ideas. And we shall understand just as much by one proposition, as the other.

**80** In the last place, you will say, what if we give up the cause of material substance; and assert, that matter is an unknown *somewhat*, neither substance nor accident, spirit nor idea, inert, thoughtless, indivisible, immoveable, unextended, existing in no place? For, say you, whatever may be urged against *substance* or *occasion*, or any other positive or relative notion of matter, hath no place at all, so long as this *negative* definition of matter is adhered to. I answer, you may, if so it shall seem good, use the word *matter* in the same sense, that other men use *nothing*, and so make those terms convertible in your style. For after all, this is what appears to me to be the result of that definition, the parts whereof when I consider with attention, either collectively, or separate from each other, I do not find that there is any kind of effect or impression made on my mind, different from what is excited by the term *nothing.*

**81** You will reply perhaps, that in the foresaid definition is included, what doth sufficiently distinguish it from nothing, the positive, abstract idea of *quiddity, entity*, or *existence.* I own indeed, that those who pretend to the faculty of framing abstract general ideas, do talk as if they had such an idea, which is, say they, the most abstract and general notion of all, that is to me the most incomprehensible of all others. That there are a great variety of spirits of different orders and capacities, whose faculties, both in number and extent, are far exceeding those the Author of my being has bestowed on me, I see no reason to deny. And for me to pretend to determine by my own few, stinted, narrow inlets of perception, what ideas the inexhaustible power of the Supreme[[54]](#footnote-54) Spirit may imprint upon them, were certainly the utmost folly and presumption. Since there may be, for aught that I know, innumerable sorts of ideas or sensations, as different from one another, and from all that I have perceived, as colours are from sounds. But how ready soever I may be, to acknowledge the scantiness of my comprehension, with regard to the endless variety of spirits and ideas, that might possibly exist, yet for any one to pretend to a notion of entity or existence, *abstracted* from *spirit* and *idea*, from perceiving and being perceived, is, I suspect, a downright repugnancy and trifling with words. It remains that we consider the objections, which may possibly be made on the part of religion.

**82** Some there are who think, that though the arguments for the real existence of bodies, which are drawn from reason, be allowed not to amount to demonstration, yet the Holy Scriptures are so clear in the point, as will sufficiently convince every good Christian, that bodies do really exist, and are something more than mere ideas; there being in Holy Writ innumerable facts related, which evidently suppose the reality of timber, and stone, mountains, and rivers, and cities, and human bodies. To which I answer, that no sort of writings whatever, sacred or profane, which use those and the like words in the vulgar acceptation, or so as to have a meaning in them, are in danger of having their truth called in question by our doctrine. That all those things do really exist, that there are bodies, even corporeal substances, when taken in the vulgar sense, has been shown to be agreeable to our principles: and the difference betwixt *things* and *ideas, realities* and *chimeras*, has been distinctly explained. [**Berkeley notes:** “Sect. XXIX, XXX, XXXIII, XXXVI, &c.”] And I do not think, that either what philosophers call *matter*, or the existence of objects without the mind, is any where mentioned in Scripture.

**83** Again, whether there be, or be not external things, it is agreed on all hands, that the proper use of words, is the marking out conceptions, or things only as they are known and perceived by us; whence it plainly follows, that in the tenets we have laid down, there is nothing inconsistent with the right use and significancy of *language*, and that discourse of what kind soever, so far as[[55]](#footnote-55) it is intelligible, remains undisturbed. But all this seems so manifest, from what hath been set forth in the premises, that it is needless to insist any farther on it.

**84** But it will be urged, that miracles do, at least, lose much of their stress and import by our principles. What must we think of Moses’s rod, was it not *really* turned into a serpent, or was there only a change of *ideas* in the minds of the spectators? And can it be supposed, that our Saviour did no more at the marriage-feast in *Cana*, than impose on the sight, and smell, and taste of the guests, so as to create in them the appearance or idea only of wine? The same may be said of all other miracles: which, in consequence of the foregoing principles, must be looked upon only as so many cheats, or illusions of fancy. To this I reply, that the rod was changed into a real serpent, and the water into real wine. That this doth not, in the least, contradict what I have elsewhere said, will be evident from *Sect.* 34, and 35. But this business of *real* and *imaginary* hath been already so plainly and fully explained, and so often referred to, and the difficulties about it are so easily answered from what hath gone before, that it were an affront to the reader’s understanding, to resume the explication of it in this place. I shall only observe, that if at table all who were present should see, and smell, and taste, and drink wine, and find the effects of it, with me there could be no doubt of its reality. So that, at bottom, the scruple concerning real miracles hath no place at all on ours, but only on the received principles, and consequently maketh rather *for*, than *against* what hath been said.

## OF THE PRINCIPLES OF HUMAN KNOWLEDGE PART I (Development of Immaterialism)

**85** Having done with the objections, which I endeavoured to propose in the clearest light, and gave them all the force and weight I could, we proceed in the next place to take a view of our tenets in their consequences. Some of these appear at first sight, as that several difficult and obscure questions, on which abundance of speculation hath been thrown away, are entirely banished from philosophy. Whether corporeal substance can think? Whether matter be infinitely divisible? And how it operates on spirit?[[56]](#footnote-56) these and the like inquiries have given infinite amusement to philosophers in all ages. But depending on the existence of *matter*, they have no longer any place on our principles. Many other advantages there are, as well with regard to *religion* as the *sciences*, which it is easy for any one to deduce from what hath been premised. But this will appear more plainly in the sequel.

**86** From the principles we have laid down, it follows, human knowledge may naturally be reduced to two heads, that of *ideas*, and that of *spirits.* Of each of these I shall treat in order. And first as to ideas or unthinking things, our knowledge of these hath been very much obscured and confounded, and we have been led into very dangerous errors, by supposing a twofold existence of the objects of sense, the one *intelligible*, or in the mind, the other *real* and without the mind: whereby unthinking things are thought to have a natural subsistence of their own, distinct from being perceived by spirits. This which, if I mistake not, hath been shewn to be a most groundless and absurd notion, is the very root of *scepticism*; for so long as men thought that real things subsisted without the mind, and that their knowledge was only so far forth *real* as it was conformable to *real things*, it follows, they could not be certain that they had any real knowledge at all. For how can it be known, that the things which are perceived, are conformable to those which are not perceived, or exist without the mind?

**87** Colour, figure, motion, extension and the like, considered only as so many *sensations* in the mind, are perfectly known, there being nothing in them which is not perceived. But if they are looked on as notes or images, referred to *things* or *archetypes* existing without the mind, then are we involved all in *scepticism.* We see only the appearances, and not the real qualities of things. What may be the extension, figure, or motion of any thing really and absolutely, or in it self, it is impossible for us to know, but only the proportion or the relation they bear to our senses. Things remaining the same, our ideas vary, and which of them, or even whether any of them at all represent the true quality really existing in the thing, it is out of our reach to determine. So that, for aught we[[57]](#footnote-57) know, all we see, hear, and feel, may be only phantom and vain chimera, and not at all agree with the real things, existing in *rerum natura.* All this scepticism follows, from our supposing a difference between *things* and *ideas*, and that the former have a subsistence without the mind, or unperceived. It were easy to dilate on this subject, and shew how the arguments urged by *sceptics* in all ages, depend on the supposition of external objects.

**88** So long as we attribute a real existence to unthinking things, distinct from their being perceived, it is not only impossible for us to know with evidence the nature of any real unthinking being, but even that it exists. Hence it is, that we see philosophers distrust their senses, and doubt of the existence of heaven and earth, of every thing they see or feel, even of their own bodies. And after all their labour and struggle of thought, they are forced to own, we cannot attain to any self-evident or demonstrative knowledge of the existence of sensible things. But all this doubtfulness, which so bewilders and confounds the mind, and makes *philosophy* ridiculous in the eyes of the world, vanishes, if we annex a meaning to our words, and do not amuse our selves with the terms *absolute, external, exist*, and such like, signifying we know not what. I can as well doubt of my own being, as of the being of those things which I actually perceive by sense: it being a manifest contradiction, that any sensible object should be immediately perceived by sight or touch, and at the same time have no existence in Nature, since the very existence of an unthinking being consists in *being perceived.*

**89** Nothing seems of more importance, towards erecting a firm system of sound and real knowledge, which may be proof against the assaults of *scepticism*, than to lay the beginning in a distinct explication of what is meant by *thing, reality, existence:* for in vain shall we dispute concerning the real existence of things, or pretend to any knowledge thereof, so long as we have not fixed the meaning of those words. *Thing* or *being* is the most general name of all, it comprehends under it two kinds entirely distinct and heterogeneous, and which have nothing common but the name, to wit, *spirits* and *ideas.* The former are *active, indivisible substances*: the latter are *inert, fleeting, dependent beings*, which[[58]](#footnote-58) subsist not by themselves, but are supported by, or exist in minds or spiritual substances. We comprehend our own existence by inward feeling or reflexion, and that of other spirits by reason. We may be said to have some knowledge or notion of our own minds, of spirits and active beings, whereof in a strict sense we have not ideas. In like manner we know and have a notion of relations between things or ideas, which relations are distinct from the ideas or things related, inasmuch as the latter may be perceived by us without our perceiving the former. To me it seems that ideas, spirits and relations are all in their respective kinds, the object of human knowledge and subject of discourse: and that the term *idea* would be improperly extended to signify every thing we know or have any notion of.

**90** Ideas imprinted on the senses are real things, or do really exist; this we do not deny, but we deny they can subsist without the minds which perceive them, or that they are resemblances of any archetypes existing without the mind: since the very being of a sensation or idea consists in being perceived, and an idea can be like nothing but an idea. Again, the things perceived by sense may be termed *external*, with regard to their origin, in that they are not generated from within, by the mind it self, but imprinted by a spirit distinct from that which perceives them. Sensible objects may likewise be said to be without the mind, in another sense, namely when they exist in some other mind. Thus when I shut my eyes, the things I saw may still exist, but it must be in another mind.

**91** It were a mistake to think, that what is here said derogates in the least from the reality of things. It is acknowledged on the received principles, that extension, motion, and in a word all sensible qualities, have need of a support, as not being able to subsist by themselves. But the objects perceived by sense, are allowed to be nothing but combinations of those qualities, and consequently cannot subsist by themselves. Thus far it is agreed on all hands. So that in denying the things perceived by sense, an existence independent of a substance, or support wherein they may exist, we detract nothing from the received opinion of their *reality*, and are guilty of no innovation in that respect. All the difference is, that according to us the unthinking beings perceived by sense, have no existence distinct from being perceived, and cannot therefore exist in any other substance, than those unextended, indivisible substances, or *spirits*, which act, and think,[[59]](#footnote-59) and perceive them: whereas philosophers vulgarly hold, that the sensible qualities exist in an inert, extended, unperceiving substance, which they call *matter*, to which they attribute a natural subsistence, exterior to all thinking beings, or distinct from being perceived by any mind whatsoever, even the eternal mind of the Creator, wherein they suppose only ideas of the corporeal substances created by him: if indeed they allow them to be at all created.

**92** For as we have shewn the doctrine of matter or corporeal substance, to have been the main pillar and support of *scepticism*, so likewise upon the same foundation have been raised all the impious schemes of *atheism* and irreligion. Nay so great a difficulty hath it been thought, to conceive matter produced out of nothing, that the most celebrated among the ancient philosophers, even of these who maintained the being of a God, have thought matter to be uncreated and coeternal with him. How great a friend material substance hath been to *atheists* in all ages, were needless to relate. All their monstrous systems have so visible and necessary a dependence on it, that when this corner-stone is once removed, the whole fabrick cannot choose but fall to the ground; insomuch that it is no longer worth while, to bestow a particular consideration on the absurdities of every wretched sect of *atheists.*

**93** That impious and profane persons should readily fall in with those systems which favour their inclinations, by deriding immaterial substance, and supposing the soul to be divisible and subject to corruption as the body; which exclude all freedom, intelligence, and design from the formation of things, and instead thereof make a self-existent, stupid, unthinking substance the root and origin of all beings. That they should hearken to those who deny a providence, or inspection of a superior mind over the affairs of the world, attributing the whole series of events either to blind chance or fatal necessity, arising from the impulse of one[[60]](#footnote-60) body on another. All this is very natural. And on the other hand, when men of better principles observe the enemies of religion lay so great a stress on *unthinking matter*, and all of them use so much industry and artifice to reduce every thing to it; methinks they should rejoice to see them deprived of their grand support, and driven from that only fortress, without which your Epicureans, Hobbists, and the like, have not even the shadow of a pretence, but become the most cheap and easy triumph in the world.

**94** The existence of matter, or bodies unperceived, has not only been the main support of *atheists* and *fatalists*, but on the same principle doth *idolatry* likewise in all its various forms depend. Did men but consider that the sun, moon, and stars, and every other object of the senses, are only so many sensations in their minds, which have no other existence but barely being perceived, doubtless they would never fall down, and worship their own *ideas*; but rather address their homage to that ETERNAL INVISIBLE MIND which produces and sustains all things.

**95** The same absurd principle, by mingling it self with the articles of our faith, hath occasioned no small difficulties to Christians. For example, about the *resurrection*, how many scruples and objections have been raised by Socinians and others? But do not the most plausible of them depend on the supposition, that a body is denominated the *same*, with regard not to the form or that which is perceived by sense, but the material substance which remains the same under several forms? Take away this *material substance*, about the identity whereof all the dispute is, and mean by *body* what every plain ordinary person means by that word, to wit, that which is immediately seen and felt, which is only a combination of sensible qualities, or ideas: and then their most unanswerable objections come to nothing.

**96** Matter being once expelled out of Nature, drags with it so many sceptical and impious notions, such an incredible number of disputes and puzling questions, which have been thorns in the sides of divines, as well as philosophers, and made so much fruitless work for mankind; that if the arguments we have produced against it, are not found equal to demonstration (as to me they evidently seem) yet I am sure all friends to knowledge, peace, and religion, have reason to wish they were.[[61]](#footnote-61)

**97** Beside the external existence of the objects of perception, another great source of errors and difficulties, with regard to ideal knowledge, is the doctrine of *abstract ideas*, such as it hath been set forth in the Introduction. The plainest things in the world, those we are most intimately acquainted with, and perfectly know, when they are considered in an abstract way, appear strangely difficult and incomprehensible. Time, place, and motion, taken in particular or concrete, are what every body knows; but having passed through the hands of a metaphysician, they become too abstract and fine, to be apprehended by men of ordinary sense. Bid your servant meet you at such a *time*, in such a *place*, and he shall never stay to deliberate on the meaning of those words: in conceiving that particular time and place, or the motion by which he is to get thither, he finds not the least difficulty. But if *time* be taken, exclusive of all those particular actions and ideas that diversify the day, merely for the continuation of existence, or duration in abstract, then it will perhaps gravel even a philosopher to comprehend it.

**98** Whenever I attempt to frame a simple idea of *time*, abstracted from the succession of ideas in my mind, which flows uniformly, and is participated by all beings, I am lost and embrangled in inextricable difficulties. I have no notion of it at all, only I hear others say, it is infinitely divisible, and speak of it in such a manner as leads me to entertain odd thoughts of my existence: since that doctrine lays one under an absolute necessity of thinking, either that he passes away innumerable ages without a thought, or else that he is annihilated every moment of his life: both which seem equally absurd. Time therefore being nothing, abstracted from the succession of ideas in our minds, it follows that the duration of any finite spirit must be estimated by the number of ideas or actions succeeding each other in that same spirit or mind. Hence it is a plain consequence that the soul always thinks: and in truth whoever shall go about to[[62]](#footnote-62) divide in his thoughts, or abstract the *existence* of a spirit from its *cogitation*, will, I believe, find it no easy task.

**99** So likewise, when we attempt to abstract extension and motion from all other qualities, and consider them by themselves, we presently lose sight of them, and run into great extravagancies. All which depend on a two-fold abstraction: first, it is supposed that extension, for example, may be abstracted from all other sensible qualities; and secondly, that the entity of extension may be abstracted from its being perceived. But whoever shall reflect, and take care to understand what he says, will, if I mistake not, acknowledge that all sensible qualities are alike *sensations*, and alike *real*; that where the extension is, there is the colour too, to wit, in his mind, and that their archetypes can exist only in some other *mind:* and that the objects of sense are nothing but those sensations combined, blended, or (if one may so speak) concreted together: none of all which can be supposed to exist unperceived.

**100** What it is for a man to be happy, or an object good, every one may think he knows. But to frame an abstract idea of *happiness*, prescinded from all particular pleasure, or of *goodness*, from every thing that is good, this is what few can pretend to. So likewise, a man may be just and virtuous, without having precise ideas of *justice* and *virtue.* The opinion that those and the like words stand for general notions abstracted from all particular persons and actions, seems to have rendered morality difficult, and the study thereof of less use to mankind. And in effect, the[[63]](#footnote-63) doctrine of *abstraction* has not a little contributed towards spoiling the most useful parts of knowledge.

**101** The two great provinces of speculative science, conversant about ideas received from sense and their relations, are *natural philosophy* and *mathematics*; with regard to each of these I shall make some observations. And first, I shall say somewhat of natural philosophy. On this subject it is, that the *sceptics* triumph: all that stock of arguments they produce to depreciate our faculties, and make mankind appear ignorant and low, are drawn principally from this head, to wit, that we are under an invincible blindness as to the *true* and *real* nature of things. This they exaggerate, and love to enlarge on. We are miserably bantered, say they, by our senses, and amused only with the outside and shew of things. The real essence, the internal qualities, and constitution of every the meanest object, is hid from our view; something there is in every drop of water, every grain of sand, which it is beyond the power of human understanding to fathom or comprehend. But it is evident from what has been shewn, that all this complaint is groundless, and that we are influenced by false principles to that degree as to mistrust our senses, and think we know nothing of those things which we perfectly comprehend.

**102** One great inducement to our pronouncing our selves ignorant of the nature of things, is the current opinion that every thing includes within it self the cause of its properties: or that there is in each object an inward essence, which is the source whence its discernible qualities flow, and whereon they depend. Some have pretended to account for appearances by occult qualities, but of late they are mostly resolved into mechanical causes, to wit, the figure, motion, weight, and such like qualities of insensible particles: whereas in truth, there is no other agent or efficient cause than *spirit*, it being evident that motion, as well as all other *ideas*, is perfectly inert. See *Sect.* 25. Hence, to endeavour to explain the production of colours or sounds, by figure, motion, magnitude and the like, must needs be labour in vain. And accordingly, we see the attempts of that kind are not at all satisfactory. Which may be said, in general, of those instances, wherein one idea or quality is assigned for the cause of another. I need not say, how many *hypotheses* and speculations are left out, and how much the study of Nature is abridged by this doctrine.[[64]](#footnote-64)

**103** The great mechanical principle now in vogue is *attraction.* That a stone falls to the earth, or the sea swells towards the moon, may to some appear sufficiently explained thereby. But how are we enlightened by being told this is done by attraction? Is it that that word signifies the manner of the tendency, and that it is by the mutual drawing of bodies, instead of their being impelled or protruded towards each other? But nothing is determined of the manner or action, and it may as truly (for ought we know) be termed *impulse* or *protrusion* as *attraction.* Again, the parts of steel we see cohere firmly together, and this also is accounted for by attraction; but in this, as in the other instances, I do not perceive that any thing is signified besides the effect it self; for as to the manner of the action whereby it is produced, or the cause which produces it, these are not so much as aimed at.

**104** Indeed, if we take a view of the several phenomena, and compare them together, we may observe some likeness and conformity between them. For example, in the falling of a stone to the ground, in the rising of the sea towards the moon, in cohesion and crystallization, there is something alike, namely an union or mutual approach of bodies. So that any one of these or the like phenomena, may not seem strange or surprising to a man who hath nicely observed and compared the effects of Nature. For that only is thought so which is uncommon, or a thing by it self, and out of the ordinary course of our observation. That bodies should tend towards the centre of the earth, is not thought strange, because it is what we perceive every moment of our lives. But that they should have a like gravitation towards the centre of the moon, may seem odd and unaccountable to most men, because it is discerned only in the tides. But a philosopher, whose thoughts take in a larger compass of Nature, having observed a certain similitude of appearances, as well in the heavens as the earth, that argue innumerable bodies to have a mutual tendency towards each other, which he[[65]](#footnote-65) denotes by the general name *attraction*, whatever can be reduced to that, he thinks justly accounted for. Thus he explains the tides by the attraction of the terraqueous globe towards the moon, which to him doth not appear odd or anomalous, but only a particular example of a general rule or law of Nature.

**105** If therefore we consider the difference there is betwixt natural philosophers and other men, with regard to their knowledge of the *phenomena*, we shall find it consists, not in an exacter knowledge of the efficient cause that produces them, for that can be no other than the *will of a spirit*, but only in a greater largeness of comprehension, whereby analogies, harmonies, and agreements are discovered in the works of Nature, and the particular effects explained, that is, reduced to general rules, see *Sect.* 62, which rules grounded on the analogy, and uniformness observed in the production of natural effects, are most agreeable, and sought after by the mind; for that they extend our prospect beyond what is present, and near to us, and enable us to make very probable conjectures, touching things that may have happened at very great distances of time and place, as well as to predict things to come; which sort of endeavour towards omniscience, is much affected by the mind.

**106** But we should proceed warily in such things: for we are apt to lay too great a stress on analogies, and to the prejudice of truth, humour that eagerness of the mind, whereby it is carried to extend its knowledge into general theorems. For example, gravitation, or mutual attraction, because it appears in many instances, some are straightway for pronouncing *universal*; and that to *attract, and be attracted by every other body, is an essential quality inherent in all bodies whatsoever.* Whereas it appears the fixed stars have no such tendency towards each other: and so far is that gravitation, from being *essential* to bodies, that, in some instances a quite contrary principle seems to shew it self: as in the perpendicular growth of plants, and the elasticity of the air. There is nothing necessary or essential in the case, but it depends entirely on the will of the *governing spirit*, who causes certain bodies to cleave together, or tend towards each other, according to various laws, whilst he keeps others at a fixed distance; and to some he gives a quite contrary tendency to fly asunder, just as he sees convenient.

**107** After what has been premised, I think we may lay down[[66]](#footnote-66) the following conclusions. First, it is plain philosophers amuse themselves in vain, when they inquire for any natural efficient cause, distinct from a *mind* or *spirit.* Secondly, considering the whole creation is the workmanship of a *wise and good agent*, it should seem to become philosophers, to employ their thoughts (contrary to what some hold) about the final causes of things: and I must confess, I see no reason, why pointing out the various ends, to which natural things are adapted, and for which they were originally with unspeakable wisdom contrived, should not be thought one good way of accounting for them, and altogether worthy a philosopher. Thirdly, from what hath been premised no reason can be drawn, why the history of Nature should not still be studied, and observations and experiments made, which, that they are of use to mankind, and enable us to draw any general conclusions, is not the result of any immutable habitudes, or relations between things themselves, but only of GOD’s goodness and kindness to men in the administration of the world. See *Sect.* 30 and 31. Fourthly, by a diligent observation of the phenomena within our view, we may discover the general laws of Nature, and from them deduce the other phenomena, I do not say *demonstrate*; for all deductions of that kind depend on a supposition that the Author of Nature always operates uniformly, and in a constant observance of those rules we take for principles: which we cannot evidently know.

**108** Those men who frame general rules from the *phenomena*, and afterwards derive the *phenomena* from those rules, seem to[[67]](#footnote-67) consider signs rather than causes. A man may well understand natural signs without knowing their analogy, or being able to say by what rule a thing is so or so. And as it is very possible to write improperly, through too strict an observance of general grammar-rules: so in arguing from general rules of Nature, it is not impossible we may extend the analogy too far, and by that means run into mistakes.

**109** As in reading other books, a wise man will choose to fix his thoughts on the sense and apply it to use, rather than lay them out in grammatical remarks on the language; so in perusing the volume of Nature, it seems beneath the dignity of the mind to affect an exactness in reducing each particular *phenomenon* to general rules, or shewing how it follows from them. We should propose to our selves nobler views, such as to recreate and exalt the mind, with a prospect of the beauty, order, extent, and variety of natural things: hence, by proper inferences, to enlarge our notions of the grandeur, wisdom, and beneficence of the CREATOR: and lastly, to make the several parts of the Creation, so far as in us lies, subservient to the ends they were designed for, GOD’s glory, and the sustentation and comfort of our selves and fellow-creatures.

**110** The best key for the aforesaid analogy, or natural science, will be easily acknowledged to be a certain celebrated treatise of *mechanics*: in the entrance of which justly admired treatise, time, space and motion, are distinguished into *absolute* and *relative, true* and *apparent, mathematical* and *vulgar*: which distinction, as it is at large explained by the author, doth suppose those quantities to have an existence without the mind: and that[[68]](#footnote-68) they are ordinarily conceived with relation to sensible things, to which nevertheless in their own nature, they bear no relation at all.

**111** As for *time*, as it is there taken in an absolute or abstracted sense, for the duration or perseverance of the existence of things, I have nothing more to add concerning it, after what hath been already said on that subject, *Sect.* 97 and 98. For the rest, this celebrated author holds there is an *absolute space*, which, being unperceivable to sense, remains in it self similar and immoveable: and relative space to be the measure thereof, which being moveable, and defined by its situation in respect of sensible bodies, is vulgarly taken for immoveable space. *Place* he defines to be that part of space which is occupied by any body. And according as the space is absolute or relative, so also is the place. *Absolute motion* is said to be the translation of a body from absolute place to absolute place, as relative motion is from one relative place to another. And because the parts of absolute space, do not fall under our senses, instead of them we are obliged to use their sensible measures: and so define both place and motion with respect to bodies, which we regard as immoveable. But it is said, in philosophical matters we must abstract from our senses, since it may be, that none of those bodies which seem to be quiescent, are truly so: and the same thing which is moved relatively, may be really at rest. As likewise one and the same body may be in relative rest and motion, or even moved with contrary relative motions at the same time, according as its place is variously defined. All which ambiguity is to be found in the apparent motions, but not at all in the true or absolute, which should therefore be alone regarded in philosophy. And the true, we are told, are distinguished from apparent or relative motions by the following properties. First, in true or absolute motion, all parts which preserve the same position with respect to the whole, partake of the motions of the whole. Secondly, the place being moved, that which is placed therein is also moved: so that a body moving in a place which is in motion, doth participate the motion of its place. Thirdly, true motion is never generated or changed, otherwise than by force impressed on the body it self. Fourthly, true motion is always changed by force impressed on the body moved. Fifthly, in circular motion barely relative, there is no centrifugal force, which nevertheless in that which is true or absolute, is proportional to the quantity of motion.[[69]](#footnote-69)

**112** But notwithstanding what hath been said, it doth not appear to me, that there can be any motion other than *relative:* so that to conceive motion, there must be at least conceived two bodies, whereof the distance or position in regard to each other is varied. Hence if there was one only body in being, it could not possibly be moved. This seems evident, in that the idea I have of motion doth necessarily include relation.

**113** But though in every motion it be necessary to conceive more bodies than one, yet it may be that one only is moved, namely that on which the force causing the change of distance is impressed, or in other words, that to which the action is applied. For however some may define relative motion, so as to term that body *moved*, which changes its distance from some other body, whether the force or action causing that change were applied to it, or no: yet as relative motion is that which is perceived by sense, and regarded in the ordinary affairs of life, it should seem that every man of common sense knows what it is, as well as the best philosopher: now I ask any one, whether in his sense of motion as he walks along the streets, the stones he passes over may be said to *move*, because they change distance with his feet? To me it seems, that though motion includes a relation of one thing to another, yet it is not necessary that each term of the relation be denominated from it. As a man may think of somewhat which doth not think, so a body may be moved to or from another body, which is not therefore it self in motion.

**114** As the place happens to be variously defined, the motion which is related to it varies. A man in a ship may be said to be quiescent, with relation to the sides of the vessel, and yet move with relation to the land. Or he may move eastward in respect of the one, and westward in respect of the other. In the common affairs of life, men never go beyond the earth to define the place[[70]](#footnote-70) of any body: and what is quiescent in respect of that, is accounted *absolutely* to be so. But philosophers who have a greater extent of thought, and juster notions of the system of things, discover even the earth it self to be moved. In order therefore to fix their notions, they seem to conceive the corporeal world as finite, and the utmost unmoved walls or shell thereof to be the place, whereby they estimate true motions. If we sound our own conceptions, I believe we may find all the absolute motion we can frame an idea of, to be at bottom no other than relative motion thus defined. For as hath been already observed, absolute motion exclusive of all external relation is incomprehensible: and to this kind of relative motion, all the above-mentioned properties, causes, and effects ascribed to absolute motion, will, if I mistake not, be found to agree. As to what is said of the centrifugal force, that it doth not at all belong to circular relative motion: I do not see how this follows from the experiment which is brought to prove it. See *Philosophiæ Naturalis Principia Mathematica, in Schol. Def.* VIII. For the water in the vessel, at that time wherein it is said to have the greatest relative circular motion, hath, I think, no motion at all: as is plain from the foregoing section.

**115** For to denominate a body *moved*, it is requisite, first, that it change its distance or situation with regard to some other body: and secondly, that the force or action occasioning that change be applied to it. If either of these be wanting, I do not think that agreeably to the sense of mankind, or the propriety of language, a body can be said to be in motion. I grant indeed, that it is possible for us to think a body, which we see change its distance from some other, to be moved, though it have no force applied to it (in which sense there may be apparent motion,) but then it is, because the force causing the change of distance, is imagined by us to be applied or impressed on that body thought to move. Which indeed shews we are capable of mistaking a thing to be in motion which is not, and that is all.[[71]](#footnote-71)

**116** From what hath been said, it follows that the philosophic consideration of motion doth not imply the being of an *absolute space*, distinct from that which is perceived by sense, and related to bodies: which that it cannot exist without the mind, is clear upon the same principles, that demonstrate the like of all other objects of sense. And perhaps, if we inquire narrowly, we shall find we cannot even frame an idea of *pure space*, exclusive of all body. This I must confess seems impossible, as being a most abstract idea. When I excite a motion in some part of my body, if it be free or without resistance, I say there is *space:* but if I find a resistance, then I say there is *body:* and in proportion as the resistance to motion is lesser or greater, I say the *space* is more or less *pure.* So that when I speak of pure or empty space, it is not to be supposed, that the word *space* stands for an idea distinct from, or conceivable without body and motion. Though indeed we are apt to think every noun substantive stands for a distinct idea, that may be separated from all others: which hath occasioned infinite mistakes. When therefore supposing all the world to be annihilated besides my own body, I say there still remains *pure space:* thereby nothing else is meant, but only that I conceive it possible, for the limbs of my body to be moved on all sides without the least resistance: but if that too were annihilated, then there could be no motion, and consequently no space. Some perhaps may think the sense of seeing doth furnish them with the idea of pure space; but it is plain from what we have elsewhere shewn, that the ideas of space and distance are not obtained by that sense. See the *Essay concerning Vision.*

**117** What is here laid down, seems to put an end to all those disputes and difficulties, which have sprung up amongst the[[72]](#footnote-72) learned concerning the nature of *pure space.* But the chief advantage arising from it, is, that we are freed from that dangerous *dilemma*, to which several who have employed their thoughts on this subject, imagine themselves reduced, to wit, of thinking either that real space is God, or else that there is something beside God which is eternal, uncreated, infinite, indivisible, immutable. Both which may justly be thought pernicious and absurd notions. It is certain that not a few divines, as well as philosophers of great note, have, from the difficulty they found in conceiving either limits or annihilation of space, concluded it must be *divine.* And some of late have set themselves particularly to shew, that the incommunicable attributes of God agree to it. Which doctrine, how unworthy soever it may seem of the Divine Nature, yet I do not see how we can get clear of it, so long as we adhere to the received opinions.

**118** Hitherto of natural philosophy: we come now to make some inquiry concerning that other great branch of speculative knowledge, to wit, *mathematics.* These, how celebrated soever they may be, for their clearness and certainty of demonstration, which is hardly any where else to be found, cannot nevertheless be supposed altogether free from mistakes; if in their principles there lurks some secret error, which is common to the professors of those sciences with the rest of mankind. Mathematicians, though they deduce their theorems from a great height of evidence, yet their first principles are limited by the consideration of quantity: and they do not ascend into any inquiry concerning those transcendental maxims, which influence all the particular sciences, each[[73]](#footnote-73) part whereof, mathematics not excepted, doth consequently participate of the errors involved in them. That the principles laid down by mathematicians are true, and their way of deduction from those principles clear and incontestable, we do not deny. But we hold, there may be certain erroneous maxims of greater extent than the object of mathematics, and for that reason not expressly mentioned, though tacitly supposed throughout the whole progress of that science; and that the ill effects of those secret unexamined errors are diffused through all the branches thereof. To be plain, we suspect the mathematicians are, as well as other men, concerned in the errors arising from the doctrine of abstract general ideas, and the existence of objects without the mind.

**119** *Arithmetic* hath been thought to have for its object abstract ideas of *number.* Of which to understand the properties and mutual habitudes is supposed no mean part of speculative knowledge. The opinion of the pure and intellectual nature of numbers in abstract, hath made them in esteem with those philosophers, who seem to have affected an uncommon fineness and elevation of thought. It hath set a price on the most trifling numerical speculations which in practice are of no use, but serve only for amusement: and hath therefore so far infected the minds of some, that they have dreamt of mighty *mysteries* involved in numbers, and attempted the explication of natural things by them. But if we inquire into our own thoughts, and consider what[[74]](#footnote-74) hath been premised, we may perhaps entertain a low opinion of those high flights and abstractions, and look on all inquiries about numbers, only as so many *difficiles nugæ*, so far as they are not subservient to practice, and promote the benefit of life.

**120** Unity in abstract we have before considered in *Sect.* 13, from which and what hath been said in the Introduction, it plainly follows there is not any such idea. But number being defined a *collection of units*, we may conclude that, if there be no such thing as unity or unit in abstract, there are no ideas of number in abstract denoted by the numerical names and figures. The theories therefore in arithmetic, if they are abstracted from the names and figures, as likewise from all use and practice, as well as from the particular things numbered, can be supposed to have nothing at all for their object. Hence we may see, how entirely the science of numbers is subordinate to practice, and how jejune and trifling it becomes, when considered as a matter of mere speculation.

**121** However since there may be some, who, deluded by the specious shew of discovering abstracted verities, waste their time in arithmetical theorems and problems, which have not any use: it will not be amiss, if we more fully consider, and expose the vanity of that pretence; and this will plainly appear, by taking a view of arithmetic in its infancy, and observing what it was that originally put men on the study of that science, and to what scope they directed it. It is natural to think that at first, men, for ease of memory and help of computation, made use of counters, or in writing of single strokes, points or the like, each whereof was made to signify an unit, that is, some one thing of whatever kind they had occasion to reckon. Afterwards they found out the more compendious ways, of making one character stand in place of several strokes, or points. And lastly, the notation of the Arabians or Indians came into use, wherein by the repetition of a few characters or figures, and varying the signification of each figure according to the place it obtains, all numbers may be most aptly expressed: which seems to have been done in imitation of language, so that an exact analogy is observed betwixt the notation by figures and names, the nine simple figures answering the nine first numeral names and places in the former, corresponding to denominations in the latter. And agreeably to those conditions of the simple and local value of figures, were contrived methods of finding from the given figures or marks of the parts, what figures[[75]](#footnote-75) and how placed, are proper to denote the whole or *vice versa.* And having found the sought figures, the same rule or analogy being observed throughout, it is easy to read them into words; and so the number becomes perfectly known. For then the number of any particular things is said to be known, when we know the name or figures (with their due arrangement) that according to the standing analogy belong to them. For these signs being known, we can by the operations of arithmetic, know the signs of any part of the particular sums signified by them; and thus computing in signs (because of the connexion established betwixt them and the distinct multitudes of things, whereof one is taken for an unit), we may be able rightly to sum up, divide, and proportion the things themselves that we intend to number.

**122** In *arithmetic* therefore we regard not the *things* but the *signs*, which nevertheless are not regarded for their own sake, but because they direct us how to act with relation to things, and dispose rightly of them. Now agreeably to what we have before observed, of words in general (*Sect.* 19. *Introd.*) it happens here likewise, that abstract ideas are thought to be signified by numeral names or characters, while they do not suggest ideas of particular things to our minds. I shall not at present enter into a more particular dissertation on this subject; but only observe that it is evident from what hath been said, those things which pass for abstract truths and theorems concerning numbers, are, in reality, conversant about no object distinct from particular numerable things, except only names and characters; which originally came to be considered, on no other account but their being *signs*, or capable to represent aptly, whatever particular things men had need to compute. Whence it follows, that to study them for their own sake would be just as wise, and to as good purpose, as if a man, neglecting the true use or original intention and subserviency of language, should spend his time in impertinent criticisms upon words, or reasonings and controversies purely verbal.

**123** From numbers we proceed to speak of *extension*, which considered as relative, is the object of geometry. The *infinite* divisibility of *finite* extension, though it is not expressly laid down, either as an axiom or theorem in the elements of that science,[[76]](#footnote-76) yet is throughout the same every where supposed, and thought to have so inseparable and essential a connexion with the principles and demonstrations in geometry, that mathematicians never admit it into doubt, or make the least question of it. And as this notion is the source from whence do spring all those amusing geometrical paradoxes, which have such a direct repugnancy to the plain common sense of mankind, and are admitted with so much reluctance into a mind not yet debauched by learning: so is it the principal occasion of all that nice and extreme subtilty, which renders the study of *mathematics* so difficult and tedious. Hence if we can make it appear, that no finite extension contains innumerable parts, or is infinitely divisible, it follows that we shall at once clear the science of geometry from a great number of difficulties and contradictions, which have ever been esteemed a reproach to human reason, and withal make the attainment thereof a business of much less time and pains, than it hitherto hath been.

**124** Every particular finite extension, which may possibly be the object of our thought, is an *idea* existing only in the mind, and consequently each part thereof must be perceived. If therefore I cannot perceive innumerable parts in any finite extension that I consider, it is certain they are not contained in it: but it is evident, that I cannot distinguish innumerable parts in any particular line, surface, or solid, which I either perceive by sense, or figure to my self in my mind: wherefore I conclude they are not contained in it. Nothing can be plainer to me, than that the extensions I have in view are no other than my own ideas, and it is no less plain, that I cannot resolve any one of my ideas into an infinite number of other ideas, that is, that they are not infinitely divisible. If by *finite extension* be meant something distinct from a finite idea, I declare I do not know what that is, and so cannot affirm or deny any thing of it. But if the terms *extension, parts*, and the like, are taken in any sense conceivable, that is, for ideas; then to say a finite quantity or extension consists of parts infinite in number, is so manifest a contradiction, that every one at first sight acknowledges it to be so. And it is impossible it should ever gain the assent of any reasonable creature, who is not brought to it by gentle and slow degrees, as a converted Gentile to the belief of *transubstantiation.* Ancient and rooted prejudices do often pass into principles: and those propositions which once obtain the force and credit of a *principle*, are not only themselves, but likewise[[77]](#footnote-77) whatever is deducible from them, thought privileged from all examination. And there is no absurdity so gross, which by this means the mind of man may not be prepared to swallow.

**125** He whose understanding is prepossessed with the doctrine of abstract general ideas, may be persuaded, that (whatever be thought of the ideas of sense), extension in *abstract* is infinitely divisible. And one who thinks the objects of sense exist without the mind, will perhaps in virtue thereof be brought to admit, that a line but an inch long may contain innumerable parts really existing, though too small to be discerned. These errors are grafted as well in the minds of *geometricians*, as of other men, and have a like influence on their reasonings; and it were no difficult thing, to shew how the arguments from geometry made use of to support the infinite divisibility of extension, are bottomed on them. At present we shall only observe in general, whence it is that the mathematicians are all so fond and tenacious of this doctrine.

**126** It hath been observed in another place, that the theorems and demonstrations in geometry are conversant about universal ideas. *Sect.* 15. *Introd.* Where it is explained in what sense this ought to be understood, to wit, that the particular lines and figures included in the diagram, are supposed to stand for innumerable others of different sizes: or in other words, the geometer considers them abstracting from their magnitude: which doth not imply that he forms an abstract idea, but only that he cares not what the particular magnitude is, whether great or small, but looks on that as a thing indifferent to the demonstration: hence it follows, that a line in the scheme, but an inch long, must be spoken of, as though it contained ten thousand parts, since it is regarded not in it self, but as it is universal; and it is universal only in its signification, whereby it represents innumerable lines greater than it self, in which may be distinguished ten thousand parts or more, though there may not be above an inch in it. After this manner the properties of the lines signified are (by a very usual figure) transferred to the sign, and thence through mistake thought to appertain to it considered in its own nature.[[78]](#footnote-78)

**127** Because there is no number of parts so great, but it is possible there may be a line containing more, the inch-line is said to contain parts more than any assignable number; which is true, not of the inch taken absolutely, but only for the things signified by it. But men not retaining that distinction in their thoughts, slide into a belief that the small particular line described on paper contains in it self parts innumerable. There is no such thing as the ten-thousandth part of an *inch*; but there is of a *mile* or *diameter of the earth*, which may be signified by that inch. When therefore I delineate a triangle on paper, and take one side not above an inch, for example, in length to be the *radius*: this I consider as divided into ten thousand or an hundred thousand parts, or more. For though the ten-thousandth part of that line considered in it self, is nothing at all, and consequently may be neglected without any error or inconveniency; yet these described lines being only marks standing for greater quantities, whereof it may be the ten-thousandth part is very considerable, it follows, that to prevent notable errors in practice, the *radius* must be taken of ten thousand parts, or more.

**128** From what hath been said the reason is plain why, to the end any theorem may become universal in its use, it is necessary we speak of the lines described on paper, as though they contained parts which really they do not. In doing of which, if we examine the matter throughly, we shall perhaps discover that we cannot conceive an inch it self as consisting of, or being divisible into a thousand parts, but only some other line which is far greater than an inch, and represented by it. And that when we say a line is *infinitely divisible*, we must mean a line which is *infinitely great.* What we have here observed seems to be the chief cause, why to suppose the infinite divisibility of finite extension hath been thought necessary in geometry.

**129** The several absurdities and contradictions which flowed from this false principle might, one would think, have been esteemed so many demonstrations against it. But by I know not what *logic*, it is held that proofs *à posteriori* are not to be admitted against propositions relating to infinity. As though it were not impossible even for an infinite mind to reconcile contradictions. Or as if any thing absurd and repugnant could have a necessary connexion with truth, or flow from it. But whoever considers the weakness of this pretence, will think it was contrived on purpose[[79]](#footnote-79) to humour the laziness of the mind, which had rather acquiesce in an indolent scepticism, than be at the pains to go through with a severe examination of those principles it hath ever embraced for true.

**130** Of late the speculations about infinites have run so high, and grown to such strange notions, as have occasioned no small scruples and disputes among the geometers of the present age. Some there are of great note, who not content with holding that finite lines may be divided into an infinite number of parts, do yet farther maintain, that each of those infinitesimals is it self subdivisible into an infinity of other parts, or infinitesimals of a second order, and so on *ad infinitum.* These, I say, assert there are infinitesimals of infinitesimals of infinitesimals, without ever coming to an end. So that according to them an inch doth not barely contain an infinite number of parts, but an infinity of an infinity of an infinity *ad infinitum* of parts. Others there be who hold all orders of infinitesimals below the first to be nothing at all, thinking it with good reason absurd, to imagine there is any positive quantity or part of extension, which though multiplied infinitely, can ever equal the smallest given extension. And yet on the other hand it seems no less absurd, to think the square, cube, or other power of a positive real root, should it self be nothing at all; which they who hold infinitesimals of the first order, denying all of the subsequent orders, are obliged to maintain.

**131** Have we not therefore reason to conclude, that they are *both* in the wrong, and that there is in effect no such thing as parts infinitely small, or an infinite number of parts contained in any finite quantity? But you will say, that if this doctrine obtains, it will follow the very foundations of geometry are destroyed: and those great men who have raised that science to so astonishing an height, have been all the while building a castle in the air. To this it may be replied, that whatever is useful in geometry and promotes the benefit of human life, doth still remain firm and unshaken on our principles. That science considered as practical, will rather receive advantage than any prejudice from what hath been said. But to set this in a due light, may be the subject of a distinct inquiry. For the rest, though it should follow that some of the more intricate and subtle parts of *speculative mathematics* may be pared off without any prejudice to truth; yet I do not see what damage will be thence derived to mankind. On the contrary,[[80]](#footnote-80) it were highly to be wished, that men of great abilities and obstinate application would draw off their thoughts from those amusements, and employ them in the study of such things as lie nearer the concerns of life, or have a more direct influence on the manners.

**132** If it be said that several theorems undoubtedly true, are discovered by methods in which infinitesimals are made use of, which could never have been, if their existence included a contradiction in it. I answer, that upon a thorough examination it will not be found, that in any instance it is necessary to make use of or conceive infinitesimal parts of finite lines, or even quantities less than the *minimum sensibile:* nay, it will be evident this is never done, it being impossible.

