**Empiricism**

Taught by Hugh Hunter

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Table of Contents

[Gallileo, The Assayer (1623) 1](#_Toc439622212)

[[Sec. 1.] The Assayer (Il Saggiatore) 1](#_Toc439622213)

[Locke, Essay Concerning Human Understanding (1689), Bk. 1 4](#_Toc439622214)

[[Sec. 2.] Introduction 1.1.1 – 5 4](#_Toc439622215)

[[Sec. 3.] Chapter 2. NO INNATE PRINCIPLES IN THE MIND. 6](#_Toc439622216)

[Locke, Essay Concerning Human Understanding (1689), Bk. 2 10](#_Toc439622217)

[[Sec. 4.] Chapter 1. OF IDEAS IN GENERAL, AND THEIR ORIGINAL. 10](#_Toc439622218)

[[Sec. 5.] Chapter 2. OF SIMPLE IDEAS. 17](#_Toc439622219)

[[Sec. 6.] Chapter 3. OF IDEAS OF ONE SENSE. 18](#_Toc439622220)

[[Sec. 7.] Chapter 4. OF SOLIDITY. 19](#_Toc439622221)

[[Sec. 8.] Chapter 5. OF SIMPLE IDEAS OF DIVERS SENSES. 22](#_Toc439622222)

[[Sec. 9.] Chapter 6. OF SIMPLE IDEAS OF REFLECTION. 22](#_Toc439622223)

[[Sec. 10.] Chapter 7. OF SIMPLE IDEAS OF BOTH SENSATION AND REFLECTION. 22](#_Toc439622224)

[[Sec. 11.] Chapter 8. SOME FARTHER CONSIDERATIONS CONCERNING OUR SIMPLE IDEAS. 25](#_Toc439622225)

[[Sec. 12.] Chapter 9. OF PERCEPTION. 31](#_Toc439622226)

[[Sec. 13.] Chapter 10. OF RETENTION. 32](#_Toc439622227)

[[Sec. 14.] Chapter 11. OF DISCERNING, AND OTHER OPERATIONS OF THE MIND. 33](#_Toc439622228)

[[Sec. 15.] Chapter 13. OF SIMPLE MODES, AND FIRST, OF THE SIMPLE MODES OF SPACE. 37](#_Toc439622229)

[[Sec. 16.] Chapter 17. OF INFINITY. 41](#_Toc439622230)

[[Sec. 17.] Chapter 19. OF THE MODES OF THINKING. 43](#_Toc439622231)

[[Sec. 18.] Chapter 20. OF MODES OF PLEASURE AND PAIN. 44](#_Toc439622232)

[[Sec. 19.] Chapter 21. OF POWER. 45](#_Toc439622233)

[[Sec. 20.] Chapter 22. OF MIXED MODES. 55](#_Toc439622234)

[[Sec. 21.] Chapter 23. OF OUR COMPLEX IDEAS OF SUBSTANCES. 56](#_Toc439622235)

[[Sec. 22.] Chapter 25. OF RELATION. 65](#_Toc439622236)

[[Sec. 23.] Chapter 27. OF IDENTITY AND DIVERSITY. 66](#_Toc439622237)

[Locke, Essay Concerning Human Understanding (1689), Bk. 3 79](#_Toc439622238)

[[Sec. 24.] Chapter 3. OF GENERAL TERMS. 79](#_Toc439622239)

[[Sec. 25.] Chapter 6. OF THE NAMES OF SUBSTANCES. 84](#_Toc439622240)

[Locke, Essay Concerning Human Understanding (1689), Bk. 4 92](#_Toc439622241)

[[Sec. 26.] Chapter 1. OF KNOWLEDGE IN GENERAL. 92](#_Toc439622242)

[[Sec. 27.] Chapter 2. OF THE DEGREES OF OUR KNOWLEDGE. 95](#_Toc439622243)

[[Sec. 28.] Chapter 3. OF THE EXTENT OF HUMAN KNOWLEDGE. 97](#_Toc439622244)

[[Sec. 29.] Chapter 9. OF OUR KNOWLEDGE OF EXISTENCE. 100](#_Toc439622245)

[[Sec. 30.] Chapter 10. OF OUR KNOWLEDGE OF THE EXISTENCE OF A GOD. 101](#_Toc439622246)

[[Sec. 31.] Chapter 11. OF OUR KNOWLEDGE OF THE EXISTENCE OF OTHER THINGS. 108](#_Toc439622247)

[Leibniz, Monadology (1714) 115](#_Toc439622248)

[[Sec. 32.] G. W. Leibniz, *Monadology* 1-6 115](#_Toc439622249)

[Malebranche, *The Search After Truth* (1674–75) 116](#_Toc439622250)

[[Sec. 33.] Book 3, Part 2, Chapter 1 116](#_Toc439622251)

[[Sec. 34.] Book 6, Part 2, Chapter 3 116](#_Toc439622252)

[Malebranche, Elucidations of the Search After Truth (1678) 120](#_Toc439622253)

[[Sec. 35.] 6th Elucidation: Knowledge of the Existence of Bodies 120](#_Toc439622254)

[Bayle, Dictionary (1697) 121](#_Toc439622255)

[[Sec. 36.] Entry: **Pyrrho** 121](#_Toc439622256)

[Berkeley, *A Treatise concerning The Principles of Human Knowledge* (1710) 123](#_Toc439622257)

[[Sec. 37.] Title 123](#_Toc439622258)

[[Sec. 38.] DEDICATION 124](#_Toc439622259)

[[Sec. 39.] THE PREFACE 125](#_Toc439622260)

[[Sec. 40.] INTRODUCTION 126](#_Toc439622261)

[[Sec. 41.] OF THE PRINCIPLES OF HUMAN KNOWLEDGE PART I (Basics) 138](#_Toc439622262)

[[Sec. 42.] OF THE PRINCIPLES OF HUMAN KNOWLEDGE PART I (Objections and Replies) 140](#_Toc439622263)

[[Sec. 43.] OF THE PRINCIPLES OF HUMAN KNOWLEDGE PART I (Development of Immaterialism) 165](#_Toc439622264)

[Berkeley, Philosophical Correspondence between Berkeley and Samuel Johnson, (1729-30) 191](#_Toc439622265)

[[Sec. 44.] I JOHNSON TO BERKELEY: 191](#_Toc439622266)

[[Sec. 45.] II BERKELEY TO JOHNSON 197](#_Toc439622267)

[[Sec. 46.] III JOHNSON TO BERKELEY: TO THE REV'D DR. BERKELEY 200](#_Toc439622268)

[[Sec. 47.] IV BERKELEY TO JOHNSON 206](#_Toc439622269)

[Berkeley, Alciphron, or the Minute Philosopher, (1732) 209](#_Toc439622270)

[[Sec. 48.] 16. No religion, because no human liberty 209](#_Toc439622271)

[[Sec. 49.] 17. Farther proof against human liberty 210](#_Toc439622272)

[[Sec. 50.] 18. Fatalism a consequence of erroneous suppositions 212](#_Toc439622273)

[[Sec. 51.] 19. Man an accountable agent 214](#_Toc439622274)

[[Sec. 52.] 20. Inconsistency, singularity, and credulity of minute philosophers 214](#_Toc439622275)

[Hume, *An Enquiry Concerning Human Understanding*, (1748) 217](#_Toc439622276)

[[Sec. 53.] SECTION I OF THE DIFFERENT SPECIES OF PHILOSOPHY. 217](#_Toc439622277)

[[Sec. 54.] SECTION II OF THE ORIGIN OF IDEAS 222](#_Toc439622278)

[[Sec. 55.] SECTION III OF THE ASSOCIATION OF IDEAS 226](#_Toc439622279)

[[Sec. 56.] SECTION IV SCEPTICAL DOUBTS CONCERNING THE OPERATIONS OF THE UNDERSTANDING, PART I 227](#_Toc439622280)

[[Sec. 57.] SECTION IV SCEPTICAL DOUBTS CONCERNING THE OPERATIONS OF THE UNDERSTANDING, PART II 230](#_Toc439622281)

[[Sec. 58.] SECTION V SCEPTICAL SOLUTION OF THESE DOUBTS, PART I 234](#_Toc439622282)

[[Sec. 59.] SECTION V SCEPTICAL SOLUTION OF THESE DOUBTS, PART II 237](#_Toc439622283)

[[Sec. 60.] SECTION VI OF PROBABILITY 243](#_Toc439622284)

[[Sec. 61.] SECTION VII OF THE IDEA OF NECESSARY CONNEXION PART I 244](#_Toc439622285)

[[Sec. 62.] SECTION VII OF THE IDEA OF NECESSARY CONNEXION, PART II 251](#_Toc439622286)

[[Sec. 63.] SECTION VIII OF LIBERTY AND NECESSITY, PART I 255](#_Toc439622287)

[[Sec. 64.] SECTION VIII OF LIBERTY AND NECESSITY, PART II 263](#_Toc439622288)

[[Sec. 65.] SECTION IX OF THE REASON OF ANIMALS 267](#_Toc439622289)

[[Sec. 66.] SECTION X OF MIRACLES, PART I 270](#_Toc439622290)

[[Sec. 67.] SECTION X OF MIRACLES, PART II 273](#_Toc439622291)

[[Sec. 68.] SECTION XI OF A PARTICULAR PROVIDENCE AND OF A FUTURE STATE 282](#_Toc439622292)

[[Sec. 69.] SECTION XII OF THE ACADEMICAL OR SCEPTICAL PHILOSOPHY, PART I 291](#_Toc439622293)

[[Sec. 70.] SECTION XII OF THE ACADEMICAL OR SCEPTICAL PHILOSOPHY, PART II 294](#_Toc439622294)

[[Sec. 71.] SECTION XII OF THE ACADEMICAL OR SCEPTICAL PHILOSOPHY, PART III 297](#_Toc439622295)

[Hume, Treatise of Human Nature, (1737-1739) 301](#_Toc439622296)

[[Sec. 72.] Appendix 301](#_Toc439622297)

# 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. | 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 y 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 i n 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, *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, 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).