**133** By what we have premised, it is plain that very numerous and important errors have taken their rise from those false principles, which were impugned in the foregoing parts of this treatise. And the opposites of those erroneous tenets at the same time appear to be most fruitful principles, from whence do flow innumerable consequences highly advantageous to true philosophy as well as to religion. Particularly, *matter* or *the absolute existence of corporeal objects*, hath been shewn to be that wherein the most avowed and pernicious enemies of all knowledge, whether human or divine, have ever placed their chief strength and confidence. And surely, if by distinguishing the real existence of unthinking things from their being perceived, and allowing them a subsistence of their own out of the minds of spirits, no one thing is explained in Nature; but on the contrary a great many inexplicable difficulties arise: if the supposition of matter is barely precarious, as not being grounded on so much as one single reason: if its consequences cannot endure the light of examination and free inquiry, but skreen themselves under the dark and general pretence of *infinites being incomprehensible*: if withal the removal of this *matter* be not attended with the least evil consequence, if it be not even[[81]](#footnote-81) missed in the world, but every thing as well, nay much easier conceived without it: if lastly, both *sceptics* and *atheists* are for ever silenced upon supposing only spirits and ideas, and this scheme of things is perfectly agreeable both to *reason* and *religion*: methinks we may expect it should be admitted and firmly embraced, though it were proposed only as an *hypothesis*, and the existence of matter had been allowed possible, which yet I think we have evidently demonstrated that it is not.

**134** True it is, that in consequence of the foregoing principles, several disputes and speculations, which are esteemed no mean parts of learning, are rejected as useless. But how great a prejudice soever against our notions, this may give to those who have already been deeply engaged, and made large advances in studies of that nature: yet by others, we hope it will not be thought any just ground of dislike to the principles and tenets herein laid down, that they abridge the labour of study, and make human sciences more clear, compendious, and attainable, than they were before.

**135** Having dispatched what we intended to say concerning the knowledge of *ideas*, the method we proposed leads us, in the next place, to treat of *spirits*: with regard to which, perhaps human knowledge is not so deficient as is vulgarly imagined. The great reason that is assigned for our being thought ignorant of the nature of spirits, is, our not having an idea of it. But surely it ought not to be looked on as a defect in a human understanding, that it does not perceive the idea of *spirit*, if it is manifestly impossible there should be any such *idea.* And this, if I mistake not, has been demonstrated in *Sect.* 27: to which I shall here add that a spirit has been shown to be the only substance or support, wherein the unthinking beings or ideas can exist: but that this *substance* which supports or perceives ideas should it self be an *idea* or like an *idea*, is evidently absurd.

**136** It will perhaps be said, that we want a sense (as some have imagined) proper to know substances withal, which if we had, we might know our own soul, as we do a triangle. To this I answer, that in case we had a new sense bestowed upon us, we could only receive thereby some new sensations or ideas of sense.[[82]](#footnote-82) But I believe no body will say, that what he means by the terms *soul* and *substance*, is only some particular sort of idea or sensation. We may therefore infer, that all things duly considered, it is not more reasonable to think our faculties defective, in that they do not furnish us with an idea of spirit or active thinking substance, than it would be if we should blame them for not being able to comprehend a *round square.*

**137** From the opinion that spirits are to be known after the manner of an idea or sensation, have risen many absurd and heterodox tenets, and much scepticism about the nature of the soul. It is even probable, that this opinion may have produced a doubt in some, whether they had any soul at all distinct from their body, since upon inquiry they could not find they had an idea of it. That an *idea* which is inactive, and the existence whereof consists in being perceived, should be the image or likeness of an agent subsisting by it self, seems to need no other refutation, than barely attending to what is meant by those words. But perhaps you will say, that though an *idea* cannot resemble a *spirit*, in its thinking, acting, or subsisting by it self, yet it may in some other respects: and it is not necessary that an idea or image be in all respects like the original.

**138** I answer, if it does not in those mentioned, it is impossible it should represent it in any other thing. Do but leave out the power of willing, thinking, and perceiving ideas, and there remains nothing else wherein the idea can be like a spirit. For by the word *spirit* we mean only that which thinks, wills, and perceives; this, and this alone, constitutes the signification of that term. If therefore it is impossible that any degree of those powers should be represented in an idea, it is evident there can be no idea of a spirit.

**139** But it will be objected, that if there is no idea signified by the terms *soul, spirit*, and *substance*, they are wholly insignificant, or have no meaning in them. I answer, those words do mean or signify a real thing, which is neither an idea nor like an idea, but that which perceives ideas, and wills, and reasons about them. What I am my self, that which I denote by the term I, is the same[[83]](#footnote-83) with what is meant by *soul* or *spiritual substance.* If it be said that this is only quarrelling at a word, and that since the immediate significations of other names are by common consent called *ideas*, no reason can be assigned, why that which is signified by the name *spirit* or *soul* may not partake in the same appellation. I answer, all the unthinking objects of the mind agree, in that they are intirely passive, and their existence consists only in being perceived: whereas a soul or spirit is an active being, whose existence consists not in being perceived, but in perceiving ideas and thinking. It is therefore necessary, in order to prevent equivocation and confounding natures perfectly disagreeing and unlike, that we distinguish between *spirit* and *idea.* See *Sect.* 27.

**140** In a large sense indeed, we may be said to have an idea, or rather a notion of *spirit*, that is, we understand the meaning of the word, otherwise we could not affirm or deny any thing of it. Moreover, as we conceive the ideas that are in the minds of other spirits by means of our own, which we suppose to be resemblances of them: so we know other spirits by means of our own soul, which in that sense is the image or idea of them, it having a like respect to other spirits, that blueness or heat by me perceived hath to those ideas perceived by another.

**141** It must not be supposed, that they who assert the natural immortality of the soul are of opinion, that it is absolutely incapable of annihilation even by the infinite power of the CREATOR who first gave it being: but only that it is not liable to be broken or dissolved by the ordinary Laws of Nature or motion. They indeed, who hold the soul of man to be only a thin vital flame, or system of animal spirits, make it perishing and corruptible as the body, since there is nothing more easily dissipated than such a being, which it is naturally impossible should survive the ruin of the tabernacle, wherein it is enclosed. And this notion hath been greedily embraced and cherished by the worst part of mankind, as the most effectual antidote against all impressions of virtue and religion. But it hath been made evident, that[[84]](#footnote-84) bodies of what frame or texture soever, are barely passive ideas in the mind, which is more distant and heterogeneous from them, than light is from darkness. We have shewn that the soul is indivisible, incorporeal, unextended, and it is consequently incorruptible. Nothing can be plainer, than that the motions, changes, decays, and dissolutions which we hourly see befall natural bodies (and which is what we mean by the *course of Nature*) cannot possibly affect an active, simple, uncompounded substance: such a being therefore is indissoluble by the force of Nature, that is to say, *the soul of man is naturally immortal.*

**142** After what hath been said, it is I suppose plain, that our souls are not to be known in the same manner as senseless inactive objects, or by way of *idea. Spirits* and *ideas* are things so wholly different, that when we say, *they exist, they are known*, or the like, these words must not be thought to signify any thing common to both natures. There is nothing alike or common in them: and to expect that by any multiplication or enlargement of our faculties, we may be enabled to know a spirit as we do a triangle, seems as absurd as if we should hope to *see a sound.* This is inculcated because I imagine it may be of moment towards clearing several important questions, and preventing some very dangerous errors concerning the nature of the soul. We may not I think strictly be said to have an idea of an active being, or of an action, although we may be said to have a notion of them. I have some knowledge or notion of my mind, and its acts about ideas, inasmuch as I know or understand what is meant by those words. What I know, that I have some notion of. I will not say, that the terms *idea* and *notion* may not be used convertibly, if the world will have it so. But yet it conduceth to clearness and propriety, that we distinguish things very different by different names. It is also to be remarked, that all relations including an act of the mind, we cannot so properly be said to have an idea, but rather a notion of the relations or habitudes between things. But if in the modern way the word *idea* is extended to spirits, and relations and acts; this is after all an affair of verbal concern.

**143** It will not be amiss to add, that the doctrine of *abstract ideas* hath had no small share in rendering those sciences intricate[[85]](#footnote-85) and obscure, which are particularly conversant about spiritual things. Men have imagined they could frame abstract notions of the powers and acts of the mind, and consider them prescinded, as well from the mind or spirit it self, as from their respective objects and effects. Hence a great number of dark and ambiguous terms presumed to stand for abstract notions, have been introduced into metaphysics and morality, and from these have grown infinite distractions and disputes amongst the learned.

**144** But nothing seems more to have contributed towards engaging men in controversies and mistakes, with regard to the nature and operations of the mind, than the being used to speak of those things, in terms borrowed from sensible ideas. For example, the will is termed the *motion* of the soul: this infuses a belief, that the mind of man is as a ball in motion, impelled and determined by the objects of sense, as necessarily as that is by the stroke of a racket. Hence arise endless scruples and errors of dangerous consequence in morality. All which I doubt not may be cleared, and truth appear plain, uniform, and consistent, could but philosophers be prevailed on to retire into themselves, and attentively consider their own meaning.

**145** From what hath been said, it is plain that we cannot know the existence of other spirits, otherwise than by their operations, or the ideas by them excited in us. I perceive several motions, changes, and combinations of ideas, that inform me there are certain particular agents like my self, which accompany them, and concur in their production. Hence the knowledge I have of other spirits is not immediate, as is the knowledge of my ideas; but depending on the intervention of ideas, by me referred to agents or spirits distinct from myself, as effects or concomitant signs.

**146** But though there be some things which convince us, humane agents are concerned in producing them; yet it is evident to every one, that those things which are called the works of Nature, that is, the far greater part of the ideas or sensations perceived by us, are not produced by, or dependent on the wills[[86]](#footnote-86) of men. There is therefore some other spirit that causes them, since it is repugnant that they should subsist by themselves. See *Sect.* 29. But if we attentively consider the constant regularity, order, and concatenation of natural things, the surprising magnificence, beauty, and perfection of the larger, and the exquisite contrivance of the smaller parts of the creation, together with the exact harmony and correspondence of the whole, but above all, the never enough admired laws of pain and pleasure, and the instincts or natural inclinations, appetites, and passions of animals; I say if we consider all these things, and at the same time attend to the meaning and import of the attributes, one, eternal, infinitely wise, good, and perfect, we shall clearly perceive that they belong to the aforesaid spirit, *who works all in all*, and *by whom all things consist.*

**147** Hence it is evident, that GOD is known as certainly and immediately as any other mind or spirit whatsoever, distinct from our selves. We may even assert, that the existence of GOD is far more evidently perceived than the existence of men; because the effects of Nature are infinitely more numerous and considerable, than those ascribed to humane agents. There is not any one mark that denotes a man, or effect produced by him, which doth not more strongly evince the being of that spirit who is the *Author of Nature.* For it is evident that in affecting other persons, the will of man hath no other object, than barely the motion of the limbs of his body; but that such a motion should be attended by, or excite any idea in the mind of another, depends wholly on the will of the CREATOR. He alone it is who *upholding all things by the Word of his Power*, maintains that intercourse between spirits, whereby they are able to perceive the existence of each other. And yet this pure and clear light which enlightens every one, is it self invisible.

**148** It seems to be a general pretence of the unthinking herd, that they cannot see GOD. Could we but see him, say they, as we see a man, we should believe that he is, and believing obey his commands. But alas we need only open our eyes to see the sovereign Lord of all things with a more full and clear view, than we do any one of our fellow-creatures. Not that I imagine we see GOD (as some will have it) by a direct and immediate view, or see corporeal things, not by themselves, but by seeing that which represents them in the essence of GOD, which doctrine is I must[[87]](#footnote-87) confess to me incomprehensible. But I shall explain my meaning. A humane spirit or person is not perceived by sense, as not being an idea; when therefore we see the colour, size, figure, and motions of a man, we perceive only certain sensations or ideas excited in our own minds: and these being exhibited to our view in sundry distinct collections, serve to mark out unto us the existence of finite and created spirits like our selves. Hence it is plain, we do not see a man, if by *man* is meant that which lives, moves, perceives, and thinks as we do: but only such a certain collection of ideas, as directs us to think there is a distinct principle of thought and motion like to our selves, accompanying and represented by it. And after the same manner we see GOD; all the difference is, that whereas some one finite and narrow assemblage of ideas denotes a particular human mind, whithersoever we direct our view, we do at all times and in all places perceive manifest tokens of the divinity: every thing we see, hear, feel, or any wise perceive by sense, being a sign or effect of the Power of GOD; as is our perception of those very motions, which are produced by men.

**149** It is therefore plain, that nothing can be more evident to any one that is capable of the least reflexion, than the existence of GOD, or a spirit who is intimately present to our minds, producing in them all that variety of ideas or sensations, which continually affect us, on whom we have an absolute and entire dependence, in short, *in whom we live, and move, and have our being.* That the discovery of this great truth which lies so near and obvious to the mind, should be attained to by the reason of so very few, is a sad instance of the stupidity and inattention of men, who, though they are surrounded with such clear manifestations of the Deity, are yet so little affected by them, that they seem as it were blinded with excess of light.

**150** But you will say, hath Nature no share in the production of natural things, and must they be all ascribed to the immediate and sole operation of GOD? I answer, if by *Nature* is meant only the visible *series* of effects, or sensations imprinted on our minds according to certain fixed and general laws: then it is plain, that Nature taken in this sense cannot produce any thing at all. But if by *Nature* is meant some being distinct from GOD, as well as from the Laws of Nature, and things perceived by sense, I must confess that word is to me an empty sound, without any intelligible meaning annexed to it. Nature in this acceptation is a vain[[88]](#footnote-88) *chimera* introduced by those heathens, who had not just notions of the omnipresence and infinite perfection of GOD. But it is more unaccountable, that it should be received among Christians professing belief in the Holy Scriptures, which constantly ascribe those effects to the immediate hand of God, that heathen philosophers are wont to impute to *Nature. The LORD, he causeth the vapours to ascend; he maketh lightnings with rain; he bringeth forth the wind out of his treasures*, Jerem. Chap. 10. ver. 13. *He turneth the shadow of death into the morning, and maketh the day dark with night*, Amos Chap. 5. ver. 8. *He visiteth the earth, and maketh it soft with showers: he blesseth the springing thereof, and crowneth the year with his goodness; so that the pastures are clothed with flocks, and the valleys are covered over with corn.* See *Psalm* 65. But notwithstanding that this is the constant language of Scripture; yet we have I know not what aversion from believing, that God concerns himself so nearly in our affairs. Fain would we suppose him at a great distance off, and substitute some blind unthinking deputy in his stead, though (if we may believe Saint Paul) *he be not far from every one of us.*

**151** It will I doubt not be objected, that the slow and gradual methods observed in the production of natural things, do not seem to have for their cause the immediate hand of an *almighty Agent.* Besides, monsters, untimely births, fruits blasted in the blossom, rains falling in desert places, miseries incident to human life, are so many arguments that the whole frame of Nature is not immediately actuated and superintended by a spirit of infinite wisdom and goodness. But the answer to this objection is in a good measure plain from *Sect.* 62, it being visible, that the aforesaid methods of Nature are absolutely necessary, in order to working by the most simple and general rules, and after a steady and consistent manner; which argues both the *wisdom* and *goodness* of GOD. Such is the artificial contrivance of this mighty machine of Nature, that whilst its motions and various phenomena strike on our senses, the hand which actuates the whole is it self unperceivable to men of flesh and blood. *Verily* (saith the prophet) *thou art a God that hidest thy self*, Isaiah Chap. 45. ver. 15. But though GOD conceal himself from the eyes of the *sensual* and *lazy*,[[89]](#footnote-89) who will not be at the least expence of thought; yet to an unbiassed and attentive mind, nothing can be more plainly legible, than the intimate presence of an *all-wise Spirit*, who fashions, regulates, and sustains the whole systeme of being. It is clear from what we have elsewhere observed, that the operating according to general and stated laws, is so necessary for our guidance in the affairs of life, and letting us into the secret of Nature, that without it, all reach and compass of thought, all human sagacity and design could serve to no manner of purpose: it were even impossible there should be any such faculties or powers in the mind. See *Sect.* 31. Which one consideration abundantly out-balances whatever particular inconveniences may thence arise.

**152** We should further consider, that the very blemishes and defects of Nature are not without their use, in that they make an agreeable sort of variety, and augment the beauty of the rest of the creation, as shades in a picture serve to set off the brighter and more enlightened parts. We would likewise do well to examine, whether our taxing the waste of seeds and embryos, and accidental destruction of plants and animals, before they come to full maturity, as an imprudence in the Author of Nature, be not the effect of prejudice contracted by our familiarity with impotent and saving mortals. In *man* indeed a thrifty management of those things, which he cannot procure without much pains and industry, may be esteemed *wisdom.* But we must not imagine, that the inexplicably fine machine of an animal or vegetable, costs the great CREATOR any more pains or trouble in its production than a pebble doth: nothing being more evident, than that an omnipotent spirit can indifferently produce every thing by a mere *fiat* or act of his will. Hence it is plain, that the splendid profusion of natural things should not be interpreted, weakness or prodigality in the agent who produces them, but rather be looked on as an argument of the riches of his power.

**153** As for the mixture of pain or uneasiness which is in the world, pursuant to the general laws of Nature, and the actions of finite imperfect spirits: this, in the state we are in at present, is indispensably necessary to our well-being. But our prospects are too narrow: we take, for instance, the idea of some one particular pain into our thoughts, and account it *evil*; whereas if we enlarge our view, so as to comprehend the various ends, connexions, and dependencies of things, on what occasions and in[[90]](#footnote-90) what proportions we are affected with pain and pleasure, the nature of human freedom, and the design with which we are put into the world; we shall be forced to acknowledge that those particular things, which considered in themselves appear to be *evil*, have the nature of *good*, when considered as linked with the whole system of beings.

**154** From what hath been said it will be manifest to any considering person, that it is merely for want of attention and comprehensiveness of mind, that there are any favourers of *atheism* or the *Manichean heresy* to be found. Little and unreflecting souls may indeed burlesque the works of Providence, the beauty and order whereof they have not capacity, or will not be at the pains to comprehend. But those who are masters of any justness and extent of thought, and are withal used to reflect, can never sufficiently admire the divine traces of wisdom and goodness that shine throughout the economy of Nature. But what truth is there which shineth so strongly on the mind, that by an aversion of thought, a wilful shutting of the eyes, we may not escape seeing it? Is it therefore to be wondered at, if the generality of men, who are ever intent on business or pleasure, and little used to fix or open the eye of their mind, should not have all that conviction and evidence of the being of God, which might be expected in reasonable creatures?

**155** We should rather wonder, that men can be found so stupid as to neglect, than that neglecting they should be unconvinced of such an evident and momentous truth. And yet it is to be feared that too many of parts and leisure, who live in Christian countries, are merely through a supine and dreadful negligence sunk into a sort of *atheism.* Since it is downright impossible, that a soul pierced and enlightened with a thorough sense of the omnipresence, holiness, and justice of that *Almighty Spirit*, should persist in a remorseless violation of his laws. We ought therefore earnestly to meditate and dwell on those important points; that so we may attain conviction without all scruple, *that the eyes of the Lord are in every place beholding the evil and the good; that he is with us and keepeth us in all places whither we go, and*[[91]](#footnote-91) *giveth us bread to eat, and raiment to put on*; that he is present and conscious to our innermost thoughts; and that we have a most absolute and immediate dependence on him. A clear view of which great truths cannot choose but fill our hearts with an awful circumspection and holy fear, which is the strongest incentive to *virtue*, and the best guard against *vice.*

**156** For after all, what deserves the first place in our studies, is the consideration of *GOD*, and our *duty*; which to promote, as it was the main drift and design of my labours, so shall I esteem them altogether useless and ineffectual, if by what I have said I cannot inspire my readers with a pious sense of the presence of God: and having shewn the falseness or vanity of those barren speculations, which make the chief employment of learned men, the better dispose them to reverence and embrace the salutary truths of the GOSPEL, which to know and to practise is the highest perfection of human nature.

# Berkeley, Three Dialogues between Hylas and Philonous, (1713)

*The Works of George Berkeley, Bishop of Cloyne*, (ed.s) A. A. Luce and T. E. Jessop, 9 vols, vol 2 (London: Nelson, 1948-1957).

## Title

The design of which is plainly to demonstrate the reality and perfection of human knowledge, the incorporeal nature of the soul, and the immediate providence of a Deity: in opposition to Sceptics and Atheists. Also to open a method for rendering the Sciences more easy, useful, and compendious.

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## DEDICATION

TO THE RIGHT HONOURABLE

The Lord Berkeley of Stratton

MASTER OF THE ROLLS IN THE KINGDOM OF IRELAND,

CHANCELLOR OF THE DUCHY OF LANCASTER, AND ONE

OF THE LORDS OF HER MAJESTY'S MOST HONOURABLE

PRIVY-COUNCIL

MY LORD,

The virtue, learning, and good sense, which are acknowledged to distinguish your character, would tempt me to indulge myself the pleasure men naturally take, in giving applause to those, whom they esteem and honour: and it should seem of importance to the subjects of Great Britain, that they knew, the eminent share you enjoy in the favour of your Sovereign, and the honours she has conferred upon you, have not been owing to any application from Your Lordship, but intirely to Her Majesty's own thought, arising from a sense of your personal merit, and an inclination to reward it. But as your name is prefixed to this treatise, with an intention to do honour to myself alone, I shall only say, that I am encouraged, by the favour you have treated me with, to address these papers to Your Lordship. And I was the more ambitious of doing this, because a philosophical treatise could not so properly be addressed to any one, as to a person of Your Lordship's character, who, to your other valuable distinctions, have added the knowledge and relish of philosophy. I am, with the greatest respect,

*MY LORD*,

*Your Lordship's most obedient, and*

*most humble servant*,

***GEORGE BERKELEY***.

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## THE PREFACE

*Though it seems the general opinion of the world, no less than the design of Nature and Providence, that the end of speculation be practice, or the improvement and regulation of our lives and actions; yet those, who are most addicted to speculative studies, seem as generally of another mind. And, indeed, if we consider the pains that have been taken, to perplex the plainest things, that distrust of the senses, those doubts and scruples, those abstractions and refinements that occur in the very entrance of the sciences; it will not seem strange, that men of leisure and curiosity should lay themselves out in fruitless disquisitions, without descending to the practical parts of life, or informing themselves in the more necessary and important parts of knowlege.*

*Upon the common principles of philosophers, we are not assured of the existence of things from their being perceived. And we are taught to distinguish their real nature from that which falls under our senses. Hence arise* scepticism *and* paradoxes. *It is not enough, that we see and feel, that we taste and smell a thing. Its true nature, its absolute external entity, is still concealed. For, though it be the fiction of our own brain, we have made it inaccessible to all our faculties. Sense is fallacious, reason defective. We spend our lives in doubting of those things which other men evidently know, and believing those things which they laugh at, and despise.*

*In order, therefore, to divert the busy mind of man from vain researches, it seemed necessary to inquire into the source of its perplexities; and, if possible, to lay down such principles, as, by an easy solution of them, together with their own native evidence, may, at once, recommend themselves for genuine to the mind, and rescue it from those endless pursuits it is engaged in. Which, with a plain demonstration of the immediate Providence of an all-seeing God, and the natural immortality of the soul, should seem the readiest preparation, as well as the strongest motive, to the study and practice of virtue.*

*This design I proposed, in the First Part of a Treatise concerning the* Principles of Human Knowledge, *published in the year 1710. But, before I proceed to publish the Second Part, I thought it requisite to treat more clearly and fully of certain principles laid down in the First*,

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*and to place them in a new light. Which is the business of the following* Dialogues.

*In this treatise, which does not presuppose in the reader, any knowledge of what was contained in the former, it has been my aim to introduce the notions I advance, into the mind, in the most easy and familiar manner; especially, because they carry with them a great opposition to the prejudices of philosophers, which have so far prevailed against the common sense and natural notions of mankind.*

*If the principles, which I here endeavour to propagate, are admitted for true; the consequences which, I think, evidently flow from thence, are, that* atheism *and* scepticism*will be utterly destroyed, many intricate points made plain, great difficulties solved, several useless parts of science retrenched, speculation referred to practice, and men reduced from paradoxes to common sense.*

*And although it may, perhaps, seem an uneasy reflexion to some, that when they have taken a circuit through so many refined and unvulgar notions, they should at last come to think like other men: yet, methinks, this return to the simple dictates of Nature, after having wandered through the wild mazes of philosophy, is not unpleasant. It is like coming home from a long voyage: a man reflects with pleasure on the many difficulties and perplexities he has passed through, sets his heart at ease, and enjoys himself with more satisfaction for the future.*

*As it was my intention to convince* sceptics *and* infidels *by reason, so it has been my endeavour strictly to observe the most rigid laws of reasoning. And, to an impartial reader, I hope, it will be manifest, that the sublime notion of a God, and the comfortable expectation of immortality, do naturally arise from a close and methodical application of thought: whatever may be the result of that loose, rambling way, not altogether improperly termed* free-thinking, *by certain libertines in thought, who can no more endure the restraints of* logic, *than those of* religion, *or* government.

*It will, perhaps, be objected to my design, that so far as it tends to ease the mind of difficult and useless inquiries, it can affect only a few speculative persons; but, if by their speculations rightly placed, the study of morality and the Law of Nature were brought more into fashion among men of parts and genius, the discouragements that draw to*scepticism *removed, the measures of right and wrong accurately defined, and the principles of natural religion reduced into regular systems, as artfully disposed and clearly connected as those of some other sciences: there are grounds to think, these effects would not only have a gradual influence in repairing the too much defaced sense of virtue in the world; but also, by shewing, that such parts of revelation, as lie within the reach of human inquiry, are most agreeable to right reason, would dispose all prudent*,

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*unprejudiced persons, to a modest and wary treatment of those sacred mysteries, which are above the comprehension of our faculties.*

*It remains, that I desire the reader to withhold his censure of these Dialogues, till he has read them through. Otherwise, he may lay them aside in a mistake of their design, or on account of difficulties or objections which he would find answered in the sequel. A treatise of this nature would require to be once read over coherently, in order to comprehend its design, the proofs, solution of difficulties, and the connexion and disposition of its parts. If it be thought to deserve a second reading; this, I imagine, will make the entire scheme very plain: especially, if recourse be had to an Essay I wrote, some years since, upon* vision, *and the Treatise concerning the* Principles of Human Knowledge. *Wherein divers notions advanced in these* Dialogues, *are farther pursued, or placed in different lights, and other points handled, which naturally tend to confirm and illustrate them.*

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## THE FIRST DIALOGUE

PHILONOUS. Good morrow, Hylas: I did not expect to find you abroad so early.

HYLAS. It is indeed something unusual; but my thoughts were so taken up with a subject I was discoursing of last night, that finding I could not sleep, I resolved to rise and take a turn in the garden.

PHILONOUS. It happened well, to let you see what innocent and agreeable pleasures you lose every morning. Can there be a pleasanter time of the day, or a more delightful season of the year? That purple sky, these wild but sweet notes of birds, the fragrant bloom upon the trees and flowers, the gentle influence of the rising sun, these and a thousand nameless beauties of nature inspire the soul with secret transports; its faculties too being at this time fresh and lively, are fit for those meditations, which the solitude of a garden and tranquillity of the morning naturally dispose us to. But I am afraid I interrupt your thoughts: for you seemed very intent on something.

HYLAS. It is true, I was, and shall be obliged to you if you will permit me to go on in the same vein; not that I would by any means deprive my self of your company, for my thoughts always flow more easily in conversation with a friend, than when I am alone: but my request is, that you would suffer me to impart my reflexions to you.

PHILONOUS. With all my heart, it is what I should have requested myself, if you had not prevented me.

HYLAS. I was considering the odd fate of those men who have in all ages, through an affectation of being distinguished from the vulgar, or some unaccountable turn of thought, pretended either to believe nothing at all, or to believe the most extravagant things in the world. This however might be borne, if their paradoxes and scepticism did not draw after them some consequences of general disadvantage to mankind. But the mischief lieth

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here; that when men of less leisure see them who are supposed to have spent their whole time in the pursuits of knowledge, professing an entire ignorance of all things, or advancing such notions as are repugnant to plain and commonly received principles, they will be tempted to entertain suspicions concerning the most important truths, which they had hitherto held sacred and unquestionable.

PHILONOUS. I intirely agree with you, as to the ill tendency of the affected doubts of some philosophers, and fantastical conceits of others. I am even so far gone of late in this way of thinking, that I have quitted several of the sublime notions I had got in their schools for vulgar opinions. And I give it you on my word, since this revolt from metaphysical notions to the plain dictates of Nature and common sense, I find my understanding strangely enlightened, so that I can now easily comprehend a great many things which before were all mystery and riddle.

HYLAS. I am glad to find there was nothing in the accounts I heard of you.

PHILONOUS. Pray, what were those?

HYLAS. You were represented in last night's conversation, as one who maintained the most extravagant opinion that ever entered into the mind of man, to wit, that there is no such thing as *material substance* in the world.

PHILONOUS. That there is no such thing as what philosophers call *material substance*, I am seriously persuaded: but if I were made to see any thing absurd or sceptical in this, I should then have the same reason to renounce this, that I imagine I have now to reject the contrary opinion.

HYLAS. What! can any thing be more fantastical, more repugnant to common sense, or a more manifest piece of scepticism, than to believe there is no such thing as *matter*?

PHILONOUS. Softly, good Hylas. What if it should prove, that you, who hold there is, are by virtue of that opinion a greater *sceptic*, and maintain more paradoxes and repugnancies to common sense, than I who believe no such thing?

HYLAS. You may as soon persuade me, the part is greater than the whole, as that, in order to avoid absurdity and scepticism, I should ever be obliged to give up my opinion in this point.

PHILONOUS. Well then, are you content to admit that opinion for true, which upon examination shall appear most agreeable to common sense, and remote from scepticism?

HYLAS. With all my heart. Since you are for raising disputes

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about the plainest things in Nature, I am content for once to hear what you have to say.

PHILONOUS. Pray, Hylas, what do you mean by a *sceptic*?

HYLAS. I mean what all men mean, one that doubts of every thing.

PHILONOUS. He then who entertains no doubt concerning some particular point, with regard to that point cannot be thought a *sceptic.*

HYLAS. I agree with you.

PHILONOUS. Whether doth doubting consist in embracing the affirmative or negative side of a question?

HYLAS. In neither; for whoever understands English, cannot but know that *doubting* signifies a suspense between both.

PHILONOUS. He then that denieth any point, can no more be said to doubt of it, than he who affirmeth it with the same degree of assurance.

HYLAS. True.

PHILONOUS. And consequently, for such his denial is no more to be esteemed a*sceptic* than the other.

HYLAS. I acknowledge it.

PHILONOUS. How cometh it to pass then, Hylas, that you pronounce me a *sceptic*, because I deny what you affirm, to wit, the existence of matter? Since, for ought you can tell, I am as peremptory in my denial, as you in your affirmation.

HYLAS. Hold, Philonous, I have been a little out in my definition; but every false step a man makes in discourse is not to be insisted on. I said indeed, that a *sceptic* was one who doubted of every thing; but I should have added, or who denies the reality and truth of things.

PHILONOUS. What things? Do you mean the principles and theorems of sciences? But these you know are universal intellectual notions, and consequently independent of matter; the denial therefore of this doth not imply the denying them.

HYLAS. I grant it. But are there no other things? What think you of distrusting the senses, of denying the real existence of sensible things, or pretending to know nothing of them. Is not this sufficient to denominate a man a *sceptic*?

PHILONOUS. Shall we therefore examine which of us it is that denies the reality of sensible things, or professes the greatest ignorance of them; since, if I take you rightly, he is to be esteemed the greatest *sceptic*?

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HYLAS. That is what I desire.

PHILONOUS. What mean you by sensible things?

HYLAS. Those things which are perceived by the senses. Can you imagine that I mean any thing else?

PHILONOUS. Pardon me, Hylas, if I am desirous clearly to apprehend your notions, since this may much shorten our inquiry. Suffer me then to ask you this farther question. Are those things only perceived by the senses which are perceived immediately? Or may those things properly be said to be *sensible*, which are perceived mediately, or not without the intervention of others?

HYLAS. I do not sufficiently understand you.

PHILONOUS. In reading a book, what I immediately perceive are the letters, but mediately, or by means of these, are suggested to my mind the notions of God, virtue, truth, &*c.* Now, that the letters are truly sensible things, or perceived by sense, there is no doubt: but I would know whether you take the things suggested by them to be so too.

HYLAS. No certainly, it were absurd to think *God* or *Virtue* sensible things, though they may be signified and suggested to the mind by sensible marks, with which they have an arbitrary connexion.

PHILONOUS. It seems then, that by *sensible things* you mean those only which can be perceived immediately by sense.

HYLAS. Right.

PHILONOUS. Doth it not follow from this, that though I see one part of the sky red, and another blue, and that my reason doth thence evidently conclude there must be some cause of that diversity of colours, yet that cause cannot be said to be a sensible thing, or perceived by the sense of seeing?

HYLAS. It doth.

PHILONOUS. In like manner, though I hear variety of sounds, yet I cannot be said to hear the causes of those sounds.

HYLAS. You cannot.

PHILONOUS. And when by my touch I perceive a thing to be hot and heavy, I cannot say with any truth or propriety, that I feel the cause of its heat or weight.

HYLAS. To prevent any more questions of this kind, I tell you once for all, that by *sensible things* I mean those only which are perceived by sense, and that in truth the senses perceive nothing which they do not perceive immediately: for they make no

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inferences. The deducing therefore of causes or occasions from effects and appearances, which alone are perceived by sense, intirely relates to reason.

PHILONOUS. This point then is agreed between us, that *sensible things are those only which are immediately perceived by sense.* You will farther inform me, whether we immediately perceive by sight any thing beside light, and colours, and figures: or by hearing, any thing but sounds: by the palate, any thing beside tastes: by the smell, beside odours: or by the touch, more than tangible qualities.

HYLAS. We do not.

PHILONOUS. It seems therefore, that if you take away all sensible qualities, there remains nothing sensible.

HYLAS. I grant it.

PHILONOUS. Sensible things therefore are nothing else but so many sensible qualities, or combinations of sensible qualities.

HYLAS. Nothing else.

PHILONOUS. Heat then is a sensible thing.

HYLAS. Certainly.

PHILONOUS. Doth the reality of sensible things consist in being perceived? or, is it something distinct from their being perceived, and that bears no relation to the mind?

HYLAS. To *exist* is one thing, and to be *perceived* is another.

PHILONOUS. I speak with regard to sensible things only: and of these I ask, whether by their real existence you mean a subsistence exterior to the mind, and distinct from their being perceived?

HYLAS. I mean a real absolute being, distinct from, and without any relation to their being perceived.

PHILONOUS. Heat therefore, if it be allowed a real being, must exist without the mind.

HYLAS. It must.

PHILONOUS. Tell me, Hylas, is this real existence equally compatible to all degrees of heat, which we perceive: or is there any reason why we should attribute it to some, and deny it others? And if there be, pray let me know that reason.

HYLAS. Whatever degree of heat we perceive by sense, we may be sure the same exists in the object that occasions it.

PHILONOUS. What, the greatest as well as the least?

HYLAS. I tell you, the reason is plainly the same in respect of both: they are both perceived by sense; nay, the greater degree of heat is more sensibly perceived; and consequently, if there is

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any difference, we are more certain of its real existence than we can be of the reality of a lesser degree.

PHILONOUS. But is not the most vehement and intense degree of heat a very great pain?

HYLAS. No one can deny it.

PHILONOUS. And is any unperceiving thing capable of pain or pleasure?

HYLAS. No certainly.

PHILONOUS. Is your material substance a senseless being, or a being endowed with sense and perception?

HYLAS. It is senseless, without doubt.

PHILONOUS. It cannot therefore be the subject of pain.

HYLAS. By no means.

PHILONOUS. Nor consequently of the greatest heat perceived by sense, since you acknowledge this to be no small pain.

HYLAS. I grant it.

PHILONOUS. What shall we say then of your external object; is it a material substance, or no?

HYLAS. It is a material substance with the sensible qualities inhering in it.

PHILONOUS. How then can a great heat exist in it, since you own it cannot in a material substance? I desire you would clear this point.

HYLAS. Hold, Philonous, I fear I was out in yielding intense heat to be a pain. It should seem rather, that pain is something distinct from heat, and the consequence or effect of it.

PHILONOUS. Upon putting your hand near the fire, do you perceive one simple uniform sensation, or two distinct sensations?

HYLAS. But one simple sensation.

PHILONOUS. Is not the heat immediately perceived?

HYLAS. It is.

PHILONOUS. And the pain?

HYLAS. True.

PHILONOUS. Seeing therefore they are both immediately perceived at the same time, and the fire affects you only with one simple, or uncompounded idea, it follows that this same simple idea is both the intense heat immediately perceived, and the pain; and consequently, that the intense heat immediately perceived, is nothing distinct from a particular sort of pain.

HYLAS. It seems so.

PHILONOUS. Again, try in your thoughts, Hylas, if you can conceive a vehement sensation to be without pain, or pleasure.

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HYLAS. I cannot.

PHILONOUS. Or can you frame to yourself an idea of sensible pain or pleasure in general, abstracted from every particular idea of heat, cold, tastes, smells? &*c.*

HYLAS. I do not find that I can.

PHILONOUS. Doth it not therefore follow, that sensible pain is nothing distinct from those sensations or ideas, in an intense degree?

HYLAS. It is undeniable; and to speak the truth, I begin to suspect a very great heat cannot exist but in a mind perceiving it.

PHILONOUS. What! are you then in that *sceptical* state of suspense, between affirming and denying?

HYLAS. I think I may be positive in the point. A very violent and painful heat cannot exist without the mind.

PHILONOUS. It hath not therefore, according to you, any real being.

HYLAS. I own it.

PHILONOUS. Is it therefore certain, that there is no body in nature really hot?

HYLAS. I have not denied there is any real heat in bodies. I only say, there is no such thing as an intense real heat.

PHILONOUS. But did you not say before, that all degrees of heat were equally real: or if there was any difference, that the greater were more undoubtedly real than the lesser?

HYLAS. True: but it was, because I did not then consider the ground there is for distinguishing between them, which I now plainly see. And it is this: because intense heat is nothing else but a particular kind of painful sensation; and pain cannot exist but in a perceiving being; it follows that no intense heat can really exist in an unperceiving corporeal substance. But this is no reason why we should deny heat in an inferior degree to exist in such a substance.

PHILONOUS. But how shall we be able to discern those degrees of heat which exist only in the mind, from those which exist without it?

HYLAS. That is no difficult matter. You know, the least pain cannot exist unperceived; whatever therefore degree of heat is a pain, exists only in the mind. But as for all other degrees of heat, nothing obliges us to think the same of them.

PHILONOUS. I think you granted before, that no unperceiving being was capable of pleasure, any more than of pain.

HYLAS. I did.

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PHILONOUS. And is not warmth, or a more gentle degree of heat than what causes uneasiness, a pleasure?

HYLAS. What then?

PHILONOUS. Consequently it cannot exist without the mind in any unperceiving substance, or body.

HYLAS. So it seems.

PHILONOUS. Since therefore, as well those degrees of heat that are not painful, as those that are, can exist only in a thinking substance; may we not conclude that external bodies are absolutely incapable of any degree of heat whatsoever?

HYLAS. On second thoughts, I do not think it so evident that warmth is a pleasure, as that a great degree of heat is a pain.

PHILONOUS. I do not pretend that warmth is as great a pleasure as heat is a pain. But if you grant it to be even a small pleasure, it serves to make good my conclusion.

HYLAS. I could rather call it an *indolence.* It seems to be nothing more than a privation of both pain and pleasure. And that such a quality or state as this may agree to an unthinking substance, I hope you will not deny.

PHILONOUS. If you are resolved to maintain that warmth, or a gentle degree of heat, is no pleasure, I know not how to convince you otherwise, than by appealing to your own sense. But what think you of cold?

HYLAS. The same that I do of heat. An intense degree of cold is a pain; for to feel a very great cold, is to perceive a great uneasiness: it cannot therefore exist without the mind; but a lesser degree of cold may, as well as a lesser degree of heat.

PHILONOUS. Those bodies therefore, upon whose application to our own, we perceive a moderate degree of heat, must be concluded to have a moderate degree of heat or warmth in them: and those, upon whose application we feel a like degree of cold, must be thought to have cold in them.

HYLAS. They must.

PHILONOUS. Can any doctrine be true that necessarily leads a man into an absurdity?

HYLAS. Without doubt it cannot.

PHILONOUS. Is it not an absurdity to think that the same thing should be at the same time both cold and warm?

HYLAS. It is.

PHILONOUS. Suppose now one of your hands hot, and the other cold, and that they are both at once put into the same vessel of

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water, in an intermediate state; will not the water seem cold to one hand, and warm to the other?

HYLAS. It will.

PHILONOUS. Ought we not therefore by your principles to conclude, it is really both cold and warm at the same time, that is, according to your own concession, to believe an absurdity.

HYLAS. I confess it seems so.

PHILONOUS. Consequently, the principles themselves are false, since you have granted that no true principle leads to an absurdity.

HYLAS. But after all, can any thing be more absurd than to say, *there is no heat in the fire*?

PHILONOUS. To make the point still clearer; tell me, whether in two cases exactly alike, we ought not to make the same judgment?

HYLAS. We ought.

PHILONOUS. When a pin pricks your finger, doth it not rend and divide the fibres of your flesh?

HYLAS. It doth.

PHILONOUS. And when a coal burns your finger, doth it any more?

HYLAS. It doth not.

PHILONOUS. Since therefore you neither judge the sensation itself occasioned by the pin, nor any thing like it to be in the pin; you should not, conformably to what you have now granted, judge the sensation occasioned by the fire, or any thing like it, to be in the fire.

HYLAS. Well, since it must be so, I am content to yield this point, and acknowledge, that heat and cold are only sensations existing in our minds: but there still remain qualities enough to secure the reality of external things.

PHILONOUS. But what will you say, Hylas, if it shall appear that the case is the same with regard to all other sensible qualities, and that they can no more be supposed to exist without the mind, than heat and cold?

HYLAS. Then indeed you will have done something to the purpose; but that is what I despair of seeing proved.

PHILONOUS. Let us examine them in order. What think you of tastes, do they exist without the mind, or no?

HYLAS. Can any man in his senses doubt whether sugar is sweet, or wormwood bitter?

PHILONOUS. Inform me, Hylas. Is a sweet taste a particular kind of pleasure or pleasant sensation, or is it not?

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HYLAS. It is.

PHILONOUS. And is not bitterness some kind of uneasiness or pain?

HYLAS. I grant it.

PHILONOUS. If therefore sugar and wormwood are unthinking corporeal substances existing without the mind, how can sweetness and bitterness, that is, pleasure and pain, agree to them?

HYLAS. Hold, Philonous, I now see what it was deluded me all this time. You asked whether heat and cold, sweetness and bitterness, were not particular sorts of pleasure and pain; to which I answered simply, that they were. Whereas I should have thus distinguished: those qualities, as perceived by us, are pleasures or pains, but not as existing in the external objects. We must not therefore conclude absolutely, that there is no heat in the fire, or sweetness in the sugar, but only that heat or sweetness, as perceived by us, are not in the fire or sugar. What say you to this?

PHILONOUS. I say it is nothing to the purpose. Our discourse proceeded altogether concerning sensible things, which you defined to be the things we *immediately perceive by our senses.* Whatever other qualities therefore you speak of, as distinct from these, I know nothing of them, neither do they at all belong to the point in dispute. You may indeed pretend to have discovered certain qualities which you do not perceive, and assert those insensible qualities exist in fire and sugar. But what use can be made of this to your present purpose, I am at a loss to conceive. Tell me then once more, do you acknowledge that heat and cold, sweetness and bitterness (meaning those qualities which are perceived by the senses) do not exist without the mind?

HYLAS. I see it is to no purpose to hold out, so I give up the cause as to those mentioned qualities. Though I profess it sounds oddly, to say that sugar is not sweet.

PHILONOUS. But for your farther satisfaction, take this along with you: that which at other times seems sweet, shall to a distempered palate appear bitter. And nothing can be plainer, than that divers persons perceive different tastes in the same food, since that which one man delights in, another abhors. And how could this be, if the taste was something really inherent in the food?

HYLAS. I acknowledge I know not how.

PHILONOUS. In the next place, odours are to be considered. And with regard to these, I would fain know, whether what hath

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been said of tastes doth not exactly agree to them? Are they not so many pleasing or displeasing sensations?

HYLAS. They are.

PHILONOUS. Can you then conceive it possible that they should exist in an unperceiving thing?

HYLAS. I cannot.

PHILONOUS. Or can you imagine, that filth and ordure affect those brute animals that feed on them out of choice, with the same smells which we perceive in them?

HYLAS. By no means.

PHILONOUS. May we not therefore conclude of smells, as of the other forementioned qualities, that they cannot exist in any but a perceiving substance or mind?

HYLAS. I think so.