― 271 ―

## 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.

― 272 ―

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

― 273 ―

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

― 274 ―

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

― 275 ―

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

― 276 ―

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

― 277 ―

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

― 278 ―

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

― 279 ―

## 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

― 280 ―

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

― 281 ―

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

― 282 ―

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.

― 283 ―

(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.

― 284 ―

## 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.

― 285 ―

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

― 286 ―

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*

― 287 ―

*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

― 288 ―

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,

― 289 ―

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

― 290 ―

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

― 291 ―

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]

― 292 ―

## 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.

― 293 ―

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

― 294 ―

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

― 310 ―

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

― 311 ―

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

― 312 ―

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.

― 313 ―

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,

― 314 ―

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

― 315 ―

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.

― 316 ―

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

― 317 ―

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

― 318 ―

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.

# Hume, *An Enquiry Concerning Human Understanding*, (1748)

P. H. Nidditch (ed.) (Oxford: Oxford University Press, 1975)

## SECTION I OF THE DIFFERENT SPECIES OF PHILOSOPHY.

MORAL philosophy, or the science of human nature, may be treated after two different manners; each of which has its peculiar merit, and may contribute to the entertainment, instruction, and reformation of mankind. The one considers man chiefly as born for action; and as influenced in his measures by taste and sentiment; pursuing one object, and avoiding another, according to the value which these objects seem to possess, and according to the light in which they present themselves. As virtue, of all objects, is allowed to be the most valuable, this species of philosophers paint her in the most amiable colours; borrowing all helps from poetry and eloquence, and treating their subject in an easy and obvious manner, and such as is best fitted to please the imagination, and engage the affections. They select the most striking observations and instances from common life; place opposite characters in a proper contrast; and alluring us into the paths of virtue by the views of glory and happiness, direct our steps in these paths by the soundest precepts and most illustrious examples. They make us feel the difference between vice and virtue; they excite and regulate our sentiments; and so they can but bend our hearts to the love of probity and true honour, they think, that they have fully attained the end of all their labours.

The other species of philosophers consider man in the light of a reasonable rather than an active being, and endeavour to form his understanding more than cultivate his manners. They regard human nature as a subject of speculation; and with a narrow scrutiny examine it, in order to find those principles, which regulate our understanding, excite our sentiments, and make us approve or blame any particular object, action, or behaviour. They think it a reproach to all literature, that philosophy should not yet have fixed, beyond controversy, the foundation of morals, reasoning, and criticism; and should for ever talk of truth and falsehood, vice and virtue, beauty and deformity, without being able to determine the source of these distinctions. While they attempt this arduous task, they are deterred by no difficulties; but proceeding from particular instances to general principles, they still push on their enquiries to principles more general, and rest not satisfied till they arrive at those original principles, by which, in every science, all human curiosity must be bounded. Though their speculations seem abstract, and even unintelligible to common readers, they aim at the approbation of the learned and the wise; and think themselves sufficiently compensated for the labour of their whole lives, if they can discover some hidden truths, which may contribute to the instruction of posterity.

It is certain that the easy and obvious philosophy will always, with the generality of mankind, have the preference above the accurate and abstruse; and by many will be recommended, not only as more agreeable, but more useful than the other. It enters more into common life; moulds the heart and affections; and, by touching those principles which actuate men, reforms their conduct, and brings them nearer to that model of perfection which it describes. On the contrary, the abstruse philosophy, being founded on a turn of mind, which cannot enter into business and action, vanishes when the philosopher leaves the shade, and comes into open day; nor can its principles easily retain any influence over our conduct and behaviour. The feelings of our heart, the agitation of our passions, the vehemence of our affections, dissipate all its conclusions, and reduce the profound philosopher to a mere plebeian.

This also must be confessed, that the most durable, as well as justest fame, has been acquired by the easy philosophy, and that abstract reasoners seem hitherto to have enjoyed only a momentary reputation, from the caprice or ignorance of their own age, but have not been able to support their renown with more equitable posterity. It is easy for a profound philosopher to commit a mistake in his subtile reasonings; and one mistake is the necessary parent of another, while he pushes on his consequences, and is not deterred from embracing any conclusion, by its unusual appearance, or its contradiction to popular opinion. But a philosopher, who purposes only to represent the common sense of mankind in more beautiful and more engaging colours, if by accident he falls into error, goes no farther; but renewing his appeal to common sense, and the natural sentiments of the mind, returns into the right path, and secures himself from any dangerous illusions. The fame of Cicero flourishes at present; but that of Aristotle is utterly decayed. La Bruyere passes the seas, and still maintains his reputation: but the glory of Malebranche is confined to his own nation, and to his own age. And Addison, perhaps, will be read with pleasure, when Locke shall be entirely forgotten.

The mere philosopher is a character, which is commonly but little acceptable in the world, as being supposed to contribute nothing either to the advantage or pleasure of society; while he lives remote from communication with mankind, and is wrapped up in principles and notions equally remote from their comprehension. On the other hand, the mere ignorant is still more despised; nor is any thing deemed a surer sign of an illiberal genius in an age and nation where the sciences flourish, than to be entirely destitute of all relish for those noble entertainments. The most perfect character is supposed to lie between those extremes; retaining an equal ability and taste for books, company, and business; preserving in conversation that discernment and delicacy which arise from polite letters; and in business, that probity and accuracy which are the natural result of a just philosophy. In order to diffuse and cultivate so accomplished a character, nothing can be more useful than compositions of the easy style and manner, which draw not too much from life, require no deep application or retreat to be comprehended, and send back the student among mankind full of noble sentiments and wise precepts, applicable to every exigence of human life. By means of such compositions, virtue becomes amiable, science agreeable, company instructive, and retirement entertaining.

Man is a reasonable being; and as such, receives from science his proper food and nourishment: But so narrow are the bounds of human understanding, that little satisfaction can be hoped for in this particular, either from the extent of security or his acquisitions. Man is a sociable, no less than a reasonable being: but neither can he always enjoy company agreeable and amusing, or preserve the proper relish for them. Man is also an active being; and from that disposition, as well as from the various necessities of human life, must submit to business and occupation: but the mind requires some relaxation, and cannot always support its bent to care and industry. It seems, then, that nature has pointed out a mixed kind of life as most suitable to the human race, and secretly admonished them to allow none of these biases to draw too much, so as to incapacitate them for other occupations and entertainments. Indulge your passion for science, says she, but let your science be human, and such as may have a direct reference to action and society. Abstruse thought and profound researches I prohibit, and will severely punish, by the pensive melancholy which they introduce, by the endless uncertainty in which they involve you, and by the cold reception which your pretended discoveries shall meet with, when communicated. Be a philosopher; but, amidst all your philosophy, be still a man.

Were the generality of mankind contented to prefer the easy philosophy to the abstract and profound, without throwing any blame or contempt on the latter, it might not be improper, perhaps, to comply with this general opinion, and allow every man to enjoy, without opposition, his own taste and sentiment. But as the matter is often carried farther, even to the absolute rejecting of all profound reasonings, or what is commonly called metaphysics, we shall now proceed to consider what can reasonably be pleaded in their behalf.

We may begin with observing, that one considerable advantage, which results from the accurate and abstract philosophy, is, its subserviency to the easy and humane; which, without the former, can never attain a sufficient degree of exactness in its sentiments, precepts, or reasonings. All polite letters are nothing but pictures of human life in various attitudes and situations; and inspire us with different sentiments, of praise or blame, admiration or ridicule, according to the qualities of the object, which they set before us. An artist must be better qualified to succeed in this undertaking, who, besides a delicate taste and a quick apprehension, possesses an accurate knowledge of the internal fabric, the operations of the understanding, the workings of the passions, and the various species of sentiment which discriminate vice and virtue. How painful soever this inward search or enquiry may appear, it becomes, in some measure, requisite to those, who would describe with success the obvious and outward appearances of life and manners. The anatomist presents to the eye the most hideous and disagreeable objects; but his science is useful to the painter in delineating even a Venus or an Helen. While the latter employs all the richest colours of his art, and gives his figures the most graceful and engaging airs; he must still carry his attention to the inward structure of the human body, the position of the muscles, the fabric of the bones, and the use and figure of every part or organ. Accuracy is, in every case, advantageous to beauty, and just reasoning to delicate sentiment. In vain would we exalt the one by depreciating the other.

Besides, we may observe, in every art or profession, even those which most concern life or action, that a spirit of accuracy, however acquired, carries all of them nearer their perfection, and renders them more subservient to the interests of society. And though a philosopher may live remote from business, the genius of philosophy, if carefully cultivated by several, must gradually diffuse itself throughout the whole society, and bestow a similar correctness on every art and calling. The politician will acquire greater foresight and subtility, in the subdividing and balancing of power; the lawyer more method and finer principles in his reasonings; and the general more regularity in his discipline, and more caution in his plans and operations. The stability of modern governments above the ancient, and the accuracy of modern philosophy, have improved, and probably will still improve, by similar gradations.

Were there no advantage to be reaped from these studies, beyond the gratification of an innocent curiosity, yet ought not even this to be despised; as being one accession to those few safe and harmless pleasures, which are bestowed on the human race. The sweetest and most inoffensive path of life leads through the avenues of science and learning; and whoever can either remove any obstructions in this way, or open up any new prospect, ought so far to be esteemed a benefactor to mankind. And though these researches may appear painful and fatiguing, it is with some minds as with some bodies, which being endowed with vigorous and florid health, require severe exercise, and reap a pleasure from what, to the generality of mankind, may seem burdensome and laborious. Obscurity, indeed, is painful to the mind as well as to the eye; but to bring light from obscurity, by whatever labour, must needs be delightful and rejoicing.

But this obscurity in the profound and abstract philosophy, is objected to, not only as painful and fatiguing, but as the inevitable source of uncertainty and error. Here indeed lies the justest and most plausible objection against a considerable part of metaphysics, that they are not properly a science; but arise either from the fruitless efforts of human vanity, which would penetrate into subjects utterly inaccessible to the understanding, or from the craft of popular superstitions, which, being unable to defend themselves on fair ground, raise these intangling brambles to cover and protect their weakness. Chased from the open country, these robbers fly into the forest, and lie in wait to break in upon every unguarded avenue of the mind, and overwhelm it with religious fears and prejudices. The stoutest antagonist, if he remit his watch a moment, is oppressed. And many, through cowardice and folly, open the gates to the enemies, and willingly receive them with reverence and submission, as their legal sovereigns.

But is this a sufficient reason, why philosophers should desist from such researches, and leave superstition still in possession of her retreat? Is it not proper to draw an opposite conclusion, and perceive the necessity of carrying the war into the most secret recesses of the enemy? In vain do we hope, that men, from frequent disappointment, will at last abandon such airy sciences, and discover the proper province of human reason. For, besides, that many persons find too sensible an interest in perpetually recalling such topics; besides this, I say, the motive of blind despair can never reasonably have place in the sciences; since, however unsuccessful former attempts may have proved, there is still room to hope, that the industry, good fortune, or improved sagacity of succeeding generations may reach discoveries unknown to former ages. Each adventurous genius will still leap at the arduous prize, and find himself stimulated, rather than discouraged, by the failures of his predecessors; while he hopes that the glory of achieving so hard an adventure is reserved for him alone. The only method of freeing learning, at once, from these abstruse questions, is to enquire seriously into the nature of human understanding, and show, from an exact analysis of its powers and capacity, that it is by no means fitted for such remote and abstruse subjects. We must submit to this fatigue in order to live at ease ever after: and must cultivate true metaphysics with some care, in order to destroy the false and adulterate. Indolence, which, to some persons, affords a safeguard against this deceitful philosophy, is, with others, overbalanced by curiosity; and despair, which, at some moments, prevails, may give place afterwards to sanguine hopes and expectations. Accurate and just reasoning is the only catholic remedy, fitted for all persons and all dispositions; and is alone able to subvert that abstruse philosophy and metaphysical jargon, which being mixed up with popular superstition, renders it in a manner impenetrable to careless reasoners, and gives it the air of science and wisdom.

Besides this advantage of rejecting, after deliberate enquiry, the most uncertain and disagreeable part of learning, there are many positive advantages, which result from an accurate scrutiny into the powers and faculties of human nature. It is remarkable concerning the operations of the mind, that, though most intimately present to us, yet, whenever they become the object of reflexion, they seem involved in obscurity; nor can the eye readily find those lines and boundaries, which discriminate and distinguish them. The objects are too fine to remain long in the same aspect or situation; and must be apprehended in an instant, by a superior penetration, derived from nature, and improved by habit and reflexion. It becomes, therefore, no inconsiderable part of science barely to know the different operations of the mind, to separate them from each other, to class them under their proper heads, and to correct all that seeming disorder, in which they lie involved, when made the object of reflexion and enquiry. This talk of ordering and distinguishing, which has no merit, when performed with regard to external bodies, the objects of our senses, rises in its value, when directed towards the operations of the mind, in proportion to the difficulty and labour, which we meet with in performing it. And if we can go no farther than this mental geography, or delineation of the distinct parts and powers of the mind, it is at least a satisfaction to go so far; and the more obvious this science may appear (and it is by no means obvious) the more contemptible still must the ignorance of it be esteemed, in all pretenders to learning and philosophy.

Nor can there remain any suspicion, that this science is uncertain and chimerical; unless we should entertain such a scepticism as is entirely subversive of all speculation, and even action. It cannot be doubted, that the mind is endowed with several powers and faculties, that these powers are distinct from each other, that what is really distinct to the immediate perception may be distinguished by reflexion; and consequently, that there is a truth and falsehood in all propositions on this subject, and a truth and falsehood, which lie not beyond the compass of human understanding. There are many obvious distinctions of this kind, such as those between the will and understanding, the imagination and passions, which fall within the comprehension of every human creature; and the finer and more philosophical distinctions are no less real and certain, though more difficult to be comprehended. Some instances, especially late ones, of success in these enquiries, may give us a juster notion of the certainty and solidity of this branch of learning. And shall we esteem it worthy the labour of a philosopher to give us a true system of the planets, and adjust the position and order of those remote bodies; while we affect to overlook those, who, with so much success, delineate the parts of the mind, in which we are so intimately concerned?

But may we not hope, that philosophy, cultivated with care, and encouraged by the attention of the public, may carry its researches still farther, and discover, at least in some degree, the secret springs and principles, by which the human mind is actuated in its operations? Astronomers had long contented themselves with proving, from the phaenomena, the true motions, order, and magnitude of the heavenly bodies: till a philosopher, at last, arose, who seems, from the happiest reasoning, to have also determined the laws and forces, by which the revolutions of the planets are governed and directed. The like has been performed with regard to other parts of nature. And there is no reason to despair of equal success in our enquiries concerning the mental powers and economy, if prosecuted with equal capacity and caution. It is probable, that one operation and principle of the mind depends on another; which, again, may be resolved into one more general and universal: and how far these researches may possibly be carried, it will be difficult for us, before, or even after, a careful trial, exactly to determine. This is certain, that attempts of this kind are every day made even by those who philosophize the most negligently: and nothing can be more requisite than to enter upon the enterprize with thorough care and attention; that, if it lie within the compass of human understanding, it may at last be happily achieved; if not, it may, however, be rejected with some confidence and security. This last conclusion, surely, is not desirable; nor ought it to be embraced too rashly. For how much must we diminish from the beauty and value of this species of philosophy, upon such a supposition? Moralists have hitherto been accustomed, when they considered the vast multitude and diversity of those actions that excite our approbation or dislike, to search for some common principle, on which this variety of sentiments might depend. And though they have sometimes carried the matter too far, by their passion for some one general principle; it must, however, be confessed, that they are excusable in expecting to find some general principles, into which all the vices and virtues were justly to be resolved. The like has been the endeavour of critics, logicians, and even politicians: nor have their attempts been wholly unsuccessful; though perhaps longer time, greater accuracy, and more ardent application may bring these sciences still nearer their perfection. To throw up at once all pretensions of this kind may justly be deemed more rash, precipitate, and dogmatical, than even the boldest and most affirmative philosophy, that has ever attempted to impose its crude dictates and principles on mankind.

What though these reasonings concerning human nature seem abstract, and of difficult comprehension? This affords no presumption of their falsehood. On the contrary, it seems impossible, that what has hitherto escaped so many wise and profound philosophers can be very obvious and easy. And whatever pains these researches may cost us, we may think ourselves sufficiently rewarded, not only in point of profit but of pleasure, if, by that means, we can make any addition to our stock of knowledge, in subjects of such unspeakable importance.

But as, after all, the abstractedness of these speculations is no recommendation, but rather a disadvantage to them, and as this difficulty may perhaps be surmounted by care and art, and the avoiding of all unnecessary detail, we have, in the following enquiry, attempted to throw some light upon subjects, from which uncertainty has hitherto deterred the wise, and obscurity the ignorant. Happy, if we can unite the boundaries of the different species of philosophy, by reconciling profound enquiry with clearness, and truth with novelty! And still more happy, if, reasoning in this easy manner, we can undermine the foundations of an abstruse philosophy, which seems to have hitherto served only as a shelter to superstition, and a cover to absurdity and error!

## SECTION II OF THE ORIGIN OF IDEAS

EVERY one will readily allow, that there is a considerable difference between the perceptions of the mind, when a man feels the pain of excessive heat, or the pleasure of moderate warmth, and when he afterwards recalls to his memory this sensation, or anticipates it by his imagination. These faculties may mimic or copy the perceptions of the senses; but they never can entirely reach the force and vivacity of the original sentiment. The utmost we say of them, even when they operate with greatest vigour, is, that they represent their object in so lively a manner, that we could almost say we feel or see it: But, except the mind be disordered by disease or madness, they never can arrive at such a pitch of vivacity, as to render these perceptions altogether undistinguishable. All the colours of poetry, however splendid, can never paint natural objects in such a manner as to make the description be taken for a real landskip. The most lively thought is still inferior to the dullest sensation.