PHILONOUS. Then as to sounds, what must we think of them: are they accidents really inherent in external bodies, or not?

HYLAS. That they inhere not in the sonorous bodies, is plain from hence; because a bell struck in the exhausted receiver of an air-pump, sends forth no sound. The air therefore must be thought the subject of sound.

PHILONOUS. What reason is there for that, Hylas?

HYLAS. Because when any motion is raised in the air, we perceive a sound greater or lesser, in proportion to the air's motion; but without some motion in the air, we never hear any sound at all.

PHILONOUS. And granting that we never hear a sound but when some motion is produced in the air, yet I do not see how you can infer from thence, that the sound itself is in the air.

HYLAS. It is this very motion in the external air, that produces in the mind the sensation of *sound.* For, striking on the drum of the ear, it causeth a vibration, which by the auditory nerves being communicated to the brain, the soul is thereupon affected with the sensation called *sound.*

PHILONOUS. What! is sound then a sensation?

HYLAS. I tell you, as perceived by us, it is a particular sensation in the mind.

PHILONOUS. And can any sensation exist without the mind?

HYLAS. No certainly.

PHILONOUS. How then can sound, being a sensation exist in the air, if by the *air* you mean a senseless substance existing without the mind?

HYLAS. You must distinguish, Philonous, between sound as it is

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perceived by us, and as it is in itself; or (which is the same thing) between the sound we immediately perceive, and that which exists without us. The former indeed is a particular kind of sensation, but the latter is merely a vibrative or undulatory motion in the air.

PHILONOUS. I thought I had already obviated that distinction by the answer I gave when you were applying it in a like case before. But to say no more of that; are you sure then that sound is really nothing but motion?

HYLAS. I am.

PHILONOUS. Whatever therefore agrees to real sound, may with truth be attributed to motion.

HYLAS. It may.

PHILONOUS. It is then good sense to speak of *motion*, as of a thing that is *loud, sweet, acute*, or *grave.*

HYLAS. I see you are resolved not to understand me. Is it not evident, those accidents or modes belong only to sensible sound, or *sound* in the common acceptation of the word, but not to *sound* in the real and philosophic sense, which, as I just now told you, is nothing but a certain motion of the air?

PHILONOUS. It seems then there are two sorts of sound, the one vulgar, or that which is heard, the other philosophical and real.

HYLAS. Even so.

PHILONOUS. And the latter consists in motion.

HYLAS. I told you so before.

PHILONOUS. Tell me, Hylas, to which of the senses think you, the idea of motion belongs: to the hearing?

HYLAS. No certainly, but to the sight and touch.

PHILONOUS. It should follow then, that according to you, real sounds may possibly be *seen* or *felt*, but never *heard.*

HYLAS. Look you, Philonous, you may if you please make a jest of my opinion, but that will not alter the truth of things. I own indeed, the inferences you draw me into, sound something oddly; but common language, you know, is framed by, and for the use of the vulgar: we must not therefore wonder, if expressions adapted to exact philosophic notions, seem uncouth and out of the way.

PHILONOUS. Is it come to that? I assure you, I imagine myself to have gained no small point, since you make so light of departing from common phrases and opinions; it being a main part of our inquiry, to examine whose notions are widest of the

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common road, and most repugnant to the general sense of the world. But can you think it no more than a philosophical paradox, to say that *real sounds are never heard*, and that the idea of them is obtained by some other sense. And is there nothing in this contrary to nature and the truth of things?

HYLAS. To deal ingenuously, I do not like it. And after the concessions already made, I had as well grant that sounds too have no real being without the mind.

PHILONOUS. And I hope you will make no difficulty to acknowledge the same of colours.

HYLAS. Pardon me: the case of colours is very different. Can any thing be plainer, than that we see them on the objects?

PHILONOUS. The objects you speak of are, I suppose, corporeal substances existing without the mind.

HYLAS. They are.

PHILONOUS. And have true and real colours inhering in them?

HYLAS. Each visible object hath that colour which we see in it.

PHILONOUS. How! Is there any thing visible but what we perceive by sight?

HYLAS. There is not.

PHILONOUS. And do we perceive any thing by sense, which we do --not perceive immediately?

HYLAS. How often must I be obliged to repeat the same thing? I tell you, we do not.

PHILONOUS. Have patience, good Hylas; and tell me once more, whether there is any thing immediately perceived by the senses, except sensible qualities. I know you asserted there was not: but I would now be informed, whether you still persist in the same opinion.

HYLAS. I do.

PHILONOUS. Pray, is your corporeal substance either a sensible quality, or made up of sensible qualities?

HYLAS. What a question that is! who ever thought it was?

PHILONOUS. My reason for asking was, because in saying, *each visible object hath that colour which we see in it*, you make visible objects to be corporeal substances; which implies either that corporeal substances are sensible qualities, or else that there is something beside sensible qualities perceived by sight: but as this point was formerly agreed between us, and is still maintained by you, it is a clear consequence, that your corporeal substance is nothing distinct from sensible qualities.

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HYLAS. You may draw as many absurd consequences as you please, and endeavour to perplex the plainest things; but you shall never persuade me out of my senses. I clearly understand my own meaning.

PHILONOUS. I wish you would make me understand it too. But since you are unwilling to have your notion of corporeal substance examined, I shall urge that point no farther. Only be pleased to let me know, whether the same colours which we see, exist in external bodies, or some other.

HYLAS. The very same.

PHILONOUS. What! are then the beautiful red and purple we see on yonder clouds, really in them? Or do you imagine they have in themselves any other form, than that of a dark mist or vapour?

HYLAS. I must own, Philonous, those colours are not really in the clouds as they seem to be at this distance. They are only apparent colours.

PHILONOUS. *Apparent* call you them? how shall we distinguish these apparent colours from real?

HYLAS. Very easily. Those are to be thought apparent, which appearing only at a distance, vanish upon a nearer approach.

PHILONOUS. And those I suppose are to be thought real, which are discovered by the most near and exact survey.

HYLAS. Right.

PHILONOUS. Is the nearest and exactest survey made by the help of a microscope, or by the naked eye?

HYLAS. By a microscope, doubtless.

PHILONOUS. But a microscope often discovers colours in an object different from those perceived by the unassisted sight. And in case we had microscopes magnifying to any assigned degree; it is certain, that no object whatsoever viewed through them, would appear in the same colour which it exhibits to the naked eye.

HYLAS. And what will you conclude from all this? You cannot argue that there are really and naturally no colours on objects: because by artificial managements they may be altered, or made to vanish.

PHILONOUS. I think it may evidently be concluded from your own concessions, that all the colours we see with our naked eyes, are only apparent as those on the clouds, since they vanish upon a more close and accurate inspection, which is afforded us by a microscope. Then as to what you say by way of prevention:

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I ask you, whether the real and natural state of an object is better discovered by a very sharp and piercing sight, or by one which is less sharp?

HYLAS. By the former without doubt.

PHILONOUS. Is it not plain from *dioptrics*, that microscopes make the sight more penetrating, and represent objects as they would appear to the eye, in case it were naturally endowed with a most exquisite sharpness?

HYLAS. It is.

PHILONOUS. Consequently the microscopical representation is to be thought that which best sets forth the real nature of the thing, or what it is in itself. The colours therefore by it perceived, are more genuine and real, than those perceived otherwise.

HYLAS. I confess there is something in what you say.

PHILONOUS. Besides, it is not only possible but manifest, that there actually are animals, whose eyes are by Nature framed to perceive those things, which by reason of their minuteness escape our sight. What think you of those inconceivably small animals perceived by glasses? Must we suppose they are all stark blind? Or, in case they see, can it be imagined their sight hath not the same use in preserving their bodies from injuries, which appears in that of all other animals? And if it hath, is it not evident, they must see particles less than their own bodies, which will present them with a far different view in each object, from that which strikes our senses? Even our own eyes do not always represent objects to us after the same manner. In the *jaundice*, every one knows that all things seem yellow. Is it not therefore highly probable, those animals in whose eyes we discern a very different texture from that of ours, and whose bodies abound with different humours, do not see the same colours in every object that we do? From all which, should it not seem to follow, that all colours are equally apparent, and that none of those which we perceive are really inherent in any outward object?

HYLAS. It should.

PHILONOUS. The point will be past all doubt, if you consider, that in case colours were real properties or affections inherent in external bodies, they could admit of no alteration, without some change wrought in the very bodies themselves: but is it not evident from what hath been said, that upon the use of microscopes, upon a change happening in the humours of the eye, or a variation of distance, without any manner of real alteration

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in the thing itself, the colours of any object are either changed, or totally disappear? Nay all other circumstances remaining the same, change but the situation of some objects, and they shall present different colours to the eye. The same thing happens upon viewing an object in various degrees of light. And what is more known, than that the same bodies appear differently coloured by candle-light from what they do in the open day? Add to these the experiment of a prism, which separating the heterogeneous rays of light, alters the colour of any object; and will cause the whitest to appear of a deep blue or red to the naked eye. And now tell me, whether you are still of opinion, that every body hath its true real colour inhering in it; and if you think it hath, I would fain know farther from you, what certain distance and position of the object, what peculiar texture and formation of the eye, what degree or kind of light is necessary for ascertaining that true colour, and distinguishing it from apparent ones.

HYLAS. I own myself intirely satisfied, that they are all equally apparent; and that there is no such thing as colour really inhering in external bodies, but that it is altogether in the light. And what confirms me in this opinion is, that in proportion to the light, colours are still more or less vivid; and if there be no light, then are there no colours perceived. Besides, allowing there are colours on external objects, yet how is it possible for us to perceive them? For no external body affects the mind, unless it act first on our organs of sense. But the only action of bodies is motion; and motion cannot be communicated otherwise than by impulse. A distant object therefore cannot act on the eye, nor consequently make itself or its properties perceivable to the soul. Whence it plainly follows, that it is immediately some contiguous substance, which operating on the eye occasions a perception of colours: and such is light.

PHILONOUS. How! is light then a substance?

HYLAS. I tell you, Philonous, external light is nothing but a thin fluid substance, whose minute particles being agitated with a brisk motion, and in various manners reflected from the different surfaces of outward objects to the eyes, communicate different motions to the optic nerves; which being propagated to the brain, cause therein various impressions: and these are attended with the sensations of red, blue, yellow, &*c.*

PHILONOUS. It seems then, the light doth no more than shake the optic nerves.

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HYLAS. Nothing else.

PHILONOUS. And consequent to each particular motion of the nerves the mind is affected with a sensation, which is some particular colour.

HYLAS. Right.

PHILONOUS. And these sensations have no existence without the mind.

HYLAS. They have not.

PHILONOUS. How then do you affirm that colours are in the light, since by *light* you understand a corporeal substance external to the mind?

HYLAS. Light and colours, as immediately perceived by us, I grant cannot exist without the mind. But in themselves they are only the motions and configurations of certain insensible particles of matter.

PHILONOUS. Colours then in the vulgar sense, or taken for the immediate objects of sight, cannot agree to any but a perceiving substance.

HYLAS. That is what I say.

PHILONOUS. Well then, since you give up the point as to those sensible qualities, which are alone thought colours by all mankind beside, you may hold what you please with regard to those invisible ones of the philosophers. It is not my business to dispute about them; only I would advise you to bethink your self, whether considering the inquiry we are upon, it be prudent for you to affirm, *the red and blue which we see are not real colours, but certain unknown motions and figures which no man ever did or can see, are truly so.* Are not these shocking notions, and are not they subject to as many ridiculous inferences, as those you were obliged to renounce before in the case of sounds?

HYLAS. I frankly own, Philonous, that it is in vain to stand out any longer. Colours, sounds, tastes, in a word, all those termed *secondary qualities*, have certainly no existence without the mind. But by this acknowledgment I must not be supposed to derogate any thing from the reality of matter or external objects, seeing it is no more than several philosophers maintain, who nevertheless are the farthest imaginable from denying matter. For the clearer understanding of this, you must know sensible qualities are by philosophers divided into *primary* and *secondary.* The former are extension, figure, solidity, gravity, motion, and rest.

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And these they hold exist really in bodies. The latter are those above enumerated; or briefly, all sensible qualities beside the primary, which they assert are only so many sensations or ideas existing no where but in the mind. But all this, I doubt not, you are already apprised of. For my part, I have been a long time sensible there was such an opinion current among philosophers, but was never thoroughly convinced of its truth till now.

PHILONOUS. You are still then of opinion, that extension and figures are inherent in external unthinking substances.

HYLAS. I am.

PHILONOUS. But what if the same arguments which are brought against secondary qualities, will hold good against these also?

HYLAS. Why then I shall be obliged to think, they too exist only in the mind.

PHILONOUS. Is it your opinion, the very figure and extension which you perceive by sense, exist in the outward object or material substance?

HYLAS. It is.

PHILONOUS. Have all other animals as good grounds to think the same of the figure and extension which they see and feel?

HYLAS. Without doubt, if they have any thought at all.

PHILONOUS. Answer me, Hylas. Think you the senses were bestowed upon all animals for their preservation and well-being in life? or were they given to men alone for this end?

HYLAS. I make no question but they have the same use in all other animals.

PHILONOUS. If so, is it not necessary they should be enabled by them to perceive their own limbs, and those bodies which are capable of harming them?

HYLAS. Certainly.

PHILONOUS. A mite therefore must be supposed to see his own foot, and things equal or even less than it, as bodies of some considerable dimension; though at the same time they appear to you scarce discernible, or at best as so many visible points.

HYLAS. I cannot deny it.

PHILONOUS. And to creatures less than the mite they will seem yet larger.

HYLAS. They will.

PHILONOUS. Insomuch that what you can hardly discern, will to another extremely minute animal appear as some huge mountain.

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HYLAS. All this I grant.

PHILONOUS. Can one and the same thing be at the same time in itself of different dimensions?

HYLAS. That were absurd to imagine.

PHILONOUS. But from what you have laid down it follows, that both the extension by you perceived, and that perceived by the mite itself, as likewise all those perceived by lesser animals, are each of them the true extension of the mite's foot, that is to say, by your own principles you are led into an absurdity.

HYLAS. There seems to be some difficulty in the point.

PHILONOUS. Again, have you not acknowledged that no real inherent property of any object can be changed, without some change in the thing itself?

HYLAS. I have.

PHILONOUS. But as we approach to or recede from an object, the visible extension varies, being at one distance ten or an hundred times greater than at another. Doth it not therefore follow from hence likewise, that it is not really inherent in the object?

HYLAS. I own I am at a loss what to think.

PHILONOUS. Your judgment will soon be determined, if you will venture to think as freely concerning this quality, as you have done concerning the rest. Was it not admitted as a good argument, that neither heat nor cold was in the water, because it seemed warm to one hand, and cold to the other?

HYLAS. It was.

PHILONOUS. Is it not the very same reasoning to conclude, there is no extension or figure in an object, because to one eye it shall seem little, smooth, and round, when at the same time it appears to the other, great, uneven, and angular?

HYLAS. The very same. But doth this latter fact ever happen?

PHILONOUS. You may at any time make the experiment, by looking with one eye bare, and with the other through a microscope.

HYLAS. I know not how to maintain it, and yet I am loth to give up *extension*, I see so many odd consequences following upon such a concession.

PHILONOUS. Odd, say you? After the concessions already made, I hope you will stick at nothing for its oddness. But on the other hand should it not seem very odd, if the general reasoning which

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includes all other sensible qualities did not also include extension? If it be allowed that no idea nor any thing like an idea can exist in an unperceiving substance, then surely it follows, that no figure or mode of extension, which we can either perceive or imagine, or have any idea of, can be really inherent in matter; not to mention the peculiar difficulty there must be, in conceiving a material substance, prior to and distinct from extension, to be the *substratum* of extension. Be the sensible quality what it will, figure, or sound, or colour; it seems alike impossible it should subsist in that which doth not perceive it.

HYLAS. I give up the point for the present, reserving still a right to retract my opinion, in case I shall hereafter discover any false step in my progress to it.

PHILONOUS. That is a right you cannot be denied. Figures and extension being dispatched, we proceed next to *motion.* Can a real motion in any external body be at the same time both very swift and very slow?

HYLAS. It cannot.

PHILONOUS. Is not the motion of a body swift in a reciprocal proportion to the time it takes up in describing any given space? Thus a body that describes a mile in an hour, moves three times faster than it would in case it described only a mile in three hours.

HYLAS. I agree with you.

PHILONOUS. And is not time measured by the succession of ideas in our minds?

HYLAS. It is.

PHILONOUS. And is it not possible ideas should succeed one another twice as fast in your mind, as they do in mine, or in that of some spirit of another kind.

HYLAS. I own it.

PHILONOUS. Consequently the same body may to another seem to perform its motion over any space in half the time that it doth to you. And the same reasoning will hold as to any other proportion: that is to say, according to your principles (since the motions perceived are both really in the object) it is possible one and the same body shall be really moved the same way at once, both very swift and very slow. How is this consistent either with common sense, or with what you just now granted?

HYLAS. I have nothing to say to it.

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PHILONOUS. Then as for *solidity*; either you do not mean any sensible quality by that word, and so it is beside our inquiry: or if you do, it must be either hardness or resistance. But both the one and the other are plainly relative to our senses: it being evident, that what seems hard to one animal, may appear soft to another, who hath greater force and firmness of limbs. Nor is it less plain, that the resistance I feel is not in the body.

HYLAS. I own the very sensation of resistance, which is all you immediately perceive, is not in the *body*, but the cause of that sensation is.

PHILONOUS. But the causes of our sensations are not things immediately perceived, and therefore not sensible. This point I thought had been already determined.

HYLAS. I own it was; but you will pardon me if I seem a little embarrassed: I know not how to quit my old notions.

PHILONOUS. To help you out, do but consider, that if extension be once acknowledged to have no existence without the mind, the same must necessarily be granted of motion, solidity, and gravity, since they all evidently suppose extension. It is therefore superfluous to inquire particularly concerning each of them. In denying extension, you have denied them all to have any real existence.

HYLAS. I wonder, Philonous, if what you say be true, why those philosophers who deny the secondary qualities any real existence, should yet attribute it to the primary. If there is no difference between them, how can this be accounted for?

PHILONOUS. It is not my business to account for every opinion of the philosophers. But among other reasons which may be assigned for this, it seems probable, that pleasure and pain being rather annexed to the former than the latter, may be one. Heat and cold, tastes and smells, have something more vividly pleasing or disagreeable than the ideas of extension, figure, and motion, affect us with. And it being too visibly absurd to hold, that pain or pleasure can be in an unperceiving substance, men are more easily weaned from believing the external existence of the secondary, than the primary qualities. You will be satisfied there is something in this, if you recollect the difference you made between an intense and more moderate degree of heat, allowing the one a real existence, while you denied it to the other. But after all, there is no rational ground for that distinction; for surely an indifferent sensation is as

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truly *a sensation*, as one more pleasing or painful; and consequently should not any more than they be supposed to exist in an unthinking subject.

HYLAS. It is just come into my head, Philonous, that I have somewhere heard of a distinction between absolute and sensible extension. Now though it be acknowledged that *great* and *small*, consisting merely in the relation which other extended beings have to the parts of our own bodies, do not really inhere in the substances themselves; yet nothing obliges us to hold the same with regard to *absolute extension*, which is something abstracted from *great* and *small*, from this or that particular magnitude or figure. So likewise as to motion, *swift* and *slow* are altogether relative to the succession of ideas in our own minds. But it doth not follow, because those modifications of motion exist not without the mind, that therefore absolute motion abstracted from them doth not.

PHILONOUS. Pray what is it that distinguishes one motion, or one part of extension from another? Is it not something sensible, as some degree of swiftness or slowness, some certain magnitude or figure peculiar to each?

HYLAS. I think so.

PHILONOUS. These qualities therefore stripped of all sensible properties, are without all specific and numerical differences, as the Schools call them.

HYLAS. They are.

PHILONOUS. That is to say, they are extension in general, and motion in general.

HYLAS. Let it be so.

PHILONOUS. But it is an universally received maxim, that *every thing which exists, is particular.* How then can motion in general, or extension in general exist in any corporeal substance?

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HYLAS. I will take time to solve your difficulty.

PHILONOUS. But I think the point may be speedily decided. Without doubt you can tell, whether you are able to frame this or that idea. Now I am content to put our dispute on this issue. If you can frame in your thoughts a distinct abstract idea of motion or extension, divested of all those sensible modes, as swift and slow, great and small, round and square, and the like, which are acknowledged to exist only in the mind, I will then yield the point you contend for. But if you cannot, it will be unreasonable on your side to insist any longer upon what you have no notion of.

HYLAS. To confess ingenuously, I cannot.

PHILONOUS. Can you even separate the ideas of extension and motion, from the ideas of all those qualities which they who make the distinction, term *secondary*?

HYLAS. What! is it not an easy matter, to consider extension and motion by themselves, abstracted from all other sensible qualities? Pray how do the mathematicians treat of them?

PHILONOUS. I acknowledge, Hylas, it is not difficult to form general propositions and reasonings about those qualities, without mentioning any other; and in this sense to consider or treat of them abstractedly. But how doth it follow that because I can pronounce the word *motion* by itself, I can form the idea of it in my mind exclusive of body? Or because theorems may be made of extension and figures, without any mention of *great* or *small*, or any other sensible mode or quality; that therefore it is possible such an abstract idea of extension, without any particular size or figure, or sensible quality, should be distinctly formed, and apprehended by the mind? Mathematicians treat of quantity, without regarding what other sensible qualities it is attended with, as being altogether indifferent to their demonstrations. But when laying aside the words, they contemplate the bare ideas, I believe you will find, they are not the pure abstracted ideas of extension.

HYLAS. But what say you to *pure intellect*? May not abstracted ideas be framed by that faculty?

PHILONOUS. Since I cannot frame abstract ideas at all, it is plain, I cannot frame them by the help of *pure intellect*, whatsoever

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faculty you understand by those words. Besides, not to inquire into the nature of pure intellect and its spiritual objects, as *virtue, reason, God*, or the like; thus much seems manifest, that sensible things are only to be perceived by sense, or represented by the imagination. Figures therefore and extension being originally perceived by sense, do not belong to pure intellect. But for your farther satisfaction, try if you can frame the idea of any figure, abstracted from all particularities of size, or even from other sensible qualities.

HYLAS. Let me think a little--I do not find that I can.

PHILONOUS. And can you think it possible, that should really exist in Nature, which implies a repugnancy in its conception?

HYLAS. By no means.

PHILONOUS. Since therefore it is impossible even for the mind to disunite the ideas of extension and motion from all other sensible qualities, doth it not follow, that where the one exist, there necessarily the other exist likewise?

HYLAS. It should seem so.

PHILONOUS. Consequently the very same arguments which you admitted, as conclusive against the secondary qualities, are without any farther application of force against the primary too. Besides, if you will trust your senses, is it not plain all sensible qualities coexist, or to them, appear as being in the same place? Do they ever represent a motion, or figure, as being divested of all other visible and tangible qualities?

HYLAS. You need say no more on this head. I am free to own, if there be no secret error or oversight in our proceedings hitherto, that all sensible qualities are alike to be denied existence without the mind. But my fear is, that I have been too liberal in my former concessions, or overlooked some fallacy or other. In short, I did not take time to think.

PHILONOUS. For that matter, Hylas, you may take what time you please in reviewing the progress of our inquiry. You are at liberty to recover any slips you might have made, or offer whatever you have omitted, which makes for your first opinion.

HYLAS. One great oversight I take to be this: that I did not sufficiently distinguish the *object* from the *sensation.* Now though this latter may not exist without the mind, yet it will not thence follow that the former cannot.

PHILONOUS. What object do you mean? the object of the senses?

HYLAS. The same.

PHILONOUS. It is then immediately perceived.

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HYLAS. Right.

PHILONOUS. Make me to understand the difference between what is immediately perceived, and a sensation.

HYLAS. The sensation I take to be an act of the mind perceiving; beside which, there is something perceived; and this I call the *object.* For example, there is red and yellow on that tulip. But then the act of perceiving those colours is in me only, and not in the tulip.

PHILONOUS. What tulip do you speak of? is it that which you see?

HYLAS. The same.

PHILONOUS. And what do you see beside colour, figure, and extension?

HYLAS. Nothing.

PHILONOUS. What you would say then is, that the red and yellow are coexistent with the extension; is it not?

HYLAS. That is not all; I would say, they have a real existence without the mind, in some unthinking substance.

PHILONOUS. That the colours are really in the tulip which I see, is manifest. Neither can it be denied, that this tulip may exist independent of your mind or mine; but that any immediate object of the senses, that is, any idea, or combination of ideas, should exist in an unthinking substance, or exterior to all minds, is in itself an evident contradiction. Nor can I imagine how this follows from what you said just now, to wit that the red and yellow were on the tulip *you saw*, since you do not pretend to *see* that unthinking substance.

HYLAS. You have an artful way, Philonous, of diverting our inquiry from the subject.

PHILONOUS. I see you have no mind to be pressed that way. To return then to your distinction between *sensation* and *object*; if I take you right, you distinguish in every perception two things, the one an action of the mind, the other not.

HYLAS. True.

PHILONOUS. And this action cannot exist in, or belong to any unthinking thing; but whatever beside is implied in a perception, may.

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HYLAS. That is my meaning.

PHILONOUS. So that if there was a perception without any act of the mind, it were possible such a perception should exist in an unthinking substance.

HYLAS. I grant it. But it is impossible there should be such a perception.

PHILONOUS. When is the mind said to be active?

HYLAS. When it produces, puts an end to, or changes any thing.

PHILONOUS. Can the mind produce, discontinue, or change any thing but by an act of the will?

HYLAS. It cannot.

PHILONOUS. The mind therefore is to be accounted active in its perceptions, so far forth as volition is included in them.

HYLAS. It is.

PHILONOUS. In plucking this flower, I am active, because I do it by the motion of my hand, which was consequent upon my volition; so likewise in applying it to my nose. But is either of these smelling?

HYLAS. No.

PHILONOUS. I act too in drawing the air through my nose; because my breathing so rather than otherwise, is the effect of my volition. But neither can this be called *smelling*: for if it were, I should smell every time I breathed in that manner.

HYLAS. True.

PHILONOUS. Smelling then is somewhat consequent to all this.

HYLAS. It is.

PHILONOUS. But I do not find my will concerned any farther. Whatever more there is, as that I perceive such a particular smell or any smell at all, this is independent of my will, and therein I am altogether passive. Do you find it otherwise with you, Hylas?

HYLAS. No, the very same.

PHILONOUS. Then as to seeing, is it not in your power to open your eyes, or keep them shut; to turn them this or that way?

HYLAS. Without doubt.

PHILONOUS. But doth it in like manner depend on your will, that in looking on this flower, you perceive *white* rather than any other colour? Or directing your open eyes toward yonder part of the heaven, can you avoid seeing the sun? Or is light or darkness the effect of your volition?

HYLAS. No certainly.

PHILONOUS. You are then in these respects altogether passive.

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HYLAS. I am.

PHILONOUS. Tell me now, whether *seeing* consists in perceiving light and colours, or in opening and turning the eyes?

HYLAS. Without doubt, in the former.

PHILONOUS. Since therefore you are in the very perception of light and colours altogether passive, what is become of that action you were speaking of, as an ingredient in every sensation? And doth it not follow from your own concessions, that the perception of light and colours, including no action in it, may exist in an unperceiving substance? And is not this a plain contradiction?

HYLAS. I know not what to think of it.

PHILONOUS. Besides, since you distinguish the *active* and *passive* in every perception, you must do it in that of pain. But how is it possible that pain, be it as little active as you please, should exist in an unperceiving substance? In short, do but consider the point, and then confess ingenuously, whether light and colours, tastes, sounds, &*c.* are not all equally passions or sensations in the soul. You may indeed call them *external objects*, and give them in words what subsistence you please. But examine your own thoughts, and then tell me whether it be not as I say?

HYLAS. I acknowledge, Philonous, that upon a fair observation of what passes in my mind, I can discover nothing else, but that I am a thinking being, affected with variety of sensations; neither is it possible to conceive how a sensation should exist in an unperceiving substance. But then on the other hand, when I look on sensible things in a different view, considering them as so many modes and qualities, I find it necessary to suppose a material *substratum*, without which they cannot be conceived to exist.

PHILONOUS. *Material substratum* call you it? Pray, by which of your senses came you acquainted with that being?

HYLAS. It is not itself sensible; its modes and qualities only being perceived by the senses.

PHILONOUS. I presume then, it was by reflexion and reason you obtained the idea of it.

HYLAS. I do not pretend to any proper positive idea of it. However I conclude it exists, because qualities cannot be conceived to exist without a support.

PHILONOUS. It seems then you have only a relative notion of it, or that you conceive it not otherwise than by conceiving the relation it bears to sensible qualities.

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HYLAS. Right.

PHILONOUS. Be pleased therefore to let me know wherein that relation consists.

HYLAS. Is it not sufficiently expressed in the term *substratum*, or *substance*?

PHILONOUS. If so, the word *substratum* should import, that it is spread under the sensible qualities or accidents.

HYLAS. True.

PHILONOUS. And consequently under extension.

HYLAS. I own it.

PHILONOUS. It is therefore somewhat in its own nature intirely distinct from extension.

HYLAS. I tell you, extension is only a mode, and matter is something that supports modes. And is it not evident the thing supported is different from the thing supporting?

PHILONOUS. So that something distinct from, and exclusive of extension, is supposed to be the *substratum* of extension.

HYLAS. Just so.

PHILONOUS. Answer me, Hylas. Can a thing be spread without extension? or is not the idea of extension necessarily included in *spreading*?

HYLAS. It is.

PHILONOUS. Whatsoever therefore you suppose spread under any thing, must have in itself an extension distinct from the extension of that thing under which it is spread.

HYLAS. It must.

PHILONOUS. Consequently every corporeal substance being the *substratum* of extension, must have in itself another extension by which it is qualified to be a *substratum*: and so on to infinity. And I ask whether this be not absurd in itself, and repugnant to what you granted just now, to wit, that the *substratum* was something distinct from, and exclusive of extension.

HYLAS. Ay but, Philonous, you take me wrong. I do not mean that matter is *spread* in a gross literal sense under extension. The word *substratum* is used only to express in general the same thing with *substance.*

PHILONOUS. Well then, let us examine the relation implied in the term *substance.* Is it not that it stands under accidents?

HYLAS. The very same.

PHILONOUS. But that one thing may stand under or support another, must it not be extended?

HYLAS. It must.

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PHILONOUS. Is not therefore this supposition liable to the same absurdity with the former?

HYLAS. You still take things in a strict literal sense: that is not fair, Philonous.

PHILONOUS. I am not for imposing any sense on your words: you are at liberty to explain them as you please. Only I beseech you, make me understand something by them. You tell me, matter supports or stands under accidents. How! is it as your legs support your body?

HYLAS. No; that is the literal sense.

PHILONOUS. Pray let me know any sense, literal or not literal, that you understand it in. How long must I wait for an answer, Hylas?

HYLAS. I declare I know not what to say. I once thought I understood well enough what was meant by matter's supporting accidents. But now the more I think on it, the less can I comprehend it; in short, I find that I know nothing of it.

PHILONOUS. It seems then you have no idea at all, neither relative nor positive of matter; you know neither what it is in itself, nor what relation it bears to accidents.

HYLAS. I acknowledge it.

PHILONOUS. And yet you asserted, that you could not conceive how qualities or accidents should really exist, without conceiving at the same time a material support of them.

HYLAS. I did.

PHILONOUS. That is to say, when you conceive the real existence of qualities, you do withal conceive something which you cannot conceive.

HYLAS. It was wrong I own. But still I fear there is some fallacy or other. Pray what think you of this? It is just come into my head, that the ground of all our mistakes lies in your treating of each quality by itself. Now, I grant that each quality cannot singly subsist without the mind. Colour cannot without extension, neither can figure without some other sensible quality. But as the several qualities united or blended together form entire sensible things, nothing hinders why such things may not be supposed to exist without the mind.

PHILONOUS. Either, Hylas, you are jesting, or have a very bad memory. Though indeed we went through all the qualities by name one after another; yet my arguments, or rather your concessions no where tended to prove, that the secondary qualities did not subsist each alone by itself; but that they were not

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*at all* without the mind. Indeed in treating of figure and motion, we concluded they could not exist without the mind, because it was impossible even in thought to separate them from all secondary qualities, so as to conceive them existing by themselves. But then this was not the only argument made use of upon that occasion. But (to pass by all that hath been hitherto said, and reckon it for nothing, if you will have it so) I am content to put the whole upon this issue. If you can conceive it possible for any mixture or combination of qualities, or any sensible object whatever, to exist without the mind, then I will grant it actually to be so.

HYLAS. If it comes to that, the point will soon be decided. What more easy than to conceive a tree or house existing by itself, independent of, and unperceived by any mind whatsoever? I do at this present time conceive them existing after that manner.

PHILONOUS. How say you, Hylas, can you see a thing which is at the same time unseen?

HYLAS. No, that were a contradiction.

PHILONOUS. Is it not as great a contradiction to talk of *conceiving* a thing which is *unconceived*?

HYLAS. It is.

PHILONOUS. The tree or house therefore which you think of, is conceived by you.

HYLAS. How should it be otherwise?

PHILONOUS. And what is conceived, is surely in the mind.

HYLAS. Without question, that which is conceived is in the mind.

PHILONOUS. How then came you to say, you conceived a house or tree existing independent and out of all minds whatsoever?

HYLAS. That was I own an oversight; but stay, let me consider what led me into it.--It is a pleasant mistake enough. As I was thinking of a tree in a solitary place, where no one was present to see it, methought that was to conceive a tree as existing unperceived or unthought of, not considering that I myself conceived it all the while. But now I plainly see, that all I can do is to frame ideas in my own mind. I may indeed conceive in my own thoughts the idea of a tree, or a house, or a mountain, but that is all. And this is far from proving, that I can conceive them *existing out of the minds of all spirits.*

PHILONOUS. You acknowledge then that you cannot possibly conceive, how any one corporeal sensible thing should exist otherwise than in a mind.

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HYLAS. I do.

PHILONOUS. And yet you will earnestly contend for the truth of that which you cannot so much as conceive.

HYLAS. I profess I know not what to think, but still there are some scruples remain with me. Is it not certain I see things at a distance? Do we not perceive the stars and moon, for example, to be a great way off? Is not this, I say, manifest to the senses?

PHILONOUS. Do you not in a dream too perceive those or the like objects?

HYLAS. I do.

PHILONOUS. And have they not then the same appearance of being distant?

HYLAS. They have.

PHILONOUS. But you do not thence conclude the apparitions in a dream to be without the mind?

HYLAS. By no means.

PHILONOUS. You ought not therefore to conclude that sensible objects are without the mind, from their appearance or manner wherein they are perceived.

HYLAS. I acknowledge it. But doth not my sense deceive me in those cases?

PHILONOUS. By no means. The idea or thing which you immediately perceive, neither sense nor reason inform you that it actually exists without the mind. By sense you only know that you are affected with such certain sensations of light and colours, &*c.* And these you will not say are without the mind.

HYLAS. True: but beside all that, do you not think the sight suggests something of*outness* or *distance*?

PHILONOUS. Upon approaching a distant object, do the visible size and figure change perpetually, or do they appear the same at all distances?

HYLAS. They are in a continual change.

PHILONOUS. Sight therefore doth not suggest or any way inform you, that the visible object you immediately perceive, exists at a distance,[†1](view?docId=berkeley/berkeley.02.xml;chunk.id=div.berkeley.v2.16;toc.id=div.berkeley.v2.16;brand=default" \l "berk.v2.81fm) or will be perceived when you advance farther onward, there being a continued series of visible objects succeeding each other, during the whole time of your approach.

HYLAS. It doth not; but still I know, upon seeing an object, what object I shall perceive after having passed over a certain

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distance: no matter whether it be exactly the same or no: there is still something of distance suggested in the case.

PHILONOUS. Good Hylas, do but reflect a little on the point, and then tell me whether there be any more in it than this. From the ideas you actually perceive by sight, you have by experience learned to collect what other ideas you will (according to the standing order of Nature) be affected with, after such a certain succession of time and motion.

HYLAS. Upon the whole, I take it to be nothing else.

PHILONOUS. Now is it not plain, that if we suppose a man born blind was on a sudden made to see, he could at first have no experience of what may be suggested by sight.

HYLAS. It is.

PHILONOUS. He would not then according to you have any notion of distance annexed to the things he saw; but would take them for a new set of sensations existing only in his mind.

HYLAS. It is undeniable.

PHILONOUS. But to make it still more plain: Is not *distance* a line turned endwise to the eye?

HYLAS. It is.

PHILONOUS. And can a line so situated be perceived by sight?

HYLAS. It cannot.

PHILONOUS. Doth it not therefore follow that distance is not properly and immediately perceived by sight?

HYLAS. It should seem so.

PHILONOUS. Again, is it your opinion that colours are at a distance?

HYLAS. It must be acknowledged, they are only in the mind.

PHILONOUS. But do not colours appear to the eye as coexisting in the same place with extension and figures?

HYLAS. They do.

PHILONOUS. How can you then conclude from sight, that figures exist without, when you acknowledge colours do not; the sensible appearance being the very same with regard to both?

HYLAS. I know not what to answer.

PHILONOUS. But allowing that distance was truly and immediately perceived by the mind, yet it would not thence follow it existed out of the mind. For whatever is immediately perceived is an idea: and can any *idea* exist out of the mind?

HYLAS. To suppose that, were absurd: but inform me, Philonous, can we perceive or know nothing beside our ideas?

PHILONOUS. As for the rational deducing of causes from effects,

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that is beside our inquiry. And by the senses you can best tell, whether you perceive any thing which is not immediately perceived. And I ask you, whether the things immediately perceived, are other than your own sensations or ideas? You have indeed more than once, in the course of this conversation, declared yourself on those points; but you seem by this last question to have departed from what you then thought.

HYLAS. To speak the truth, Philonous, I think there are two kinds of objects, the one perceived immediately, which are likewise called *ideas*; the other are real things or external objects perceived by the mediation of ideas, which are their images and representations. Now I own, ideas do not exist without the mind; but the latter sort of objects do. I am sorry I did not think of this distinction sooner; it would probably have cut short your discourse.

PHILONOUS. Are those external objects perceived by sense, or by some other faculty?

HYLAS. They are perceived by sense.

PHILONOUS. How! is there any thing perceived by sense, which is not immediately perceived?

HYLAS. Yes, Philonous, in some sort there is. For example, when I look on a picture or statue of Julius Cæsar, I may be said after a manner to perceive him (though not immediately) by my senses.

PHILONOUS. It seems then, you will have our ideas, which alone are immediately perceived, to be pictures of external things: and that these also are perceived by sense, inasmuch as they have a conformity or resemblance to our ideas.

HYLAS. That is my meaning.

PHILONOUS. And in the same way that Julius Cæsar, in himself invisible, is nevertheless perceived by sight; real things in themselves imperceptible, are perceived by sense.

HYLAS. In the very same.

PHILONOUS. Tell me, Hylas, when you behold the picture of Julius Cæsar, do you see with your eyes any more than some colours and figures with a certain symmetry and composition of the whole?

HYLAS. Nothing else.

PHILONOUS. And would not a man, who had never known any thing of Julius Cæsar, see as much?

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HYLAS. He would.

PHILONOUS. Consequently he hath his sight, and the use of it, in as perfect a degree as you.

HYLAS. I agree with you.

PHILONOUS. Whence comes it then that your thoughts are directed to the Roman Emperor, and his are not? This cannot proceed from the sensations or ideas of sense by you then perceived; since you acknowledge you have no advantage over him in that respect. It should seem therefore to proceed from reason and memory: should it not?

HYLAS. It should.

PHILONOUS. Consequently it will not follow from that instance, that any thing is perceived by sense which is not immediately perceived. Though I grant we may in one acceptation be said to perceive sensible things mediately by sense: that is, when from a frequently perceived connexion, the immediate perception of ideas by one sense suggests to the mind others perhaps belonging to another sense, which are wont to be connected with them. For instance, when I hear a coach drive along the streets, immediately I perceive only the sound; but from the experience I have had that such a sound is connected with a coach, I am said to hear the coach. It is nevertheless evident, that in truth and strictness, nothing can be *heard* but *sound*: and the coach is not then properly perceived by sense, but suggested from experience. So likewise when we are said to see a red-hot bar of iron; the solidity and heat of the iron are not the objects of sight, but suggested to the imagination by the colour and figure, which are properly perceived by that sense. In short, those things alone are actually and strictly perceived by any sense, which would have been perceived, in case that same sense had then been first conferred on us. As for other things, it is plain they are only suggested to the mind by experience grounded on former perceptions. But to return to your comparison of Cæsar's picture, it is plain, if you keep to that, you must hold the real things or archetypes of our ideas are not perceived by sense, but by some internal faculty of the soul, as reason or memory. I would therefore fain know, what arguments you can draw from reason for the existence of what you call *real things* or *material objects.* Or whether you remember to have seen them formerly as they are in themselves? or if you have heard or read of any one that did.

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HYLAS. I see, Philonous, you are disposed to raillery; but that will never convince me.

PHILONOUS. My aim is only to learn from you, the way to come at the knowledge of*material beings.* Whatever we perceive, is perceived either immediately or mediately: by sense, or by reason and reflexion. But as you have excluded sense, pray shew me what reason you have to believe their existence; or what *medium* you can possibly make use of, to prove it either to mine or your own understanding.

HYLAS. To deal ingenuously, Philonous, now I consider the point, I do not find I can give you any good reason for it. But thus much seems pretty plain, that it is at least possible such things may really exist. And as long as there is no absurdity in supposing them, I am resolved to believe as I did, till you bring good reasons to the contrary.

PHILONOUS. What! is it come to this, that you only believe the existence of material objects, and that your belief is founded barely on the possibility of its being true? Then you will have me bring reasons against it: though another would think it reasonable, the proof should lie on him who holds the affirmative. And after all, this very point which you are now resolved to maintain without any reason, is in effect what you have more than once during this discourse seen good reason to give up. But to pass over all this; if I understand you rightly, you say our ideas do not exist without the mind; but that they are copies, images, or representations of certain originals that do.

HYLAS. You take me right.

PHILONOUS. They are then like external things.

HYLAS. They are.

PHILONOUS. Have those things a stable and permanent nature independent of our senses; or are they in a perpetual change, upon our producing any motions in our bodies, suspending, exerting, or altering our faculties or organs of sense.

HYLAS. Real things, it is plain, have a fixed and real nature, which remains the same, notwithstanding any change in our senses, or in the posture and motion of our bodies; which indeed may affect the ideas in our minds, but it were absurd to think they had the same effect on things existing without the mind.

PHILONOUS. How then is it possible, that things perpetually fleeting and variable as our ideas, should be copies or images of any thing fixed and constant? Or in other words, since all sensible

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qualities, as size, figure, colour, &*c.* that is, our ideas are continually changing upon every alteration in the distance, medium, or instruments of sensation; how can any determinate material objects be properly represented or painted forth by several distinct things, each of which is so different from and unlike the rest? Or if you say it resembles some one only of our ideas, how shall we be able to distinguish the true copy from all the false ones?

HYLAS. I profess, Philonous, I am at a loss. I know not what to say to this.

PHILONOUS. But neither is this all. Which are material objects in themselves, perceptible or imperceptible?

HYLAS. Properly and immediately nothing can be perceived but ideas. All material things therefore are in themselves insensible, and to be perceived only by their ideas.

PHILONOUS. Ideas then are sensible, and their archetypes or originals insensible.

HYLAS. Right.

PHILONOUS. But how can that which is sensible be like that which is insensible? Can a real thing in itself *invisible* be like a *colour*; or a real thing which is not *audible*, be like a *sound*? In a word, can any thing be like a sensation or idea, but another sensation or idea?

HYLAS. I must own, I think not.

PHILONOUS. Is it possible there should be any doubt in the point? Do you not perfectly know your own ideas?

HYLAS. I know them perfectly; since what I do not perceive or know, can be no part of my idea.

PHILONOUS. Consider therefore, and examine them, and then tell me if there be any thing in them which can exist without the mind: or if you can conceive any thing like them existing without the mind.

HYLAS. Upon inquiry, I find it is impossible for me to conceive or understand how any thing but an idea can be like an idea. And it is most evident, that *no idea can exist without the mind.*

PHILONOUS. You are therefore by your principles forced to deny the reality of sensible things, since you made it to consist in an absolute existence exterior to the mind. That is to say, you are a downright *sceptic.* So I have gained my point, which was to shew your principles led to scepticism.

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HYLAS. For the present I am, if not intirely convinced, at least silenced.

PHILONOUS. I would fain know what more you would require in order to a perfect conviction. Have you not had the liberty of explaining yourself all manner of ways? Were any little slips in discourse laid hold and insisted on? Or were you not allowed to retract or reinforce any thing you had offered, as best served your purpose? Hath not every thing you could say been heard and examined with all the fairness imaginable? In a word, have you not in every point been convinced out of your own mouth? And if you can at present discover any flaw in any of your former concessions, or think of any remaining subterfuge, any new distinction, colour, or comment whatsoever, why do you not produce it?