We may observe a like distinction to run through all the other perceptions of the mind. A man in a fit of anger, is actuated in a very different manner from one who only thinks of that emotion. If you tell me, that any person is in love, I easily understand your meaning, and from a just conception of his situation; but never can mistake that conception for the real disorders and agitations of the passion. When we reflect on our past sentiments and affections, our thought is a faithful mirror, and copies its objects truly; but the colours which it employs are faint and dull, in comparison of those in which our original perceptions were clothed. It requires no nice discernment or metaphysical head to mark the distinction between them.

Here therefore we may divide all the perceptions of the mind into two classes or species, which are distinguished by their different degrees of force and vivacity. The less forcible and lively are commonly denominated Thoughts or Ideas. The other species want a name in our language, and in most others; I suppose, because it was not requisite for any, but philosophical purposes, to rank them under a general term or appellation. Let us, therefore, use a little freedom, and call them Impressions; employing that word in a sense somewhat different from the usual. By the term impression, then, I mean all our more lively perceptions, when we hear, or see, or feel, or love, or hate, or desire, or will. And impressions are distinguished from ideas, which are the less lively perceptions, of which we are conscious, when we reflect on any of those sensations or movements above mentioned.

Nothing, at first view, may seem more unbounded than the thought of man, which not only escapes all human power and authority, but is not even restrained within the limits of nature and reality. To form monsters, and join incongruous shapes and appearances, costs the imagination no more trouble than to conceive the most natural and familiar objects. And while the body is confined to one planet, along which it creeps with pain and difficulty; the thought can in an instant transport us into the most distant regions of the universe; or even beyond the universe, into the unbounded chaos, where nature is supposed to lie in total confusion. What never was seen, or heard of, may yet be conceived; nor is any thing beyond the power of thought, except what implies an absolute contradiction.

But though our thought seems to possess this unbounded liberty, we shall find, upon a nearer examination, that it is really confined within very narrow limits, and that all this creative power of the mind amounts to no more than the faculty of compounding, transposing, augmenting, or diminishing the materials afforded us by the senses and experience. When we think of a golden mountain, we only join two consistent ideas, gold, and mountain, with which we were formerly acquainted. A virtuous horse we can conceive; because, from our own feeling, we can conceive virtue; and this we may unite to the figure and shape of a horse, which is an animal familiar to us. In short, all the materials of thinking are derived either from our outward or inward sentiment: the mixture and composition of these belongs alone to the mind and will. Or, to express myself in philosophical language, all our ideas or more feeble perceptions are copies of our impressions or more lively ones.

To prove this, the two following arguments will, I hope, be sufficient. First, when we analyze our thoughts or ideas, however compounded or sublime, we always find that they resolve themselves into such simple ideas as were copied from a precedent feeling or sentiment. Even those ideas, which, at first view, seem the most wide of this origin, are found, upon a nearer scrutiny, to be derived from it. The idea of God, as meaning an infinitely intelligent, wise, and good Being, arises from reflecting on the operations of our own mind, and augmenting, without limit, those qualities of goodness and wisdom. We may prosecute this enquiry to what length we please; where we shall always find, that every idea which we examine is copied from a similar impression. Those who would assert that this position is not universally true nor without exception, have only one, and that an easy method of refuting it; by producing that idea, which, in their opinion, is not derived from this source. It will then be incumbent on us, if we would maintain our doctrine, to produce the impression, or lively perception, which corresponds to it.

Secondly. If it happen, from a defect of the organ, that a man is not susceptible of any species of sensation, we always find that he is as little susceptible of the correspondent ideas. A blind man can form no notion of colours; a deaf man of sounds. Restore either of them that sense in which he is deficient; by opening this new inlet for his sensations, you also open an inlet for the ideas; and he finds no difficulty in conceiving these objects. The case is the same, if the object, proper for exciting any sensation, has never been applied to the organ. A Laplander or Negro has no notion of the relish of wine. And though there are few or no instances of a like deficiency in the mind, where a person has never felt or is wholly incapable of a sentiment or passion that belongs to his species; yet we find the same observation to take place in a less degree. A man of mild manners can form no idea of inveterate revenge or cruelty; nor can a selfish heart easily conceive the heights of friendship and generosity. It is readily allowed, that other beings may possess many senses of which we can have no conception; because the ideas of them have never been introduced to us in the only manner by which an idea can have access to the mind, to wit, by the actual feeling and sensation.

There is, however, one contradictory phenomenon, which may prove that it is not absolutely impossible for ideas to arise, independent of their correspondent impressions. I believe it will readily be allowed, that the several distinct ideas of colour, which enter by the eye, or those of sound, which are conveyed by the ear, are really different from each other; though, at the same time, resembling. Now if this be true of different colours, it must be no less so of the different shades of the same colour; and each shade produces a distinct idea, independent of the rest. For if this should be denied, it is possible, by the continual gradation of shades, to run a colour insensibly into what is most remote from it; and if you will not allow any of the means to be different, you cannot, without absurdity, deny the extremes to be the same. Suppose, therefore, a person to have enjoyed his sight for thirty years, and to have become perfectly acquainted with colours of all kinds except one particular shade of blue, for instance, which it never has been his fortune to meet with. Let all the different shades of that colour, except that single one, be placed before him, descending gradually from the deepest to the lightest; it is plain that he will perceive a blank, where that shade is wanting, and will be sensible that there is a greater distance in that place between the contiguous colour than in any other. Now I ask, whether it be possible for him, from his own imagination, to supply this deficiency, and raise up to himself the idea of that particular shade, though it had never been conveyed to him by his senses? I believe there are few but will be of opinion that he can: and this may serve as a proof that the simple ideas are not always, in every instance, derived from the correspondent impressions; though this instance is so singular, that it is scarcely worth our observing, and does not merit that for it alone we should alter our general maxim.

Here, therefore, is a proposition, which not only seems, in itself, simple and intelligible; but, if a proper use were made of it, might render every dispute equally intelligible, and banish all that jargon, which has so long taken possession of metaphysical reasonings, and drawn disgrace upon them. All ideas, especially abstract ones, are naturally faint and obscure: the mind has but a slender hold of them: they are apt to be confounded with other resembling ideas; and when we have often employed any term, though without a distinct meaning, we are apt to imagine it has a determinate idea annexed to it. On the contrary, all impressions, that is, all sensations, either outward or inward, are strong and vivid: the limits between them are more exactly determined: nor is it easy to fall into any error or mistake with regard to them. When we entertain, therefore, any suspicion that a philosophical term is employed without any meaning or idea (as is but too frequent), we need but enquire, from what impression is that supposed idea derived? And if it be impossible to assign any, this will serve to confirm our suspicion. By bringing ideas into so clear a light we may reasonably hope to remove all dispute, which may arise, concerning their nature and reality. [1]

[1] It is probable that no more was meant by these, who denied innate ideas, than that all ideas were copies of our impressions; though it must be confessed, that the terms, which they employed, were not chosen with such caution, nor so exactly defined, as to prevent all mistakes about their doctrine. For what is meant by innate? If innate be equivalent to natural, then all the perceptions and ideas of the mind must be allowed to be innate or natural, in whatever sense we take the latter word, whether in opposition to what is uncommon, artificial, or miraculous. If by innate be meant, contemporary to our birth, the dispute seems to be frivolous; nor is it worth while to enquire at what time thinking begins, whether before, at, or after our birth. Again, the word idea, seems to be commonly taken in a very loose sense, by LOCKE and others; as standing for any of our perceptions, our sensations and passions, as well as thoughts. Now in this sense, I should desire to know, what can be meant by asserting, that self-love, or resentment of injuries, or the passion between the sexes is not innate?

But admitting these terms, impressions and ideas, in the sense above explained, and understanding by innate, what is original or copied from no precedent perception, then may we assert that all our impressions are innate, and our ideas not innate.

To be ingenuous, I must own it to be my opinion, that LOCKE was betrayed into this question by the schoolmen, who, making use of undefined terms, draw out their disputes to a tedious length, without ever touching the point in question. A like ambiguity and circumlocution seem to run through that philosopher's reasonings on this as well as most other subjects.

## SECTION III OF THE ASSOCIATION OF IDEAS

IT IS evident that there is a principle of connexion between the different thoughts or ideas of the mind, and that in their appearance to the memory or imagination, they introduce each other with a certain degree of method and regularity. In our more serious thinking or discourse this is so observable that any particular thought, which breaks in upon the regular tract or chain of ideas, is immediately remarked and rejected. And even in our wildest and most wandering reveries, nay in our very dreams, we shall find, if we reflect, that the imagination ran not altogether at adventures, but that there was still a connexion upheld among the different ideas, which succeeded each other. Were the loosest and freest conversation to be transcribed, there would immediately be observed something which connected it in all its transitions. Or where this is wanting, the person who broke the thread of discourse might still inform you, that there had secretly revolved in his mind a succession of thought, which had gradually led him from the subject of conversation. Among different languages, even where we cannot suspect the least connexion or communication, it is found, that the words, expressive of ideas, the most compounded, do yet nearly correspond to each other: a certain proof that the simple ideas, comprehended in the compound ones, were bound together by some universal principle, which had an equal influence on all mankind.

Though it be too obvious to escape observation, that different ideas are connected together; I do not find that any philosopher has attempted to enumerate or class all the principles of association; a subject, however, that seems worthy of curiosity. To me, there appear to be only three principles of connexion among ideas, namely, Resemblance, Contiguity in time or place, and Cause or Effect.