HYLAS. A little patience, Philonous. I am at present so amazed to see myself ensnared, and as it were imprisoned in the labyrinths you have drawn me into, that on the sudden it cannot be expected I should find my way out. You must give me time to look about me, and recollect myself.

PHILONOUS. Hark; is not this the college-bell?

HYLAS. It rings for prayers.

PHILONOUS. We will go in then if you please, and meet here again to-morrow morning. In the mean time you may employ your thoughts on this morning's discourse, and try if you can find any fallacy in it, or invent any new means to extricate yourself.

HYLAS. Agreed.

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## THE SECOND DIALOGUE

HYLAS. I beg your pardon, Philonous, for not meeting you sooner. All this morning my head was so filled with our late conversation, that I had not leisure to think of the time of the day, or indeed of any thing else.

PHILONOUS. I am glad you were so intent upon it, in hopes if there were any mistakes in your concessions, or fallacies in my reasonings from them, you will now discover them to me.

HYLAS. I assure you, I have done nothing ever since I saw you, but search after mistakes and fallacies, and with that view have minutely examined the whole series of yesterday's discourse: but all in vain, for the notions it led me into, upon review appear still more clear and evident; and the more I consider them, the more irresistibly do they force my assent.

PHILONOUS. And is not this, think you, a sign that they are genuine, that they proceed from Nature, and are conformable to right reason? Truth and beauty are in this alike, that the strictest survey sets them both off to advantage. While the false lustre of error and disguise cannot endure being reviewed, or too nearly inspected.

HYLAS. I own there is a great deal in what you say. Nor can any one be more intirely satisfied of the truth of those odd consequences, so long as I have in view the reasonings that lead to them. But when these are out of my thoughts, there seems on the other hand something so satisfactory, so natural and intelligible in the modern way of explaining things, that I profess I know not how to reject it.

PHILONOUS. I know not what way you mean.

HYLAS. I mean the way of accounting for our sensations or ideas.

PHILONOUS. How is that?

HYLAS. It is supposed the soul makes her residence in some part of the brain, from which the nerves take their rise, and are thence extended to all parts of the body: and that outward objects by the different impressions they make on the organs of sense, communicate certain vibrative motions to the nerves; and these being filled with spirits, propagate them to the brain

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or seat of the soul, which according to the various impressions or traces thereby made in the brain, is variously affected with ideas.

PHILONOUS. And call you this an explication of the manner whereby we are affected with ideas?

HYLAS. Why not, Philonous, have you any thing to object against it?

PHILONOUS. I would first know whether I rightly understand your hypothesis. You make certain traces in the brain to be the causes or occasions of our ideas. Pray tell me, whether by the *brain* you mean any sensible thing?

HYLAS. What else think you I could mean?

PHILONOUS. Sensible things are all immediately perceivable; and those things which are immediately perceivable, are ideas; and these exist only in the mind. Thus much you have, if I mistake not, long since agreed to.

HYLAS. I do not deny it.

PHILONOUS. The brain therefore you speak of, being a sensible thing, exists only in the mind. Now, I would fain know whether you think it reasonable to suppose, that one idea or thing existing in the mind, occasions all other ideas. And if you think so, pray how do you account for the origin of that primary idea or brain itself?

HYLAS. I do not explain the origin of our ideas by that brain which is perceivable to sense, this being itself only a combination of sensible ideas, but by another which I imagine.

PHILONOUS. But are not things imagined as truly in the mind as things perceived?

HYLAS. I must confess they are.

PHILONOUS. It comes therefore to the same thing; and you have been all this while accounting for ideas, by certain motions or impressions in the brain, that is, by some alterations in an idea, whether sensible or imaginable it matters not.

HYLAS. I begin to suspect my hypothesis.

PHILONOUS. Beside spirits, all that we know or conceive are our own ideas. When therefore you say, all ideas are occasioned by impressions in the brain, do you conceive this brain or no? If you do, then you talk of ideas imprinted in an idea, causing that same idea, which is absurd. If you do not conceive it, you talk unintelligibly, instead of forming a reasonable hypothesis.

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HYLAS. I now clearly see it was a mere dream. There is nothing in it.

PHILONOUS. You need not be much concerned at it: for after all, this way of explaining things, as you called it, could never have satisfied any reasonable man. What connexion is there between a motion in the nerves, and the sensations of sound or colour in the mind? or how is it possible these should be the effect of that?

HYLAS. But I could never think it had so little in it, as now it seems to have.

PHILONOUS. Well then, are you at length satisfied that no sensible things have a real existence; and that you are in truth an arrant *sceptic*?

HYLAS. It is too plain to be denied.

PHILONOUS. Look! are not the fields covered with a delightful verdure? Is there not something in the woods and groves, in the rivers and clear springs that sooths, that delights, that transports the soul? At the prospect of the wide and deep ocean, or some huge mountain whose top is lost in the clouds, or of an old gloomy forest, are not our minds filled with a pleasing horror? Even in rocks and deserts, is there not an agreeable wildness? How sincere a pleasure is it to behold the natural beauties of the earth! To preserve and renew our relish for them, is not the veil of night alternately drawn over her face, and doth she not change her dress with the seasons? How aptly are the elements disposed? What variety and use in the meanest productions of Nature? What delicacy, what beauty, what contrivance in animal and vegetable bodies? How exquisitely are all things suited, as well to their particular ends, as to constitute apposite parts of the whole! And while they mutually aid and support, do they not also set off and illustrate each other? Raise now your thoughts from this ball of earth, to all those glorious luminaries that adorn the high arch of heaven. The motion and situation of the planets, are they not admirable for use and order? Were those (miscalled *erratic*) globes ever known to stray, in their repeated journeys through the pathless void? Do they not measure areas round the sun ever proportioned to the times? So fixed, so immutable are the laws by which the unseen Author of Nature actuates the

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universe. How vivid and radiant is the lustre of the fixed stars! How magnificent and rich that negligent profusion, with which they appear to be scattered throughout the whole azure vault! Yet if you take the telescope, it brings into your sight a new host of stars that escape the naked eye. Here they seem contiguous and minute, but to a nearer view immense orbs of light at various distances, far sunk in the abyss of space. Now you must call imagination to your aid. The feeble narrow sense cannot descry innumerable worlds revolving round the central fires; and in those worlds the energy of an all-perfect mind displayed in endless forms. But neither sense nor imagination are big enough to comprehend the boundless extent with all its glittering furniture. Though the labouring mind exert and strain each power to its utmost reach, there still stands out ungrasped a surplusage immeasurable. Yet all the vast bodies that compose this mighty frame, how distant and remote soever, are by some secret mechanism, some divine art and force linked in a mutual dependence and intercourse with each other, even with this earth, which was almost slipt from my thoughts, and lost in the crowd of worlds. Is not the whole system immense, beautiful, glorious beyond expression and beyond thought! What treatment then do those philosophers deserve, who would deprive these noble and delightful scenes of all reality? How should those principles be entertained, that lead us to think all the visible beauty of the creation a false imaginary glare? To be plain, can you expect this scepticism of yours will not be thought extravagantly absurd by all men of sense?

HYLAS. Other men may think as they please: but for your part you have nothing to reproach me with. My comfort is, you are as much a *sceptic* as I am.

PHILONOUS. There, Hylas, I must beg leave to differ from you.

HYLAS. What! have you all along agreed to the premises, and do you now deny the conclusion, and leave me to maintain those paradoxes by myself which you led me into? This surely is not fair.

PHILONOUS. I deny that I agreed with you in those notions that led to scepticism. You indeed said, the reality of sensible things consisted in an *absolute existence* out of the minds of spirits, or distinct from their being perceived. And pursuant to this notion of reality, you are obliged to deny sensible things any

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real existence: that is, according to your own definition, you profess yourself a *sceptic.* But I neither said nor thought the reality of sensible things was to be defined after that manner. To me it is evident, for the reasons you allow of, that sensible things cannot exist otherwise than in a mind or spirit. Whence I conclude, not that they have no real existence, but that seeing they depend not on my thought, and have an existence distinct from being perceived by me, *there must be some other mind wherein they exist.* As sure therefore as the sensible world really exists, so sure is there an infinite omnipresent spirit who contains and supports it.

HYLAS. What! this is no more than I and all Christians hold; nay, and all others too who believe there is a God, and that he knows and comprehends all things.

PHILONOUS. Ay, but here lies the difference. Men commonly believe that all things are known or perceived by God, because they believe the being of a God, whereas I on the other side, immediately and necessarily conclude the being of a God, because all sensible things must be perceived by him.

HYLAS. But so long as we all believe the same thing, what matter is it how we come by that belief?

PHILONOUS. But neither do we agree in the same opinion. For philosophers, though they acknowledge all corporeal beings to be perceived by God, yet they attribute to them an absolute subsistence distinct from their being perceived by any mind whatever, which I do not. Besides, is there no difference between saying, *there is a God, therefore he perceives all things:* and saying, *sensible things do really exist: and if they really exist, they are necessarily perceived by an infinite mind: therefore there is an infinite mind, or God.* This furnishes you with a direct and immediate demonstration, from a most evident principle, of the *being of a God.* Divines and philosophers had proved beyond all controversy, from the beauty and usefulness of the several parts of the creation, that it was the workmanship of God. But that setting aside all help of astronomy and natural philosophy, all contemplation of the contrivance, order, and adjustment of things, an infinite mind should be necessarily inferred from the bare existence of the sensible world, is an advantage peculiar to them only who have made this easy reflexion: that the sensible world is that which we perceive by our several senses; and that nothing is perceived by the senses beside ideas; and that no

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idea or archetype of an idea can exist otherwise than in a mind. You may now, without any laborious search into the sciences, without any subtilty of reason, or tedious length of discourse, oppose and baffle the most strenuous advocate for atheism. Those miserable refuges, whether in an eternal succession of unthinking causes and effects, or in a fortuitous concourse of atoms; those wild imaginations of Vanini, Hobbes, and Spinoza; in a word the whole system of atheism, is it not intirely overthrown by this single reflexion on the repugnancy included in supposing the whole, or any part, even the most rude and shapeless of the visible world, to exist without a mind? Let any one of those abettors of impiety but look into his own thoughts, and there try if he can conceive how so much as a rock, a desert, a chaos, or confused jumble of atoms; how any thing at all, either sensible or imaginable, can exist independent of a mind, and he need go no farther to be convinced of his folly. Can any thing be fairer than to put a dispute on such an issue, and leave it to a man himself to see if he can conceive, even in thought, what he holds to be true in fact, and from a notional to allow it a real existence?

HYLAS. It cannot be denied, there is something highly serviceable to religion in what you advance. But do you not think it looks very like a notion entertained by some eminent moderns, of *seeing all things in God*?

PHILONOUS. I would gladly know that opinion; pray explain it to me.

HYLAS. They conceive that the soul being immaterial, is incapable of being united with material things, so as to perceive them in themselves, but that she perceives them by her union with the substance of God, which being spiritual is therefore purely intelligible, or capable of being the immediate object of a spirit's thought. Besides, the divine essence contains in it perfections correspondent to each created being; and which are for that reason proper to exhibit or represent them to the mind.

PHILONOUS. I do not understand how our ideas, which are things altogether passive and inert, can be the essence, or any part (or like any part) of the essence or substance of God, who is an

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impassive, indivisible, purely active being. Many more difficulties and objections there are, which occur at first view against this hypothesis; but I shall only add that it is liable to all the absurdities of the common hypotheses, in making a created world exist otherwise than in the mind of a spirit. Beside all which it hath this peculiar to itself; that it makes that material world serve to no purpose. And if it pass for a good argument against other hypotheses in the sciences, that they suppose Nature or the divine wisdom to make something in vain, or do that by tedious round-about methods, which might have been performed in a much more easy and compendious way, what shall we think of that hypothesis which supposes the whole world made in vain?

HYLAS. But what say you, are not you too of opinion that we see all things in God? If I mistake not, what you advance comes near it.

PHILONOUS. Few men think, yet all will have opinions. Hence men's opinions are superficial and confused. It is nothing strange that tenets, which in themselves are ever so different, should nevertheless be confounded with each other by those who do not consider them attentively. I shall not therefore be surprised, if some men imagine that I run into the enthusiasm of Malbranche, though in truth I am very remote from it. He builds on the most abstract general ideas, which I intirely disclaim. He asserts an absolute external world, which I deny. He maintains that we are deceived by our senses, and know not the real natures or the true forms and figures of extended beings; of all which I hold the direct contrary. So that upon the whole there are no principles more fundamentally opposite than his and mine. It must be owned I intirely agree with what the holy Scripture saith, *that in God we live, and move, and have our being.* But that we see things in his essence after the manner above set forth, I am far from believing, Take here in brief my meaning. It is evident that the things I perceive are my own ideas, and that no idea can exist unless it be in a mind. Nor is it less plain that these ideas or things by me perceived, either themselves or their archetypes, exist independently of my mind, since I know myself not to be their author, it being out of my power to determine at pleasure, what particular ideas I shall be affected with upon opening my eyes or ears. They must therefore exist in some other mind, whose

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will it is they should be exhibited to me. The things, I say, immediately perceived, are ideas or sensations, call them which you will. But how can any idea or sensation exist in, or be produced by, any thing but a mind or spirit? This indeed is inconceivable; and to assert that which is inconceivable, is to talk nonsense: Is it not?

HYLAS. Without doubt.

PHILONOUS. But on the other hand, it is very conceivable that they should exist in, and be produced by, a spirit; since this is no more than I daily experience in myself, inasmuch as I perceive numberless ideas; and by an act of my Will can form a great variety of them, and raise them up in my imagination: though it must be confessed, these creatures of the fancy are not altogether so distinct, so strong, vivid, and permanent, as those perceived by my senses, which latter are called *real things.* From all which I conclude, *there is a mind which affects me every moment with all the sensible impressions I perceive.* And from the variety, order, and manner of these, I conclude the Author of them to be *wise, powerful, and good, beyond comprehension.* Mark it well; I do not say, I see things by perceiving that which represents them in the intelligible substance of God. This I do not understand; but I say, the things by me perceived are known by the understanding, and produced by the will, of an infinite spirit. And is not all this most plain and evident? Is there any more in it, than what a little observation of our own minds, and that which passes in them not only enableth us to conceive, but also obligeth us to acknowledge?

HYLAS. I think I understand you very clearly; and own the proof you give of a Deity seems no less evident, than it is surprising. But allowing that God is the Supreme and Universal Cause of all things, yet may not there be still a third nature besides spirits and ideas? May we not admit a subordinate and limited cause of our ideas? In a word, may there not for all that be *matter*?

PHILONOUS. How often must I inculcate the same thing? You allow the things immediately perceived by sense to exist no where without the mind: but there is nothing perceived by sense, which is not perceived immediately: therefore there is nothing sensible that exists without the mind. The matter therefore which you still insist on, is something intelligible, I suppose; something that may be discovered by reason, and not by sense.

HYLAS. You are in the right.

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PHILONOUS. Pray let me know what reasoning your belief of matter is grounded on; and what this matter is in your present sense of it.

HYLAS. I find myself affected with various ideas, whereof I know I am not the cause; neither are they the cause of themselves, or of one another, or capable of subsisting by themselves, as being altogether inactive, fleeting, dependent beings. They have therefore some cause distinct from me and them: of which I pretend to know no more, than that it is *the cause of my ideas.* And this thing, whatever it be, I call matter.

PHILONOUS. Tell me, Hylas, hath every one a liberty to change the current proper signification annexed to a common name in any language? For example, suppose a traveller should tell you, that in a certain country men might pass unhurt through the fire; and, upon explaining himself, you found he meant by the word *fire* that which others call *water*: or if he should assert there are trees which walk upon two legs, meaning men by the term *trees.* Would you think this reasonable?

HYLAS. No; I should think it very absurd. Common custom is the standard of propriety in language. And for any man to affect speaking improperly, is to pervert the use of speech, and can never serve to a better purpose, than to protract and multiply disputes where there is no difference in opinion.

PHILONOUS. And doth not *matter*, in the common current acceptation of the word, signify an extended, solid, moveable, unthinking, inactive substance?

HYLAS. It doth.

PHILONOUS. And hath it not been made evident, that no such substance can possibly exist? And though it should be allowed to exist, yet how can that which is*inactive* be a *cause*; or that which is *unthinking* be a *cause of thought*? You may indeed, if you please, annex to the word *matter* a contrary meaning to what is vulgarly received; and tell me you understand by it an unextended, thinking, active being, which is the cause of our ideas. But what else is this, than to play with words, and run into that very fault you just now condemned with so much reason? I do by no means find fault with your reasoning, in that you collect a cause from the *phænomena*: but I deny that the cause deducible by reason can properly be termed *matter.*

HYLAS. There is indeed something in what you say. But I am

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afraid you do not thoroughly comprehend my meaning. I would by no means be thought to deny that God or an Infinite Spirit is the supreme cause of all things. All I contend for, is, that subordinate to the supreme agent there is a cause of a limited and inferior nature, which concurs in the production of our ideas, not by any act of will or spiritual efficiency, but by that kind of action which belongs to matter, *viz. motion.*

PHILONOUS. I find, you are at every turn relapsing into your old exploded conceit, of a moveable and consequently an extended substance existing without the mind. What! Have you already forgot you were convinced, or are you willing I should repeat what has been said on that head? In truth this is not fair dealing in you, still to suppose the being of that which you have so often acknowledged to have no being. But not to insist farther on what has been so largely handled, I ask whether all your ideas are not perfectly passive and inert, including nothing of action in them?

HYLAS. They are.

PHILONOUS. And are sensible qualities any thing else but ideas?

HYLAS. How often have I acknowledged that they are not?

PHILONOUS. But is not motion a sensible quality?

HYLAS. It is.

PHILONOUS. Consequently it is no action.

HYLAS. I agree with you. And indeed it is very plain, that when I stir my finger, it remains passive; but my will which produced the motion, is active.

PHILONOUS. Now I desire to know in the first place, whether motion being allowed to be no action, you can conceive any action besides volition: and in the second place, whether to say something and conceive nothing be not to talk nonsense: and lastly, whether having considered the premises, you do not perceive that to suppose any efficient or active cause of our ideas, other than *spirit*, is highly absurd and unreasonable?

HYLAS. I give up the point intirely. But though matter may not be a cause, yet what hinders its being an *instrument* subservient to the supreme agent in the production of our ideas?

PHILONOUS. An instrument, say you; pray what may be the figure, springs, wheels, and motions of that instrument?

HYLAS. Those I pretend to determine nothing of, both the substance and its qualities being intirely unknown to me.

PHILONOUS. What? You are then of opinion, it is made up of

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unknown parts, that it hath unknown motions, and an unknown shape.

HYLAS. I do not believe it hath any figure or motion at all, being already convinced, that no sensible qualities can exist in an unperceiving substance.

PHILONOUS. But what notion is it possible to frame of an instrument void of all sensible qualities, even extension itself?

HYLAS. I do not pretend to have any notion of it.

PHILONOUS. And what reason have you to think, this unknown, this inconceivable somewhat doth exist? Is it that you imagine God cannot act as well without it, or that you find by experience the use of some such thing, when you form ideas in your own mind?

HYLAS. You are always teizing me for reasons of my belief. Pray, what reasons have you not to believe it?

PHILONOUS. It is to me a sufficient reason not to believe the existence of any thing, if I see no reason for believing it. But not to insist on reasons for believing, you will not so much as let me know what it is you would have me believe, since you say you have no manner of notion of it. After all, let me entreat you to consider whether it be like a philosopher, or even like a man of common sense, to pretend to believe you know not what, and you know not why.

HYLAS. Hold, Philonous. When I tell you matter is an *instrument*, I do not mean altogether nothing. It is true, I know not the particular kind of instrument; but however I have some notion of *instrument in general*, which I apply to it.

PHILONOUS. But what if it should prove that there is something, even in the most general notion of *instrument*, as taken in a distinct sense from *cause*, which makes the use of it inconsistent with the divine attributes?

HYLAS. Make that appear, and I shall give up the point.

PHILONOUS. What mean you by the general nature or notion of *instrument*?

HYLAS. That which is common to all particular instruments, composeth the general notion.

PHILONOUS. Is it not common to all instruments, that they are applied to the doing those things only, which cannot be performed by the mere act of our wills? Thus for instance, I never use an instrument to move my finger, because it is done by a volition. But I should use one, if I were to remove part of a rock, or tear up a tree by the roots. Are you of the same mind?

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Or can you shew any example where an instrument is made use of in producing an effect immediately depending on the will of the agent?

HYLAS. I own, I cannot.

PHILONOUS. How therefore can you suppose, that an all-perfect Spirit, on whose will all things have an absolute and immediate dependence, should need an instrument in his operations, or not needing it make use of it? Thus it seems to me that you are obliged to own the use of a lifeless inactive instrument, to be incompatible with the infinite perfection of God; that is, by your own confession, to give up the point.

HYLAS. It doth not readily occur what I can answer you.

PHILONOUS. But methinks you should be ready to own the truth, when it hath been fairly proved to you. We indeed, who are beings of finite powers, are forced to make use of instruments. And the use of an instrument sheweth the agent to be limited by rules of another's prescription, and that he cannot obtain his end, but in such a way and by such conditions. Whence it seems a clear consequence, that the supreme unlimited agent useth no tool or instrument at all. The will of an omnipotent Spirit, is no sooner exerted than executed, without the application of means, which, if they are employed by inferior agents, it is not upon account of any real efficacy that is in them, or necessary aptitude to produce any effect, but merely in compliance with the laws of Nature, or those conditions prescribed to them by the first cause, who is himself above all limitation or prescription whatsoever.

HYLAS. I will no longer maintain that matter is an instrument. However, I would not be understood to give up its existence neither; since, notwithstanding what hath been said, it may still be an *occasion.*

PHILONOUS. How many shapes is your matter to take? Or how often must it be proved not to exist, before you are content to part with it? But to say no more of this (though by all the laws of disputation I may justly blame you for so frequently changing the signification of the principal term) I would fain know what you mean by affirming that matter is an occasion, having already denied it to be a cause. And when you have shewn in what sense you understand *occasion*, pray in the next place be pleased to shew me what reason induceth you to believe there is such an occasion of our ideas.

HYLAS. As to the first point: by *occasion* I mean an inactive

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unthinking being, at the presence whereof God excites ideas in our minds.

PHILONOUS. And what may be the nature of that inactive unthinking being?

HYLAS. I know nothing of its nature.

PHILONOUS. Proceed then to the second point, and assign some reason why we should allow an existence to this inactive, unthinking, unknown thing.

HYLAS. When we see ideas produced in our minds after an orderly and constant manner, it is natural to think they have some fixed and regular occasions, at the presence of which they are excited.

PHILONOUS. You acknowledge then God alone to be the cause of our ideas, and that he causes them at the presence of those occasions.

HYLAS. That is my opinion.

PHILONOUS. Those things which you say are present to God, without doubt He perceives.

HYLAS. Certainly; otherwise they could not be to Him an occasion of acting.

PHILONOUS. Not to insist now on your making sense of this hypothesis, or answering all the puzzling questions and difficulties it is liable to: I only ask whether the order and regularity observable in the series of our ideas, or the course of Nature, be not sufficiently accounted for by the wisdom and power of God; and whether it doth not derogate from those attributes, to suppose He is influenced, directed, or put in mind, when and what He is to act, by any unthinking substance. And lastly whether, in case I granted all you contend for, it would make any thing to your purpose, it not being easy to conceive how the external or absolute existence of an unthinking substance, distinct from its being perceived, can be inferred from my allowing that there are certain things perceived by the mind of God, which are to Him the occasion of producing ideas in us.

HYLAS. I am perfectly at a loss what to think, this notion of *occasion* seeming now altogether as groundless as the rest.

PHILONOUS. Do you not at length perceive, that in all these different acceptations of*matter*, you have been only supposing you know not what, for no manner of reason, and to no kind of use?

HYLAS. I freely own my self less fond of my notions, since they have been so accurately examined. But still, methinks I have some confused perception that there is such a thing as *matter.*

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PHILONOUS. Either you perceive the being of matter immediately, or mediately. If immediately, pray inform me by which of the senses you perceive it. If mediately, let me know by what reasoning it is inferred from those things which you perceive immediately. So much for the perception. Then for the matter it self, I ask whether it is object,*substratum*, cause, instrument, or occasion? You have already pleaded for each of these, shifting your notions, and making matter to appear sometimes in one shape, then in another. And what you have offered hath been disapproved and rejected by your self. If you have any thing new to advance, I would gladly hear it.

HYLAS. I think I have already offered all I had to say on those heads. I am at a loss what more to urge.

PHILONOUS. And yet you are loth to part with your old prejudice. But to make you quit it more easily, I desire that, beside what has been hitherto suggested, you will farther consider whether, upon supposition that matter exists, you can possibly conceive how you should be affected by it? Or supposing it did not exist, whether it be not evident you might for all that be affected with the same ideas you now are, and consequently have the very same reasons to believe its existence that you now can have?

HYLAS. I acknowledge it is possible we might perceive all things just as we do now, though there was no matter in the world; neither can I conceive, if there be matter, how it should produce any idea in our minds. And I do farther grant, you have intirely satisfied me, that it is impossible there should be such a thing as matter in any of the foregoing acceptations. But still I cannot help supposing that there is *matter* in some sense or other. What that is I do not indeed pretend to determine.

PHILONOUS. I do not expect you should define exactly the nature of that unknown being. Only be pleased to tell me, whether it is a substance: and if so, whether you can suppose a substance without accidents; or in case you suppose it to have accidents or qualities, I desire you will let me know what those qualities are, at least what is meant by matter's supporting them.

HYLAS. We have already argued on those points. I have no more to say to them. But to prevent any farther questions, let me tell you, I at present understand by *matter*neither substance nor accident, thinking nor extended being, neither cause, instrument, nor occasion, but something intirely unknown, distinct from all these.

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PHILONOUS. It seems then you include in your present notion of matter, nothing but the general abstract idea of *entity.*

HYLAS. Nothing else, save only that I super-add to this general idea the negation of all those particular things, qualities, or ideas that I perceive, imagine, or in any wise apprehend.

PHILONOUS. Pray where do you suppose this unknown matter to exist?

HYLAS. Oh Philonous! now you think you have entangled me; for if I say it exists in place, then you will infer that it exists in the mind, since it is agreed, that place or extension exists only in the mind: but I am not ashamed to own my ignorance. I know not where it exists; only I am sure it exists not in place. There is a negative answer for you: and you must expect no other to all the questions you put for the future about matter.

PHILONOUS. Since you will not tell me where it exists, be pleased to inform me after what manner you suppose it to exist, or what you mean by its *existence.*

HYLAS. It neither thinks nor acts, neither perceives, nor is perceived.

PHILONOUS. But what is there positive in your abstracted notion of its existence?

HYLAS. Upon a nice observation, I do not find I have any positive notion or meaning at all. I tell you again I am not ashamed to own my ignorance. I know not what is meant by its *existence*, or how it exists.

PHILONOUS. Continue, good Hylas, to act the same ingenuous part, and tell me sincerely whether you can frame a distinct idea of entity in general, prescinded from and exclusive of all thinking and corporeal beings, all particular things whatsoever.

HYLAS. Hold, let me think a little--I profess, Philonous, I do not find that I can. At first glance methought I had some dilute and airy notion of pure entity in abstract; but upon closer attention it hath quite vanished out of sight. The more I think on it, the more am I confirmed in my prudent resolution of giving none but negative answers, and not pretending to the least degree of any positive knowledge or conception of matter, its*where*, its *how*, its *entity*, or any thing belonging to it.

PHILONOUS. When therefore you speak of the existence of matter, you have not any notion in your mind.

HYLAS. None at all.

PHILONOUS. Pray tell me if the case stands not thus: at first, from a belief of material substance you would have it that the

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immediate objects existed without the mind; then that their archetypes; then causes; next instruments; then occasions: lastly, *something in general*, which being interpreted proves*nothing.* So matter comes to nothing. What think you, Hylas, is not this a fair summary of your whole proceeding?

HYLAS. Be that as it will, yet I still insist upon it, that our not being able to conceive a thing, is no argument against its existence.

PHILONOUS. That from a cause, effect, operation, sign, or other circumstance, there may reasonably be inferred the existence of a thing not immediately perceived, and that it were absurd for any man to argue against the existence of that thing, from his having no direct and positive notion of it, I freely own. But where there is nothing of all this; where neither reason nor revelation induce us to believe the existence of a thing; where we have not even a relative notion of it; where an abstraction is made from perceiving and being perceived, from spirit and idea: lastly, where there is not so much as the most inadequate or faint idea pretended to: I will not indeed thence conclude against the reality of any notion or existence of any thing: but my inference shall be, that you mean nothing at all: that you imploy words to no manner of purpose, without any design or signification whatsoever. And I leave it to you to consider how mere jargon should be treated.

HYLAS. To deal frankly with you, Philonous, your arguments seem in themselves unanswerable, but they have not so great an effect on me as to produce that entire conviction, that hearty acquiescence which attends demonstration. I find myself still relapsing into an obscure surmise of I know not what, *matter.*

PHILONOUS. But are you not sensible, Hylas, that two things must concur to take away all scruple, and work a plenary assent in the mind? Let a visible object be set in never so clear a light, yet if there is any imperfection in the sight, or if the eye is not directed towards it, it will not be distinctly seen. And though a demonstration be never so well grounded and fairly proposed, yet if there is withal a stain of prejudice, or a wrong bias on the understanding, can it be expected on a sudden to perceive clearly and adhere firmly to the truth? No, there is need of time and pains: the attention must be awakened and detained by a frequent repetition of the same thing placed oft in the same, oft in different lights. I have said it already, and find I must still repeat and inculcate, that it is an unaccountable licence

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you take in pretending to maintain you know not what, for you know not what reason, to you know not what purpose? Can this be paralleled in any art or science, any sect or profession of men? Or is there any thing so barefacedly groundless and unreasonable to be met with even in the lowest of common conversation? But perhaps you will still say, matter may exist, though at the same time you neither know what is meant by *matter*, or by its *existence.* This indeed is surprising, and the more so because it is altogether voluntary, you not being led to it by any one reason; for I challenge you to shew me that thing in Nature which needs matter to explain or account for it.

HYLAS. The reality of things cannot be maintained without supposing the existence of matter. And is not this, think you, a good reason why I should be earnest in its defence?

PHILONOUS. The reality of things! What things, sensible or intelligible?

HYLAS. Sensible things.

PHILONOUS. My glove, for example?

HYLAS. That or any other thing perceived by the senses.

PHILONOUS. But to fix on some particular thing; is it not a sufficient evidence to me of the existence of this *glove*, that I see it, and feel it, and wear it? Or if this will not do, how is it possible I should be assured of the reality of this thing, which I actually see in this place, by supposing that some unknown thing which I never did or can see, exists after an unknown manner, in an unknown place, or in no place at all? How can the supposed reality of that which is intangible, be a proof that any thing tangible really exists? or of that which is invisible, that any visible thing, or in general of any thing which is imperceptible, that a perceptible exists? Do but explain this, and I shall think nothing too hard for you.

HYLAS. Upon the whole, I am content to own the existence of matter is highly improbable; but the direct and absolute impossibility of it does not appear to me.

PHILONOUS. But granting matter to be possible, yet upon that account merely it can have no more claim to existence, than a golden mountain or a centaur.

HYLAS. I acknowledge it; but still you do not deny it is possible; and that which is possible, for aught you know, may actually exist.

PHILONOUS. I deny it to be possible; and have, if I mistake not,

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evidently proved from your own concessions that it is not. In the common sense of the word *matter*, is there any more implied, than an extended, solid, figured, moveable substance existing without the mind? And have not you acknowledged over and over, that you have seen evident reason for denying the possibility of such a substance?

HYLAS. True, but that is only one sense of the term *matter.*

PHILONOUS. But is it not the only proper genuine received sense? And if matter in such a sense be proved impossible, may it not be thought with good grounds absolutely impossible? Else how could any thing be proved impossible? Or indeed how could there be any proof at all one way or other, to a man who takes the liberty to unsettle and change the common signification of words?

HYLAS. I thought philosophers might be allowed to speak more accurately than the vulgar, and were not always confined to the common acceptation of a term.

PHILONOUS. But this now mentioned is the common received sense among philosophers themselves. But not to insist on that, have you not been allowed to take matter in what sense you pleased? And have you not used this privilege in the utmost extent, sometimes intirely changing, at others leaving out or putting into the definition of it whatever for the present best served your design, contrary to all the known rules of reason and logic? And hath not this shifting unfair method of yours spun out our dispute to an unnecessary length; matter having been particularly examined, and by your own confession refuted in each of those senses? And can any more be required to prove the absolute impossibility of a thing, than the proving it impossible in every particular sense, that either you or any one else understands it in?

HYLAS. But I am not so thoroughly satisfied that you have proved the impossibility of matter in the last most obscure abstracted and indefinite sense.

PHILONOUS. When is a thing shewn to be impossible?

HYLAS. When a repugnancy is demonstrated between the ideas comprehended in its definition.

PHILONOUS. But where there are no ideas, there no repugnancy can be demonstrated between ideas.

HYLAS. I agree with you.

PHILONOUS. Now in that which you call the obscure indefinite sense of the word*matter*, it is plain, by your own confession, there

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was included no idea at all, no sense except an unknown sense, which is the same thing as none. You are not therefore to expect I should prove a repugnancy between ideas where there are no ideas; or the impossibility of matter taken in an *unknown* sense, that is no sense at all. My business was only to shew, you meant *nothing*; and this you were brought to own. So that in all your various senses, you have been shewed either to mean nothing at all, or if any thing, an absurdity. And if this be not sufficient to prove the impossibility of a thing, I desire you will let me know what is.

HYLAS. I acknowledge you have proved that matter is impossible; nor do I see what more can be said in defence of it. But at the same time that I give up this, I suspect all my other notions. For surely none could be more seemingly evident than this once was: and yet it now seems as false and absurd as ever it did true before. But I think we have discussed the point sufficiently for the present. The remaining part of the day I would willingly spend, in running over in my thoughts the several heads of this morning's conversation, and to-morrow shall be glad to meet you here again about the same time.

PHILONOUS. I will not fail to attend you.

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## THE THIRD DIALOGUE

PHILONOUS. Tell me, Hylas, what are the fruits of yesterday's meditation? Hath it confirmed you in the same mind you were in at parting? or have you since seen cause to change your opinion?

HYLAS. Truly my opinion is, that all our opinions are alike vain and uncertain. What we approve to-day, we condemn tomorrow. We keep a stir about knowledge, and spend our lives in the pursuit of it, when, alas! we know nothing all the while: nor do I think it possible for us ever to know any thing in this life. Our faculties are too narrow and too few. Nature certainly never intended us for speculation.

PHILONOUS. What! say you we can know nothing, Hylas?

HYLAS. There is not that single thing in the world, whereof we can know the real nature, or what it is in itself.

PHILONOUS. Will you tell me I do not really know what fire or water is?

HYLAS. You may indeed know that fire appears hot, and water fluid: but this is no more than knowing what sensations are produced in your own mind, upon the application of fire and water to your organs of sense. Their internal constitution, their true and real nature, you are utterly in the dark as to *that.*

PHILONOUS. Do I not know this to be a real stone that I stand on, and that which I see before my eyes to be a real tree?

HYLAS. *Know*? No, it is impossible you or any man alive should know it. All you know, is, that you have such a certain idea or appearance in your own mind. But what is this to the real tree or stone? I tell you, that colour, figure, and hardness, which you perceive, are not the real natures of those things, or in the least like them. The same may be said of all other real things or corporeal substances which compose the world. They have none of them any thing in themselves, like those sensible qualities by us perceived. We should not therefore pretend to affirm or know any thing of them as they are in their own nature.

PHILONOUS. But surely, Hylas, I can distinguish gold, for example,

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from iron: and how could this be if I knew not what either truly was?

HYLAS. Believe me, Philonous, you can only distinguish between your own ideas. That yellowness, that weight, and other sensible qualities, think you they are really in the gold? They are only relative to the senses, and have no absolute existence in Nature. And in pretending to distinguish the species of real things, by the appearances in your mind, you may perhaps act as wisely as he that should conclude two men were of a different species, because their clothes were not of the same colour.

PHILONOUS. It seems then we are altogether put off with the appearances of things, and those false ones too. The very meat I eat, and the cloth I wear, have nothing in them like what I see and feel.

HYLAS. Even so.

PHILONOUS. But is it not strange the whole world should be thus imposed on, and so foolish as to believe their senses? And yet I know not how it is, but men eat, and drink, and sleep, and perform all the offices of life as comfortably and conveniently, as if they really knew the things they are conversant about.

HYLAS. They do so: but you know ordinary practice does not require a nicety of speculative knowledge. Hence the vulgar retain their mistakes, and for all that, make a shift to bustle through the affairs of life. But philosophers know better things.

PHILONOUS. You mean, they know that they *know nothing.*

HYLAS. That is the very top and perfection of human knowledge.

PHILONOUS. But are you all this while in earnest, Hylas; and are you seriously persuaded that you know nothing real in the world? Suppose you are going to write, would you not call for pen, ink, and paper, like another man; and do you not know what it is you call for?

HYLAS. How often must I tell you, that I know not the real nature of any one thing in the universe? I may indeed upon occasion make use of pen, ink, and paper. But what any one of them is in its own true nature, I declare positively I know not. And the same is true with regard to every other corporeal thing. And, what is more, we are not only ignorant of the true and real nature of things, but even of their existence. It cannot be denied that we perceive such certain appearances or ideas; but it cannot be concluded from thence that bodies really exist.

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Nay, now I think on it, I must agreeably to my former concessions farther declare, that it is impossible any real corporeal thing should exist in Nature.

PHILONOUS. You amaze me. Was ever any thing more wild and extravagant than the notions you now maintain: and is it not evident you are led into all these extravagancies by the belief of *material substance*? This makes you dream of those unknown natures in every thing. It is this occasions your distinguishing between the reality and sensible appearances of things. It is to this you are indebted for being ignorant of what every body else knows perfectly well. Nor is this all: you are not only ignorant of the true nature of every thing, but you know not whether any thing really exists, or whether there are any true natures at all; forasmuch as you attribute to your material beings an absolute or external existence, wherein you suppose their reality consists. And as you are forced in the end to acknowledge such an existence means either a direct repugnancy, or nothing at all, it follows that you are obliged to pull down your own hypothesis of material substance, and positively to deny the real existence of any part of the universe. And so you are plunged into the deepest and most deplorable*scepticism* that ever man was. Tell me, Hylas, is it not as I say?

HYLAS. I agree with you. *Material substance* was no more than an hypothesis, and a false and groundless one too. I will no longer spend my breath in defence of it. But whatever hypothesis you advance, or whatsoever scheme of things you introduce in its stead, I doubt not it will appear every whit as false: let me but be allowed to question you upon it. That is, suffer me to serve you in your own kind, and I warrant it shall conduct you through as many perplexities and contradictions, to the very same state of scepticism that I my self am in at present.

PHILONOUS. I assure you, Hylas, I do not pretend to frame any hypothesis at all. I am of a vulgar cast, simple enough to believe my senses, and leave things as I find them. To be plain, it is my opinion, that the real things are those very things I see and feel, and perceive by my senses. These I know, and finding they answer all the necessities and purposes of life, have no reason to be solicitous about any other unknown beings. A piece of sensible bread, for instance, would stay my stomach better than ten thousand times as much of that insensible, unintelligible, real bread you speak of. It is likewise my opinion, that colours and other sensible qualities are on the

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objects. I cannot for my life help thinking that snow is white, and fire hot. You indeed, who by *snow* and *fire* mean certain external, unperceived, unperceiving substances, are in the right to deny whiteness or heat to be affections inherent in them. But I, who understand by those words the things I see and feel, am obliged to think like other folks. And as I am no sceptic with regard to the nature of things, so neither am I as to their existence. That a thing should be really perceived by my senses, and at the same time not really exist, is to me a plain contradiction; since I cannot prescind or abstract, even in thought, the existence of a sensible thing from its being perceived. Wood, stones, fire, water, flesh, iron, and the like things, which I name and discourse of, are things that I know. And I should not have known them, but that I perceived them by my senses; and things perceived by the senses are immediately perceived; and things immediately perceived are ideas; and ideas cannot exist without the mind; their existence therefore consists in being perceived; when therefore they are actually perceived, there can be no doubt of their existence. Away then with all that scepticism, all those ridiculous philosophical doubts. What a jest is it for a philosopher to question the existence of sensible things, till he hath it proved to him from the veracity of God: or to pretend our knowledge in this point falls short of intuition or demonstration? I might as well doubt of my own being, as of the being of those things I actually see and feel.

HYLAS. Not so fast, Philonous: you say you cannot conceive how sensible things should exist without the mind. Do you not?

PHILONOUS. I do.

HYLAS. Supposing you were annihilated, cannot you conceive it possible, that things perceivable by sense may still exist?

PHILONOUS. I can; but then it must be in another mind. When I deny sensible things an existence out of the mind, I do not mean my mind in particular, but all minds. Now it is plain they have an existence exterior to my mind, since I find them by experience to be independent of it. There is therefore some other mind wherein they exist, during the intervals between the times of

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my perceiving them: as likewise they did before my birth, and would do after my supposed annihilation. And as the same is true, with regard to all other finite created spirits; it necessarily follows, there is an *omnipresent eternal Mind*, which knows and comprehends all things, and exhibits them to our view in such a manner, and according to such rules as he himself hath ordained, and are by us termed the *Laws of Nature.*

HYLAS. Answer me, Philonous. Are all our ideas perfectly inert beings? Or have they any agency included in them?

PHILONOUS. They are altogether passive and inert.

HYLAS. And is not God an agent, a being purely active?

PHILONOUS. I acknowledge it.

HYLAS. No idea therefore can be like unto, or represent the nature of God.

PHILONOUS. It cannot.

HYLAS. Since therefore you have no idea of the mind of God, how can you conceive it possible, that things should exist in his mind? Or, if you can conceive the mind of God without having an idea of it, why may not I be allowed to conceive the existence of matter, notwithstanding that I have no idea of it?

PHILONOUS. As to your first question; I own I have properly no idea, either of God or any other spirit; for these being active, cannot be represented by things perfectly inert, as our ideas are. I do nevertheless know, that I who am a spirit or thinking substance, exist as certainly, as I know my ideas exist. Farther, I know what I mean by the terms *I* and *myself*; and I know this immediately, or intuitively, though I do not perceive it as I perceive a triangle, a colour, or a sound. The mind, spirit or soul, is that indivisible unextended thing, which thinks, acts, and perceives. I say *indivisible*, because unextended; and *unextended*, because extended, figured, moveable things, are ideas; and that which perceives ideas, which thinks and wills, is plainly it self no idea, nor like an idea. Ideas are things inactive, and perceived: and spirits a sort of beings altogether different from them. I do not therefore say my soul is an idea, or like an idea. However, taking the word *idea* in a large sense, my soul may be said to furnish me with an idea, that is, an image, or likeness of God, though indeed extremely inadequate. For all the notion I have of God, is obtained by reflecting on my own soul heightening its powers, and removing its

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imperfections. I have therefore, though not an inactive idea, yet in my self some sort of an active thinking image of the Deity. And though I perceive Him not by sense, yet I have a notion of Him, or know Him by reflexion and reasoning. My own mind and my own ideas I have an immediate knowledge of; and by the help of these, do mediately apprehend the possibility of the existence of other spirits and ideas. Farther, from my own being, and from the dependency I find in my self and my ideas, I do by an act of reason, necessarily infer the existence of a God, and of all created things in the mind of God. So much for your first question. For the second: I suppose by this time you can answer it your self. For you neither perceive matter objectively, as you do an inactive being or idea, nor know it, as you do your self by a reflex act: neither do you mediately apprehend it by similitude of the one or the other: nor yet collect it by reasoning from that which you know immediately. All which makes the case of *matter* widely different from that of the *Deity.*

HYLAS. You say your own soul supplies you with some sort of an idea or image of God. But at the same time you acknowledge you have, properly speaking, no idea of your own soul. You even affirm that spirits are a sort of beings altogether different from ideas. Consequently that no idea can be like a spirit. We have therefore no idea of any spirit. You admit nevertheless that there is spiritual substance, although you have no idea of it; while you deny there can be such a thing as material substance, because you have no notion or idea of it. Is this fair dealing? To act consistently, you must either admit matter or reject spirit. What say you to this?

PHILONOUS. I say in the first place, that I do not deny the existence of material substance, merely because I have no notion of it, but because the notion of it is inconsistent, or in other words, because it is repugnant that there should be a notion of it. Many things, for ought I know, may exist, whereof neither I nor any other man hath or can have any idea or notion whatsoever. But then those things must be possible, that is, nothing

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inconsistent must be included in their definition. I say secondly, that although we believe things to exist which we do not perceive; yet we may not believe that any particular thing exists, without some reason for such belief: but I have no reason for believing the existence of matter. I have no immediate intuition thereof: neither can I mediately from my sensations, ideas, notions, actions or passions, infer an unthinking, unperceiving, inactive substance, either by probable deduction, or necessary consequence. Whereas the being of my self, that is, my own soul, mind or thinking principle, I evidently know by reflexion. You will forgive me if I repeat the same things in answer to the same objections. In the very notion or definition of material substance, there is included a manifest repugnance and inconsistency. But this cannot be said of the notion of spirit. That ideas should exist in what doth not perceive, or be produced by what doth not act, is repugnant. But it is no repugnancy to say, that a perceiving thing should be the subject of ideas, or an active thing the cause of them. It is granted we have neither an immediate evidence nor a demonstrative knowledge of the existence of other finite spirits; but it will not thence follow that such spirits are on a foot with material substances: if to suppose the one be inconsistent, and it be not inconsistent to suppose the other; if the one can be inferred by no argument, and there is a probability for the other; if we see signs and effects indicating distinct finite agents like our selves, and see no sign or symptom whatever that leads to a rational belief of matter. I say lastly, that I have a notion of spirit, though I have not, strictly speaking, an idea of it. I do not perceive it as an idea or by means of an idea, but know it by reflexion.

HYLAS. Notwithstanding all you have said, to me it seems, that according to your own way of thinking, and in consequence of your own principles, it should follow that you are only a system of floating ideas, without any substance to support them. Words are not to be used without a meaning. And as there is no more meaning in spiritual substance than in material substance, the one is to be exploded as well as the other.

PHILONOUS. How often must I repeat, that I know or am conscious of my own being; and that I my self am not my ideas, but somewhat else, a thinking active principle that perceives, knows, wills, and operates about ideas. I know that I, one

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and the same self, perceive both colours and sounds: that a colour cannot perceive a sound, nor a sound a colour: that I am therefore one individual principle, distinct from colour and sound; and, for the same reason, from all other sensible things and inert ideas. But I am not in like manner conscious either of the existence or essence of matter. On the contrary, I know that nothing inconsistent can exist, and that the existence of matter implies an inconsistency. Farther, I know what I mean, when I affirm that there is a spiritual substance or support of ideas, that is, that a spirit knows and perceives ideas. But I do not know what is meant, when it is said, that an unperceiving substance hath inherent in it and supports either ideas or the archetypes of ideas. There is therefore upon the whole no parity of case between spirit and matter.

HYLAS. I own my self satisfied in this point. But do you in earnest think, the real existence of sensible things consists in their being actually perceived? If so; how comes it that all mankind distinguish between them? Ask the first man you meet, and he shall tell you, *to be perceived* is one thing, and *to exist* is another.

PHILONOUS. I am content, Hylas, to appeal to the common sense of the world for the truth of my notion. Ask the gardener, why he thinks yonder cherry-tree exists in the garden, and he shall tell you, because he sees and feels it; in a word, because he perceives it by his senses. Ask him, why he thinks an orange-tree not to be there, and he shall tell you, because he does not perceive it. What he perceives by sense, that he terms a real being, and saith it *is*, or *exists*; but that which is not perceivable, the same, he saith, hath no being.

HYLAS. Yes, Philonous, I grant the existence of a sensible thing consists in being perceivable, but not in being actually perceived.

PHILONOUS. And what is perceivable but an idea? And can an idea exist without being actually perceived? These are points long since agreed between us.

HYLAS. But be your opinion never so true, yet surely you will not deny it is shocking, and contrary to the common sense of men.

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Ask the fellow, whether yonder tree hath an existence out of his mind: what answer think you he would make?

PHILONOUS. The same that I should my self, to wit, that it doth exist out of his mind. But then to a Christian it cannot surely be shocking to say, the real tree existing without his mind is truly known and comprehended by (that is, *exists in*) the infinite mind of God. Probably he may not at first glance be aware of the direct and immediate proof there is of this, inasmuch as the very being of a tree, or any other sensible thing, implies a mind wherein it is. But the point it self he cannot deny. The question between the materialists and me is not, whether things have a real existence out of the mind of this or that person, but whether they have an absolute existence, distinct from being perceived by God, and exterior to all minds. This indeed some heathens and philosophers have affirmed, but whoever entertains notions of the Deity suitable to the Holy Scriptures, will be of another opinion.

HYLAS. But according to your notions, what difference is there between real things, and chimeras formed by the imagination, or the visions of a dream, since they are all equally in the mind?

PHILONOUS. The ideas formed by the imagination are faint and indistinct; they have besides an entire dependence on the will. But the ideas perceived by sense, that is, real things, are more vivid and clear, and being imprinted on the mind by a spirit distinct from us, have not a like dependence on our will. There is therefore no danger of confounding these with the foregoing: and there is as little of confounding them with the visions of a dream, which are dim, irregular, and confused. And though they should happen to be never so lively and natural, yet by their not being connected, and of a piece with the preceding and subsequent transactions of our lives, they might easily be distinguished from realities. In short, by whatever method you distinguish *things* from *chimeras* on your own scheme, the same, it is evident, will hold also upon mine. For it must be, I presume, by some perceived difference, and I am not for depriving you of any one thing that you perceive.

HYLAS. But still, Philonous, you hold, there is nothing in the world but spirits and ideas. And this, you must needs acknowledge, sounds very oddly.

PHILONOUS. I own the word *idea*, not being commonly used for *thing*, sounds something out of the way. My reason for using it was, because a necessary relation to the mind is understood to

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be implied by that term; and it is now commonly used by philosophers, to denote the immediate objects of the understanding. But however oddly the proposition may sound in words, yet it includes nothing so very strange or shocking in its sense, which in effect amounts to no more than this, to wit, that there are only things perceiving, and things perceived; or that every unthinking being is necessarily, and from the very nature of its existence, perceived by some mind; if not by any finite created mind, yet certainly by the infinite mind of God, in whom *we live, and move, and have our being.* Is this as strange as to say, the sensible qualities are not on the objects: or, that we cannot be sure of the existence of things, or know any thing of their real natures, though we both see and feel them, and perceive them by all our senses?

HYLAS. And in consequence of this, must we not think there are no such things as physical or corporeal causes; but that a spirit is the immediate cause of all the phenomena in Nature? Can there be any thing more extravagant than this?

PHILONOUS. Yes, it is infinitely more extravagant to say, a thing which is inert, operates on the mind, and which is unperceiving, is the cause of our perceptions. Besides, that which to you, I know not for what reason, seems so extravagant, is no more than the Holy Scriptures assert in a hundred places. In them God is represented as the sole and immediate Author of all those effects, which some heathens and philosophers are wont to ascribe to Nature, matter, fate, or the like unthinking principle. This is so much the constant language of Scripture, that it were needless to confirm it by citations.

HYLAS. You are not aware, Philonous, that in making God the immediate author of all the motions in Nature, you make him the author of murder, sacrilege, adultery, and the like heinous sins.

PHILONOUS. In answer to that, I observe first, that the imputation of guilt is the same, whether a person commits an action with or without an instrument. In case therefore you suppose God to act by the mediation of an instrument, or occasion, called*matter*, you as truly make Him the author of sin as I, who think Him the immediate agent in all those operations vulgarly ascribed to Nature. I farther observe, that sin or moral

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turpitude doth not consist in the outward physical action or motion, but in the internal deviation of the will from the laws of reason and religion. This is plain, in that the killing an enemy in a battle, or putting a criminal legally to death, is not thought sinful, though the outward act be the very same with that in the case of murder. Since therefore sin doth not consist in the physical action, the making God an immediate cause of all such actions, is not making him the author of sin. Lastly, I have no where said that God is the only agent who produces all the motions in bodies. It is true, I have denied there are any other agents beside spirits: but this is very consistent with allowing to thinking rational beings, in the production of motions, the use of limited powers, ultimately indeed derived from God, but immediately under the direction of their own wills, which is sufficient to entitle them to all the guilt of their actions.

HYLAS. But the denying matter, Philonous, or corporeal substance; there is the point. You can never persuade me that this is not repugnant to the universal sense of mankind. Were our dispute to be determined by most voices, I am confident you would give up the point, without gathering the votes.

PHILONOUS. I wish both our opinions were fairly stated and submitted to the judgment of men who had plain common sense, without the prejudices of a learned education. Let me be represented as one who trusts his senses, who thinks he knows the things he sees and feels, and entertains no doubts, of their existence; and you fairly set forth with all your doubts, your paradoxes, and your scepticism about you, and I shall willingly acquiesce in the determination of any indifferent person. That there is no substance wherein ideas can exist beside spirit, is to me evident. And that the objects immediately perceived are ideas, is on all hands agreed. And that sensible qualities are objects immediately perceived, no one can deny. It is therefore evident there can be no*substratum* of those qualities but spirit, in which they exist, not by way of mode or property, but as a thing perceived in that which perceives it. I deny therefore that there is any unthinking *substratum* of the objects of sense, and in that acceptation that there is any material substance. But if by *material substance* is meant only sensible body, that which is seen and felt (and the unphilosophical part of the world, I dare say, mean no more) then I am more certain of matter's existence than you, or any other philosopher, pretend to be. If there be any thing which makes the generality of mankind

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averse from the notions I espouse, it is a misapprehension that I deny the reality of sensible things: but as it is you who are guilty of that and not I, it follows that in truth their aversion is against your notions, and not mine. I do therefore assert that I am as certain as of my own being, that there are bodies or corporeal substances (meaning the things I perceive by my senses) and that granting this, the bulk of mankind will take no thought about, nor think themselves at all concerned in the fate of those unknown natures, and philosophical quiddities, which some men are so fond of.

HYLAS. What say you to this? Since, according to you, men judge of the reality of things by their senses, how can a man be mistaken in thinking the moon a plain lucid surface, about a foot in diameter; or a square tower, seen at a distance, round; or an oar, with one end in the water, crooked?

PHILONOUS. He is not mistaken with regard to the ideas he actually perceives; but in the inferences he makes from his present perceptions. Thus in the case of the oar, what he immediately perceives by sight is certainly crooked; and so far he is in the right. But if he thence conclude, that upon taking the oar out of the water he shall perceive the same crookedness; or that it would affect his touch, as crooked things are wont to do: in that he is mistaken. In like manner, if he shall conclude from what he perceives in one station, that in case he advances toward the moon or tower, he should still be affected with the like ideas, he is mistaken. But his mistake lies not in what he perceives immediately and at present (it being a manifest contradiction to suppose he should err in respect of that) but in the wrong judgment he makes concerning the ideas he apprehends to be connected with those immediately perceived: or concerning the ideas that, from what he perceives at present, he imagines would be perceived in other circumstances. The case is the same with regard to the Copernican system. We do not here perceive any motion of the earth: but it were erroneous thence to conclude, that in case we were placed at as great a distance from that, as we are now from the other planets, we should not then perceive its motion.

HYLAS. I understand you; and must needs own you say things plausible enough: but give me leave to put you in mind of

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one thing. Pray, Philonous, were you not formerly as positive that matter existed, as you are now that it does not?

PHILONOUS. I was. But here lies the difference. Before, my positiveness was founded without examination, upon prejudice; but now, after inquiry, upon evidence.

HYLAS. After all, it seems our dispute is rather about words than things. We agree in the thing, but differ in the name. That we are affected with ideas from without is evident; and it is no less evident, that there must be (I will not say archetypes, but) powers without the mind, corresponding to those ideas. And as these powers cannot subsist by themselves, there is some subject of them necessarily to be admitted, which I call *matter*, and you call *spirit.* This is all the difference.

PHILONOUS. Pray, Hylas, is that powerful being, or subject of powers, extended?

HYLAS. It hath not extension; but it hath the power to raise in you the idea of extension.

PHILONOUS. It is therefore itself unextended.

HYLAS. I grant it.

PHILONOUS. Is it not also active?

HYLAS. Without doubt: otherwise, how could we attribute powers to it?

PHILONOUS. Now let me ask you two questions: *first*, whether it be agreeable to the usage either of philosophers or others, to give the name *matter* to an unextended active being? And *secondly*, whether it be not ridiculously absurd to misapply names contrary to the common use of language?

HYLAS. Well then, let it not be called matter, since you will have it so, but some *third nature* distinct from matter and spirit. For, what reason is there why you should call it spirit? does not the notion of spirit imply, that it is thinking as well as active and unextended?

PHILONOUS. My reason is this: because I have a mind to have some notion or meaning in what I say; but I have no notion of any action distinct from volition, neither can I conceive volition to be any where but in a spirit: therefore when I speak of an active being, I am obliged to mean a spirit. Beside, what can be plainer than that a thing which hath no ideas in itself, cannot impart them to me; and if it hath ideas, surely it must be a spirit. To make you comprehend the point still more

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clearly if it be possible: I assert as well as you, that since we are affected from without, we must allow powers to be without in a being distinct from ourselves. So far we are agreed. But then we differ as to the kind of this powerful being. I will have it to be spirit, you matter, or I know not what (I may add too, you know not what) third nature. Thus I prove it to be spirit. From the effects I see produced, I conclude there are actions; and because actions, volitions; and because there are volitions, there must be a will. Again, the things I perceive must have an existence, they or their archetypes, out of my mind: but being ideas, neither they nor their archetypes can exist otherwise than in an understanding: there is therefore an understanding. But will and understanding constitute in the strictest sense a mind or spirit. The powerful cause therefore of my ideas, is in strict propriety of speech a *spirit.*

HYLAS. And now I warrant you think you have made the point very clear, little suspecting that what you advance leads directly to a contradiction. Is it not an absurdity to imagine any imperfection in God?

PHILONOUS. Without doubt.

HYLAS. To suffer pain is an imperfection.

PHILONOUS. It is.

HYLAS. Are we not sometimes affected with pain and uneasiness by some other being?

PHILONOUS. We are.

HYLAS. And have you not said that being is a spirit, and is not that spirit God?

PHILONOUS. I grant it.

HYLAS. But you have asserted, that whatever ideas we perceive from without, are in the mind which affects us. The ideas therefore of pain and uneasiness are in God; or in other words, God suffers pain: that is to say, there is an imperfection in the Divine Nature, which you acknowledged was absurd. So you are caught in a plain contradiction.

PHILONOUS. That God knows or understands all things, and that He knows among other things what pain is, even every sort of painful sensation, and what it is for His creatures to suffer pain, I make no question. But that God, though He knows and sometimes causes painful sensations in us, can Himself suffer pain, I positively deny. We who are limited and dependent spirits, are liable to impressions of sense, the effects of an

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external agent, which being produced against our wills, are sometimes painful and uneasy. But God, whom no external being can affect, who perceives nothing by sense as we do, whose will is absolute and independent, causing all things, and liable to be thwarted or resisted by nothing; it is evident, such a being as this can suffer nothing, nor be affected with any painful sensation, or indeed any sensation at all. We are chained to a body, that is to say, our perceptions are connected with corporeal motions. By the Law of our Nature we are affected upon every alteration in the nervous parts of our sensible body: which sensible body rightly considered, is nothing but a complexion of such qualities or ideas, as have no existence distinct from being perceived by a mind: so that this connexion of sensations with corporeal motions, means no more than a correspondence in the order of Nature between two sets of ideas, or things immediately perceivable. But God is a pure spirit, disengaged from all such sympathy or natural ties. No corporeal motions are attended with the sensations of pain or pleasure in his mind. To know every thing knowable is certainly a perfection; but to endure, or suffer, or feel any thing by sense, is an imperfection. The former, I say, agrees to God, but not the latter. God knows or hath ideas; but His ideas are not convey'd to Him by sense, as ours are. Your not distinguishing where there is so manifest a difference, makes you fancy you see an absurdity where there is none.

HYLAS. But all this while you have not considered, that the quantity of matter hath been demonstrated to be proportional to the gravity of bodies. And what can withstand demonstration?

PHILONOUS. Let me see how you demonstrate that point.

HYLAS. I lay it down for a principle, that the moments or quantities of motion in bodies, are in a direct compounded reason of the velocities and quantities of matter contained in them. Hence, where the velocities are equal, it follows, the moments are directly as the quantity of matter in each. But it is found by experience, that all bodies (bating the small inequalities, arising from the resistance of the air) descend with an equal velocity; the motion therefore of descending bodies, and consequently their gravity, which is the cause or principle of that motion, is proportional to the quantity of matter: which was to be demonstrated.

PHILONOUS. You lay it down as a self-evident principle, that the quantity of motion in any body, is proportional to the velocity

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and *matter* taken together: and this is made use of to prove a proposition, from whence the existence of *matter* is inferred. Pray is not this arguing in a circle?

HYLAS. In the premise I only mean, that the motion is proportional to the velocity, jointly with the extension and solidity.

PHILONOUS. But allowing this to be true, yet it will not thence follow, that gravity is proportional to *matter*, in your philosophic sense of the word; except you take it for granted, that unknown *substratum*, or whatever else you call it, is proportional to those sensible qualities; which to suppose, is plainly begging the question. That there is magnitude and solidity, or resistance, perceived by sense, I readily grant; as likewise that gravity may be proportional to those qualities, I will not dispute. But that either these qualities as perceived by us, or the powers producing them do exist in a *material substratum*; this is what I deny, and you indeed affirm, but notwithstanding your demonstration, have not yet proved.

HYLAS. I shall insist no longer on that point. Do you think however, you shall persuade me the natural philosophers have been dreaming all this while; pray what becomes of all their hypotheses and explications of the phenomena, which suppose the existence of matter?

PHILONOUS. What mean you, Hylas, by the phenomena?

HYLAS. I mean the appearances which I perceive by my senses.

PHILONOUS. And the appearances perceived by sense, are they not ideas?

HYLAS. I have told you so a hundred times.

PHILONOUS. Therefore, to explain the *phænomena*, is to shew how we come to be affected with ideas, in that manner and order wherein they are imprinted on our senses. Is it not?

HYLAS. It is.

PHILONOUS. Now if you can prove, that any philosopher hath explained the production of any one idea in our minds by the help of *matter*, I shall for ever acquiesce, and look on all that hath been said against it as nothing: but if you cannot, it is in vain to urge the explication of phenomena. That a being endowed with knowledge and will, should produce or exhibit ideas, is easily understood. But that a being which is utterly destitute of these faculties should be able to produce ideas, or in any sort to affect an intelligence, this I can never understand. This I say, though we had some positive conception of matter, though

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we knew its qualities, and could comprehend its existence, would yet be so far from explaining things, that it is it self the most inexplicable thing in the world. And yet for all this, it will not follow, that philosophers have been doing nothing; for by observing and reasoning upon the connexion of ideas, they discover the laws and methods of Nature, which is a part of knowledge both useful and entertaining.

HYLAS. After all, can it be supposed God would deceive all mankind? Do you imagine, he would have induced the whole world to believe the being of matter, if there was no such thing?

PHILONOUS. That every epidemical opinion arising from prejudice, or passion, or thoughtlessness, may be imputed to God, as the Author of it, I believe you will not affirm. Whatsoever opinion we father on him, it must be either because he has discovered it to us by supernatural revelation, or because it is so evident to our natural faculties, which were framed and given us by God, that it is impossible we should withhold our assent from it. But where is the revelation? or where is the evidence that extorts the belief of matter? Nay, how does it appear, that matter taken for something distinct from what we perceive by our senses, is thought to exist by all mankind, or indeed by any except a few philosophers, who do not know what they would be at? Your question supposes these points are clear; and when you have cleared them, I shall think my self obliged to give you another answer. In the mean time let it suffice that I tell you, I do not suppose God has deceived mankind at all.

HYLAS. But the novelty, Philonous, the novelty! There lies the danger. New notions should always be discountenanced; they unsettle men's minds, and no body knows where they will end.

PHILONOUS. Why the rejecting a notion that hath no foundation either in sense or in reason, or in divine authority, should be thought to unsettle the belief of such opinions as are grounded on all or any of these, I cannot imagine. That innovations in government and religion, are dangerous, and ought to be discountenanced, I freely own. But is there the like reason why they should be discouraged in philosophy? The making any thing known which was unknown before, is an innovation in knowledge: and if all such innovations had been forbidden,

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men would have made a notable progress in the arts and sciences. But it is none of my business to plead for novelties and paradoxes. That the qualities we perceive, are not on the objects: that we must not believe our senses: that we know nothing of the real nature of things, and can never be assured even of their existence: that real colours and sounds are nothing but certain unknown figures and motions: that motions are in themselves neither swift nor slow: that there are in bodies absolute extensions, without any particular magnitude or figure: that a thing stupid, thoughtless and inactive, operates on a spirit: that the least particle of a body, contains innumerable extended parts. These are the novelties, these are the strange notions which shock the genuine uncorrupted judgment of all mankind; and being once admitted, embarrass the mind with endless doubts and difficulties. And it is against these and the like innovations, I endeavour to vindicate common sense. It is true, in doing this, I may perhaps be obliged to use some *ambages*, and ways of speech not common. But if my notions are once thoroughly understood, that which is most singular in them, will in effect be found to amount to no more than this: that it is absolutely impossible, and a plain contradiction to suppose, any unthinking being should exist without being perceived by a mind. And if this notion be singular, it is a shame it should be so at this time of day, and in a Christian country.

HYLAS. As for the difficulties other opinions may be liable to, those are out of the question. It is your business to defend your own opinion. Can any thing be plainer, than that you are for changing all things into ideas? You, I say, who are not ashamed to charge me with *scepticism.* This is so plain, there is no denying it.

PHILONOUS. You mistake me. I am not for changing things into ideas, but rather ideas into things; since those immediate objects of perception, which according to you, are only appearances of things, I take to be the real things themselves.

HYLAS. Things! you may pretend what you please; but it is certain, you leave us nothing but the empty forms of things, the outside only which strikes the senses.

PHILONOUS. What you call the empty forms and outside of things, seems to me the very things themselves. Nor are they empty or incomplete otherwise, than upon your supposition, that matter

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is an essential part of all corporeal things. We both therefore agree in this, that we perceive only sensible forms: but herein we differ, you will have them to be empty appearances, I real beings. In short you do not trust your senses, I do.

HYLAS. You say you believe your senses; and seem to applaud your self that in this you agree with the vulgar. According to you therefore, the true nature of a thing is discovered by the senses. If so, whence comes that disagreement? Why is not the same figure, and other sensible qualities, perceived all manner of ways? and why should we use a microscope, the better to discover the true nature of a body, if it were discoverable to the naked eye?

PHILONOUS. Strictly speaking, Hylas, we do not see the same object that we feel; neither is the same object perceived by the microscope, which was by the naked eye. But in case every variation was thought sufficient to constitute a new kind or individual, the endless number or confusion of names would render language impracticable. Therefore to avoid this as well as other inconveniencies which are obvious upon a little thought, men combine together several ideas, apprehended by divers senses, or by the same sense at different times, or in different circumstances, but observed however to have some connexion in Nature, either with respect to co-existence or succession; all which they refer to one name, and consider as one thing. Hence it follows that when I examine by my other senses a thing I have seen, it is not in order to understand better the same object which I had perceived by sight, the object of one sense not being perceived by the other senses. And when I look through a microscope, it is not that I may perceive more clearly what I perceived already with my bare eyes, the object perceived by the glass being quite different from the former. But in both cases my aim is only to know what ideas are connected together; and the more a man knows of the connexion of ideas, the more he is said to know of the nature of things. What therefore if our ideas are variable; what if our senses are not in all circumstances affected with the same appearances? It will not thence follow, they are not to be trusted, or that they are inconsistent either with themselves or any thing else, except it be with your preconceived notion of (I know not what) one single, unchanged, unperceivable, real nature, marked by each name: which prejudice seems to have taken its rise from not rightly

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understanding the common language of men speaking of several distinct ideas, as united into one thing by the mind. And indeed there is cause to suspect several erroneous conceits of the philosophers are owing to the same original: while they began to build their schemes, not so much on notions as words, which were framed by the vulgar, merely for conveniency and dispatch in the common actions of life, without any regard to speculation.

HYLAS. Methinks I apprehend your meaning.

PHILONOUS. It is your opinion, the ideas we perceive by our senses are not real things, but images, or copies of them. Our knowledge therefore is no farther real, than as our ideas are the true representations of those originals. But as these supposed originals are in themselves unknown, it is impossible to know how far our ideas resemble them; or whether they resemble them at all. We cannot therefore be sure we have any real knowledge. Farther, as our ideas are perpetually varied, without any change in the supposed real things, it necessarily follows they cannot all be true copies of them: or if some are, and others are not, it is impossible to distinguish the former from the latter. And this plunges us yet deeper in uncertainty. Again, when we consider the point, we cannot conceive how any idea, or any thing like an idea, should have an absolute existence out of a mind: nor consequently, according to you, how there should be any real thing in Nature. The result of all which is, that we are thrown into the most hopeless and abandoned *scepticism.* Now give me leave to ask you, *first*, whether your referring ideas to certain absolutely existing unperceived substances, as their originals, be not the source of all this *scepticism*? *Secondly*, whether you are informed, either by sense or reason, of the existence of those unknown originals? And in case you are not, whether it be not absurd to suppose them? *Thirdly*, whether, upon inquiry, you find there is any thing distinctly conceived or meant by the *absolute or external existence of unperceiving substances? Lastly*, whether the premises considered, it be not the wisest way to follow Nature, trust your senses, and laying aside all anxious thought about unknown natures or substances, admit with the vulgar those for real things, which are perceived by the senses?

HYLAS. For the present, I have no inclination to the answering part. I would much rather see how you can get over what follows. Pray are not the objects perceived by the senses of one,

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likewise perceivable to others present? If there were an hundred more here, they would all see the garden, the trees, and flowers as I see them. But they are not in the same manner affected with the ideas I frame in my imagination. Does not this make a difference between the former sort of objects and the latter?

PHILONOUS. I grant it does. Nor have I ever denied a difference between the objects of sense and those of imagination. But what would you infer from thence? You cannot say that sensible objects exist unperceived, because they are perceived by many.

HYLAS. I own, I can make nothing of that objection: but it hath led me into another. Is it not your opinion that by our senses we perceive only the ideas existing in our minds?

PHILONOUS. It is.

HYLAS. But the same idea which is in my mind, cannot be in yours, or in any other mind. Doth it not therefore follow from your principles, that no two can see the same thing? And is not this highly absurd?

PHILONOUS. If the term *same* be taken in the vulgar acceptation, it is certain (and not at all repugnant to the principles I maintain) that different persons may perceive the same thing; or the same thing or idea exist in different minds. Words are of arbitrary imposition; and since men are used to apply the word *same* where no distinction or variety is perceived, and I do not pretend to alter their perceptions, it follows, that as men have said before, *several saw the same thing*, so they may upon like occasions still continue to use the same phrase, without any deviation either from propriety of language, or the truth of things. But if the term *same* be used in the acceptation of philosophers, who pretend to an abstracted notion of identity, then, according to their sundry definitions of this notion (for it is not yet agreed wherein that philosophic identity consists), it may or may not be possible for divers persons to perceive the same thing. But whether philosophers shall think fit to call a thing the *same* or no, is, I conceive, of small importance. Let us suppose several men together, all endued with the same faculties, and consequently affected in like sort by their senses, and who had yet never known the use of language; they would without question agree in their perceptions. Though perhaps, when they came to the use of speech, some regarding the uniformness of what was perceived, might call it the *same* thing: others especially

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regarding the diversity of persons who perceived, might choose the denomination of different things. But who sees not that all the dispute is about a word? to wit, whether what is perceived by different persons, may yet have the term *same* applied to it? Or suppose a house, whose walls or outward shell remaining unaltered, the chambers are all pulled down, and new ones built in their place; and that you should call this the *same*, and I should say it was not the *same* house: would we not for all this perfectly agree in our thoughts of the house, considered in it self? and would not all the difference consist in a sound? If you should say, we differed in our notions; for that you superadded to your idea of the house the simple abstracted idea of identity, whereas I did not; I would tell you I know not what you mean by that *abstracted idea of identity*; and should desire you to look into your own thoughts, and be sure you understood yourself.----Why so silent, Hylas? Are you not yet satisfied, men may dispute about identity and diversity, without any real difference in their thoughts and opinions, abstracted from names? Take this farther reflexion with you: that whether matter be allowed to exist or no, the case is exactly the same as to the point in hand. For the materialists themselves acknowledge what we immediately perceive by our senses, to be our own ideas. Your difficulty therefore, that no two see the same thing, makes equally against the materialists and me.

HYLAS. But they suppose an external archetype, to which referring their several ideas, they may truly be said to perceive the same thing.

PHILONOUS. And (not to mention your having discarded those archetypes) so may you suppose an external archetype on my principles; *external*, I mean, to your own mind; though indeed it must be supposed to exist in that mind which comprehends all things; but then this serves all the ends of identity, as well as if it existed out of a mind. And I am sure you your self will not say, it is less intelligible.

HYLAS. You have indeed clearly satisfied me, either that there is no difficulty at bottom in this point; or if there be, that it makes equally against both opinions.

PHILONOUS. But that which makes equally against two contradictory opinions, can be a proof against neither.

HYLAS. I acknowledge it. But after all, Philonous, when I consider

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the substance of what you advance against *scepticism*, it amounts to no more than this. We are sure that we really see, hear, feel; in a word, that we are affected with sensible impressions.

PHILONOUS. And how are we concerned any farther? I see this *cherry*, I feel it, I taste it: and I am sure *nothing* cannot be seen, or felt, or tasted: it is therefore *real.* Take away the sensations of softness, moisture, redness, tartness, and you take away the*cherry.* Since it is not a being distinct from sensations; a *cherry*, I say, is nothing but a congeries of sensible impressions, or ideas perceived by various senses: which ideas are united into one thing (or have one name given them) by the mind; because they are observed to attend each other. Thus when the palate is affected with such a particular taste, the sight is affected with a red colour, the touch with roundness, softness, &c. Hence, when I see, and feel, and taste, in sundry certain manners, I am sure the *cherry* exists, or is real; its reality being in my opinion nothing abstracted from those sensations. But if by the word *cherry* you mean an unknown nature distinct from all those sensible qualities, and by its existence something distinct from its being perceived; then indeed I own, neither you nor I, nor any one else can be sure it exists.

HYLAS. But what would you say, Philonous, if I should bring the very same reasons against the existence of sensible things in a mind, which you have offered against their existing in a material *substratum*?

PHILONOUS. When I see your reasons, you shall hear what I have to say to them.

HYLAS. Is the mind extended or unextended?

PHILONOUS. Unextended, without doubt.

HYLAS. Do you say the things you perceive are in your mind?

PHILONOUS. They are.

HYLAS. Again, have I not heard you speak of sensible impressions?

PHILONOUS. I believe you may.

HYLAS. Explain to me now, O Philonous! how it is possible there should be room for all those trees and houses to exist in your mind. Can extended things be contained in that which is unextended? Or are we to imagine impressions made on a thing void of all solidity? You cannot say objects are in your mind, as books in your study: or that things are imprinted on it, as the figure of a seal upon wax. In what sense therefore are

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we to understand those expressions? Explain me this if you can: and I shall then be able to answer all those queries you formerly put to me about my *substratum.*

PHILONOUS. Look you, Hylas, when I speak of objects as existing in the mind or imprinted on the senses; I would not be understood in the gross literal sense, as when bodies are said to exist in a place, or a seal to make an impression upon wax. My meaning is only that the mind comprehends or perceives them; and that it is affected from without, or by some being distinct from itself. This is my explication of your difficulty; and how it can serve to make your tenet of an unperceiving material *substratum*intelligible, I would fain know.

HYLAS. Nay, if that be all, I confess I do not see what use can be made of it. But are you not guilty of some abuse of language in this?

PHILONOUS. None at all: it is no more than common custom, which you know is the rule of language, hath authorized: nothing being more usual, than for philosophers to speak of the immediate objects of the understanding as things existing in the mind. Nor is there any thing in this, but what is conformable to the general analogy of language; most part of the mental operations being signified by words borrowed from sensible things; as is plain in the terms *comprehend, reflect, discourse, &c.* which being applied to the mind, must not be taken in their gross original sense.

HYLAS. You have, I own, satisfied me in this point: but there still remains one great difficulty, which I know not how you will get over. And indeed it is of such importance, that if you could solve all others, without being able to find a solution for this, you must never expect to make me a proselyte to your principles.

PHILONOUS. Let me know this mighty difficulty.

HYLAS. The Scripture account of the Creation, is what appears to me utterly irreconcileable with your notions. Moses tells us of a Creation: a Creation of what? of ideas? No certainly, but of things, of real things, solid corporeal substances. Bring your principles to agree with this, and I shall perhaps agree with you.

PHILONOUS. Moses mentions the sun, moon, and stars, earth and sea, plants and animals: that all these do really exist, and were in the beginning created by God, I make no question.

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If by *ideas*, you mean fictions and fancies of the mind, then these are no ideas. If by *ideas*, you mean immediate objects of the understanding, or sensible things which cannot exist unperceived, or out of a mind, then these things are ideas. But whether you do, or do not call them *ideas*, it matters little. The difference is only about a name. And whether that name be retained or rejected, the sense, the truth and reality of things continues the same. In common talk, the objects of our senses are not termed *ideas* but *things.* Call them so still: provided you do not attribute to them any absolute external existence, and I shall never quarrel with you for a word. The Creation therefore I allow to have been a creation of things, of *real* things. Neither is this in the least inconsistent with my principles, as is evident from what I have now said; and would have been evident to you without this, if you had not forgotten what had been so often said before. But as for solid corporeal substances, I desire you to shew where Moses makes any mention of them; and if they should be mentioned by him, or any other inspired writer, it would still be incumbent on you to shew those words were not taken in the vulgar acceptation, for things falling under our senses, but in the philosophic acceptation, for matter, or an unknown quiddity, with an absolute existence. When you have proved these points, then (and not till then) may you bring the authority of Moses into our dispute.

HYLAS. It is in vain to dispute about a point so clear. I am content to refer it to your own conscience. Are you not satisfied there is some peculiar repugnancy between the Mosaic account of the Creation, and your notions?

PHILONOUS. If all possible sense, which can be put on the first chapter of *Genesis*, may be conceived as consistently with my principles as any other, then it has no peculiar repugnancy with them. But there is no sense you may not as well conceive, believing as I do. Since, beside spirits, all you conceive are ideas; and the existence of these I do not deny. Neither do you pretend they exist without the mind.

HYLAS. Pray let me see any sense you can understand it in.

PHILONOUS. Why, I imagine that if I had been present at the Creation, I should have seen things produced into being; that is, become perceptible, in the order described by the sacred historian. I ever before believed the Mosaic account of the Creation, and now find no alteration in my manner of believing it. When things are said to begin or end their existence, we

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do not mean this with regard to God, but His creatures. All objects are eternally known by God, or which is the same thing, have an eternal existence in his mind: but when things before imperceptible to creatures, are by a decree of God, made perceptible to them; then are they said to begin a relative existence, with respect to created minds. Upon reading therefore the Mosaic account of the Creation, I understand that the several parts of the world became gradually perceivable to finite spirits, endowed with proper faculties; so that whoever such were present, they were in truth perceived by them. This is the literal obvious sense suggested to me, by the words of the Holy Scripture: in which is included no mention or no thought, either of *substratum*, instrument, occasion, or absolute existence. And upon inquiry, I doubt not, it will be found, that most plain honest men, who believe the Creation, never think of those things any more than I. What metaphysical sense you may understand it in, you only can tell.

HYLAS. But, Philonous, you do not seem to be aware, that you allow created things in the beginning, only a relative, and consequently hypothetical being: that is to say, upon supposition there were men to perceive them, without which they have no actuality of absolute existence, wherein Creation might terminate. Is it not therefore according to you plainly impossible, the Creation of any inanimate creatures should precede that of man? And is not this directly contrary to the Mosaic account?

PHILONOUS. In answer to that I say, *first*, created beings might begin to exist in the mind of other created intelligences, beside men. You will not therefore be able to prove any contradiction between Moses and my notions, unless you first shew, there was no other order of finite created spirits in being before man. I say farther, in case we conceive the Creation, as we should at this time a parcel of plants or vegetables of all sorts, produced by an invisible power, in a desert where no body was present: that this way of explaining or conceiving it, is consistent with my principles, since they deprive you of nothing, either sensible or imaginable: that it exactly suits with the common, natural, undebauched notions of mankind: That it manifests the dependence of all things on God; and consequently hath all the good effect or influence, which it is possible that important article of our faith should have in making men humble, thankful, and resigned to their Creator. I say moreover, that in this naked

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conception of things, divested of words, there will not be found any notion of what you call the *actuality of absolute existence.* You may indeed raise a dust with those terms, and so lengthen our dispute to no purpose. But I entreat you calmly to look into your own thoughts, and then tell me if they are not an useless and unintelligible jargon.

HYLAS. I own, I have no very clear notion annexed to them. But what say you to this? Do you not make the existence of sensible things consist in their being in a mind? And were not all things eternally in the mind of God? Did they not therefore exist from all eternity, according to you? And how could that which was eternal, be created in time? Can any thing be clearer or better connected than this?

PHILONOUS. And are not you too of opinion, that God knew all things from eternity?

HYLAS. I am.

PHILONOUS. Consequently they always had a being in the Divine Intellect.

HYLAS. This I acknowledge.

PHILONOUS. By your own confession therefore, nothing is new, or begins to be, in respect of the mind of God. So we are agreed in that point.

HYLAS. What shall we make then of the Creation?

PHILONOUS. May we not understand it to have been intirely in respect of finite spirits; so that things, with regard to us, may properly be said to begin their existence, or be created, when God decreed they should become perceptible to intelligent creatures, in that order and manner which he then established, and we now call the laws of Nature? You may call this a *relative*, or *hypothetical existence* if you please. But so long as it supplies us with the most natural, obvious, and literal sense of the Mosaic history of the Creation; so long as it answers all the religious ends of that great article; in a word, so long as you can assign no other sense or meaning in its stead; why should we reject this? Is it to comply with a ridiculous sceptical humour of making every thing nonsense and unintelligible? I am sure you cannot say, it is for the glory of God. For allowing it to be a thing possible and conceivable, that the corporeal world should have an absolute subsistence extrinsical to the mind of God, as well as to the minds of all created spirits: yet how could this set forth either the immensity or omniscience of the Deity, or the necessary and immediate dependence of all

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things on him? Nay, would it not rather seem to derogate from those attributes?

HYLAS. Well, but as to this decree of God's, for making things perceptible: what say you, Philonous, is it not plain, God did either execute that decree from all eternity, or at some certain time began to will what he had not actually willed before, but only designed to will. If the former, then there could be no Creation or beginning of existence in finite things. If the latter, then we must acknowledge something new to befall the Deity; which implies a sort of change: and all change argues imperfection.

PHILONOUS. Pray consider what you are doing. Is it not evident, this objection concludes equally against a creation in any sense; nay, against every other act of the Deity, discoverable by the light of Nature? None of which can we conceive, otherwise than as performed in time, and having a beginning. God is a being of transcendent and unlimited perfections: his nature therefore is incomprehensible to finite spirits. It is not therefore to be expected, that any man, whether *materialist* or *immaterialist*, should have exactly just notions of the Deity, his attributes, and ways of operation. If then you would infer any thing against me, your difficulty must not be drawn from the inadequateness of our conceptions of the Divine Nature, which is unavoidable on any scheme; but from the denial of matter, of which there is not one word, directly or indirectly, in what you have now objected.

HYLAS. I must acknowledge, the difficulties you are concerned to clear, are such only as arise from the non-existence of matter, and are peculiar to that notion. So far you are in the right. But I cannot by any means bring my self to think there is no such peculiar repugnancy between the Creation and your opinion; though indeed where to fix it, I do not distinctly know.

PHILONOUS. What would you have! do I not acknowledge a twofold state of things, the one ectypal or natural, the other archetypal and eternal? The former was created in time; the latter existed from everlasting in the mind of God. Is not this agreeable to the common notions of divines? or is any more than this necessary in order to conceive the Creation? But you suspect some peculiar repugnancy, though you know not where it lies. To take away all possibility of scruple in the case, do but consider this one point. Either you are not able to conceive

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the Creation on any hypothesis whatsoever; and if so, there is no ground for dislike or complaint against my particular opinion on that score: or you are able to conceive it; and if so, why not on my principles, since thereby nothing conceivable is taken away? You have all along been allowed the full scope of sense, imagination, and reason. Whatever therefore you could before apprehend, either immediately or mediately by your senses, or by ratiocination from your senses; whatever you could perceive, imagine or understand, remains still with you. If therefore the notion you have of the Creation by other principles be intelligible, you have it still upon mine; if it be not intelligible, I conceive it to be no notion at all; and so there is no loss of it. And indeed it seems to me very plain, that the supposition of matter, that is, a thing perfectly unknown and inconceivable, cannot serve to make us conceive any thing. And I hope, it need not be proved to you, that if the existence of matter doth not make the Creation conceivable, the Creation's being without it inconceivable, can be no objection against its non-existence.

HYLAS. I confess, Philonous, you have almost satisfied me in this point of the Creation.

PHILONOUS. I would fain know why you are not quite satisfied. You tell me indeed of a repugnancy between the Mosaic history and immaterialism: but you know not where it lies. Is this reasonable, Hylas? Can you expect I should solve a difficulty without knowing what it is? But to pass by all that, would not a man think you were assured there is no repugnancy between the received notions of materialists and the inspired writings?

HYLAS. And so I am.

PHILONOUS. Ought the historical part of Scripture to be understood in a plain obvious sense, or in a sense which is metaphysical, and out of the way?

HYLAS. In the plain sense, doubtless.

PHILONOUS. When Moses speaks of herbs, earth, water, &*c.* as having been created by God; think you not the sensible things, commonly signified by those words, are suggested to every unphilosophical reader?

HYLAS. I cannot help thinking so.

PHILONOUS. And are not all ideas, or things perceived by sense, to be denied a real existence by the doctrine of the materialists?

HYLAS. This I have already acknowledged.

PHILONOUS. The Creation therefore, according to them, was not

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the creation of things sensible, which have only a relative being, but of certain unknown natures, which have an absolute being, wherein Creation might terminate.

HYLAS. True.

PHILONOUS. Is it not therefore evident, the asserters of matter destroy the plain obvious sense of Moses, with which their notions are utterly inconsistent; and instead of it obtrude on us I know not what, something equally unintelligible to themselves and me?

HYLAS. I cannot contradict you.

PHILONOUS. Moses tells us of a Creation. A Creation of what? of unknown quiddities, of occasions, or *substratums*? No certainly; but of things obvious to the senses. You must first reconcile this with your notions, if you expect I should be reconciled to them.

HYLAS. I see you can assault me with my own weapons.

PHILONOUS. Then as to *absolute existence*; was there ever known a more jejune notion than that? Something it is, so abstracted and unintelligible, that you have frankly owned you could not conceive it, much less explain any thing by it. But allowing matter to exist, and the notion of absolute existence to be as clear as light; yet was this ever known to make the Creation more credible? Nay hath it not furnished the *atheists* and*infidels* of all ages, with the most plausible argument against a Creation? That a corporeal substance, which hath an absolute existence without the minds of spirits, should be produced out of nothing by the mere will of a spirit, hath been looked upon as a thing so contrary to all reason, so impossible and absurd, that not only the most celebrated among the ancients, but even divers modern and Christian philosophers have thought matter coeternal with the Deity. Lay these things together, and then judge you whether materialism disposes men to believe the creation of things.

HYLAS. I own, Philonous, I think it does not. This of the Creation is the last objection I can think of; and I must needs own it hath been sufficiently answered as well as the rest. Nothing now remains to be overcome, but a sort of unaccountable backwardness that I find in my self toward your notions.

PHILONOUS. When a man is swayed, he knows not why, to one side of a question; can this, think you, be any thing else but the effect of prejudice, which never fails to attend old and rooted

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notions? And indeed in this respect I cannot deny the belief of matter to have very much the advantage over the contrary opinion, with men of a learned education.

HYLAS. I confess it seems to be as you say.