That these principles serve to connect ideas will not, I believe, be much doubted. A picture naturally leads our thoughts to the original:[1] the mention of one apartment in a building naturally introduces an enquiry or discourse concerning the others:[2] and if we think of a wound, we can scarcely forbear reflecting on the pain which follows it.[3] But that this enumeration is complete, and that there are no other principles of association except these, may be difficult to prove to the satisfaction of the reader, or even to a man's own satisfaction. All we can do, in such cases, is to run over several instances, and examine carefully the principle which binds the different thoughts to each other, never stopping till we render the principle as general as possible.[4] The more instances we examine, and the more care we employ, the more assurance shall we acquire, that the enumeration, which we form from the whole, is complete and entire.

[1] Resemblance.

[2] Contiguity.

[3] Cause and effect.

[4] For instance, Contrast or Contrariety is also a connexion among Ideas: but it may perhaps, be considered as a mixture of Causation and Resemblance. Where two objects are contrary, the one destroys the other; that is, the cause of its annihilation, and the idea of the annihilation of an object, implies the idea of its former existence.

## SECTION IV SCEPTICAL DOUBTS CONCERNING THE OPERATIONS OF THE UNDERSTANDING, PART I

ALL the objects of human reason or enquiry may naturally be divided into two kinds, to wit, Relations of Ideas, and Matters of Fact. Of the first kind are the sciences of Geometry, Algebra, and Arithmetic; and in short, every affirmation which is either intuitively or demonstratively certain. That the square of the hypothenuse is equal to the square of the two sides, is a proposition which expresses a relation between these figures. That three times five is equal to the half of thirty, expresses a relation between these numbers. Propositions of this kind are discoverable by the mere operation of thought, without dependence on what is anywhere existent in the universe. Though there never were a circle or triangle in nature, the truths demonstrated by Euclid would for ever retain their certainty and evidence.

Matters of fact, which are the second objects of human reason, are not ascertained in the same manner; nor is our evidence of their truth, however great, of a like nature with the foregoing. The contrary of every matter of fact is still possible; because it can never imply a contradiction, and is conceived by the mind with the same facility and distinctness, as if ever so conformable to reality. That the sun will not rise to-morrow is no less intelligible a proposition, and implies no more contradiction than the affirmation, that it will rise. We should in vain, therefore, attempt to demonstrate its falsehood. Were it demonstratively false, it would imply a contradiction, and could never be distinctly conceived by the mind.

It may, therefore, be a subject worthy of curiosity, to enquire what is the nature of that evidence which assures us of any real existence and matter of fact, beyond the present testimony of our senses, or the records of our memory. This part of philosophy, it is observable, has been little cultivated, either by the ancients or moderns; and therefore our doubts and errors, in the prosecution of so important an enquiry, may be the more excusable; while we march through such difficult paths without any guide or direction. They may even prove useful, by exciting curiosity, and destroying that implicit faith and security, which is the bane of all reasoning and free enquiry. The discovery of defects in the common philosophy, if any such there be, will not, I presume, be a discouragement, but rather an incitement, as is usual, to attempt something more full and satisfactory than has yet been proposed to the public.

All reasonings concerning matter of fact seem to be founded on the relation of Cause and Effect. By means of that relation alone we can go beyond the evidence of our memory and senses. If you were to ask a man, why he believes any matter of fact, which is absent; for instance, that his friend is in the country, or in France; he would give you a reason; and this reason would be some other fact; as a letter received from him, or the knowledge of his former resolutions and promises. A man finding a watch or any other machine in a desert island, would conclude that there had once been men in that island. All our reasonings concerning fact are of the same nature. And here it is constantly supposed that there is a connexion between the present fact and that which is inferred from it. Were there nothing to bind them together, the inference would be entirely precarious. The hearing of an articulate voice and rational discourse in the dark assures us of the presence of some person: Why? because these are the effects of the human make and fabric, and closely connected with it. If we anatomize all the other reasonings of this nature, we shall find that they are founded on the relation of cause and effect, and that this relation is either near or remote, direct or collateral. Heat and light are collateral effects of fire, and the one effect may justly be inferred from the other.

If we would satisfy ourselves, therefore, concerning the nature of that evidence, which assures us of matters of fact, we must enquire how we arrive at the knowledge of cause and effect.

I shall venture to affirm, as a general proposition, which admits of no exception, that the knowledge of this relation is not, in any instance, attained by reasonings a priori; but arises entirely from experience, when we find that any particular objects are constantly conjoined with each other. Let an object be presented to a man of ever so strong natural reason and abilities; if that object be entirely new to him, he will not be able, by the most accurate examination of its sensible qualities, to discover any of its causes or effects. Adam, though his rational faculties be supposed, at the very first, entirely perfect, could not have inferred from the fluidity and transparency of water that it would suffocate him, or from the light and warmth of fire that it would consume him. No object ever discovers, by the qualities which appear to the senses, either the causes which produced it, or the effects which will arise from it; nor can our reason, unassisted by experience, ever draw any inference concerning real existence and matter of fact.

This proposition, that causes and effects are discoverable, not by reason but by experience, will readily be admitted with regard to such objects, as we remember to have once been altogether unknown to us; since we must be conscious of the utter inability, which we then lay under, of foretelling what would arise from them. Present two smooth pieces of marble to a man who has no tincture of natural philosophy; he will never discover that they will adhere together in such a manner as to require great force to separate them in a direct line, while they make so small a resistance to a lateral pressure. Such events, as bear little analogy to the common course of nature, are also readily confessed to be known only by experience; nor does any man imagine that the explosion of gunpowder, or the attraction of a loadstone, could ever be discovered by arguments a priori. In like manner, when an effect is supposed to depend upon an intricate machinery or secret structure of parts, we make no difficulty in attributing all our knowledge of it to experience. Who will assert that he can give the ultimate reason, why milk or bread is proper nourishment for a man, not for a lion or a tiger?

But the same truth may not appear, at first sight, to have the same evidence with regard to events, which have become familiar to us from our first appearance in the world, which bear a close analogy to the whole course of nature, and which are supposed to depend on the simple qualities of objects, without any secret structure of parts. We are apt to imagine that we could discover these effects by the mere operation of our reason, without experience. We fancy, that were we brought on a sudden into this world, we could at first have inferred that one Billiard-ball would communicate motion to another upon impulse; and that we needed not to have waited for the event, in order to pronounce with certainty concerning it. Such is the influence of custom, that, where it is strongest, it not only covers our natural ignorance, but even conceals itself, and seems not to take place, merely because it is found in the highest degree.

But to convince us that all the laws of nature, and all the operations of bodies without exception, are known only by experience, the following reflections may, perhaps, suffice. Were any object presented to us, and were we required to pronounce concerning the effect, which will result from it, without consulting past observation; after what manner, I beseech you, must the mind proceed in this operation? It must invent or imagine some event, which it ascribes to the object as its effect; and it is plain that this invention must be entirely arbitrary. The mind can never possibly find the effect in the supposed cause, by the most accurate scrutiny and examination. For the effect is totally different from the cause, and consequently can never be discovered in it. Motion in the second Billiard-ball is a quite distinct event from motion in the first; nor is there anything in the one to suggest the smallest hint of the other. A stone or piece of metal raised into the air, and left without any support, immediately falls: but to consider the matter a priori, is there anything we discover in this situation which can beget the idea of a downward, rather than an upward, or any other motion, in the stone or metal?

And as the first imagination or invention of a particular effect, in all natural operations, is arbitrary, where we consult not experience; so must we also esteem the supposed tie or connexion between the cause and effect, which binds them together, and renders it impossible that any other effect could result from the operation of that cause. When I see, for instance, a Billiard-ball moving in a straight line towards another; even suppose motion in the second ball should by accident be suggested to me, as the result of their contact or impulse; may I not conceive, that a hundred different events might as well follow from that cause? May not both these balls remain at absolute rest? May not the first ball return in a straight line, or leap off from the second in any line or direction? All these suppositions are consistent and conceivable. Why then should we give the preference to one, which is no more consistent or conceivable than the rest? All our reasonings a priori will never be able to show us any foundation for this preference.

In a word, then, every effect is a distinct event from its cause. It could not, therefore, be discovered in the cause, and the first invention or conception of it, a priori, must be entirely arbitrary. And even after it is suggested, the conjunction of it with the cause must appear equally arbitrary; since there are always many other effects, which, to reason, must seem fully as consistent and natural. In vain, therefore, should we pretend to determine any single event, or infer any cause or effect, without the assistance of observation and experience.

Hence we may discover the reason why no philosopher, who is rational and modest, has ever pretended to assign the ultimate cause of any natural operation, or to show distinctly the action of that power, which produces any single effect in the universe. It is confessed, that the utmost effort of human reason is to reduce the principles, productive of natural phenomena, to a greater simplicity, and to resolve the many particular effects into a few general causes, by means of reasonings from analogy, experience, and observation. But as to the causes of these general causes, we should in vain attempt their discovery; nor shall we ever be able to satisfy ourselves, by any particular explication of them. These ultimate springs and principles are totally shut up from human curiosity and enquiry. Elasticity, gravity, cohesion of parts, communication of motion by impulse; these are probably the ultimate causes and principles which we shall ever discover in nature; and we may esteem ourselves sufficiently happy, if, by accurate enquiry and reasoning, we can trace up the particular phenomena to, or near to, these general principles. The most perfect philosophy of the natural kind only staves off our ignorance a little longer: as perhaps the most perfect philosophy of the moral or metaphysical kind serves only to discover larger portions of it. Thus the observation of human blindness and weakness is the result of all philosophy, and meets us at every turn, in spite of our endeavours to elude or avoid it.

Nor is geometry, when taken into the assistance of natural philosophy, ever able to remedy this defect, or lead us into the knowledge of ultimate causes, by all that accuracy of reasoning for which it is so justly celebrated. Every part of mixed mathematics proceeds upon the supposition that certain laws are established by nature in her operations; and abstract reasonings are employed, either to assist experience in the discovery of these laws, or to determine their influence in particular instances, where it depends upon any precise degree of distance and quantity. Thus, it is a law of motion, discovered by experience, that the moment or force of any body in motion is in the compound ratio or proportion of its solid contents and its velocity; and consequently, that a small force may remove the greatest obstacle or raise the greatest weight, if, by any contrivance or machinery, we can increase the velocity of that force, so as to make it an overmatch for its antagonist. Geometry assists us in the application of this law, by giving us the just dimensions of all the parts and figures which can enter into any species of machine; but still the discovery of the law itself is owing merely to experience, and all the abstract reasonings in the world could never lead us one step towards the knowledge of it. When we reason a priori, and consider merely any object or cause, as it appears to the mind, independent of all observation, it never could suggest to us the notion of any distinct object, such as its effect; much less, show us the inseparable and inviolable connexion between them. A man must be very sagacious who could discover by reasoning that crystal is the effect of heat, and ice of cold, without being previously acquainted with the operation of these qualities.

## SECTION IV SCEPTICAL DOUBTS CONCERNING THE OPERATIONS OF THE UNDERSTANDING, PART II

BUT we have not yet attained any tolerable satisfaction with regard to the question first proposed. Each solution still gives rise to a new question as difficult as the foregoing, and leads us on to farther enquiries. When it is asked, What is the nature of all our reasonings concerning matter of fact? the proper answer seems to be, that they are founded on the relation of cause and effect. When again it is asked, What is the foundation of all our reasonings and conclusions concerning that relation? it may be replied in one word, Experience. But if we still carry on our sifting humour, and ask, What is the foundation of all conclusions from experience? this implies a new question, which may be of more difficult solution and explication. Philosophers, that give themselves airs of superior wisdom and sufficiency, have a hard task when they encounter persons of inquisitive dispositions, who push them from every corner to which they retreat, and who are sure at last to bring them to some dangerous dilemma. The best expedient to prevent this confusion, is to be modest in our pretensions; and even to discover the difficulty ourselves before it is objected to us. By this means, we may make a kind of merit of our very ignorance.

I shall content myself, in this section, with an easy task, and shall pretend only to give a negative answer to the question here proposed. I say then, that, even after we have experience of the operations of cause and effect, our conclusions from that experience are not founded on reasoning, or any process of the understanding. This answer we must endeavour both to explain and to defend.

It must certainly be allowed, that nature has kept us at a great distance from all her secrets, and has afforded us only the knowledge of a few superficial qualities of objects; while she conceals from us those powers and principles on which the influence of those objects entirely depends. Our senses inform us of the colour, weight, and consistence of bread; but neither sense nor reason can ever inform us of those qualities which fit it for the nourishment and support of a human body. Sight or feeling conveys an idea of the actual motion of bodies; but as to that wonderful force or power, which would carry on a moving body for ever in a continued change of place, and which bodies never lose but by communicating it to others; of this we cannot form the most distant conception. But notwithstanding this ignorance of natural powers[1] and principles, we always presume, when we see like sensible qualities, that they have like secret powers, and expect that effects, similar to those which we have experienced, will follow from them. If a body of like colour and consistence with that bread, which we have formerly eat, be presented to us, we make no scruple of repeating the experiment, and foresee, with certainty, like nourishment and support. Now this is a process of the mind or thought, of which I would willingly know the foundation. It is allowed on all hands that there is no known connexion between the sensible qualities and the secret powers; and consequently, that the mind is not led to form such a conclusion concerning their constant and regular conjunction, by anything which it knows of their nature. As to past Experience, it can be allowed to give direct and certain information of those precise objects only, and that precise period of time, which fell under its cognizance: but why this experience should be extended to future times, and to other objects, which for aught we know, may be only in appearance similar; this is the main question on which I would insist. The bread, which I formerly eat, nourished me; that is, a body of such sensible qualities was, at that time, endued with such secret powers: but does it follow, that other bread must also nourish me at another time, and that like sensible qualities must always be attended with like secret powers? The consequence seems nowise necessary. At least, it must be acknowledged that there is here a consequence drawn by the mind; that there is a certain step taken; a process of thought, and an inference, which wants to be explained. These two propositions are far from being the same. I have found that such an object has always been attended with such an effect, and I foresee, that other objects, which are, in appearance, similar, will be attended with similar effects. I shall allow, if you please, that the one proposition may justly be inferred from the other: I know, in fact, that it always is inferred. But if you insist that the inference is made by a chain of reasoning, I desire you to produce that reasoning. The connexion between these propositions is not intuitive. There is required a medium, which may enable the mind to draw such an inference, if indeed it be drawn by reasoning and argument. What that medium is, I must confess, passes my comprehension; and it is incumbent on those to produce it, who assert that it really exists, and is the origin of all our conclusions concerning matter of fact.

This negative argument must certainly, in process of time, become altogether convincing, if many penetrating and able philosophers shall turn their enquiries this way and no one be ever able to discover any connecting proposition or intermediate step, which supports the understanding in this conclusion. But as the question is yet new, every reader may not trust so far to his own penetration, as to conclude, because an argument escapes his enquiry, that therefore it does not really exist. For this reason it may be requisite to venture upon a more difficult task; and enumerating all the branches of human knowledge, endeavour to show that none of them can afford such an argument.

All reasonings may be divided into two kinds, namely, demonstrative reasoning, or that concerning relations of ideas, and moral reasoning, or that concerning matter of fact and existence. That there are no demonstrative arguments in the case seems evident; since it implies no contradiction that the course of nature may change, and that an object, seemingly like those which we have experienced, may be attended with different or contrary effects. May I not clearly and distinctly conceive that a body, falling from the clouds, and which, in all other respects, resembles snow, has yet the taste of salt or feeling of fire? Is there any more intelligible proposition than to affirm, that all the trees will flourish in December and January, and decay in May and June? Now whatever is intelligible, and can be distinctly conceived, implies no contradiction, and can never be proved false by any demonstrative argument or abstract reasoning a priori.

If we be, therefore, engaged by arguments to put trust in past experience, and make it the standard of our future judgment, these arguments must be probable only, or such as regard matter of fact and real existence according to the division above mentioned. But that there is no argument of this kind, must appear, if our explication of that species of reasoning be admitted as solid and satisfactory. We have said that all arguments concerning existence are founded on the relation of cause and effect; that our knowledge of that relation is derived entirely from experience; and that all our experimental conclusions proceed upon the supposition that the future will be conformable to the past. To endeavour, therefore, the proof of this last supposition by probable arguments, or arguments regarding existence, must be evidently going in a circle, and taking that for granted, which is the very point in question.

In reality, all arguments from experience are founded on the similarity which we discover among natural objects, and by which we are induced to expect effects similar to those which we have found to follow from such objects. And though none but a fool or madman will ever pretend to dispute the authority of experience, or to reject that great guide of human life, it may surely be allowed a philosopher to have so much curiosity at least as to examine the principle of human nature, which gives this mighty authority to experience, and makes us draw advantage from that similarity which nature has placed among different objects. From causes which appear similar we expect similar effects. This is the sum of all our experimental conclusions. Now it seems evident that, if this conclusion were formed by reason, it would be as perfect at first, and upon one instance, as after ever so long a course of experience. But the case is far otherwise. Nothing so like as eggs; yet no one, on account of this appearing similarity, expects the same taste and relish in all of them. It is only after a long course of uniform experiments in any kind, that we attain a firm reliance and security with regard to a particular event. Now where is that process of reasoning which, from one instance, draws a conclusion, so different from that which it infers from a hundred instances that are nowise different from that single one? This question I propose as much for the sake of information, as with an intention of raising difficulties. I cannot find, I cannot imagine any such reasoning. But I keep my mind still open to instruction, if any one will vouchsafe to bestow it on me.