PHILONOUS. As a balance therefore to this weight of prejudice, let us throw into the scale the great advantages that arise from the belief of immaterialism, both in regard to religion and human learning. The being of a God, and incorruptibility of the soul, those great articles of religion, are they not proved with the clearest and most immediate evidence? When I say the being of a *God*, I do not mean an obscure general cause of things, whereof we have no conception, but *God*, in the strict and proper sense of the word. A being whose spirituality, omnipresence, providence, omniscience, infinite power and goodness, are as conspicuous as the existence of sensible things, of which (notwithstanding the fallacious pretences and affected scruples of *scepticks*) there is no more reason to doubt, than of our own being. Then with relation to human sciences; in natural philosophy, what intricacies, what obscurities, what contradictions, hath the belief of matter led men into! To say nothing of the numberless disputes about its extent, continuity, homogeneity, gravity, divisibility, &*c.* do they not pretend to explain all things by bodies operating on bodies, according to the laws of motion? and yet, are they able to comprehend how any one body should move another? Nay, admitting there was no difficulty in reconciling the notion of an inert being with a cause; or in conceiving how an accident might pass from one body to another; yet by all their strained thoughts and extravagant suppositions, have they been able to reach the mechanical production of any one animal or vegetable body? Can they account by the laws of motion, for sounds, tastes, smells, or colours, or for the regular course of things? Have they accounted by physical principles for the aptitude and contrivance, even of the most inconsiderable parts of the universe? But laying aside matter and corporeal causes, and admitting only the efficiency of an all-perfect mind, are not all the effects of Nature easy and intelligible? If the phenomena are nothing else but *ideas*; God is a *spirit*, but matter an unintelligent, unperceiving being. If they demonstrate an unlimited power in their cause; God is active and omnipotent, but matter an inert mass. If the order, regularity, and usefulness of them, can

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never be sufficiently admired; God is infinitely wise and provident, but matter destitute of all contrivance and design. These surely are great advantages in *physics.* Not to mention that the apprehension of a distant Deity, naturally disposes men to a negligence in their *moral*actions, which they would be more cautious of, in case they thought Him immediately present, and acting on their minds without the interposition of matter, or unthinking second causes. Then in *metaphysics*; what difficulties concerning entity in abstract, substantial forms, hylarchic principles, plastic natures, substance and accident, principle of individuation, possibility of matter's thinking, origin of ideas, the manner how two independent substances, so widely different as *spirit* and *matter*, should mutually operate on each other? What difficulties, I say, and endless disquisitions concerning these and innumerable other the like points, do we escape by supposing only spirits and ideas? Even the *mathematics* themselves, if we take away the absolute existence of extended things, become much more clear and easy; the most shocking paradoxes and intricate speculations in those sciences, depending on the infinite divisibility of finite extension, which depends on that supposition. But what need is there to insist on the particular sciences? Is not that opposition to all science whatsoever, that phrensy of the ancient and modern *sceptics*, built on the same foundation? Or can you produce so much as one argument against the reality of corporeal things, or in behalf of that avowed utter ignorance of their natures, which doth not suppose their reality to consist in an external absolute existence? Upon this supposition indeed, the objections from the change of colours in a pigeon's neck, or the appearances of a broken oar in the water, must be allowed to have weight. But those and the like objections vanish, if we do not maintain the being of absolute external originals, but place the reality of things in ideas, fleeting indeed, and changeable; however not changed at random, but according to the fixed order of Nature. For herein consists that constancy and truth of things, which secures all the concerns of life, and distinguishes that which is *real* from the irregular visions of the fancy.

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HYLAS. I agree to all you have now said, and must own that nothing can incline me to embrace your opinion, more than the advantages I see it is attended with. I am by nature lazy; and this would be a mighty abridgment in knowledge. What doubts, what hypotheses, what labyrinths of amusement, what fields of disputation, what an ocean of false learning, may be avoided by that single notion of *immaterialism*?

PHILONOUS. After all, is there any thing farther remaining to be done? You may remember you promised to embrace that opinion, which upon examination should appear most agreeable to common sense, and remote from *scepticism.* This by your own confession is that which denies matter, or the absolute existence of corporeal things. Nor is this all; the same notion has been proved several ways, viewed in different lights, pursued in its consequences, and all objections against it cleared. Can there be a greater evidence of its truth? or is it possible it should have all the marks of a true opinion, and yet be false?

HYLAS. I own myself intirely satisfied for the present in all respects. But what security can I have that I shall still continue the same full assent to your opinion, and that no unthought-of objection or difficulty will occur hereafter?

PHILONOUS. Pray, Hylas, do you in other cases, when a point is once evidently proved, withhold your assent on account of objections or difficulties it may be liable to? Are the difficulties that attend the doctrine of incommensurable quantities, of the angle of contact, of the asymptotes to curves or the like, sufficient to make you hold out against mathematical demonstration? Or will you disbelieve the providence of God, because there may be some particular things which you know not how to reconcile with it? If there are difficulties attending immaterialism, there are at the same time direct and evident proofs for it. But for the existence of matter, there is not one proof, and far more numerous and insurmountable objections lie against it. But where are those mighty difficulties you insist on? Alas! you know not where or what they are; something which may possibly occur hereafter. If this be a sufficient pretence for withholding your full assent, you should never yield it to any proposition, how free soever from exceptions, how clearly and solidly soever demonstrated.

HYLAS. You have satisfied me, Philonous.

PHILONOUS. But to arm you against all future objections, do but consider, that which bears equally hard on two contradictory

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opinions, can be a proof against neither. Whenever therefore any difficulty occurs, try if you can find a solution for it on the hypothesis of the *materialists.* Be not deceived by words; but sound your own thoughts. And in case you cannot conceive it easier by the help of *materialism*, it is plain it can be no objection against *immaterialism.* Had you proceeded all along by this rule, you would probably have spared yourself abundance of trouble in objecting; since of all your difficulties I challenge you to shew one that is explained by matter; nay, which is not more unintelligible with, than without that supposition, and consequently makes rather *against* than *for* it. You should consider in each particular, whether the difficulty arises from the *nonexistence of matter.* If it doth not, you might as well argue from the infinite divisibility of extension against the divine prescience, as from such a difficulty against *immaterialism.* And yet upon recollection I believe you will find this to have been often, if not always the case. You should likewise take heed not to argue on a*petitio principii.* One is apt to say, the unknown substances ought to be esteemed real things, rather than the ideas in our minds: and who can tell but the unthinking external substance may concur as a cause or instrument in the production of our ideas? But is not this proceeding on a supposition that there are such external substances? And to suppose this, is it not begging the question? But above all things you should beware of imposing on your self by that vulgar sophism, which is called *ignoratio elenchi.* You talked often as if you thought I maintained the non-existence of sensible things: whereas in truth no one can be more thoroughly assured of their existence than I am: and it is you who doubt; I should have said, positively deny it. Every thing that is seen, felt, heard, or any way perceived by the senses, is on the principles I embrace, a real being, but not on yours. Remember, the matter you contend for is an unknown somewhat (if indeed it may be termed *somewhat*) which is quite stripped of all sensible qualities, and can neither be perceived by sense, nor apprehended by the mind. Remember, I say, that it is not any object which is hard or soft, hot or cold, blue or white, round or square, &*c.* For all these things I affirm do exist. Though indeed I deny they have an existence distinct from being perceived; or that they exist out of all minds whatsoever. Think on these points; let them be attentively considered and still kept in view. Otherwise you will not comprehend the state of the question; without which your objections

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will always be wide of the mark, and instead of mine, may possibly be directed (as more than once they have been) against your own notions.

HYLAS. I must needs own, Philonous, nothing seems to have kept me from agreeing with you more than this same *mistaking the question.* In denying matter, at first glimpse I am tempted to imagine you deny the things we see and feel; but upon reflexion find there is no ground for it. What think you therefore of retaining the name *matter*, and applying it to sensible things? This may be done without any change in your sentiments: and believe me it would be a means of reconciling them to some persons, who may be more shocked at an innovation in words than in opinion.

PHILONOUS. With all my heart: retain the word *matter*, and apply it to the objects of sense, if you please, provided you do not attribute to them any subsistence distinct from their being perceived. I shall never quarrel with you for an expression. *Matter*, or *material substance*, are terms introduced by philosophers; and as used by them, imply a sort of independency, or a subsistence distinct from being perceived by a mind: but are never used by common people; or if ever, it is to signify the immediate objects of sense. One would think therefore, so long as the names of all particular things, with the terms *sensible, substance, body, stuff*, and the like, are retained, the word *matter* should be never missed in common talk. And in philosophical discourses it seems the best way to leave it quite out; since there is not perhaps any one thing that hath more favoured and strengthened the depraved bent of the mind toward *atheism*, than the use of that general confused term.

HYLAS. Well but, Philonous, since I am content to give up the notion of an unthinking substance exterior to the mind, I think you ought not to deny me the privilege of using the word *matter* as I please, and annexing it to a collection of sensible qualities subsisting only in the mind. I freely own there is no other substance in a strict sense, than *spirit.* But I have been so long accustomed to the term *matter*, that I know not how to part with it. To say, there is no *matter* in the world, is still shocking to me. Whereas to say, there is no *matter*, if by that term be meant an unthinking substance existing without the mind: but if by *matter* is meant some sensible thing, whose existence consists in being perceived, then there is *matter*: this distinction gives it quite another turn: and men will come into your notions with

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small difficulty, when they are proposed in that manner. For after all, the controversy about *matter* in the strict acceptation of it, lies altogether between you and the philosophers; whose principles, I acknowledge, are not near so natural, or so agreeable to the common sense of mankind, and Holy Scripture, as yours. There is nothing we either desire or shun, but as it makes, or is apprehended to make some part of our happiness or misery. But what hath happiness or misery, joy or grief, pleasure or pain, to do with absolute existence, or with unknown entities, abstracted from all relation to us? It is evident, things regard us only as they are pleasing or displeasing: and they can please or displease, only so far forth as they are perceived. Farther therefore we are not concerned; and thus far you leave things as you found them. Yet still there is something new in this doctrine. It is plain, I do not now think with the philosophers, nor yet altogether with the vulgar. I would know how the case stands in that respect: precisely, what you have added to, or altered in my former notions.

PHILONOUS. I do not pretend to be a setter-up of *new notions.* My endeavours tend only to unite and place in a clearer light that truth, which was before shared between the vulgar and the philosophers: the former being of opinion, that *those things they immediately perceive are the real things*; and the latter, that *the things immediately perceived, are ideas which exist only in the mind.* Which two notions put together, do in effect constitute the substance of what I advance.

HYLAS. I have been a long time distrusting my senses; methought I saw things by a dim light, and through false glasses. Now the glasses are removed, and a new light breaks in upon my understanding. I am clearly convinced that I see things in their native forms; and am no longer in pain about their unknown natures or absolute existence. This is the state I find my self in at present: though indeed the course that brought me to it, I do not yet thoroughly comprehend. You set out upon the same principles that Academics, Cartesians, and the like sects, usually do; and for a long time it looked as if you were advancing their philosophical *scepticism*; but in the end your conclusions are directly opposite to theirs.

PHILONOUS. You see, Hylas, the water of yonder fountain, how it is forced upwards, in a round column, to a certain height; at

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which it breaks and falls back into the bason from whence it rose: its ascent as well as descent, proceeding from the same uniform law or principle of *gravitation.* Just so, the same principles which at first view lead to *scepticism*, pursued to a certain point, bring men back to common sense.

Footnotes

[†1](view?docId=berkeley/berkeley.02.xml;chunk.id=div.berkeley.v2.13;toc.id=div.berkeley.v2.13;brand=default" \l "berk.v2.81tm) See the Essay towards a new Theory of Vision; And its Vindication.

# Berkeley, Philosophical Correspondence between Berkeley and Samuel Johnson, (1729-30)

*The Works of George Berkeley, Bishop of Cloyne*, (ed.s) A. A. Luce and T. E. Jessop, 9 vols, vol 2 (London: Nelson, 1948-1957).

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## I JOHNSON TO BERKELEY:

A LETTER TO THE REV'D BERKELEY, DEAN OF LONDON DERRY, UPON READING HIS BOOKS OF THE PRINCIPLES OF HUMAN KNOWLEDGE AND DIALOGUES

Stratford, Sept. 10, 1729  
  
Rev'd Sir:  
  
The kind invitation you gave me to lay before you any difficulties that should occur to me in reading those excellent books which you was pleased to order into my hands, is all the apology I shall offer for the trouble I now presume to give you. But nothing could encourage me to expose to your view my low and mean way of thinking and writing, but my hopes of an interest in that candor and tenderness which are so conspicuous both in your writings and conversation.

These books (for which I stand humbly obliged to you) contain speculations the most surprisingly ingenious I have ever met with; and I must confess that the reading of them has almost convinced me that matter as it has been commonly defined for an unknown Quiddity is but a mere non-entity. That it is a strong presumption against the existence of it, that there never could be conceived any manner of connection between it and our ideas. That the *esse* of things is only their *percipi*; and that the rescuing us from the absurdities of abstract ideas and the gross notion of matter that have so much obtained, deserves well of the learned world, in that it clears away very many difficulties and perplexities in the sciences.

And I am of opinion that this way of thinking can't fail of prevailing in the world, because it is likely to prevail very much among us in these parts, several ingenious men having entirely come in to it. But there are many others on the other hand that cannot be reconciled to it; tho' of these there are some who have a very good opinion of it and plainly see many happy consequences attending it, on account of which they are well inclined to embrace it, but think they find some difficulties in their way which they can't get over, and some objections not sufficiently answered to their satisfaction. And since you have condescended to give me leave to do so, I will make bold to lay before you sundry things, which yet remain in the dark either to myself or to others, and which I can't account for either to my own, or at least to their satisfaction.

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1. The great prejudice that lies against it with some is its repugnancy to and subversion of Sir I. Newton's philosophy in sundry points; to which they have been so much attached that they can't suffer themselves in the least to call it in question in any instance, but indeed it does not appear to me so inconsistent therewith as at first blush it did, for the laws of nature which he so happily explains are the same whether matter be supposed or not. However, let Sir Isaac Newton, or any other man, be heard only so far as his opinion is supported by reason:--but after all I confess I have so great a regard for the philosophy of that great man, that I would gladly see as much of it as may be, to obtain in this ideal scheme.

2. The objection, that it takes away all subordinate natural causes, and accounts for all appearances merely by the immediate will of the supreme spirit, does not seem to many to be answered to their satisfaction. It is readily granted that our ideas are inert, and can't cause one another, and are truly only signs one of another. For instance my idea of fire is not the cause of my idea of burning and of ashes. But inasmuch as these ideas are so connected as that they seem necessarily to point out to us the relations of cause and effect, we can't help thinking that our ideas are pictures of things without our minds at least, tho' not without the Great Mind, and which are their archetypes, between which these relations do obtain. I kindle a fire and leave it, no created mind beholds it; I return again and find a great alteration in the fuel; has there not been in my absence all the while that gradual alteration making in the archetype of my idea of wood which I should have had the idea of if I had been present? And is there not some archetype of my idea of the fire, which under the agency of the Divine Will has gradually caused this alteration? And so in all other instances, our ideas are so connected, that they seem necessarily to refer our minds to some originals which are properly (tho' subordinate) causes and effects one of another; insomuch that unless they be so, we can't help thinking ourselves under a perpetual delusion.

3. That all the phenomena of nature, must ultimately be referred to the will of the Infinite Spirit, is what must be allowed; but to suppose his immediate energy in the production of every effect, does not seem to impress so lively and great a sense of his power and wisdom upon our minds, as to suppose a subordination of causes and effects among the archetypes of our ideas, as he that should make a watch or clock of ever so beautiful an appearance

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and that should measure the time ever so exactly yet if he should be obliged to stand by it and influence and direct all its motions, he would seem but very deficient in both his ability and skill in comparison with him who should be able to make one that would regularly keep on its motion and measure the time for a considerable while without the intervention of any immediate force of its author or any one else impressed upon it.

4. And as this tenet seems thus to abate our sense of the wisdom and power of God, so there are some that cannot be persuaded that it is sufficiently cleared from bearing hard on his holiness; those who suppose that the corrupt affections of our souls and evil practices consequent to them, are occasioned by certain irregular mechanical motions of our bodies, and that these motions come to have an habitual irregular bias and tendency by means of our own voluntary indulgence to them, which we might have governed to better purpose, do in this way of thinking, sufficiently bring the guilt of those ill habits and actions upon ourselves; but if in an habitual sinner, every object and motion be but an idea, and every wicked appetite the effect of such a set of ideas, and these ideas, the immediate effect of the Almighty upon his mind; it seems to follow, that the immediate cause of such ideas must be the cause of those immoral appetites and actions; because he is borne down before them seemingly, even in spite of himself. At first indeed they were only occasions, which might be withstood, and so, proper means of trial, but now they become causes of his immoralities. When therefore a person is under the power of a vicious habit, and it can't but be foreseen that the suggestion of such and such ideas will unavoidably produce those immoralities, how can it consist with the holiness of God to suggest them?

5. It is, after all that has been said on that head, still something shocking to many to think that there should be nothing but a mere show in all the art and contrivance appearing in the structure (for instance) of a human body, particularly of the organs of sense. The curious structure of the eye, what can it be more than merely a fine show, if there be no connection more than you admit of, between that and vision? It seems from the make of it to be designed for an instrument or means of conveying the images of external things to the perceptive faculty within; and if it be not so, if it be really of no use in conveying visible objects to our minds, and if our visible ideas are immediately created in them by the will of the Almighty, why should it be made to seem to be an instrument or medium as much as if indeed it really were so? It

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is evident, from the conveying of images into a dark room thro' a lens, that the eye is a lens, and that the images of things are painted on the bottom of it. But to what purpose is all this, if there be no connection between this fine apparatus and the act of vision; can it be thought a sufficient argument that there is no connection between them because we can't discover it, or conceive how it should be?

6. There are some who say, that if our sensations don't depend on any bodily organs--they don't see how death can be supposed to make any alteration in the manner of our perception, or indeed how there should be (properly speaking) any separate state of the soul at all. For if our bodies are nothing but ideas, and if our having ideas in this present state does not depend upon what are thought to be the organs of sense, and lastly, if we are supposed (as doubtless we must) to have ideas in that state; it should seem that immediately upon our remove from our present situation, we should still be attended with the same ideas of bodies as we have now, and consequently with the same bodies or at least with bodies however different, and if so, what room is there left for any resurrection, properly so-called? So that while this tenet delivers us from the embarrassments that attend the doctrine of a material resurrection, it seems to have no place for any resurrection at all, at least in the sense that word seems to bear in St. John 5; 28, 29.

7. Some of us are at a loss to understand your meaning when you speak of archetypes. You say the beings of things consists in their being perceived. And that things are nothing but ideas, that our ideas have no unperceived archetypes, but yet you allow archetypes to our ideas when things are not perceived by our minds; they exist in,*i.e.*, are perceived by, some other mind. Now I understand you, that there is a two-fold existence of things or ideas, one in the divine mind, and the other in created minds; the one archetypal, and the other ectypal; that, therefore, the real original and permanent existence of things is archetypal, being ideas in *mente Divinâ*, and that our ideas are copies of them, and so far forth real things as they are correspondent to their archetypes and exhibited to us, or begotten in us by the will of the Almighty, in such measure and degrees and by such stated laws and rules as He is pleased to observe; that, therefore, there is no unperceived substance intervening between the divine ideas and ours as a medium, occasion or instrument by which He begets our ideas in us, but that which was thought to be the material existence of

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things is in truth only ideal in the divine mind. Do I understand you right? Is it not therefore your meaning, that the existence of our ideas (*i.e.*, the ectypal things) depends upon our perceiving them, yet there are external to any created mind, in the all-comprehending Spirit, real and permanent archetypes (as stable and permanent as ever matter was thought to be), to which these ideas of ours are correspondent, and so that (tho' our visible and tangible ideas are *toto coelo* different and distinct things, yet) there may be said to be external to my mind, in the divine mind, an archetype (for instance of the candle that is before me) in which the originals of both my visible and tangible ideas, light, heat, whiteness, softness, etc., under such a particular cylindrical figure, are united, so that it may be properly said to be the same thing that I both see and feel?

8. If this, or something like it might be understood to be your meaning, it would seem less shocking to say that we don't see and feel the same thing, because we can't dispossess our minds of the notion of an external world, and would be allowed to conceive that, tho' there were no intelligent creature before Adam to be a spectator of it, yet the world was really six days in *archetypo*, gradually proceeding from an informal chaotic state into that beautiful show wherein it first appeared to his mind, and that the comet that appeared in 1680 (for instance) has now, tho' no created mind beholds it, a real existence in the all-comprehending spirit, and is making its prodigious tour through the vast fields of ether, and lastly that the whole vast congeries of heaven and earth, the mighty systems of worlds with all their furniture, have a real being in the eternal mind antecedent to and independent on the perception of created spirit, and that when we see and feel, etc., that that almighty mind, by his immediate *fiat*, begets in our minds (*pro nostro modulo*) ideas correspondent to them, and which may be imagined in some degree resemblances of them.

9. But if there be archetypes to our ideas, will it not follow that there is external space, extention, figure and motion, as being archetypes of our ideas, to which we give these names. And indeed for my part I cannot disengage my mind from the persuasion that there is external space; when I have been trying ever so much to conceive of space as being nothing but an idea in my mind, it will return upon me even in spite of my utmost efforts, certainly there must be, there can't but be, external space. The length, breadth, and thickness of any idea, it's true, are but ideas; the distance between two trees in my mind is but an idea, but if

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there are archetypes to the ideas of the trees, there must be an archetype to the idea of the distance between them. Nor can I see how it follows that there is no external absolute height, bigness, or distance of things, because they appear greater or less to us according as we are nearer or remote from them, or see them with our naked eyes, or with glasses; any more than it follows that a man, for instance, is not really absolutely six foot high measured by a two foot rule applied to his body, because divers pictures of him may be drawn some six, some four, some two foot long according to the same measure. Nobody ever imagined that the idea of distance is without the mind, but does it therefore follow that there is no external distance to which the idea is correspondent, for instance, between Rhode Island and Stratford? Truly I wish it were not so great, that I might be so happy as to have a more easy access to you, and more nearly enjoy the advantages of your instructions.

10. You allow spirits to have a real existence external to one another. Methinks, if so, there must be distance between them, and space wherein they exist, or else they must all exist in one individual spot or point, and as it were coincide one with another. I can't see how external space and duration are any more abstract ideas than spirits. As we have (properly speaking) no ideas of spirits, so, indeed, neither have we of external space and duration. But it seems to me that the existence of these must unavoidably follow from the existence of those, insomuch that I can no more conceive of their not being, than I can conceive of the non-existence of the infinite and eternal mind. They seem as necessarily existent independent of any created mind as the Deity Himself. Or must we say there is nothing in Dr. Clarke's argument *a priori*, in his demonstration of the being and attributes of God, or in what Sir Isaac Newton says about the infinity and eternity of God in his *Scholium Generale* to his *Principia*? I should be glad to know your sense of what those two authors say upon this subject.

11. You will forgive the confusedness of my thoughts and not wonder at my writing like a man something bewildered, since I am, as it were, got into a new world amazed at everything about me. These ideas of ours, what are they? Is the substance of the mind the *substratum* to its ideas? Is it proper to call them modifications of our minds? Or impressions upon them? Or what? Truly I can't tell what to make of them, any more than of matter itself. What is the *esse* of spirits?--you seem to think it impossible

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to abstract their existence from their thinking. *Princ.* p. 143. sec. 98. Is then the *esse* of minds nothing else but *percipere*, as the *esse* of ideas is *percipi*? Certainly, methinks there must be an unknown somewhat that thinks and acts, as difficult to be conceived of as matter, and the creation of which, as much beyond us as the creation of matter. Can actions be the *esse* of any thing? Can they exist or be exerted without some being who is the agent? And may not that being be easily imagined to exist without acting, *e.g.*, without thinking? And consequently (for you are there speaking of duration) may he not be said*durare, etsi non cogitet*, to persist in being, tho' thinking were intermitted for a while? And is not this sometimes fact? The duration of the eternal mind, must certainly imply some thing besides an eternal succession of ideas. May I not then conceive that, tho' I get my idea of duration by observing the succession of ideas in my mind, yet there is a *perseverare in existendo*, a duration of my being, and of the being of other spirits distinct from, and independent of, this succession of ideas.

But, Sir, I doubt I have more than tired your patience with so many (and I fear you will think them impertinent) questions; for tho' they are difficulties with me, or at least with some in my neighborhood, for whose sake, in part, I write, yet I don't imagine they can appear such to you, who have so perfectly digested your thoughts upon this subject. And perhaps they may vanish before me upon a more mature consideration of it. However, I should be very thankful for your assistance, if it were not a pity you should waste your time (which would be employed to much better purposes) in writing to a person so obscure and so unworthy of such a favor as I am. But I shall live with some impatience till I see the second part of your design accomplished, wherein I hope to see these (if they can be thought such) or any other objections, that may have occurred to you since your writing the first part, obviated; and the usefulness of this doctrine more particularly displayed in the further application of it to the arts and sciences. May we not hope to see logic, mathematics, and natural philosophy, pneumatology, theology and morality, all in their order, appearing with a new lustre under the advantages they may receive from it? You have at least given us to hope for a geometry cleared of many perplexities that render that sort of study troublesome, which I shall be very glad of, who have found that science more irksome to me than any other, tho', indeed, I am but very little versed in any of them. But I will not trespass

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any further upon your patience. My very humble service to Mr. James and Mr. Dalton, and I am with the greatest veneration,

Rev'd Sir,

your most obliged and most obedient humble servant

Samuel Johnson

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## II BERKELEY TO JOHNSON

Nov. 25, 1729  
Reverend Sir,  
  
The ingenious letter you favored me with found me very much indisposed with a gathering or imposthumation in my head, which confined me several weeks, and is now, I thank God, relieved. The objections of a candid thinking man to what I have written will always be welcome, and I shall not fail to give all the satisfaction I am able, not without hopes of convincing or being convinced. It is a common fault for men to hate opposition, and be too much wedded to their own opinions. I am so sensible of this in others that I could not pardon it to myself, if I considered mine any further than they seem to me to be true, which I shall the better be able to judge of when they have passed the scrutiny of persons so well qualified to examine them as you and your friends appear to be, to whom my illness must be an apology for not sending this answer sooner.

1. The true use and end of natural philosophy is to explain the phenomena of nature, which is done by discovering the laws of nature, and reducing particular appearances to them. This is Sir Isaac Newton's method; and such method or design is not in the least inconsistent with the principles I lay down. This mechanical philosophy doth not assign or suppose any one natural efficient cause in the strict and proper sense; nor is it, as to its use, concerned about *matter*; nor is matter connected therewith; nor doth it infer the being of matter. It must be owned, indeed, that the mechanical philosophers do suppose (though unnecessarily) the being of matter. They do even pretend to demonstrate that matter is proportional to gravity, which, if they could, this indeed would furnish an unanswerable objection. But let us examine their demonstration--it is laid down in the first place, that the momentum of any body is the product of its quantity by its velocity, *moles in celeritatem ducta.* If, therefore, the velocity is given, the momentum will be as its quantity. But it is observed that bodies of all kinds descend *in vacuo* with the same velocity; therefore, the momentum of descending bodies is as the quantity of moles, *i.e.*, gravity is as matter. But this argument concludes

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nothing, and is a mere circle. For, I ask, when it is premised that the momentum is equal to the *moles in celeritatem ducta*, how the moles or quantity of matter is estimated. If you say, by extent, the proposition is not true; if by weight, then you suppose that the quantity of matter is proportional to matter: *i.e.*, the conclusion is taken for granted in one of the premises. As for absolute space and motion, which are also supposed without any necessity or use, I refer you to what I have already published; particularly in a Latin treatise, *De Motu*, which I shall take care to send to you.

2. Cause is taken in different senses. A proper active efficient cause I can conceive none but spirit; nor any action, strictly speaking, but where there is will. But this doth not hinder the allowing occasional causes (which are in truth but signs), and more is not requisite in the best physics, *i.e.*, the mechanical philosophy. Neither doth it hinder the admitting other causes besides God; such as spirits of different orders, which may be termed active causes, as acting indeed, though by limited and derivative powers. But as for an unthinking agent, no point of physics is explained by it, nor is it conceivable.

3. Those who have all along contended for a material world, have yet acknowledged that *natura naturans* (to use the language of the Schoolmen) is God; and that the divine conservation of things is equipollent to, and in fact the same thing with, a continued repeated creation: in a word, that conservation and creation differ only in the *terminus a quo.* These are the common opinions of the Schoolmen; and Durandus, who held the world to be a machine like a clock, made and put in motion by God, but afterwards continuing to go of itself, was therein particular and had few followers. The very poets teach a doctrine not unlike the schools, *Mens agitat molem* (Virg. *Aeneid* VI). The Stoics and Platonists are everywhere full of the same notion. I am not therefore singular in this point itself, so much as in my way of proving it. Further, it seems to me that the power and wisdom of God are as worthily set forth by supposing Him to act immediately as an omnipresent, infinitely active spirit, as by supposing Him to act by the mediation of subordinate causes, in preserving and governing the natural world. A clock may indeed go independent of its

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maker or artificer, inasmuch as the gravitation of its pendulum proceeds from another cause, and that the artificer is not the adequate cause of the clock; so that the analogy would not be just to suppose a clock is in respect of its artist what the world is in respect of its creator. For aught I can see, it is no disparagement to the perfection of God to say that all things necessarily depend on Him as their conservator as well as creator, and that all nature would shrink to nothing, if not upheld and preserved in being by the same force that first created it. This, I am sure, is agreeable to Holy Scripture, as well as to the writings of the most esteemed philosophers; and if it is to be considered that men make use of tools and machines to supply defect of power in themselves, we shall think it no honor to the divinity to attribute such things to him.

4. As to guilt, it is the same thing whether I kill a man with my hands or an instrument; whether I do it myself or make use of a ruffian. The imputation therefore upon the sanctity of God is equal, whether we suppose our sensations to be produced immediately by God, or by the mediation of instruments and subordinate causes, all which are his creatures, and moved by his laws. This theological consideration, therefore, may be waived, as leading besides the question; for such I hold are points to be which bear equally hard on both sides of it. Difficulties about the principle of moral actions will cease, if we consider that all guilt is in the will, and that our ideas, from whatever cause they are produced, are alike inert.

5. As to the art and contrivance in the parts of animals, etc., I have considered that matter in the *Principles of Human Knowledge*, and, if I mistake not, sufficiently shown the wisdom and use thereof, considered as signs and means of information. I do not indeed wonder that on first reading what I have written, men are not thoroughly convinced. On the contrary, I should very much wonder if prejudices, which have been many years taking root, should be extirpated in a few hours' reading. I had no inclination to trouble the world with large volumes. What I have done was rather with a view of giving hints to thinking men, who have leisure and curiosity to go to the bottom of things, and pursue them in their own minds. Two or three times reading these small tracts, and making what is read the occasion of thinking, would, I believe, render the whole familiar and easy to the mind, and take off that shocking

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appearance which hath often been observed to attend speculative truths.

6 I see no difficulty in conceiving a change of state, such as is vulgarly called death, as well without as with material substance. It is sufficient for that purpose that we allow sensible bodies, *i.e.*, such as are immediately perceived by sight and touch; the existence of which I am so far from questioning (as philosophers are used to do) that I establish it, I think, upon evident principles. Now, it seems very easy to conceive the soul to exist in a separate state (*i.e.* divested from those limits and laws of motion and perception with which she is embarrassed here), and to exercise herself on new ideas, without the intervention of these tangible things we call bodies. It is even very possible to apprehend how the soul may have ideas of color without an eye, or of sounds without an ear....

And now, Sir, I submit these hints (which I have hastily thrown together as soon as my illness gave me leave) to your own maturer thoughts, which after all you will find the best instructors. What you have seen of mine was published when I was very young, and without doubt hath many defects. For though the notions should be true (as I verily think they are), yet it is difficult to express them clearly and consistently, language being framed to common use and received prejudices. I do not therefore pretend that my books can teach truth. All I hope for is that they may be an occasion to inquisitive men of discovering truth by consulting their own minds and looking into their own thoughts. As to the second part of my treatise concerning the principles of human knowledge, the fact is that I had made a considerable progress in it, but the manuscript was lost about fourteen years ago during my travels in Italy; and I never had leisure since to do so disagreeable a thing as writing twice on the same subject.

Objections passing through your hands have their full force and clearness. I like them the better. This intercourse with a man of parts and a philosophic genius is very agreeable. I sincerely wish we were nearer neighbors. In the meantime whenever either you or your friends favor me with their thoughts, you may be sure of a punctual correspondence on my part. Before I have done I will venture to recommend three points: (1) To consider well the answers I have already given in my books to several objections. (2) To consider whether any new objection that shall occur doth not suppose the doctrine of abstract general ideas.

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(3) Whether the difficulties proposed in objection to my scheme can be solved by the contrary, for if they cannot, it is plain they can be no objection to mine.

I know not whether you have got my treatise concerning the principles of human knowledge. I intend to send it with my tract *De Motu.* If you know of a safe hand favor me with a line, and I will make use of that opportunity to send them. My humble service to your friends, to whom I understand I am indebted for some part of your letter.

I am, your very faithful, humble servant,

Geor. Berkeley.

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## III JOHNSON TO BERKELEY: TO THE REV'D DR. BERKELEY

Rev'd Sir:  
  
Yours of November 25th, I received not till January 17th, and this being the first convenient opportunity I now return you my humblest thanks for it.

I am very sorry to understand that you have labored under the illness you mention, but am exceeding glad and thankful for your recovery; I pray God preserve your life and health, that you may have opportunity to perfect these great and good designs for the advancement of learning and religion wherewith your mind labors.

I am very much obliged to you for the favorable opinion you are pleased to express at what I made bold to write to you and that you have so kindly vouchsafed so large and particular an answer to it. But you have done me too great an honor in putting any value on my judgment; for it is impossible my thoughts on this subject should be of any consequence, who have been bred up under the greatest disadvantages, and have had so little ability and opportunity to be instructed in things of this nature. And therefore I should be very vain to pretend any thing else but to be a learner; 'tis merely with this view that I give you this trouble.

I am sensible that the greatest part of what I wrote was owing to not sufficiently attending to those three important considerations you suggest at the end of your letter. And I hope a little more time and a more careful attention to and application of them, will clear up what difficulties yet lie in the way of our entirely coming into your sentiments. Indeed I had not had opportunity sufficiently to digest your books; for no sooner had I just read them over, but they were greedily demanded by my friends, who live much scattered up and down, and who expected I would bring them home with me, because I had told them before that if the books were to be had in Boston, I intended to purchase a set of them; and indeed they have not yet quite finished their tour. The *Theory of Vision* is still at New York and the *Dialogues* just gone to Long Island. But I am the better content to want them because I know they are doing good.

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For my part I am content to give up the cause of matter, glad to get rid of the absurdities thereon depending if it be defensible, I am sure, at least, it is not in my power to defend it. And being spoiled of that sandy foundation, I only want now to be more thoroughly taught how and where to set down my foot again and make out a clear and consistent scheme without it. And of all the particulars I troubled you with before, there remain only these that I have any difficulty about, *viz.*, archetypes, space and duration, and the *esse* of spirits. And indeed these were the chief of my difficulties before. Most of the rest were such objections as I found by conversation among my acquaintance, did not appear to them sufficiently answered. But I believe upon a more mature consideration of the matter, and especially of this kind reply, they will see reason to be better satisfied. They that have seen it (especially my friend Mr. Wetmore) join with me in thankfully acknowledging your kindness, and return their very humble service to you.

1. As to those difficulties that yet remain with me, I believe all my hesitation about the first of them (and very likely the rest) is owing to my dulness and want of attention so as not rightly to apprehend your meaning. I believe I expressed myself uncouthly about archetypes in my 7th and 8th articles, but upon looking back upon your *Dialogues*, and comparing again three or four passages, I can't think I meant any thing different from what you intended.

You allow, *Dial.* p. 74, "That things have an existence distinct from being perceived by us" (*i.e.*, any created spirits), "and that they exist in, *i.e.*, are perceived by, the infinite and omnipresent mind who contains and supports this sensible world as being perceived by him." And p. 109, "That things have an existence exterior to our minds, and that during the intervals of their being perceived by us, they exist in another (*i.e.*, the infinite) mind"; from whence you justly and excellently infer the certainty of his existence, 'who knows and comprehends all things and exhibits them to our view in such manner and according to such rules as he himself has ordained." And p. 113, "That, *e.g.*, a tree, when we don't perceive it, exists without our minds in the infinite mind of God." And this exterior existence of things (if I understand you right) is what you call the archetypal state of things, p. 150.

From these and the like expressions, I gathered what I said about the archetypes of our ideas, and thence inferred that there is exterior to us, in the divine mind, a system of universal nature, whereof the ideas we have are in such a degree resemblances as

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the Almighty is pleased to communicate to us. And I cannot yet see but my inference was just; because according to you, the idea we see is not in the divine mind, but in our own. When, therefore, you say sensible things exist in, as being perceived by, the infinite mind I humbly conceive you must be understood that the originals or archetypes of our sensible things or ideas exist independent of us in the infinite mind, or that sensible things exist *in archetypo* in the divine mind. The divine idea, therefore, of a tree I suppose (or a tree in the divine mind), must be the original or archetype of ours, and ours a copy or image of His (our ideas images of His, in the same sense as our souls are images of Him) of which there may be several, in several created minds, like so many several pictures of the same original to which they are all to be referred.

When therefore, several people are said to see the same tree or star, etc., whether at the same or at so many several distances from it, it is (if I understand you) *unum et idem in Archetypo*, tho' *multiplex et diversum in Ectypo*, for it is as evident that your idea is not mine nor mine yours when we say we both look on the same tree, as that you are not I nor I you. But in having each our idea being dependent upon and impressed upon by the same almighty mind, wherein you say this tree exists, while we shut our eyes (and doubtless you mean the same also, while they are open), our several trees must, I think be so many pictures (if I may so call them) of the one original, the tree in the infinite mind, and so of all other things. Thus I understand you not indeed that our ideas are in any measure adequate resemblances of the system in the divine mind, but however that they are just and true resemblances or copies of it, so far as He is pleased to communicate His mind to us.

2. As to space and duration, I do not pretend to have any other notion of their exterior existence than what is necessarily implied in the notion we have of God; I do not suppose they are any thing distinct from, or exterior to, the infinite and eternal mind; for I conclude with you that there is nothing exterior to my mind but God and other spirits with the attributes or properties belonging to them and ideas contained in them.

External space and duration therefore I take to be those properties or attributes in God, to which our ideas, which we signify by those names, are correspondent, and of which they are the faint shadows. This I take to be Sir Isaac Newton's meaning when he says, *Schol. General. Deus--durat semper et adest ubique et*

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*existendo semper et ubique, durationem et spacium, eternitatem et infinitatem constituit.*And in his *Optics* calls space *as it were God's boundless sensorium*, nor can I think you have a different notion of these attributes from that great philosopher, tho' you may differ in your ways of expressing or explaining yourselves. However it be, when you call the Deity infinite and eternal, and in that most beautiful and charming description, *Dial.* p. 71, etc., when you speak of the *abyss of space and boundless extent* beyond thought and imagination, I don't know how to understand you any otherwise than I understood Sir Isaac, when he uses the like expressions. The truth is we have no proper ideas of God or His attributes, and conceive of them only by analogy from what we find in ourselves; and so, I think we conceive His immensity and eternity to be what in Him are correspondent to our space and duration.

As for the *punctum stans* of the Schools, and the *τὸ νῦν* of the Platonists, they are notions too fine for my gross thoughts; I can't tell what to make of those words, they don't seem to convey any ideas or notions to my mind, and whatever the matter is, the longer I think of them, the more they disappear, and seem to dwindle away into nothing. Indeed they seem to me very much like abstract ideas, but I doubt the reason is because I never rightly understood them. I don't see why the term *punctum stans* may not as well, at least, be applied to the immortality as the eternity of God; for the word*punctum* is more commonly used in relation to extension or space than duration; and to say that a being is immense, and yet that it is but a point, and that its duration is perpetual without beginning or end, and yet that it is but a *τὸ νῦν*, looks to me like a contradiction.

I can't therefore understand the term *τὸ νῦν* unless it be designed to adumbrate the divine omnisciency or the perfection of the divine knowledge, by the more perfect notion we have of things present than of things past; and in this sense it would imply that all things past, present and to come are always at every point of duration equally perfectly known or present to God's mind (tho' in a manner infinitely more perfect), as the things that are known to us are present to our minds at any point of our duration which we call*now.* So that with respect to His equally perfect knowledge of things past, present or to come, it is in effect always now with Him. To this purpose it seems well applied and intelligible enough, but His duration I take to be a different thing from this, as that point of our duration which we call *now*, is a different thing

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from our actual knowledge of things, as distinguished from our remembrance. And it may as well be said that God's immensity consists in His knowing at once what is, and is transacted in all places (*e.g.*, China, Jupiter, Saturn, all the systems of fixed stars, etc.) everywhere, however so remote from us (tho' in a manner infinitely more perfect), as we know what is, and is transacted in us and about us just at hand; as that His eternity consists in this *τὸ νῦν* as above explained, *i.e.*, in His knowing things present, past and to come, however so remote, all at once or equally perfectly as we know the things that are present to us *now.*

In short our ideas expressed by the terms immensity and eternity are only space and duration considered as boundless or with the negation of any limits, and I can't help thinking there is something analogous to them without us, being in and belonging to, or attributes of, that glorious mind, whom for that reason we call immense and eternal, in whom we and all other spirits, *live, move and have their being*, not all in a point, but in so many different points places or *alicubis*, and variously situated with respect one to another, or else as I said before, it seems as if we should all coincide one with another.

I conclude, if I am wrong in my notion of external space, and duration, it is owing to the rivetted prejudices of abstract ideas; but really when I have thought it over and over again in my feeble way of thinking, I can't see any connection between them (as I understand them) and that doctrine. They don't seem to be any more abstract ideas than spirits, for, as I said, I take them to be attributes of the necessarily existing spirit; and consequently the same reasons that convince me of his existence, bring with them the existence of these attributes. So that of the ways of coming to the knowledge of things that you mention, it is that of inference or deduction by which I seem to know that there is external infinite space and duration because there is without me a mind infinite and eternal.

3 As to the *esse* of spirits, I know Descartes held the soul always thinks, but I thought Mr. Locke had sufficiently confuted this notion, which he seems to have entertained only to serve an hypothesis. The Schoolmen, it is true, call the soul *Actus* and God *Actus purus*; but I confess I never could well understand their meaning perhaps because I never had opportunity to be much versed in their writings. I should have thought the Schoolmen to be of all sorts of writers the most unlikely to have had recourse to for the understanding of your sentiments, because they of all others,

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deal the most in abstract ideas; tho' to place the very being of spirits in the mere act of thinking, seems to me very much like making abstract ideas of them.

There is certainly something passive in our souls, we are purely passive in the reception of our ideas; and reasoning and willing are actions of something that reasons and wills, and therefore must be only modalities of that something. Nor does it seem to me that when I say (something) I mean an abstract idea. It is true I have no idea of it, but I feel it; I feel that it is, because I feel or am conscious of the exertions of it; but the exertions of it are not the thing but the modalities of it distinguished from it as actions from an agent, which seem to me distinguishable without having recourse to abstract ideas.

And, therefore, when I suppose the existence of a spirit while it does not actually think, it does not appear to me that I do it by supposing an abstract idea of existence, and another of absolute time. The existence of John asleep by me, without so much as a dream is not an abstract idea. Nor is the time passing the while an abstract idea, they are only partial considerations of him. *Perseverare in existendo* in general, without reflecting on any particular thing existing, I take to be what is called an abstract idea of time or duration; but the *perseverare in existendo* of John is, if I mistake not, a partial consideration of him. And I think it is as easy to conceive of him as continuing to exist without thinking as without seeing.

Has a child no soul till it actually perceives? And is there not such a thing as sleeping without dreaming, or being in a *deliquium* without a thought? If there be, and yet at the same time the *esse* of a spirit be nothing else but its actual thinking, the soul must be dead during those intervals; and if ceasing or intermitting to think be the ceasing to be, or death of the soul, it is many times and easily put to death. According to this tenet, it seems to me the soul may sleep on to the resurrection, or rather may wake up in the resurrection state, the next moment after death. Nay I don't see upon what we can build any natural argument for the soul's immortality. I think I once heard you allow a principle of perception and spontaneous motion in beasts. Now if their *esse* as well as ours consists in perceiving, upon what is the natural immortality of our souls founded that will not equally conclude in favor of them? I mention this last consideration because I am

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at a loss to understand how you state the argument for the soul's natural immortality; for the argument from thinking to immaterial and from thence to indiscerpible, and from thence to immortal don't seem to obtain in your way of thinking.

If *esse* be only *percipere*, upon what is our consciousness founded? I perceived yesterday, and I perceive now, but last night between my yesterday's and today's perception there has been an intermission when I perceived nothing. It seems to me there must be some principle common to these perceptions, whose *esse* don't depend upon them, but in which they are, as it were, connected, and on which they depend, whereby I am and continue conscious of them.

Lastly, Mr. Locke's argument (B. 2. Ch. 19. Sec. 4.) from the intention and remission of thought, appears to me very considerable; according to which, upon this supposition the soul must exist more or have a greater degree of being at one time than at another, according as it thinks more intensely or more remissly.

I own I said very wrong when I said I did not know what to make of ideas more than of matter. My meaning was, in effect, the same as I expressed afterwards about the substance of the soul's being a somewhat as unknown as matter. And what I intended by those questions was whether our ideas are not the substance of the soul itself, under so many various modifications, according to that saying (if I understand it right) *Intellectus intelligendo fit omnia*? It is true, those expressions (modifications, impressions, etc.) are metaphorical, and it seems to me to be no less so, to say that ideas exist in the mind, and I am under some doubt whether this last way of speaking don't carry us further from the thing, than to say ideas are the mind variously modified; but as you observe, it is scarce possible to speak of the mind without a metaphor.