Should it be said that, from a number of uniform experiments, we infer a connexion between the sensible qualities and the secret powers; this, I must confess, seems the same difficulty, couched in different terms. The question still recurs, on what process of argument this inference is founded? Where is the medium, the interposing ideas, which join propositions so very wide of each other? It is confessed that the colour, consistence, and other sensible qualities of bread appear not, of themselves, to have any connexion with the secret powers of nourishment and support. For otherwise we could infer these secret powers from the first appearance of these sensible qualities, without the aid of experience; contrary to the sentiment of all philosophers, and contrary to plain matter of fact. Here, then, is our natural state of ignorance with regard to the powers and influence of all objects. How is this remedied by experience? It only shows us a number of uniform effects, resulting from certain objects, and teaches us that those particular objects, at that particular time, were endowed with such powers and forces. When a new object, endowed with similar sensible qualities, is produced, we expect similar powers and forces, and look for a like effect. From a body of like colour and consistence with bread we expect like nourishment and support. But this surely is a step or progress of the mind, which wants to be explained. When a man says, I have found, in all past instances, such sensible qualities conjoined with such secret powers: And when he says, Similar sensible qualities will always be conjoined with similar secret powers, he is not guilty of a tautology, nor are these propositions in any respect the same. You say that the one proposition is an inference from the other. But you must confess that the inference is not intuitive; neither is it demonstrative: Of what nature is it, then? To say it is experimental, is begging the question. For all inferences from experience suppose, as their foundation, that the future will resemble the past, and that similar powers will be conjoined with similar sensible qualities. If there be any suspicion that the course of nature may change, and that the past may be no rule for the future, all experience becomes useless, and can give rise to no inference or conclusion. It is impossible, therefore, that any arguments from experience can prove this resemblance of the past to the future; since all these arguments are founded on the supposition of that resemblance. Let the course of things be allowed hitherto ever so regular; that alone, without some new argument or inference, proves not that, for the future, it will continue so. In vain do you pretend to have learned the nature of bodies from your past experience. Their secret nature, and consequently all their effects and influence, may change, without any change in their sensible qualities. This happens sometimes, and with regard to some objects: Why may it not happen always, and with regard to all objects? What logic, what process or argument secures you against this supposition? My practice, you say, refutes my doubts. But you mistake the purport of my question. As an agent, I am quite satisfied in the point; but as a philosopher, who has some share of curiosity, I will not say scepticism, I want to learn the foundation of this inference. No reading, no enquiry has yet been able to remove my difficulty, or give me satisfaction in a matter of such importance. Can I do better than propose the difficulty to the public, even though, perhaps, I have small hopes of obtaining a solution? We shall at least, by this means, be sensible of our ignorance, if we do not augment our knowledge.

I must confess that a man is guilty of unpardonable arrogance who concludes, because an argument has escaped his own investigation, that therefore it does not really exist. I must also confess that, though all the learned, for several ages, should have employed themselves in fruitless search upon any subject, it may still, perhaps, be rash to conclude positively that the subject must, therefore, pass all human comprehension. Even though we examine all the sources of our knowledge, and conclude them unfit for such a subject, there may still remain a suspicion, that the enumeration is not complete, or the examination not accurate. But with regard to the present subject, there are some considerations which seem to remove all this accusation of arrogance or suspicion of mistake.

It is certain that the most ignorant and stupid peasants-- nay infants, nay even brute beasts--improve by experience, and learn the qualities of natural objects, by observing the effects which result from them. When a child has felt the sensation of pain from touching the flame of a candle, he will be careful not to put his hand near any candle; but will expect a similar effect from a cause which is similar in its sensible qualities and appearance. If you assert, therefore, that the understanding of the child is led into this conclusion by any process of argument or ratiocination, I may justly require you to produce that argument; nor have you any pretence to refuse so equitable a demand. You cannot say that the argument is abstruse, and may possibly escape your enquiry; since you confess that it is obvious to the capacity of a mere infant. If you hesitate, therefore, a moment, or if, after reflection, you produce any intricate or profound argument, you, in a manner, give up the question, and confess that it is not reasoning which engages us to suppose the past resembling the future, and to expect similar effects from causes which are, to appearance, similar. This is the proposition which I intended to enforce in the present section. If I be right, I pretend not to have made any mighty discovery. And if I be wrong, I must acknowledge myself to be indeed a very backward scholar; since I cannot now discover an argument which, it seems, was perfectly familiar to me long before I was out of my cradle.

[1] The word, Power, is here used in a loose and popular sense. The more accurate explication of it would give additional evidence to this argument. See Sect. 7.

## SECTION V SCEPTICAL SOLUTION OF THESE DOUBTS, PART I

THE passion for philosophy, like that for religion, seems liable to this inconvenience, that, though it aims at the correction of our manners, and extirpation of our vices, it may only serve, by imprudent management, to foster a predominant inclination, and push the mind, with more determined resolution, towards that side which already draws too much, by the bias and propensity of the natural temper. It is certain that, while we aspire to the magnanimous firmness of the philosophic sage, and endeavour to confine our pleasures altogether within our own minds, we may, at last, render our philosophy like that of Epictetus, and other Stoics, only a more refined system of selfishness, and reason ourselves out of all virtue as well as social enjoyment. While we study with attention the vanity of human life, and turn all our thoughts towards the empty and transitory nature of riches and honours, we are, perhaps, all the while flattering our natural indolence, which, hating the bustle of the world, and drudgery of business, seeks a pretence of reason to give itself a full and uncontrolled indulgence. There is, however, one species of philosophy which seems little liable to this inconvenience, and that because it strikes in with no disorderly passion of the human mind, nor can mingle itself with any natural affection or propensity; and that is the Academic or Sceptical philosophy. The academics always talk of doubt and suspense of judgment, of danger in hasty determinations, of confining to very narrow bounds the enquiries of the understanding, and of renouncing all speculations which lie not within the limits of common life and practice. Nothing, therefore, can be more contrary than such a philosophy to the supine indolence of the mind, its rash arrogance, its lofty pretensions, and its superstitious credulity. Every passion is mortified by it, except the love of truth; and that passion never is, nor can be, carried to too high a degree. It is surprising, therefore, that this philosophy, which, in almost every instance, must be harmless and innocent, should be the subject of so much groundless reproach and obloquy. But, perhaps, the very circumstance which renders it so innocent is what chiefly exposes it to the public hatred and resentment. By flattering no irregular passion, it gains few partizans: By opposing so many vices and follies, it raises to itself abundance of enemies, who stigmatize it as libertine, profane, and irreligious.

Nor need we fear that this philosophy, while it endeavours to limit our enquiries to common life, should ever undermine the reasonings of common life, and carry its doubts so far as to destroy all action, as well as speculation. Nature will always maintain her rights, and prevail in the end over any abstract reasoning whatsoever. Though we should conclude, for instance, as in the foregoing section, that, in all reasonings from experience, there is a step taken by the mind which is not supported by any argument or process of the understanding; there is no danger that these reasonings, on which almost all knowledge depends, will ever be affected by such a discovery. If the mind be not engaged by argument to make this step, it must be induced by some other principle of equal weight and authority; and that principle will preserve its influence as long as human nature remains the same. What that principle is may well be worth the pains of enquiry.

Suppose a person, though endowed with the strongest faculties of reason and reflection, to be brought on a sudden into this world; he would, indeed, immediately observe a continual succession of objects, and one event following another; but he would not be able to discover anything farther. He would not, at first, by any reasoning, be able to reach the idea of cause and effect; since the particular powers, by which all natural operations are performed, never appear to the senses; nor is it reasonable to conclude, merely because one event, in one instance, precedes another, that therefore the one is the cause, the other the effect. Their conjunction may be arbitrary and casual. There may be no reason to infer the existence of one from the appearance of the other. And in a word, such a person, without more experience, could never employ his conjecture or reasoning concerning any matter of fact, or be assured of anything beyond what was immediately present to his memory and senses.

Suppose, again, that he has acquired more experience, and has lived so long in the world as to have observed familiar objects or events to be constantly conjoined together; what is the consequence of this experience? He immediately infers the existence of one object from the appearance of the other. Yet he has not, by all his experience, acquired any idea or knowledge of the secret power by which the one object produces the other; nor is it by any process of reasoning, he is engaged to draw this inference. But still he finds himself determined to draw it: and though he should be convinced that his understanding has no part in the operation, he would nevertheless continue in the same course of thinking. There is some other principle which determines him to form such a conclusion.

This principle is Custom or Habit. For wherever the repetition of any particular act or operation produces a propensity to renew the same act or operation, without being impelled by any reasoning or process of the understanding, we always say, that this propensity is the effect of Custom. By employing that word, we pretend not to have given the ultimate reason of such a propensity. We only point out a principle of human nature, which is universally acknowledged, and which is well known by its effects. Perhaps we can push our enquiries no farther, or pretend to give the cause of this cause; but must rest contented with it as the ultimate principle, which we can assign, of all our conclusions from experience. It is sufficient satisfaction, that we can go so far, without repining at the narrowness of our faculties because they will carry us no farther. And it is certain we here advance a very intelligible proposition at least, if not a true one, when we assert that, after the constant conjunction of two objects--heat and flame, for instance, weight and solidity-- we are determined by custom alone to expect the one from the appearance of the other. This hypothesis seems even the only one which explains the difficulty, why we draw, from a thousand instances, an inference which we are not able to draw from one instance, that is, in no respect, different from them. Reason is incapable of any such variation. The conclusions which it draws from considering one circle are the same which it would form upon surveying all the circles in the universe. But no man, having seen only one body move after being impelled by another, could infer that every other body will move after a like impulse. All inferences from experience, therefore, are effects of custom, not of reasoning.[1]

Custom, then, is the great guide of human life. It is that principle alone which renders our experience useful to us, and makes us expect, for the future, a similar train of events with those which have appeared in the past. Without the influence of custom, we should be entirely ignorant of every matter of fact beyond what is immediately present to the memory and senses. We should never know how to adjust means to ends, or to employ our natural powers in the production of any effect. There would be an end at once of all action, as well as of the chief part of speculation.