Thus Sir, your goodness has tempted me to presume again to trouble you once more; and I submit the whole to your correction; but I can't conclude without saying that I am so much persuaded that your books teach truth, indeed the most excellent truths, and that in the most excellent manner, that I can't but express myself again very solicitously desirous that the noble design you have begun may be yet further pursued in the second part. And everybody that has seen the first is earnestly with me in this request. In hopes of which I will not desire you to waste your time in writing to me (tho' otherwise I should esteem it the greatest favor), at least till I have endeavored further to gain

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satisfaction by another perusal of the books I have, with the other pieces you are so kind as to offer, which I will thankfully accept, for I had not *The Principles* of my own, it was a borrowed one I used.

The bearer hereof, Capt. Gorham, is a coaster bound now to Boston, which trade he constantly uses (except that it has been now long interrupted by the winter). But he always touches at Newport, and will wait on the Rev'd Mr. Honyman both going and returning, by whom you will have opportunity to send those books.

I am, Rev'd Sir, with the greatest gratitude, your most devoted humble servant,

S. Johnson  
Stratford, Feb. 5, 1729/30 [*i.e.* 1730]

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## IV BERKELEY TO JOHNSON

March 24, 1730  
Reverend Sir:--  
  
Yours of Feb. 5th came not to my hands before yesterday; and this afternoon being informed that a sloop is ready to sail towards your town, I would not let slip the opportunity of returning you an answer, though wrote in a hurry. I have no objection against calling the ideas in the mind of God archetypes of ours. But I object against those archetypes by philosophers supposed to be real things, and to have an absolute rational existence distinct from their being perceived by any mind whatsoever, it being the opinion of all materialists that an ideal existence in the divine mind is one thing, and the real existence of material things another.

1. As to space, I have no notion of any but that which is relative. I know some late philosophers have attributed extension to God, particularly mathematicians; one of whom, in a treatise, *De Spacio Reali*, pretends to find out fifteen of the incommunicable attributes of God in Space. But it seems to me, that they being all negative, he might as well have found them in nothing; and that it would have been as justly inferred from space being impassive, uncreated, indivisible, etc., that it was nothing, as that it was God.

Sir Isaac Newton supposeth an absolute space different from relative, and consequent thereto, absolute motion different from relative motion; and with all other mathematicians, he supposeth the infinite divisibility of the finite parts of this absolute space; he also supposeth material bodies to drift therein. Now, though I do acknowledge Sir Isaac to have been an extraordinary man and most profound mathematician, yet I cannot agree with him in these particulars. I make no scruple to use the word space, as well as other words in common use, but I do not mean thereby a distinct absolute being. For my meaning I refer you to what I have published.

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By the *τὸ νῦν* I suppose to be implied that all things past and to come are actually present to the mind of God, and that there is in Him no change, variation, or succession--a succession of ideas I take to constitute time and not to be only the sensible measure thereof, as Mr. Locke and others think. But in these matters every man is to think for himself, and speak as he finds. One of my earliest inquiries was about time, which led me into several paradoxes that I did not think fit or necessary to publish, particularly into the notion that the resurrection follows the next moment to death. We are confounded and perplexed about time. (1) Supposing a succession in God. (2) Conceiving that we have an abstract idea of time. (3) Supposing that the time in one mind is to be measured by the succession of ideas in another. (4) Not considering the true use and end of words, which as often terminate in the will as in the understanding, being employed rather to excite influence, and direct action than to produce clear and distinct ideas.

3. That the soul of man is passive as well as active I make no doubt. Abstract general ideas was a notion that Mr. Locke held in common with the Schoolmen, and I think all other philosophers; it runs through his whole book *Human Understanding.* He holds an abstract idea of existence exclusive of perceiving and being perceived. I cannot find I have any such idea, and this is my reason against it. Descartes proceeds upon other principles. One square foot of snow is as white as a thousand yards; one single perception is as truly a perception as one hundred. Now any degree of perception being sufficient to existence, it will not follow that we should say one existed more at one time than another, any more than we should say one thousand yards of snow are whiter than one yard. But after all, this comes to a verbal dispute. I think it might prevent a good deal of obscurity and dispute to examine well what I have said about abstraction, and about the true sense and significancy of words, in several parts of these things that I have published, though much remains to be said on that subject.

You say you agree with me that there is nothing within [*sic*;? without] your mind but God and other spirits, with the attributes or properties belonging to them, and the ideas contained in them. This is a principle or main point from which, and from what I had laid down about abstract ideas, much may be deduced. But if in every inference we should not agree, so long as the main points are settled and well understood, I should be less solicitous

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about particular conjectures. I could wish that all the things I have published on these philosophical subjects were read in the order wherein I published them, once, to take in the design and connection of them, and a second time with a critical eye, adding your own thought and observation upon every part as you went along.

I send you herewith ten bound books and one unbound. You will take yourself what you have not already. You will give the *Principles*, the *Theory*, and the *Dialogues*, one of each, with my service to the gentleman who is Fellow of New Haven College, whose compliments you brought me. What remains you will give as you please.

If at any time your affairs should draw you into these parts, you shall be very welcome to pass as many days as you can spend at my house. Four or five days' conversation would set several things in a fuller and clearer light than writing could do in as many months. In the meantime I shall be glad to hear from you or your friends when ever you please to favor,

Rev. Sir, Your very humble servant,

Geor. Berkeley.

Pray let me know whether they would admit the writings of Hooker and Chillingworth into the library of the College in New Haven.  
  
Rhode Island, March 24, 1730.

# Berkeley, Alciphron, or the Minute Philosopher, (1732)

*The Works of George Berkeley, Bishop of Cloyne*, (ed.s) A. A. Luce and T. E. Jessop, 9 vols, vol 3 (London: Nelson, 1948-1957).

Alciphron: A free-thinker, which Berkeley calls ‘minute philosophy’

Lysicles: A more extreme free-thinker

Euphranor: A moderate, usually the mouthpiece for Berkeley’s own views

Crito: An extreme conservative, sometimes the mouthpiece for Berkeley’s views

## 16. No religion, because no human liberty

ALCIPHRON. I will allow, *Euphranor*, this reasoning of yours to have all the force you meant it should have. I freely own there may be mysteries; that we may believe where we do not understand; and that faith may be of use, although its object is not distinctly apprehended. In a word, I grant there may be faith and mysteries in other things, but not in religion: and that for this plain reason, because it is absurd to suppose there should be any such thing as religion; and, if there be no religion, it follows there cannot be religious faith or mysteries. Religion, it is evident, implies the worship of a God, which worship supposeth rewards and punishments, which suppose merits and demerits, actions good and evil, and these suppose human liberty, a thing impossible and, consequently, religion, a thing built thereon, must be an unreasonable absurd thing. There can be no rational fears where there is no guilt, nor any guilt where there is nothing done but what unavoidably follows from the structure of the world and the laws of motion. Corporeal objects strike on the organs of sense, whence ensues

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a vibration in the nerves, which, being communicated to the soul or animal spirit in the brain or root of the nerves, produceth therein that motion called volition: and this produceth a new determination in the spirits, causing them to flow into such nerves as must necessarily by the laws of mechanism produce such certain actions. This being the case, it follows that those things which vulgarly pass for human actions are to be esteemed mechanical, and that they are falsely ascribed to a free principle. There is therefore no foundation for praise or blame, fear or hope, reward or punishment; nor consequently for religion, which, as I observed before, is built upon and supposeth those things.

EUPHRANOR. You imagine, *Alciphron*, if I rightly understand you, that man is a sort of organ played on by outward objects, which, according to the different shape and texture of the nerves, produce different motions and effects therein.

ALCIPHRON. Man may, indeed, be fitly compared to an organ: but a puppet is the very thing. You must know that certain particles, issuing forth in right lines from all sensible objects, compose so many rays, or filaments, which drive, draw, and actuate every part of the soul and body of man, just as threads or wires do the joints of that little wooden machine vulgarly called a *puppet*; with this only difference, that the latter are gross, and visible to common eyes, whereas the former are too fine and subtile to be discerned by any but a sagacious freethinker. This admirably accounts for all those operations which we have been taught to ascribe to a thinking principle within us.

EUPHRANOR. This is an ingenious thought, and must be of great use in freeing men from all anxiety about moral notions, as it transfers the principle of action from the human soul to things outward and foreign. But I have my scruples about it. For you suppose the mind in a literal sense to be moved, and its volitions to be mere motions. Now, if another should affirm, as it is not impossible some or other may, that the soul is incorporeal, and that motion is one thing and volition another, I would fain know how you could make your point clear to such a one. It must be owned very clear to those who admit the soul to be corporeal, and all her acts to be but so many motions. Upon this supposition, indeed, the light wherein you place human nature is no less true than it is fine and new. But, let any one deny this supposition, which is easily done, and the whole superstructure falls to the ground. If we grant the above-mentioned

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points, I will not deny a fatal necessity must ensue. But I see no reason for granting them. On the contrary, it seems plain that motion and thought are two things as really and as manifestly distinct as a triangle and a sound. It seems, therefore, that, in order to prove the necessity of human actions, you suppose what wants proof as much as the very point to be proved.

## 17. Farther proof against human liberty

ALCIPHRON. But, supposing the mind incorporeal, I shall, nevertheless, be able to prove my point. Not to amuse you with far-fetched arguments, I shall only desire you to look into your own breast and observe how things pass there, when an object offers itself to the mind. First, the understanding considers it: in the next place, the judgment decrees about it, as a thing to be chosen or rejected, to be omitted or done, in this or that manner: and this decree of the judgment doth necessarily determine the will, whose office is merely to execute what is ordained by another faculty: consequently, there is no such thing as freedom of the will. For that which is necessary cannot be free. In freedom there should be an indifference to either side of the question, a power to act or not to act, without prescription or control: and without this indifference and this power, it is evident the will cannot be free. But it is no less evident that the will is not indifferent in its actions, being absolutely determined and governed by the judgment. Now, whatever moves the judgment, whether the greatest present uneasiness, or the greatest apparent good, or whatever else it be, it is all one to the point in hand. The will, being ever concluded and controlled by the judgment, is in all cases alike under necessity. There is, indeed, throughout the whole of human nature, nothing like a principle of freedom, every faculty being determined in all its acts by something foreign to it. The understanding, for instance, cannot alter its idea, but must necessarily see it such as it presents itself. The appetites by a natural necessity are carried towards their respective objects. Reason cannot infer indifferently any thing from any thing, but is limited by the nature and connexion of things, and the eternal rules of reasoning. And, as this is confessedly the case of all other faculties, so it equally holds with respect

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to the will itself, as hath been already shewn. And, if we may credit the divine Characterizer of our times, this above all others must be allowed the most slavish faculty. “Appetite (saith that noble writer), which is elder brother to reason, being the lad of stronger growth, is sure, on every contest, to take the advantage of drawing all to his own side. And will, so highly boasted, is but at best a football or top between those youngsters, who prove very unfortunately matched; till the youngest, instead of now and then a kick or lash bestowed to little purpose, forsakes the ball or top itself, and begins to lay about his elder brother.”

CRITO. This beautiful parable for style and manner might equal those of a known English writer, in low life renowned for allegory, were it not a little incorrect, making the weaker lad find his account in laying about the stronger.

ALCIPHRON. This is helped up by supposing the stronger lad the greater coward. But, be that as it will, so far as it relates to the point in hand, this is a clear state of the case.

The same point may be also proved from the prescience of God. That which is certainly foreknown will certainly be. And what is certain is necessary. And necessary actions cannot be the effect of free-will. Thus you have this fundamental point of our free-thinking philosophy demonstrated different ways.

EUPHRANOR. Tell me, *Alciphron*, do you think it implies a contradiction that God should make a creature free?

ALCIPHRON. I do not.

EUPHRANOR. It is then possible there may be such a thing?

ALCIPHRON. This I do not deny.

EUPHRANOR. You can therefore conceive and suppose such a free agent?

ALCIPHRON. Admitting that I can; what then?

EUPHRANOR. Would not such a one think that he acted?

ALCIPHRON. He would.

EUPHRANOR. And condemn himself for some actions, and approve himself for others?

ALCIPHRON. This too I grant.

EUPHRANOR. Would he not think he deserved reward or punishment?

ALCIPHRON. He would.

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EUPHRANOR. And are not all these characters actually found in man?

ALCIPHRON. They are.

EUPHRANOR. Tell me now, what other character of your supposed free agent may not actually be found in man? For, if there is none such, we must conclude that man hath all the marks of a free agent.

ALCIPHRON. Let me see! I was certainly overseen in granting it possible, even for almighty power, to make such a thing as a free-agent. I wonder how I came to make such an absurd concession, after what had been, as I observed before, demonstrated so many different ways.

EUPHRANOR. Certainly whatever is possible may be supposed: and whatever doth not imply a contradiction is possible to an infinite Power: therefore, if a rational agent implieth no contradiction, such a being may be supposed. Perhaps, from this supposition, I might infer man to be free. But I will not suppose him that free agent; since, it seems, you pretend to have demonstrated the contrary. O *Alciphron*! It is vulgarly observed that men judge of others by themselves. But, in judging of me by this rule, you may be mistaken. Many things are plain to one of your sagacity which are not so to me, who am often puzzled rather than enlightened by those very proofs that with you pass for clear and evident. And, indeed, be the inference never so just, yet, so long as the premises are not clear, I cannot be thoroughly convinced. You must give me leave therefore to propose some questions, the solution of which may perhaps show what at present I am not able to discern.

ALCIPHRON. I shall leave what hath been said with you, to consider and ruminate upon. It is now time to set out on our journey: there is, therefore, no room for a long string of question and answer.

## 18. Fatalism a consequence of erroneous suppositions

EUPHRANOR. I shall then only beg leave, in a summary manner, to make a remark or two on what you have advanced.

In the first place, I observe you take that for granted which I cannot grant, when you assert whatever is certain the same to be necessary. To me, certain and necessary seem very different,

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there being nothing in the former notion that implies constraint, nor consequently which may not consist with a man’s being accountable for his actions. If it is foreseen that such an action shall be done, may it not also be foreseen that it shall be an effect of human choice and liberty?

In the next place, I observe that you very nicely abstract and distinguish the actions of the mind, judgment, and will: that you make use of such terms as power, faculty, act, determination, indifference, freedom, necessity, and the like, as if they stood for distinct abstract ideas: and that this supposition seems to ensnare the mind into the same perplexities and errors which, in all other instances, are observed to attend the doctrine of abstraction. It is self-evident that there is such a thing as motion: and yet there have been found philosophers who, by refined reasoning, would undertake to prove there was no such thing. Walking before them was thought the proper way to confute those ingenious men. It is no less evident that man is a free agent: and though, by abstracted reasonings, you should puzzle me, and seem to prove the contrary, yet, so long as I am conscious of my own actions, this inward evidence of plain fact will bear me up against all your reasonings, however subtile and refined. The confuting plain points by obscure ones may perhaps convince me of the ability of your philosophers, but never of their tenets. I cannot conceive why the acute Cratylus should suppose a power of acting in the appetite and reason, and none at all in the will. Allowing, I say, the distinction of three such beings in the mind, I do not see how this could be true. But if I cannot abstract and distinguish so many beings in the soul of man so accurately as you do, I do not find it necessary; since it is evident to me, in the gross and concrete, that I am a free agent. Nor will it avail to say, the will is governed by the judgment, or determined by the object, while, in every sudden common cause, I cannot discern nor abstract the decree of the judgment from the command of the will; while I know the sensible object to be absolutely inert; and lastly, while I am conscious that I am an active being, who can and do determine myself. If I should suppose things spiritual to be corporeal, or refine things actual and real into

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general abstracted notions, or by metaphysical skill split things simple and individual into manifold parts, I do not know what may follow. But if I take things as they are, and ask any plain untutored man whether he acts or is free in this or that particular action, he readily assents, and I as readily believe him from what I find within. And thus, by an induction of particulars, I may conclude man to be a free agent, although I may be puzzled to define or conceive a notion of freedom in general and abstract. And if man be free, he is plainly accountable. But if you shall define, abstract, suppose, and it shall follow that, according to your definitions, abstractions, and suppositions, there can be no freedom in man, and you shall thence infer that he is not accountable, I shall make bold to depart from your metaphysical abstracted sense, and appeal to the common sense of mankind.

## 19. Man an accountable agent

If we consider the notions that obtain in the world of guilt and merit, praise and blame, accountable and unaccountable, we shall find the common question, in order to applaud or censure, acquit or condemn a man, is, whether he did such an action, and whether he was himself when he did it? which comes to the same thing. It should seem, therefore, that, in the ordinary commerce of mankind, any person is esteemed accountable simply as he is an agent. And, though you should tell me that man is inactive, and that the sensible objects act upon him, yet my own experience assures me of the contrary. I know I act, and what I act I am accountable for. And, if this be true, the foundation of religion and morality remains unshaken. Religion, I say, is concerned no farther than that man should be accountable: and this he is according to my sense, and the common sense of the world, if he acts; and that he doth act is self-evident. The grounds, therefore, and ends of religion are secured, whether your philosophic notion of liberty agrees with man’s actions or no; and whether his actions are certain or contingent; the question being not, whether he did it with a free will, or what determined his will; not, whether it was certain or foreknown that he would do it, but only, whether he did it wilfully, as what must entitle him to the guilt or merit of it.

ALCIPHRON. But still, the question recurs, whether man be free.

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EUPHRANOR. To determine this question, ought we not first to determine what is meant by the word *free*?

ALCIPHRON We ought.

EUPHRANOR. In my opinion, a man is said to be free so far forth as he can do what he will. Is this so, or is it not?

ALCIPHRON. It seems so.

EUPHRANOR. Man, therefore, acting according to his will, is to be accounted free.

ALCIPHRON. This I admit to be true in the vulgar sense. But a philosopher goes higher, and inquires whether man be free to will.

EUPHRANOR. That is, whether he can will as he wills? I know not how philosophical it may be to ask this question, but it seems very idle. The notions of guilt and merit, justice and reward, are in the minds of men antecedent to all metaphysical disquisitions; and, according to those received natural notions, it is not doubted that man is accountable, that he acts, and is self-determined.

## 20. Inconsistency, singularity, and credulity of minute philosophers

But a minute philosopher shall, in virtue of wrong suppositions, confound things most evidently distinct; body, for instance, with spirit; motion with volition; certainty with necessity; and an abstracter or refiner shall so analyse the most simple instantaneous act of the mind as to distinguish therein divers faculties and tendencies, principles and operations, causes and effects; and, having abstracted, supposed, and reasoned upon principles gratuitous and obscure, he will conclude it is no act at all, and man no agent, but a puppet, or an organ played on by outward objects, and his will a top or a football. And this passeth for philosophy and free-thinking. Perhaps this may be what it passeth for, but it by no means seems a natural or just way of thinking. To me it seems that, if we begin from things particular and concrete, and thence proceed to general notions and conclusions, there will be no difficulty in this matter. But if we begin with generalities, and lay our foundation in abstract ideas, we shall find ourselves entangled and lost in a labyrinth of our own making. I need not observe, what every one must see, the ridicule of proving

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man no agent, and yet pleading for free thought and action, of setting up at once for advocates of liberty and necessity. I have hastily thrown together these hints or remarks, on what you call a fundamental article of the minute philosophy, and your method of proving it, which seems to furnish an admirable specimen of the sophistry of abstract ideas. If, in this summary way, I have been more dogmatical than became me, you must excuse what you occasioned, by declining a joint and leisurely examination of the truth.

ALCIPHRON. I think we have examined matters sufficiently.

CRITO. To all you have said against human liberty, it is a sufficient answer to observe that your arguments proceed upon an erroneous supposition, either of the soul’s being corporeal, or of abstract ideas: not to mention other gross mistakes and gratuitous principles. You might as well suppose that the soul is red or blue as that it is solid. You might as well make the will any thing else as motion. And whatever you infer from such premises, which (to speak in the softest manner) are neither proved nor probable, I make no difficulty to reject. You distinguish in all human actions between the last decree of the judgment and the act of the will. You confound certainty with necessity. You inquire, and your inquiry amounts to an absurd question whether man can will as he wills? As evidently true as is this identical proposition, so evidently false must that way of thinking be which led you to make a question of it. You say the appetites have by necessity of nature a tendency towards their respective objects. This we grant; and withal that appetite, if you please, is not free. But you go farther, and tell us the understanding cannot alter its idea, nor infer indifferently any thing from any thing. What then? Can we not act at all if we cannot alter the nature of objects, and may we not be free in other things if we are not at liberty to make absurd inferences? You take for granted that the mind is inactive, but that its ideas act upon it: as if the contrary were not evident to every man of common sense, who cannot but know that it is the mind which considers its ideas, chooses, rejects, examines, deliberates, decrees, in one word, acts about them, and not they about it.

Upon the whole, your premises being obscure and false, the fundamental point, which you pretend to demonstrate so many

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different ways, proves neither sense nor truth in any. And, on the other hand, there is not need of much inquiry to be convinced of two points, than which none are more evident, more obvious, and more universally admitted by men of all sorts, learned or unlearned, in all times and places, to wit, that man acts, and is accountable for his actions. Whatever abstracters, refiners, or men prejudiced to a false hypothesis may pretend, it is, if I mistake not, evident to every thinking man of common sense, that human minds are so far from being engines or footballs, acted upon and bandied about by corporeal objects, without any inward principle of freedom or action, that the only original true notions that we have of freedom, agent, or action are obtained by reflecting on ourselves, and the operations of our own minds. The singularity and credulity of minute philosophers, who suffer themselves to be abused by the paralogisms of three or four eminent patriarchs of infidelity in the last age, is, I think, not to be matched; there being no instance of bigoted superstition the ringleaders whereof have been able to seduce their followers more openly and more widely from the plain dictates of nature and common sense.

# Berkeley, The Theory of Vision or Visual Language shewing the immediate Presence and Providence of a Deity Vindicated and Explained (1733)

*The Works of George Berkeley, Bishop of Cloyne*, (ed.s) A. A. Luce and T. E. Jessop, 9 vols, vol 1 (London: Nelson, 1948-1957).

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## Letter and text

In answer to an anonymous Writer  
  
1 An ill state of health, which permits me to apply myself but seldom and by short intervals to any kind of studies, must be my apology, Sir, for not answering your Letter[†1](view?docId=berkeley/berkeley.01.xml;chunk.id=div.berkeley.v1.14;toc.id=div.berkeley.v1.14;brand=default" \l "berk.v1.73fm)sooner. This would have altogether excused me from a controversy upon points either personal or purely speculative, or from entring the lists with declaimers, whom I leave to the triumph of their own passions. And indeed to one of this character, who contradicts himself and misrepresents me, what answer can be made more than to desire his readers not to take his word for what I say, but to use their own eyes, read, examine, and judge for themselves? And to their common sense I appeal. For such a writer, such an answer may suffice. But argument, I allow, hath a right to be considered, and, where it doth not convince, to be opposed with reason. And being persuaded that the *Theory of Vision*, annexed to the *Minute Philosopher*, affords to thinking men a new and unanswerable proof of the existence and immediate operation of God, and the constant condescending care of his providence, I think my self concerned, as well as I am able, to defend and explain it, at a time wherein atheism hath made a greater progress than some are willing to own, or others to believe.

2 He who considers that the present avowed enemies of Christianity begun their attacks against it under the specious pretext of defending the Christian Church and its rights, when he observes the same men pleading for natural religion, will be tempted to suspect their views, and judge of their sincerity in one case from what they have shewed in the other. Certainly the notion of a watchful, active, intelligent, free Spirit, with whom we have to do, and in whom we live and move and have our being, is not the most prevailing in the books and conversation even of those who are called deists. Besides, as their schemes take

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effect, we may plainly perceive moral virtue and the religion of nature to decay, and see, both from reason and experience, that the destroying revealed religion must end in atheism or idolatry. It must be owned, many minute philosophers would not like at present to be accounted atheists. But how many, twenty years ago, would have been affronted to be thought infidels, who would now be much more affronted to be thought Christians! As it would be unjust to charge those with atheism who are not really tainted with it; so it will be allowed very uncharitable and imprudent to overlook it in those who are, and suffer such men under specious pretexts to spread their principles, and in the event to play the same game with natural religion that they have done with revealed.

3 It must, without question, shock some innocent admirers of a certain plausible pretender to deism and natural religion, if a man should say, there are strong signatures of atheism and irreligion in every sense, natural as well as revealed, to be found even in that admired writer: And yet, to introduce taste instead of duty, to make man a necessary agent, to deride a future judgment, seem to all intents and purposes atheistical, or subversive of all religion whatsoever. And these every attentive reader may plainly discover to be his principles; although it be not always easy to fix a determinate sense on such a loose and incoherent writer. There seems to be a certain way of writing, whether good or bad, tinsel or sterling, sense or nonsense, which, being suited to that size of understanding that qualifies its owners for the minute philosophy, doth marvellously strike and dazzle those ingenious men, who are by this means conducted they know not how, and they know not whither. Doubtless that atheist who gilds and insinuates, and, even while he insinuates, disclaims his principles, is the likeliest to spread them. What availeth it in the cause of virtue and natural religion, to acknowledge the strongest traces of wisdom and power throughout the structure of the universe, if this wisdom is not employed to observe, nor this power to recompense our actions, if we neither believe our selves accountable, nor God our judge?

4 All that is said of a vital principle of order, harmony, and proportion; all that is said of the natural decorum and fitness of

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things; all that is said of taste and enthusiasm, may well consist and be supposed, without a grain even of natural religion, without any notion of law or duty, any belief of a lord or judge, or any religious sense of a God; the contemplation of the mind upon the ideas of beauty, and virtue, and order, and fitness, being one thing, and a sense of religion another. So long as we admit no principle of good actions but natural affection, no reward but natural consequences; so long as we apprehend no judgment, harbour no fears, and cherish no hopes of a future state, but laugh at all these things, with the author of the*Characteristics*, and those whom he esteems the liberal and polished part of mankind,[†1](view?docId=berkeley/berkeley.01.xml;chunk.id=div.berkeley.v1.14;toc.id=div.berkeley.v1.14;brand=default" \l "berk.v1.76fm)how can we be said to be religious in any sense? Or what is here that an atheist may not find his account in as well as a theist? To what moral purpose might not fate or nature serve as well as a Deity, on such a scheme? And is not this, at bottom, the amount of all those fair pretences?

5 Certainly that atheistical men, who hold no principles of any religion, natural or revealed, are an increasing number, and this too among people of no despicable rank, hath long since been expressly acknowledged[†2](view?docId=berkeley/berkeley.01.xml;chunk.id=div.berkeley.v1.14;toc.id=div.berkeley.v1.14;brand=default" \l "berk.v1.77fm) by one who will be allowed a proper judge, even this same plausible pretender himself to deism and enthusiasm. But if any well-meaning persons, deluded by artful writers in the minute philosophy, or wanting the opportunity of an unreserved conversation with some ingenious men of that sect, should think that *Lysicles* hath overshot the mark, and misrepresented their principles: To be satisfied of the contrary, they need only cast an eye on the *Philosophical Dissertation upon Death*, lately published by a minute philosopher. Perhaps some man of leisure may think it worth while to trace the progress and unfolding of their principles, down from the writer in defence of the *Rights of the Christian Church*, to this plain-dealer, the admirable author upon *Death.* During which period of time, I think one may observe a laid design gradually to undermine the belief of the divine attributes and natural religion; which scheme runs parallel with their gradual, covert, insincere proceedings, in respect of the Gospel.

6 That atheistical principles have taken deeper root, and are

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farther spread than most people are apt to imagine, will be plain to whoever considers that pantheism, materialism, fatalism are nothing but atheism a little disguised; that the notions of *Hobbes, Spinosa [[sic]], Leibnitz*, and *Bayle* are relished and applauded; that as they who deny the freedom and immortality of the soul in effect deny its being, even so they do, as to all moral effects and natural religion, deny the being of God, who deny Him to be an observer, judge, and rewarder of human actions; that the course of arguing pursued by infidels leads to atheism as well as infidelity.

[An instance of this may be seen in the proceeding of the author of a book intituled,*A Discourse of Free-thinking occasioned by the Rise and Growth of a Sect called Free-thinkers*, who, having insinuated his infidelity from men's various pretences and opinions concerning revealed religion, in like manner appears to insinuate his atheism from the differing notions of men concerning the nature and attributes of God, particularly from the opinion of our knowing God by analogy,[†2](view?docId=berkeley/berkeley.01.xml;chunk.id=div.berkeley.v1.14;toc.id=div.berkeley.v1.14;brand=default" \l "berk.v1.81fm) as it hath been misunderstood and misinterpreted by some of late years. Such is the ill effect of untoward defences and explanations of our faith; and such advantage do incautious friends give its enemies. If there be any modern well-meaning writer, who (perhaps from not having considered the fifth book of *Euclid*) writes much of analogy without understanding it, and thereby hath slipped his foot into this snare, I wish him to slip it back again, and, instead of causing scandal to good men and triumph to atheists, discreetly explain away his first sense; and return to speak of God and his attributes in the style of other Christians, allowing that knowledge and wisdom do, in the proper sense of the words, belong to God, and that we have some notion, though infinitely inadequate, of those divine attributes, yet still more than a man blind from his birth can have of light and colours.]

But to return, if I see it in their writings, if they own it in their conversation, if their ideas imply it, if their ends are not

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answered but by supposing it, if their leading author hath pretended to demonstrate atheism, but thought fit to conceal his demonstration from the public; if this was known in their clubs, and yet that author was nevertheless followed, and represented to the world as a believer of natural religion; if these things are so (and I know them to be so), surely what the favourers of their schemes would palliate, it is the duty of others to display and refute.

7 And although the characters of divinity are large and legible throughout the whole creation to men of plain sense and common understanding, yet it must be considered that we have other adversaries to oppose, other proselytes to make, men prejudiced to false systems and proof against vulgar arguments, who must be dealt with on a different foot. Conceited, metaphysical, disputing men must be paid in another coin; we must shew that truth and reason in all shapes are equally against them, except we resolve to give them up, what they are very fond of being thought to engross, all pretensions to philosophy, science, and speculation.

8 Mean while thus much is evident: Those good men who shall not care to employ their thoughts on this *Theory of Vision* have no reason to find fault. They are just where they were, being left in full possession of all other arguments for a God, none of which are weakened by this. And as for those who shall be at the pains to examine and consider this subject, it is hoped they may be pleased to find, in an age wherein so many schemes of atheism are restored or invented, a new argument of a singular nature in proof of the immediate care and providence of a God, present to our minds, and directing our actions: As these considerations convince me that I cannot employ my self more usefully than in contributing to awaken and possess men with a thorough sense of the Deity inspecting, concurring, and interesting it self in human actions and affairs: So, I hope it will not be disagreeable to you that, in order to this, I make my appeal to reason, from your remarks upon what I have wrote concerning vision; since men who differ in the means may yet agree in the end, and in the same candor and love of truth.

9 By a sensible object I understand that which is properly perceived by sense. Things properly perceived by sense are immediately perceived. Beside things properly and immediately

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perceived by any sense, there may be also other things suggested to the mind by means of those proper and immediate objects. Which things so suggested are not objects of that sense, being in truth only objects of the imagination, and originally belonging to some other sense or faculty. Thus, sounds are the proper object of hearing, being properly and immediately perceived by that, and by no other sense. But, by the mediation of sounds or words all other things may be suggested to the mind, and yet things so suggested are not thought the object of hearing.

10 The peculiar objects of each sense, although they are truly or strictly perceived by that sense alone, may yet be suggested to the imagination by some other sense. The objects therefore of all the senses may become objects of imagination, which faculty represents all sensible things. A colour, therefore, which is truly perceived by sight alone, may, nevertheless, upon hearing the words *blue* or *red*, be apprehended by the imagination. It is in a primary and peculiar manner the object of sight: In a secondary manner it is the object of imagination: But cannot properly be supposed the object of hearing.

11 The objects of sense, being things immediately perceived, are otherwise called ideas. The cause of these ideas, or the power producing them, is not the object of sense, not being it self perceived, but only inferred by reason from its effects, to wit, those objects or ideas which are perceived by sense. From our ideas of sense the inference of reason is good to a Power, Cause, Agent. But we may not therefore infer that our ideas are like unto this Power, Cause, or active Being. On the contrary, it seems evident that an idea can be only like another idea, and that in our ideas or immediate objects of sense, there is nothing of power, causality, or agency included.

12 Hence it follows that the Power or Cause of ideas is not an object of sense, but of reason. Our knowledge of the cause is measured by the effect, of the power by our idea. To the absolute nature, therefore, of outward causes or powers, we have nothing to say: They are no objects of our sense or perception. Whenever, therefore, the appellation of sensible *object* is used in a determined intelligible sense, it is not applied to signify the absolutely existing outward cause or power, but the ideas themselves produced thereby.

13 Ideas which are observed to be connected together are vulgarly considered under the relation of cause and effect, whereas, in strict and philosophic truth, they are only related as the sign to

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the thing signified. For we know our ideas; and therefore know that one idea cannot be the cause of another. We know that our ideas of sense are not the cause of themselves. We know also that we do not cause them. Hence we know they must have some other efficient cause distinct from them and us.

14 In treating of vision, it was my purpose to consider the effects and appearances, the objects perceived by my senses, the ideas of sight as connected with those of touch; to inquire how one idea comes to suggest another belonging to a different sense, how things visible suggest things tangible, how present things suggest things remote and future, whether by likeness, by necessary connexion, by geometrical inference, or by arbitrary institution.

15 It hath indeed been a prevailing opinion and undoubted principle among mathematicians and philosophers that there were certain ideas common to both senses: whence arose the distinction of primary and secondary qualities. But I think it hath been demonstrated that there is no such thing as a common object, as an idea, or kind of idea perceived both by sight and touch.[†1](view?docId=berkeley/berkeley.01.xml;chunk.id=div.berkeley.v1.14;toc.id=div.berkeley.v1.14;brand=default" \l "berk.v1.84fm)

16 In order to treat with due exactness on the nature of vision, it is necessary in the first place accurately to consider our own ideas: To distinguish where there is a difference: To call things by their right names: To define terms, and not confound our selves and others by their ambiguous use: The want or neglect whereof hath so often produced mistakes. Hence it is that men talk as if one idea was the efficient cause of another: Hence they mistake inferences of reason for perceptions of sense: Hence they confound the power residing in somewhat external with the proper object of sense, which is in truth no more than our own idea.

17 When we have well understood and considered the nature of vision, we may, by reasoning from thence, be better able to collect some knowledge of the external, unseen Cause of our ideas, whether it be one or many, intelligent or unintelligent, active or inert, body or spirit. But, in order to understand and comprehend this theory, and discover the true principles thereof, we should consider the likeliest way is not to attend to unknown substances, external causes, agents, or powers, nor to reason or infer any thing about or from things obscure, unperceived, and altogether unknown.

18 As in this inquiry we are concerned with what objects we perceive, or our own ideas, so, upon them our reasonings must

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proceed. To treat of things utterly unknown as if we knew them, and so lay our beginning in obscurity, would not surely seem the properest means for the discovering of truth. Hence it follows that it would be wrong if one about to treat of the nature of vision, should, instead of attending to visible ideas, define the object of sight to be that obscure cause, that invisible power or agent, which produced visible ideas in our minds. Certainly such cause or power doth not seem to be the object either of the sense or the science of vision, inasmuch as what we know thereby we know only of the effects. Having premised thus much, I now proceed to consider the principles laid down in your Letter, which I shall take in order as they lie.

19 In your first paragraph or section, you say that 'whatever it is without which is the cause of any idea within, you call the object of sense.' And you tell us soon after this,[†1](view?docId=berkeley/berkeley.01.xml;chunk.id=div.berkeley.v1.14;toc.id=div.berkeley.v1.14;brand=default" \l "berk.v1.85fm)'that we cannot possibly have an idea of any object without.' Hence it follows that by an object of sense you mean something that we can have no manner of idea of. This making the objects of sense to be things utterly insensible or unperceivable seems to me contrary to common sense and the use of language. That there is nothing in the reason of things to justify such a definition is, I think, plain from what hath been premised[†2](view?docId=berkeley/berkeley.01.xml;chunk.id=div.berkeley.v1.14;toc.id=div.berkeley.v1.14;brand=default" \l "berk.v1.86fm): and that it is contrary to received custom and opinion, I appeal to the experience of the first man you meet, who I suppose will tell you that by an object of sense he means that which is perceived by sense, and not a thing utterly unperceivable and unknown. The beings, substances, powers which exist without may indeed concern a treatise on some other science, and may there become a proper subject of inquiry. But, why they should be considered as objects of the visive faculty, in a treatise of optics, I do not comprehend.

20 The real objects of sight we see, and what we see we know. And these true objects of sense and knowledge, to wit, our own ideas, are to be considered, compared, distinguished, in order to understand the true theory of vision. As to the outward cause of these ideas, whether it be one and the same, or various and manifold, whether it be thinking or unthinking, spirit or body, or whatever else we conceive or determine about it, the visible appearances do not alter their nature, our ideas are still the same.

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Though I may have an erroneous notion of the cause, or though I may be utterly ignorant of its nature; yet this doth not hinder my making true and certain judgments about my ideas: my knowing which are the same, and which different: wherein they agree, and wherein they disagree: which are connected together, and wherein this connexion consists: whether it be founded in a likeness of nature, in a geometrical necessity, or merely in experience and custom.

21 In your second section, you say 'that if we had but one sense, we might be apt to conclude there were no objects at all without us: But that, since the same object is the cause of ideas by different senses, thence we infer its existence.' Now, in the first place, I observe, that I am at a loss concerning the point which is here assumed, and would fain be informed how we come to know that the same object causeth ideas by different senses. In the next place, I must observe that, if I had only one sense, I should nevertheless infer and conclude there was some cause without me (which you, it seems, define to be an object), producing the sensations or ideas perceived by that sense. For, if I am conscious that I do not cause them, and know that they are not the cause of themselves, both which points seem very clear, it plainly follows that there must be some other third cause distinct from me and them.

22 In your third section, you acknowledge with me 'that the connexion between ideas of different senses ariseth only from experience.' Herein we are agreed. In your fourth section you say 'that a word denoting an external object, is the representative of no manner of idea: Neither can we possibly have an idea of what is solely without us.' What is here said of an external unknown object hath been already considered.[†1](view?docId=berkeley/berkeley.01.xml;chunk.id=div.berkeley.v1.14;toc.id=div.berkeley.v1.14;brand=default" \l "berk.v1.88fm)

23 In the following section of your Letter, you declare 'that our ideas have only an arbitrary connexion with outward objects: That they are nothing like the outward objects: And that a variation in our ideas doth not imply or infer a change in the objects, which may still remain the same.' Now, to say nothing about the confused use of the word object, which hath been more than once already observed, I shall only remark that the points asserted in this section do not seem to consist with some others that follow.

24 For in the sixth section you say 'that in the present situation of things, there is an infallible certain connexion between the idea and the object.' But how can we perceive this connexion,

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since according to you[†1](view?docId=berkeley/berkeley.01.xml;chunk.id=div.berkeley.v1.14;toc.id=div.berkeley.v1.14;brand=default" \l "berk.v1.89fm) we never perceive such object, nor can have any idea of it? Or, not perceiving it, how can we know this connexion to be infallibly certain?

25 In the seventh section it is said 'that we may, from our infallible experience, argue from our idea of one sense to that of another.' But, I think it is plain that our experience of the connexion between ideas of sight and touch is not infallible: Since, if it were, there could be no *deceptio visus*, neither in painting, perspective, dioptrics, nor any other wise.

26 In the last section you affirm 'that experience plainly teaches us that a just proportion is observed in the alteration of the ideas of each sense, from the alteration of the object.' Now, I cannot possibly reconcile this section with the fifth, or comprehend how experience should shew us that the alteration of the object produceth a proportionable alteration in the ideas of different senses; or how indeed it should shew us anything at all either from or about the alteration of an object utterly unknown, of which we neither have nor can have any manner of idea. What I do not perceive or know, how can I perceive or know to be altered? And, knowing nothing of its alterations, how can I compute anything by them, deduce anything from them, or be said to have any experience about them?

27 From the observations you have premised, rightly understood and considered, you say it follows 'that my *New Theory of Vision* must in a great measure fall to the ground; and the laws of optics will be found to stand upon the old unshaken bottom.' But, though I have considered and endeavoured to understand your remarks, yet I do not in the least comprehend how this conclusion can be inferred from them. The reason you assign for such inference is, 'because, though our ideas in one sense are intirely different from our ideas in another; yet we may justly argue from one to the other, as they have one common cause without; of which, you say, we cannot possibly have even the faintest idea.' Now, my theory no where supposeth that we may not justly argue from the ideas of one sense to those of another, by analogy and by experience: On the contrary, this very point is affirmed, proved, or supposed throughout.[†2](view?docId=berkeley/berkeley.01.xml;chunk.id=div.berkeley.v1.14;toc.id=div.berkeley.v1.14;brand=default" \l "berk.v1.90fm)

28 Indeed I do not see how the inferences which we make from visible to tangible ideas include any consideration of one common unknown external cause, or depend thereon, but only on mere custom or habit. The experience which I have had that

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certain ideas of one sense are attended or connected with certain ideas of a different sense is, I think, a sufficient reason why the one may suggest the other.

29 In the next place you affirm 'that something without, which is the cause of all the variety of ideas within in one sense, is the cause also of the variety in another: And as they have a necessary connexion with it, we very justly demonstrate from our ideas of feeling, of the same object, what will be our ideas of seeing.' As to which, give me leave to remark that to inquire whether that unknown something be the same in both cases, or different, is a point foreign to optics; inasmuch as our perceptions by the visive faculty will be the very same, however we determine that point. Perhaps I think that the same Being which causeth our ideas of sight doth cause not only our ideas of touch likewise, but also all our ideas of all the other senses, with all the varieties thereof. But this, I say, is foreign to the purpose.

30 As to what you advance, that our ideas have a *necessary* connexion with such cause, it seems to me *gratis dictum*: no reason is produced for this assertion; and I cannot assent to it without a reason. The ideas or effects I grant are evidently perceived: but the cause, you say, is utterly unknown.[†2](view?docId=berkeley/berkeley.01.xml;chunk.id=div.berkeley.v1.14;toc.id=div.berkeley.v1.14;brand=default" \l "berk.v1.92fm) How, therefore, can you tell whether such unknown cause acts arbitrarily or necessarily? I see the effects or appearances: and I know that effects must have a cause: but I neither see nor know that their connexion with that cause is necessary. Whatever there may be, I am sure I see no such necessary connexion, nor, consequently, can demonstrate by means thereof from ideas of one sense to those of another.

31 You add that although to talk of seeing by tangible angles and lines be direct nonsense, yet, to demonstrate from angles and lines in feeling to the ideas in seeing that arise from the same common object is very good sense. If by this no more is meant than that men might argue and compute geometrically by lines and angles in optics, it is so far from carrying in it any opposition to my theory that I have expressly declared the same thing.[†3](view?docId=berkeley/berkeley.01.xml;chunk.id=div.berkeley.v1.14;toc.id=div.berkeley.v1.14;brand=default" \l "berk.v1.93fm) This doctrine, as admitted by me, is indeed subject to certain limitations, there being divers cases wherein the writers of optics thought we judged by lines and angles, or by a sort of natural geometry; with regard to which I think they were mistaken, and

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I have given my reasons for it. And those reasons, as they are untouched in your letter, retain their force with me.

32 I have now gone through your reflexions, which the conclusion intimates to have been written in haste, and, having considered them with all the attention I am master of, must now leave it to the thinking reader to judge whether they contain any thing that should oblige me to depart from what I have advanced in my *Theory of Vision.* For my own part, if I were ever so willing, it is not on this occasion in my power to indulge my self in the honest satisfaction it would be frankly to give up a known error, a thing so much more right and reputable to renounce than to defend. On the contrary, it should seem that the theory will stand secure: Since you agree with me that men do not see by lines and angles: Since I, on the other hand, agree with you that we may nevertheless compute in optics by lines and angles, as I have expressly shewed: Since all that is said in your Letter about the object, the same object, the alteration of the object, is quite foreign to the theory, which considereth our ideas as the object of sense, and hath nothing to do with that unknown, unperceived, unintelligible thing which you signify by the word object.[†1](view?docId=berkeley/berkeley.01.xml;chunk.id=div.berkeley.v1.14;toc.id=div.berkeley.v1.14;brand=default" \l "berk.v1.94fm) Certainly the laws of optics will not stand on the old, unshaken bottom, if it be allowed that we do not see by geometry[†2](view?docId=berkeley/berkeley.01.xml;chunk.id=div.berkeley.v1.14;toc.id=div.berkeley.v1.14;brand=default" \l "berk.v1.95fm): If it be evident that explications of phænomena given by the received theories in optics are insufficient and faulty: If other principles are found necessary for explaining the nature of vision: If there be no idea, nor kind of idea, common to both senses,[†3](view?docId=berkeley/berkeley.01.xml;chunk.id=div.berkeley.v1.14;toc.id=div.berkeley.v1.14;brand=default" \l "berk.v1.96fm) contrary to the old received universal supposition of optic writers.

33 We not only impose on others but often on our selves, by the unsteady or ambiguous use of terms. One would imagine that an object should be perceived. I must own, when that word is employed in a different sense, that I am at a loss for its meaning, and consequently cannot comprehend any arguments or conclusions about it: And I am not sure that, on my own part, some inaccuracy of expression, as well as the peculiar nature of the subject, not always easy either to explain or to conceive, may not have rendered my treatise concerning vision difficult to a cursory reader. But, to one of due attention, and who makes my words an occasion of his own thinking, I conceive the whole to be very intelligible. And, when it is rightly understood, I scarce doubt but it will be assented to. One thing at least I can affirm, that, if

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I am mistaken, I can plead neither haste nor inattention, having taken true pains and much thought about it.

34 And had you, Sir, thought it worth while to have dwelt more particularly on the subject, to have pointed out distinct passages in my treatise, to have answered any of my objections to the received notions, refuted any of my arguments in behalf of mine, or made a particular application of your own; I might without doubt have profited by your reflexions. But it seems to me we have been considering, either different things, or else the same things in such different views as the one can cast no light on the other. I shall, nevertheless, take this opportunity to make a review of my theory, in order to render it more easy and clear; and the rather because, as I had applied myself betimes to this subject, it became familiar: And in treating of things familiar to our selves, we are too apt to think them so to others.

35 It seemed proper, if not unavoidable, to begin in the accustomed style of optic writers, admitting divers things as true, which in a rigorous sense are not such, but only received by the vulgar and admitted for such. There hath been a long and close connexion in our minds between the ideas of sight and touch. Hence they are considered as one thing: Which prejudice suiteth well enough with the purposes of life; and language is suited to this prejudice. The work of science and speculation is to unravel our prejudices and mistakes, untwisting the closest connexions, distinguishing things that are different, instead of confused and perplexed, giving us distinct views, gradually correcting our judgment, and reducing it to a philosophical exactness. And, as this work is the work of time, and done by degrees, it is extremely difficult, if at all possible, to escape the snares of popular language, and the being betrayed thereby to say things strictly speaking neither true nor consistent. This makes thought and candor more especially necessary in the reader. For, language being accommodated to the prænotions of men and use of life, it is difficult to express therein the precise truth of things, which is so distant from their use, and so contrary to our prænotions.

36 In the contrivance of vision, as in that of other things, the wisdom of Providence seemeth to have consulted the operation, rather than the theory, of man; to the former things are admirably fitted, but, by that very means, the latter is often perplexed. For, as useful as these immediate suggestions and constant connexions are to direct our actions; so is our distinguishing between things

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confounded, and our separating things connected, and as it were blended together, no less necessary to the speculation and knowledge of truth.

37 The knowledge of these connexions, relations, and differences of things visible and tangible, their nature, force, and significancy hath not been duly considered by former writers in optics, and seems to have been the great *desideratum* in that science, which for want thereof was confused and imperfect. A treatise, therefore, of this philosophical kind, for the understanding of vision, is at least as necessary as the physical consideration of the eye, nerve, coats, humours, refractions, bodily nature, and motion of light, or the geometrical application of lines and angles for *praxis* or theory, in dioptric glasses and mirrours, for computing and reducing to some rule and measure our judgments, so far as they are proportional to the objects of geometry. In these three lights vision should be considered, in order to a compleat theory of optics.

38 It is to be noted that, in considering the theory of vision, I observed a certain known method, wherein, from false and popular suppositions, men do often arrive at truth. Whereas in the synthetical method of delivering science or truth already found, we proceed in an inverted order, the conclusions in the analysis being assumed as principles in the synthesis. I shall therefore now begin with that conclusion, That *Vision is the Language of the Author of Nature*, from thence deducing theoremes and solutions of phænomena, and explaining the nature of visible things and the visive faculty.

39 Ideas which are observed to be connected with other ideas come to be considered as signs, by means whereof things not actually perceived by sense are signified or suggested to the imagination, whose objects they are, and which alone perceives them. And as sounds suggest other things, so characters suggest those sounds; and, in general, all signs suggest the things signified, there being no idea which may not offer to the mind another idea which hath been frequently joined with it. In certain cases a sign may suggest its correlate as an image, in others as an effect, in others as a cause. But where there is no such relation of similitude or causality, nor any necessary connexion whatsoever, two things, by their mere coexistence, or two ideas, merely by being perceived together, may suggest or signify one the other, their connexion being all the while arbitrary; for it is the connexion only, as such, that causeth this effect.

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40 A great number of arbitrary signs, various and apposite, do constitute a language. If such arbitrary connexion be instituted by men, it is an artificial language; if by the Author of nature, it is a natural language. Infinitely various are the modifications of light and sound, whence they are each capable of supplying an endless variety of signs, and, accordingly, have been each employed to form languages; the one by the arbitrary appointment of mankind, the other by that of God Himself.[†1](view?docId=berkeley/berkeley.01.xml;chunk.id=div.berkeley.v1.14;toc.id=div.berkeley.v1.14;brand=default" \l "berk.v1.98fm) A connexion established by the Author of nature, in the ordinary course of things, may surely be called natural; as that made by men will be named artificial. And yet this doth not hinder but the one may be as arbitrary as the other. And, in fact, there is no more likeness to exhibit, or necessity to infer, things tangible from the modifications of light, than there is in language to collect the meaning from the sound.[†2](view?docId=berkeley/berkeley.01.xml;chunk.id=div.berkeley.v1.14;toc.id=div.berkeley.v1.14;brand=default" \l "berk.v1.99fm) But, such as the connexion is of the various tones and articulations of voice with their several meanings, the same is it between the various modes of light and their respective correlates; or, in other words, between the ideas of sight and touch.

41 As to light, and its several modes or colours, all thinking men are agreed that they are ideas peculiar only to sight; neither common to the touch, nor of the same kind with any that are perceived by that sense. But herein lies the mistake, that, beside these, there are supposed other ideas common to both senses, being equally perceived by sight and touch, such as extension, size, figure, and motion. But that there are in reality no such common ideas, and that the objects of sight, marked by those words, are intirely different and heterogeneous from whatever is the object of feeling, marked by the same names, hath been proved in the *Theory*,[†3](view?docId=berkeley/berkeley.01.xml;chunk.id=div.berkeley.v1.14;toc.id=div.berkeley.v1.14;brand=default" \l "berk.v1.100fm) and seems by you admitted. Though I cannot conceive how you should in reason admit this, and at the same time contend for the received theories, which are as much ruined as mine is established by this main part and pillar thereof.

42 To perceive is one thing; to judge is another. So likewise, to be suggested is one thing, and to be inferred another. Things are suggested and perceived by sense. We make judgments and inferences by the understanding. What we immediately and properly perceive by sight is its primary object, light and colours. What is suggested or perceived by mediation thereof, are tangible ideas which may be considered as secondary and improper objects

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of sight. We infer causes from effects, effects from causes, and properties one from another, where the connection is necessary. But, how comes it to pass that we apprehend by the ideas of sight certain other ideas, which neither resemble them, nor cause them, nor are caused by them, nor have any necessary connexion with them? The solution of this problem, in its full extent, doth comprehend the whole theory of vision. Thus stating of the matter placeth it on a new foot, and in a different light from all preceding theories.

43 To explain how the mind or soul of man simply sees is one thing, and belongs to philosophy. To consider particles as moving in certain lines, rays of light as refracted or reflected, or crossing, or including angles, is quite another thing, and appertaineth to geometry. To account for the sense of vision by the mechanism of the eye is a third thing, which appertaineth to anatomy and experiments. These two latter speculations are of use in practice, to assist the defects and remedy the distempers of sight, agreeably to the natural laws obtaining in this mundane system. But the former theory is that which makes us understand the true nature of vision, considered as a faculty of the soul. Which theory, as I have already observed, may be reduced to this simple question, to wit, How comes it to pass that a set of ideas, altogether different from tangible ideas, should nevertheless suggest them to us, there being no necessary connexion between them? To which the proper answer is, That this is done in virtue of an arbitrary connexion, instituted by the Author of nature.

44 The proper, immediate object of vision is light, in all its modes and variations, various colours in kind, in degree, in quantity; some lively, others faint; more of some and less of others; various in their bounds or limits; various in their order and situation. A blind man, when first made to see, might perceive these objects, in which there is an endless variety; but he would neither perceive nor imagine any resemblance or connexion between these visible objects and those perceived by feeling.[†1](view?docId=berkeley/berkeley.01.xml;chunk.id=div.berkeley.v1.14;toc.id=div.berkeley.v1.14;brand=default" \l "berk.v1.101fm) Lights, shades, and colours would suggest nothing to him about bodies, hard or soft, rough or smooth: Nor would their quantities, limits, or order suggest to him geometrical figures, or extension, or situation, which they must do upon the received supposition, that these objects are common to sight and touch.

45 All the various sorts, combinations, quantities, degrees, and dispositions of light and colours, would, upon the first perception

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thereof, be considered in themselves only as a new set of sensations or ideas. As they are wholly new and unknown, a man born blind would not, at first sight, give them the names of things formerly known and perceived by his touch. But, after some experience, he would perceive their connexion with tangible things, and would, therefore, consider them as signs, and give them (as is usual in other cases) the same names with the things signified.

46 More and less, greater and smaller, extent, proportion, interval are all found in time as in space; but it will not therefore follow that these are homogeneous quantities. No more will it follow, from the attribution of common names, that visible ideas are homogeneous with those of feeling. It is true that terms denoting tangible extension, figure, location, motion, and the like, are also applied to denote the quantity, relation, and order of the proper visible objects or ideas of sight. But this proceeds only from experience and analogy. There is a *higher* and *lower* in the notes of music. Men speak in a high or a low key. And this, it is plain, is no more than metaphor or analogy. So likewise, to express the order of visible ideas, the words *situation, high* and *low*, *up* and*down*, are made use of, and their sense, when so applied, is analogical.

47 But, in the case of vision we do not rest in a supposed analogy between different and heterogeneous natures. We suppose an identity of nature, or one and the same object common to both senses. And this mistake we are led into; forasmuch as the various motions of the head, upward and downward, to the right and to the left, being attended with a diversity in the visible ideas, it cometh to pass that those motions and situations of the head, which in truth are tangible, do confer their own attributes and appellations on visible ideas wherewith they are connected, and which by that means come to be termed high and low, right and left, and to be marked by other names betokening the modes of position[†1](view?docId=berkeley/berkeley.01.xml;chunk.id=div.berkeley.v1.14;toc.id=div.berkeley.v1.14;brand=default" \l "berk.v1.102fm); which, antecedently to such experienced connexion, would not have been attributed to them, at least not in the primary and literal sense.

48 From hence we may see how the mind is enabled to discern by sight the situation of distant objects. Those immediate objects whose mutual respect and order come to be expressed by terms relative to tangible place, being connected with the real objects of touch, what we say and judge of the one, we say and judge of the

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other, transferring our thought or apprehension from the signs to the things signified: As it is usual, in hearing or reading a discourse, to overlook the sounds or letters, and instantly pass on to the meaning.[†1](view?docId=berkeley/berkeley.01.xml;chunk.id=div.berkeley.v1.14;toc.id=div.berkeley.v1.14;brand=default" \l "berk.v1.103fm)

49 But there is a great difficulty relating to the situation of objects, as perceived by sight. For, since the pencils of rays issuing from any luminous object do, after their passage through the pupil, and their refraction by the crystalline, delineate inverted pictures in the retina, which pictures are supposed the immediate proper objects of sight, how comes it to pass that the objects whereof the pictures are thus inverted do yet seem erect and in their natural situation? For the objects not being perceived otherwise than by their pictures, it should follow that, as these are inverted, those should seem so too. But this difficulty, which is inexplicable on all the received principles and theories, admits of a most natural solution, if it be considered that the retina, crystalline, pupil, rays, crossing refracted and reunited in distinct images, correspondent and similar to the outward objects, are things altogether of a tangible nature.

50 The pictures, so called, being formed by the radious pencils, after their above-mentioned crossing and refraction, are not so truly pictures as images, or figures, or projections, tangible figures projected by tangible rays on a tangible retina, which are so far from being the proper objects of sight that they are not at all perceived thereby, being by nature altogether of the tangible kind, and apprehended by the imagination alone, when we suppose them actually taken in by the eye. These tangible images on the retina have some resemblance unto the tangible objects from which the rays go forth; and in respect of those objects I grant they are inverted. But then I deny that they are, or can be, the proper immediate objects of sight. This, indeed, is vulgarly supposed by the writers of optics: but it is a vulgar error: Which being removed, the forementioned difficulty is removed with it, and admits a just and full solution, being shewn to arise from a mistake.

51 Pictures, therefore, may be understood in a twofold sense, or as two kinds quite dissimilar and heterogeneous, the one consisting of light, shade, and colours; the other not properly pictures, but images projected on the retina. Accordingly, for distinction, I shall call those *pictures*, and these *images.* The

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former are visible, and the peculiar objects of sight. The latter are so far otherwise, that a man blind from his birth may perfectly imagine, understand, and comprehend them. And here it may not be amiss to observe that figures and motions which cannot be actually felt by us, but only imagined, may nevertheless be esteemed tangible ideas, forasmuch as they are of the same kind with the objects of touch, and as the imagination drew them from that sense.

52 Throughout this whole affair the mind is wonderfully apt to be deluded by the suddain suggestions of fancy, which it confounds with the perceptions of sense, and is prone to mistake a close and habitual connexion between the most distinct and different things for an identity of nature.[†1](view?docId=berkeley/berkeley.01.xml;chunk.id=div.berkeley.v1.14;toc.id=div.berkeley.v1.14;brand=default" \l "berk.v1.105fm) The solution of this knot about inverted images seems the principal point in the whole optic theory, the most difficult perhaps to comprehend, but the most deserving of our attention, and, when rightly understood, the surest way to lead the mind into a thorough knowledge of the true nature of vision.

53 It is to be noted of those inverted images on the retina that, although they are in kind altogether different from the proper objects of sight or pictures, they may nevertheless be proportional to them; as indeed the most different and heterogeneous things in nature may, for all that, have analogy, and be proportional each to other. And although those images, when the distance is given, should be simply as the radiating surfaces; and although it be consequently allowed that the pictures are in that case proportional to those radiating surfaces, or the tangible real magnitude of things; yet it will not thence follow that in common sight we perceive or judge of those tangible real magnitudes simply by the visible magnitudes of the pictures; for therein the distance is not given, tangible objects being placed at various distances: And the diameters of the images, to which images the pictures are proportional, are inversely as those distances, which distances are not immediately perceived by sight.[†2](view?docId=berkeley/berkeley.01.xml;chunk.id=div.berkeley.v1.14;toc.id=div.berkeley.v1.14;brand=default" \l "berk.v1.106fm) And admitting they were, it is nevertheless certain that the mind, in apprehending the magnitudes of tangible objects by sight, doth not compute them by means of the inverse proportion of the distances, and the direct proportion of the pictures. That no such inference or reasoning attends the common act of seeing, every one's experience may inform him.

54 To know how we perceive or apprehend by sight the real magnitude of tangible objects, we must consider the immediate

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visible objects, and their properties or accidents. These immediate objects are the pictures. These pictures are some more lively, others more faint. Some are higher, others are lower in their own order or peculiar location, which, though in truth quite distinct, and altogether different from that of tangible objects, hath nevertheless a relation and connexion with it, and thence comes to be signified by the same terms, *high*, *low*, and so forth. Now by the greatness of the pictures, their faintness and their situation, we perceive the magnitude of tangible objects, the greater, the fainter, and the upper pictures suggesting the greater tangible magnitude.

55 For the better explication of this point, we may suppose a diaphanous plain erected near the eye, perpendicular to the horizon, and divided into small equal squares. A straight line from the eye to the utmost limit of the horizon, passing through this diaphanous plain, will mark a certain point or height to which the horizontal plain, as projected or represented in the perpendicular plain, would rise. The eye sees all the parts and objects in the horizontal plain, through certain corresponding squares of the perpendicular diaphanous plain. Those that occupy most squares have a greater visible extension, which is proportional to the squares. But the tangible magnitudes of objects are not judged proportional thereto. For those which are seen through the upper squares shall appear vastly bigger than those seen through the lower squares, though occupying the same, or a much greater number of those equal squares in the diaphanous plain.

56 Rays issuing from every point of each part or object in the horizontal plain, through the diaphanous plain to the eye, do to the imagination exhibit an image of the horizontal plain and all its parts, delineated in the diaphanous plain, and occupying the squares thereof to a certain height marked out by a right line reaching from the eye to the farthest limit of the horizon. A line drawn through the forementioned height or mark, upon the diaphanous plain, and parallel to the horizon, I call the horizontal line. Every square contains an image of some corresponding part of the horizontal plain. And this intire image we may call the horizontal image, and the picture answering to it the horizontal picture. In which representation, the upper images suggest much greater magnitudes than the lower. And these images suggesting the greater magnitudes are also fainter as well as upper. Whence it follows that faintness and situation concur with visible magnitude to suggest tangible magnitude. For the

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truth of all which I appeal to the experience and attention of the reader who shall add his own reflexion to what I have written.

57 It is true this diaphanous plain, and the images supposed to be projected thereon, are altogether of a tangible nature[†1](view?docId=berkeley/berkeley.01.xml;chunk.id=div.berkeley.v1.14;toc.id=div.berkeley.v1.14;brand=default" \l "berk.v1.107fm): But then there are pictures relative to those images: and those pictures have an order among themselves, answering to the situation of the images, in respect of which order they are said to be higher and lower.[†2](view?docId=berkeley/berkeley.01.xml;chunk.id=div.berkeley.v1.14;toc.id=div.berkeley.v1.14;brand=default" \l "berk.v1.108fm) These pictures also are more or less faint, they, and not the images, being in truth the visible objects. Therefore, what hath been said of the images must in strictness be understood of the corresponding pictures, whose faintness, situation, and magnitude, being immediately perceived by sight, do all three concur in suggesting the magnitude of tangible objects, and this only by an experienced connexion.

58 The magnitude of the picture will perhaps be thought by some to have a necessary connexion with that of the tangible object, or (if not confounded with it) to be at least the sole means of suggesting it. But so far is this from being true, that of two visible pictures, equally large, the one, being fainter and upper, shall suggest an hundred times greater tangible magnitude than the other[†3](view?docId=berkeley/berkeley.01.xml;chunk.id=div.berkeley.v1.14;toc.id=div.berkeley.v1.14;brand=default" \l "berk.v1.109fm): Which is an evident proof that we do not judge of the tangible magnitude merely by the visible: But that our judgment or apprehension is to be rated rather by other things, which yet, not being conceived to have so much resemblance with tangible magnitude, may therefore be overlooked.

59 It is farther to be observed that, beside this magnitude, situation, and faintness of the pictures, our prænotions concerning the kind, size, shape, and nature of things do concur in suggesting to us their tangible magnitudes. Thus, for instance, a picture equally great, equally faint, and in the very same situation, shall in the shape of a man suggest a lesser tangible magnitude than it would in the shape of a tower.

60 Where the kind, faintness, and situation of the horizontal pictures[†4](view?docId=berkeley/berkeley.01.xml;chunk.id=div.berkeley.v1.14;toc.id=div.berkeley.v1.14;brand=default" \l "berk.v1.110fm) are given, the suggested tangible magnitude will be as the visible. The distances and magnitudes that we have been accustomed to measure by experience of touch, lying in the horizontal plain, it thence comes to pass that situations of the horizontal pictures suggest the tangible magnitudes, which are not in like manner suggested by vertical pictures. And it is to be noted that,

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as an object gradually ascends from the horizon towards the zenith, our judgment concerning its tangible magnitude comes by degrees to depend more intirely on its visible magnitude. For the faintness is lessened as the quantity of intercepted air and vapours is diminished: And as the object riseth, the eye of the spectator is also raised above the horizon: So that the two concurring circumstances, of faintness and horizontal situation, ceasing to influence the suggestion of tangible magnitude, this same suggestion or judgment doth, in proportion thereto, become the sole effect of the visible magnitude and the prænotions. But it is evident that if several things (for instance, the faintness, situation, and visible magnitude) concur to enlarge an idea, upon the gradual omission of some of those things, the idea will be gradually lessened. This is the case of the moon,[†1](view?docId=berkeley/berkeley.01.xml;chunk.id=div.berkeley.v1.14;toc.id=div.berkeley.v1.14;brand=default" \l "berk.v1.111fm) when she ascends above the horizon, and gradually diminisheth her apparent dimension, as her altitude increaseth.

61 It is natural for mathematicians to regard the visual angle and the apparent magnitude as the sole or principal means of our apprehending the tangible magnitude of objects. But it is plain from what hath been premised, that our apprehension is much more influenced by other things,[†2](view?docId=berkeley/berkeley.01.xml;chunk.id=div.berkeley.v1.14;toc.id=div.berkeley.v1.14;brand=default" \l "berk.v1.112fm) which have no similitude or necessary connexion therewith.

62 And these same means, which suggest the magnitude of tangible things, do also suggest their distance,[†3](view?docId=berkeley/berkeley.01.xml;chunk.id=div.berkeley.v1.14;toc.id=div.berkeley.v1.14;brand=default" \l "berk.v1.113fm) and in the same manner, that is to say, by experience alone, and not by any necessary connexion or geometrical inference. The faintness, therefore, and vividness, the upper and lower situation, together with the visible size of the pictures, and our prænotions concerning the shape and kind of tangible objects, are the true medium by which we apprehend the various degrees of tangible distance. Which follows from what hath been premised, and will indeed be evident to whoever considers that those visual angles, with their arches or subtenses, are neither perceived by sight, nor by experience of any other sense. Whereas it is certain that the pictures, with their magnitudes, situations, and degrees of faintness, are alone the proper objects of sight. So that whatever is perceived by sight must be perceived by means thereof. To which perception the prænotions also, gained by experience of touch, or of sight and touch conjunctly, do contribute.

63 And indeed we need only reflect on what we see, to be assured that the less the pictures are, the fainter they are, and

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the higher (provided still they are beneath the horizontal[†1](view?docId=berkeley/berkeley.01.xml;chunk.id=div.berkeley.v1.14;toc.id=div.berkeley.v1.14;brand=default" \l "berk.v1.114fm) line or its picture), by so much the greater will the distance seem to be. And this upper situation of the picture is in strictness what must be understood when, after a popular manner of speech, the eye is said to perceive fields, lakes, and the like, interjacent[†2](view?docId=berkeley/berkeley.01.xml;chunk.id=div.berkeley.v1.14;toc.id=div.berkeley.v1.14;brand=default" \l "berk.v1.115fm) between it and the distant object, the pictures corresponding to them being only perceived to be lower than that of the object.[†3](view?docId=berkeley/berkeley.01.xml;chunk.id=div.berkeley.v1.14;toc.id=div.berkeley.v1.14;brand=default" \l "berk.v1.116fm) Now it is evident that none of these things have in their own nature any necessary connexion with the various degrees of distance. It will also appear, upon a little reflexion, that sundry circumstances of shape, colour, and kind, do influence our judgments or apprehensions of distance: All which follows from our prænotions, which are meerly the effect of experience.

64 As it is natural for mathematicians to reduce things to the rule and measure of geometry, they are prone to suppose that the apparent magnitude hath a greater share than we really find, in forming our judgment concerning the distance of things from the eye. And, no doubt, it would be an easy and ready rule to determine the apparent place of an object, if we could say that its distance was inversely as the diameter of its apparent magnitude, and so judge by this alone, exclusive of every other circumstance. But that this would be no true rule is evident, there being certain cases in vision, by refracted or reflected light, wherein the diminution of the apparent magnitude is attended with an apparent diminution of distance.

65 But further to satisfy us that our judgments or apprehensions, either of the greatness or distance of an object, do not depend absolutely on the apparent magnitude, we need only ask the first painter we meet, who, considering nature rather than geometry, well knows that several other circumstances contribute thereto: And since art can only deceive us as it imitates nature, we need but observe pieces of perspective and landschapes to be able to judge of this point.

66 When the object is so near that the interval between the pupils beareth some sensible proportion to it, the sensation which attends the turn or straining of the eyes, in order to unite the two optic axes therein, is to be considered as one means of our perceiving distance.[†4](view?docId=berkeley/berkeley.01.xml;chunk.id=div.berkeley.v1.14;toc.id=div.berkeley.v1.14;brand=default" \l "berk.v1.117fm) It must be owned, this sensation belongeth properly to the sense of feeling; but as it waits upon and hath a constant regular connexion with distinct vision of near distance

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(the nearer this, the greater that), so it is natural that it should become a sign thereof, and suggest it to the mind.[†1](view?docId=berkeley/berkeley.01.xml;chunk.id=div.berkeley.v1.14;toc.id=div.berkeley.v1.14;brand=default" \l "berk.v1.118fm) And that it is so in fact follows from that known experiment of hanging up a ring edge-wise to the eye, and then endeavouring, with one eye shut, by a lateral motion, to insert into it the end of a stick; which is found more difficult to perform than with both eyes open, from the want of this means of judging by the sensation attending the nearer meeting or crossing of the two optic axes.

67 True it is that the mind of man is pleased to observe in nature rules or methods, simple, uniform, general, and reducible to mathematics, as a means of rendering its knowledge at once easy and extensive. But we must not, for the sake of uniformities or analogies, depart from truth and fact, nor imagine that in all cases the apparent place or distance of an object must be suggested by the same means. And, indeed, it answers the ends of vision to suppose that the mind should have certain additional means or helps, for judging more accurately of the distance of those objects which are the nearest, and consequently most concern us.

68 It is also to be observed that when the distance is so small that the breadth of the pupil bears a considerable proportion to it, the object appears confused. And this confusion being constantly observed in poring on such near objects, and increasing as the distance lessens, becomes thereby a means of suggesting the place of an object.[†2](view?docId=berkeley/berkeley.01.xml;chunk.id=div.berkeley.v1.14;toc.id=div.berkeley.v1.14;brand=default" \l "berk.v1.119fm)For one idea is qualified to suggest another, meerly by being often perceived with it. And if the one increaseth either directly or inversely as the other, various degrees of the former will suggest various degrees of the latter, by virtue of such habitual connexion, and proportional increase or diminution. And thus the gradual changing confusedness of an object may concur to form our apprehension of near distance, when we look only with one eye. And this alone may explain Dr. Barrow's difficulty, the case as proposed by him regarding only one visible point.[†3](view?docId=berkeley/berkeley.01.xml;chunk.id=div.berkeley.v1.14;toc.id=div.berkeley.v1.14;brand=default" \l "berk.v1.120fm) And when several points are considered, or the image supposed an extended surface, its increasing confusedness will, in that case, concur with the increasing magnitude to diminish its distance, which will be inversely as both.

69 Our experience in vision is got by the naked eye. We apprehend or judge from this same experience, when we look through glasses. We may not, nevertheless, in all cases, conclude from the one to the other, because that certain circumstances,

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either excluded or added, by the help of glasses, may sometimes alter our judgments, particularly as they depend upon prænotions.

70 What I have here written may serve as a commentary on my *Essay towards a New Theory of Vision*; and, I believe, will make it plain to thinking men. In an age wherein we hear so much of thinking and reasoning, it may seem needless to observe, how useful and necessary it is to think, in order to obtain just and accurate notions, to distinguish things that are different, to speak consistently, to know even our own meaning. And yet for want of this, we may see many, even in these days, run into perpetual blunders and paralogisms. No friend, therefore, to truth and knowledge would lay any restraint or discouragement on thinking. There are, it must be owned, certain general maxims, the result of ages, and the collected sense of thinking persons, which serve instead of thinking, for a guide or rule to the multitude, who, not caring to think for themselves, it is fit they should be conducted by the thought of others. But those who set up for themselves, those who depart from the publick rule, or those who would reduce them to it, if they do not think, what will men think of them? As I pretend not to make any discoveries which another might not as well have made, who should have thought it worth his pains: So I must needs say that without pains and thought no man will ever understand the true nature of vision, or comprehend what I have wrote concerning it.

71 Before I conclude, it may not be amiss to add the following extract from the*Philosophical Transactions*, relating to a person blind from his infancy, and long after made to see: 'When he first saw, he was so far from making any judgment about distances that he thought all objects whatever touched his eyes (as he expressed it) as what he felt did his skin; and thought no objects so agreeable as those which were smooth and regular, though he could form no judgment of their shape, or guess what it was in any object that was pleasing to him. He knew not the shape of any thing, nor any one thing from another, however different in shape or magnitude: but upon being told what things were, whose form he before knew from feeling, he would carefully observe that he might know them again: but having too many objects to learn at once, he forgot many of them: And (as he said) at first he learned to know, and again forgot, a thousand things in a day. Several weeks after he was couched, being deceived by pictures, he asked which was the lying sense, feeling or seeing? He was never able to imagine any lines beyond the bounds

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he saw. The room he was in, he said, he knew to be but part of the house, yet he could not conceive that the whole house could look bigger. He said every new object was a new delight, and the pleasure was so great that he wanted ways to express it.'[†1](view?docId=berkeley/berkeley.01.xml;chunk.id=div.berkeley.v1.14;toc.id=div.berkeley.v1.14;brand=default" \l "berk.v1.121fm) Thus, by fact and experiment, those points of the theory which seem the most remote from common apprehension were not a little confirmed, many years after I had been led into the discovery of them by reasoning.  
  
FINIS

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# On the Will of God (1751)

*The Works of George Berkeley, Bishop of Cloyne*, (ed.s) A. A. Luce and T. E. Jessop, 9 vols, vol 8 (London: Nelson, 1948-1957).

## Sermon Text: Matthew c. 6 v. 10

Thy will be done in earth as it is in Heaven.

IN the form of prayer prescribed by our blessed Saviour we are taught to pray for suchthings as are necessary and useful to us. And although the article I have read mayseem rather a devout strain of humility and resignation than a petition put up to almighty God for our own interests, we shall nevertheless upon an attentive view of it be convinced it is impossible to frame any petition better suited to our present true interests than that contained in the words of my text.

In treating of which I shall insist on three points. 1st I shall endeavour to shew what is meant by the will of God, and how we may come to know it. 2dly I shall shew how reasonable it is, that the will of God should be done upon earth. In the

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next place I shall consider the obligations which the words of my text lay upon us. and lastly the good or ill consequences, that follow from our conforming to, or transgressing the will of God.

As to the first point, the will of God is declared unto us in a twofold manner, by the light of reason and by revelation. First I say by the light of reason or nature, for it being manifest to the natural reason of every man, that God is good and just and holy, it cannot be doubted, that acts of beneficence, purity, and justice are agreeable to his will. Besides, as God is the common father of us all, it follows it cannot be his intention, that we should each of us promote his own private interest, to the wrong or damage of his neighbour, but that such conduct or behaviour, as tends to procure the general wellbeing of mankind, is most acceptable to him.

From hence it follows, that all the particular laws of nature or morality are to be looked upon, as so many decrees of the divine will, inasmuch as they are evidently calculated to promote the common good of all men. But neither is the use of our reason, the only natural means, for discovering the will of God, the same being also suggested by a natural conscience, and inward feeling implanted in the soul of every man, previous to all deductions of reason, there being nothing more natural to our minds, than that distaste, disquiet, and remorse attending evil actions, and on the other hand, that joy and satisfaction which is the constant encouragement and reward of good ones.

That there are appetites and aversions, satisfactions and uneasinesses, inclinations and instincts, originally interwoven in our nature, must be allowed by all impartial and considerate men. It is, I say, evident that the Soul is so constituted, in her original state, that certain dispositions and tendencies will not fail to shew themselves, at proper periods, and in certain circumstances; which affections, because they are universal not confined to any age or country, and not to be accounted for by custom or education, but alike in all nations and all times, are properly said to be natural or innate.

Thus, for example, the fear of death and the love of ones children are accounted natural, and the same may be said of divers other instincts and notions, such as the apprehension

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of a superior being, the abhorrence of many crimes and vices, the relish of things good and vertuous, which are to be looked on as natural inbred dispositions, resulting from the natural make of our minds, inasmuch as, though they do not appear in our earliest infancy, yet in the growth and progress of the soul, they are sure to shoot forth to open and display themselves as naturally as leaves and blossoms do from a tree. And all these natural tendencies and impressions on the conscience, are so many marks to direct and inform the mind, of the will of the author of nature. God therefore is not without a witness, even among the Gentiles of whom Saint Paul observeth that not having the revealed law they are a law to themselves, which shew the work of the law written in their hearts.

But, as the light of reason is often obscured, & impressions on the conscience defaced through indolence and neglect, through custom prejudice and passion: therefore the will of God hath been promulgated, by the preaching and miracles of our blessed Saviour and his apostles. By these means the most sensual men are made acquainted with their duty, and the sublimest truths and principles of morality sounded into the ears of the most ignorant and barbarous people. Their sound went into all the earth, and their words unto the end of the world, saith the apostle to the Romans. Thus by the light of reason, by natural conscience and by revelation, the will of God is made manifest unto us. I come now to the second point, which was to shew how reasonable it is, that the will of God should be done upon earth.

If we consider the blindness and infirmity, the folly and passions of mankind, how little most men understand their true interests, and How backward they are to pursue and to practise, even what they know to be so, it will be very evident, that we are too imperfect creatures to be governed by our own wills. For where each particular person is governed by his own will, intent on his own interest, and oft mistaking that, such a conduct can produce nothing but public confusion and private misery. Hence it is, that all political societies have found it necessary, to oblige each individual member, to conform his civil life and actions, to the will or decrees of the community, rather than leave him to be governed at his own pleasure.

And as it is necessary, that the civil actions of men as well

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as the natural motions of bodies, be governed by some one overruling principle or law, wisely directing them to their proper ends, and confining them within their due bounds, it is no less necessary to the welbeing of the world, that the moral actions of all mankind, considered as one great society, be subjected to the law, and conformed to the will of God, who on all accounts is entitled to a dominion over them.

Inasmuch, as we are his creatures and the work of his hands, as he hath infinite power to controll punish and reward our actions: as he hath infinite wisdom to see our true interest, and direct us how to attain it: as his goodness and providence are constantly employ'd, in our support and preservation; and lastly, as he is universal lord and sovereign, whose care extends to all mankind. And although there be many unsearchable perfections in the Deity, whose nature is infinitely above our knowledge, yet it sufficeth to our purpose, if, as related to us, he may be clearly and distinctly known, and his will discovered, so far forth as it is the rule of our actions.

I come now to the third thing proposed, which was to consider the obligations imposed upon us in the words of my text. And that they oblige us to a strict and constant exercise of charity temperance and resignation, will be very evident; since we must acknowledge that what we pray for that we are obliged to perform, so far as in us lyes, otherwise, we are guilty of the grossest hypocrisy and dissimulation. Nor, indeed, can there be conceived a greater indignity and affront to almighty God, than to pray that his will be done upon earth, and yet neglect to do it. Whence it plainly follows, that as we are enjoyned to pray, so we are also enjoyned to practise, in conformity to what we pray for, that is, to a compliance with the divine will, which in the first place lays upon us the strictest obligations to charity. For, whether we consult the voice of reason or the voice of revelation, it is evident that nothing can be more agreeable to the will of God, than the practice of this heavenly vertue. Can it be imagined, the common father of all mankind, shoud not require mutual acts of charity and beneficence from his creatures? or that they can approve themselves obedient children to him, better than by living as brethren,towards each other.

There is something so noble and excellent in charity, that it

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may be said in some sort, to exalt and transform us into a similitude with God himself, there being no one perfection or attribute of the Deity, more essential than the most diffused and active benevolence. And at the same time, that this Christian grace doth brighten up and restore the image of God in our souls, it doth also render us in the highest degree useful to our neighbours, inasmuch as it brancheth forth, into numberless moral duties, comprehending in effect all the laws of the second table, for which reason it is so frequently and emphatically recommended in the new testament, and preferred before all other spiritual gifts. And indeed it is not to be doubted, that nothing can render our lives more conformable to the will of God than a steady endeavour to promote the welbeing of his creatures, whose happiness is so constantly uniformly and impartially promoted by the laws of nature, that they sufficiently declare and speak out the will of him that framed them.

And as charity towards our neighbour, so also is temperance, with respect to our selves, agreeable to the will of God, it being no less evident, that he intends our own welfare, than that he intends that of other men. All our appetites and passions are in themselves, so admirably fitted for our preservation and welbeing, and whenever we apply them to wrong objects, or suffer them to exceed their due bounds, we meet with such sore mortifications, as put the intention of the Author of nature beyond all dispute. This therefore is the rule, whereby we ought to govern our passions, considering the tendency of those natural motions in every instance, and well weighing how far it doth,or doth not, fall in with the design and aim of providence.

So long as we act in this manner, we shall not become the property of any vile lust or inordinate desire, our hearts will not be torn in pieces, by revenge avarice and ambition. The faculties of our mind will not be impaired by gluttony or drunkenness, nor our health our fortune or our reputation sacrificed to a brutal passion. We shall eat and drink to satisfy, not to oppress, nature, to preserve, not to prejudice, our health. We shall be solicitous about the good things of this life, so far only as they may answer our own reasonable wants, and enable us to do good to others. We shall use this world, as not abusing it. We shall abstain from fleshly lusts, which war against the soul, and confine our appetites within such limits, as their respective ends and uses require. And instead of being slaves to them, we shall

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become their masters and governors, ever bending them to a compliance with the divine will, which is the freedom and perfection of a rational creature.

The third thing to the practice whereof we are obliged by the words of my text, is resignation, which consisting in a patient submission to the will of God, becometh the indispensable duty of all those, who pray that God's will be done in earth, as it is in heaven. We ought not therefore to repine at the dispensations of providence, or charge god foolishly. I say it becomes us with thankfulness to use the good things we receive from the hand of God, and patiently to abide the evil, which when thoroughly considered and understood may perhaps appear to be good, it being no sure sign that a thing is good, because we desire, or evil, because we are displeased with it. Men, having strong passions and weak judgments, are for the most part blind to their own interests. But the unerring wisdom of God knoweth what is fit for us. Many things there are that glitter in the fancy, which change appearance, and disappoint us in possession. Further, it should be considered that none of those things, which the fondness of men pursueth as good, whether riches or honours or power, are in themselves truly so, but on the contrary of a most doubtful nature, either good or bad according to the use that is made of them. In proof whereof we often see men undone by great fortunes, so true it is that more vertue and good sense is requisite to use a fortune, than to acquire it.

Wealth and power are indeed blessings, if we employ them to vertuous and wise purposes. But if, unmindful of the dignity of our nature, we use them as instruments of voluptuousness, they will then bring upon us all those evils, that have ever bin the consequences of vice and folly and it is most certain that, whereas moderate circumstances do not afford those strong temptations, which attend on affluence and prosperity, in proportion as these increase we ought to consider our selves as encompassed with new snares and difficulties, which, if we do not arm our hearts with a proportionably greater stock of wisdom and vertue, will assuredly contribute to our ruine.

The same may be said of all those other seeming advantages, in the pursuit whereof mankind are so eagerly engaged. All which should make us cheerfully acquiesce in the dispositions of providence, and rather careful to

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make a right use of the good things we possess, than anxious to obtain those that are beyond our reach.

I come now to consider the good or bad effects, which flow from our conforming to, or transgressing the will of God. First then, not to insist on the important motives that arise from the consideration of a future state, many cogent arguments may be drawn from what we feel at present, to persuade us to a compliance with the divine will, nothing being more evident to reason, than that the happiness or misery, of even this life, is the necessary result of our practice or neglect of that duty. For, as the will followeth the light of the understanding, if this be dim and confused, the will must be but badly directed by it. But that our understanding is in its own nature not only very weak and imperfect, but also much obscured by passion and prejudice, is a point too plain to need proof.

From all which, we may certainly conclude, it is not our true interest to be governed by our own carnal and irregular wills, but rather to square and suit our actions, to the supreme will of him, whose understanding is infinite, comprehending in one clear view the remotest events and consequences of things. But secondly, our power is, at least, as imperfect as our knowledge. What folly, therefore, must it be, for poor depending creatures to oppose their impotent wills, to the will of the omnipotent creator? or what can be expected from such perverse conduct but pain anguish and remorse? whereas if we shape our lives by the Divine will they are sure to be easy and delightful. Hence wise and thinking men have, in all ages, made it their chief care, to point out the true way to happiness, by instructing mankind in the will of God, and persuading them to comply with it. This hath drawn men off from sensual delights, to relish the more refined pleasures of the mind. This hath taught them to taste the elegant satisfactions, which flow from a generous and beneficent conduct, and to know that our chief pleasure, as well as duty, consists in doing good to others, and that no small part of our happiness dependeth upon self-denial.

And, in order to enlarge our views for the receiving of these notions, and to inspire us with a zeal to live up to them, they have reminded us of the divine immortal part of our being, that was framed for nobler purposes, than merely to gratify those senses and passions, which we have in common with brutes.

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They made us look up to heaven, and bethink our selves, that we act our several parts, in the eye of an all-seeing Spirit, who hath both power to reward, and wisdom to direct our actions: that the perfection and end of our being, is to imitate our great creator. And, because it is impossible for thoughts, truly great and generous, to inhabit a soul taken up, and filled with the present life, therefore they have taught us to overlook this short transient being, and extend our view to long after-scenes of eternity.

All which useful and sublime truths, though nowhere so generally known, and deeply imprinted on men's minds, as where the pure doctrine of the gospel is preached, yet are in some degree natural to all men being discovered as hath been already observed by the light of nature, and that heavenly ray of reason which breaks through the clouds of passion ignorance and prejudice, in all parts and all ages of the world. And, forasmuch as all public societies, as well as private men, have been observed to thrive and flourish, in proportion as they have been influenced by these noble maxims, therefore, not only the ministers of the gospel, but also Philosophers sages and lawgivers, who have been lovers of mankind alwaies made it their principal care, to cherish and inculcate the great truths of religion. And, religion is nothing else but the conforming our faith and practice to the will of god. To this single point may be reduced, all religion, all moral vertue, all human happiness. For, what else is the design and aim of vertue or religion, but the making our several distinct wills coincident with, and subordinate to, the one Supreme will of God? In which coincidence or subordination, all our happiness is included: whether, with Epicureans, we place it in the pleasures of sense, or with others in living according to nature, or with some others in a calm constant tenor of mind, undisturbed by appetite or passion. For it is certain that as the miseries incident to mankind, arise from the irregularity of the passions, senses and natural inclinations, so our happiness consists in their subordination to right reason and in governing them by just rules. But

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there is no reason so right, no rule so just, as the will of god, a compliance wherewith doth, consequently, include the gratification of all our faculties, that is to say, all the various kinds of happiness, that our nature is capable of, or that ever have been imagined by the several sects of thinking men.

While the inferior faculties remain subordinate, and conformed to the sovereign reason of God, there is an agreeable harmony in the moral world, the several parts whereof conspire, to form one beautiful and orderly system. And it is not in the power of man, to conceive a more compleat degree of happiness, than that which must ensue from such orderly subjection to, and concurrence with the will of God. So long as our wills are coincident with his, we enjoy calm and peace, and cheerfulness, neither disturbed within by any remorse for our own actions nor mortify'd by any outward accidents: not engaged in vain pursuits, nor worried by fantastical appetites, but content to satisfy the demands of nature and reason.

This is the way to render our pilgrimage smooth and easy: this in truth is living up to nature, and whatever is natural the same is agreeable. Some indeed by living according to nature, would seem to understand obeying their appetites and passions in a blind and brutal manner. But it is most evident, that nothing can be more contrary to the nature of man whose distinguishing character being reason, whatsoever is most reasonable is most natural to him. Hence it follows, that nothing is more natural, or suitable to mankind, than a vertuous regular course of life governed by the light of nature and by the precepts of revealed religion, that is to say, by the will of God.

And, as nothing is more natural, so is there nothing more becoming, than a behaviour ingenuous, upright, uniform, not warped by private interests and mean affections, but conformed to the unerring rules of righteousness, those rules, which God hath willed and ordained for his own glory, and the good of his creatures. The will or mind of man, in this subordinate regular situation, may be said to act in its proper sphere, and answer the ends

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for which it was created. But when the will of man is not thus subordinate to the divine will, it is, properly speaking, dislocated, and must, of consequence, be restless and uneasy, so long as it remains in that unnatural state. From what hath been said it follows, that it is incumbent on every one of us, to study and to practise the will of God. And that we may be induced to perform this with care and assiduity, we have the most convincing proofs that it is our interest and duty, our happiness and perfection.

May the great and good God open our eyes, to perceive and know his will, and inspire our hearts with zeal to perform it here on earth, that, through the assistance of his grace, we may fit and prepare our selves to be admitted, into the Society of those blessed Spirits, whose constant happiness and employment it is, to perform the divine will in Heaven.

Now to God the father etc.

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1. Text taken from *The Works of George Berkeley, Bishop of Cloyne* (ed.s) A. A. Luce and T. E. Jessop, 9 vols, vol 2 (London: Nelson, 1948-1957). Page numbers refer to their text. 21 [↑](#footnote-ref-1)
2. 22, 23. [↑](#footnote-ref-2)
3. 24, 25. [↑](#footnote-ref-3)
4. 26 [↑](#footnote-ref-4)
5. 27 [↑](#footnote-ref-5)
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