But here it may be proper to remark, that though our conclusions from experience carry us beyond our memory and senses, and assure us of matters of fact which happened in the most distant places and most remote ages, yet some fact must always be present to the senses or memory, from which we may first proceed in drawing these conclusions. A man, who should find in a desert country the remains of pompous buildings, would conclude that the country had, in ancient times, been cultivated by civilized inhabitants; but did nothing of this nature occur to him, he could never form such an inference. We learn the events of former ages from history; but then we must peruse the volumes in which this instruction is contained, and thence carry up our inferences from one testimony to another, till we arrive at the eyewitnesses and spectators of these distant events. In a word, if we proceed not upon some fact, present to the memory or senses, our reasonings would be merely hypothetical; and however the particular links might be connected with each other, the whole chain of inferences would have nothing to support it, nor could we ever, by its means, arrive at the knowledge of any real existence. If I ask why you believe any particular matter of fact, which you relate, you must tell me some reason; and this reason will be some other fact, connected with it. But as you cannot proceed after this manner, in infinitum, you must at last terminate in some fact, which is present to your memory or senses; or must allow that your belief is entirely without foundation.

What, then, is the conclusion of the whole matter? A simple one; though, it must be confessed, pretty remote from the common theories of philosophy. All belief of matter of fact or real existence is derived merely from some object, present to the memory or senses, and a customary conjunction between that and some other object. Or in other words; having found, in many instances, that any two kinds of objects--flame and heat, snow and cold--have always been conjoined together; if flame or snow be presented anew to the senses, the mind is carried by custom to expect heat or cold, and to believe that such a quality does exist, and will discover itself upon a nearer approach. This belief is the necessary result of placing the mind in such circumstances. It is an operation of the soul, when we are so situated, as unavoidable as to feel the passion of love, when we receive benefits; or hatred, when we meet with injuries. All these operations are a species of natural instincts, which no reasoning or process of the thought and understanding is able either to produce or to prevent.

At this point, it would be very allowable for us to stop our philosophical researches. In most questions we can never make a single step farther; and in all questions we must terminate here at last, after our most restless and curious enquiries. But still our curiosity will be pardonable, perhaps commendable, if it carry us on to still farther researches, and make us examine more accurately the nature of this belief, and of the customary conjunction, whence it is derived. By this means we may meet with some explications and analogies that will give satisfaction; at least to such as love the abstract sciences, and can be entertained with speculations, which, however accurate, may still retain a degree of doubt and uncertainty. As to readers of a different taste; the remaining part of this section is not calculated for them, and the following enquiries may well be understood, though it be neglected.

## SECTION V SCEPTICAL SOLUTION OF THESE DOUBTS, PART II

NOTHING is more free than the imagination of man; and though it cannot exceed that original stock of ideas furnished by the internal and external senses, it has unlimited power of mixing, compounding, separating, and dividing these ideas, in all the varieties of fiction and vision. It can feign a train of events, with all the appearance of reality, ascribe to them a particular time and place, conceive them as existent, and paint them out to itself with every circumstance, that belongs to any historical fact, which it believes with the greatest certainty. Wherein, therefore, consists the difference between such a fiction and belief? It lies not merely in any peculiar idea, which is annexed to such a conception as commands our assent, and which is wanting to every known fiction. For as the mind has authority over all its ideas, it could voluntarily annex this particular idea to any fiction, and consequently be able to believe whatever it pleases; contrary to what we find by daily experience. We can, in our conception, join the head of a man to the body of a horse; but it is not in our power to believe that such an animal has ever really existed.

It follows, therefore, that the difference between fiction and belief lies in some sentiment or feeling, which is annexed to the latter, not to the former, and which depends not on the will, nor can be commanded at pleasure. It must be excited by nature, like all other sentiments; and must arise from the particular situation, in which the mind is placed at any particular juncture. Whenever any object is presented to the memory or senses, it immediately, by the force of custom, carries the imagination to conceive that object, which is usually conjoined to it; and this conception is attended with a feeling or sentiment, different from the loose reveries of the fancy. In this consists the whole nature of belief. For as there is no matter of fact which we believe so firmly that we cannot conceive the contrary, there would be no difference between the conception assented to and that which is rejected, were it not for some sentiment which distinguishes the one from the other. If I see a billiard-ball moving toward another, on a smooth table, I can easily conceive it to stop upon contact. This conception implies no contradiction; but still it feels very differently from that conception by which I represent to myself the impulse and the communication of motion from one ball to another.

Were we to attempt a definition of this sentiment, we should, perhaps, find it a very difficult, if not an impossible task; in the same manner as if we should endeavour to define the feeling of cold or passion of anger, to a creature who never had any experience of these sentiments. Belief is the true and proper name of this feeling; and no one is ever at a loss to know the meaning of that term; because every man is every moment conscious of the sentiment represented by it. It may not, however, be improper to attempt a description of this sentiment; in hopes we may, by that means, arrive at some analogies, which may afford a more perfect explication of it. I say, then, that belief is nothing but a more vivid, lively, forcible, firm, steady conception of an object, than what the imagination alone is ever able to attain. This variety of terms, which may seem so unphilosophical, is intended only to express that act of the mind, which renders realities, or what is taken for such, more present to us than fictions, causes them to weigh more in the thought, and gives them a superior influence on the passions and imagination. Provided we agree about the thing, it is needless to dispute about the terms. The imagination has the command over all its ideas, and can join and mix and vary them, in all the ways possible. It may conceive fictitious objects with all the circumstances of place and time. It may set them, in a manner, before our eyes, in their true colours, just as they might have existed. But as it is impossible that this faculty of imagination can ever, of itself, reach belief, it is evident that belief consists not in the peculiar nature or order of ideas, but in the manner of their conception, and in their feeling to the mind. I confess, that it is impossible perfectly to explain this feeling or manner of conception. We may make use of words which express something near it. But its true and proper name, as we observed before, is belief; which is a term that every one sufficiently understands in common life. And in philosophy, we can go no farther than assert, that belief is something felt by the mind, which distinguishes the ideas of the judgement from the fictions of the imagination. It gives them more weight and influence; makes them appear of greater importance; enforces them in the mind; and renders them the governing principle of our actions. I hear at present, for instance, a person's voice, with whom I am acquainted; and the sound comes as from the next room. This impression of my senses immediately conveys my thought to the person, together with all the surrounding objects. I paint them out to myself as existing at present, with the same qualities and relations, of which I formerly knew them possessed. These ideas take faster hold of my mind than ideas of an enchanted castle. They are very different to the feeling, and have a much greater influence of every kind, either to give pleasure or pain, joy or sorrow.

Let us, then, take in the whole compass of this doctrine, and allow, that the sentiment of belief is nothing but a conception more intense and steady than what attends the mere fictions of the imagination, and that this manner of conception arises from a customary conjunction of the object with something present to the memory or senses: I believe that it will not be difficult, upon these suppositions, to find other operations of the mind analogous to it, and to trace up these phenomena to principles still more general.

We have already observed that nature has established connexions among particular ideas, and that no sooner one idea occurs to our thoughts than it introduces its correlative, and carries our attention towards it, by a gentle and insensible movement. These principles of connexion or association we have reduced to three, namely, Resemblance, Contiguity and Causation; which are the only bonds that unite our thoughts together, and beget that regular train of reflection or discourse, which, in a greater or less degree, takes place among all mankind. Now here arises a question, on which the solution of the present difficulty will depend. Does it happen, in all these relations, that, when one of the objects is presented to the senses or memory, the mind is not only carried to the conception of the correlative, but reaches a steadier and stronger conception of it than what otherwise it would have been able to attain? This seems to be the case with that belief which arises from the relation of cause and effect. And if the case be the same with the other relations or principles of associations, this may be established as a general law, which takes place in all the operations of the mind.

We may, therefore, observe, as the first experiment to our present purpose, that, upon the appearance of the picture of an absent friend, our idea of him is evidently enlivened by the resemblance, and that every passion, which that idea occasions, whether of joy or sorrow, acquires new force and vigour. In producing this effect, there concur both a relation and a present impression. Where the picture bears him no resemblance, at least was not intended for him, it never so much as conveys our thought to him: and where it is absent, as well as the person, though the mind may pass from the thought of the one to that of the other, it feels its idea to be rather weakened than enlivened by that transition. We take a pleasure in viewing the picture of a friend, when it is set before us; but when it is removed, rather choose to consider him directly than by reflection in an image, which is equally distant and obscure.

The ceremonies of the Roman Catholic religion may be considered as instances of the same nature. The devotees of that superstition usually plead in excuse for the mummeries, with which they are upbraided, that they feel the good effect of those external motions, and postures, and actions, in enlivening their devotion and quickening their fervour, which otherwise would decay, if directed entirely to distant and immaterial objects. We shadow out the objects of our faith, say they, in sensible types and images, and render them more present to us by the immediate presence of these types, than it is possible for us to do merely by an intellectual view and contemplation. Sensible objects have always a greater influence on the fancy than any other; and this influence they readily convey to those ideas to which they are related, and which they resemble. I shall only infer from these practices, and this reasoning, that the effect of resemblance in enlivening the ideas is very common; and as in every case a resemblance and a present impression must concur, we are abundantly supplied with experiments to prove the reality of the foregoing principle.

We may add force to these experiments by others of a different kind, in considering the effects of contiguity as well as of resemblance. It is certain that distance diminishes the force of every idea, and that, upon our approach to any object; though it does not discover itself to our senses; it operates upon the mind with an influence, which imitates an immediate impression. The thinking on any object readily transports the mind to what is contiguous; but it is only the actual presence of an object, that transports it with a superior vivacity. When I am a few miles from home, whatever relates to it touches me more nearly than when I am two hundred leagues distant; though even at that distance the reflecting on any thing in the neighbourhood of my friends or family naturally produces an idea of them. But as in this latter case, both the objects of the mind are ideas; notwithstanding there is an easy transition between them; that transition alone is not able to give a superior vivacity to any of the ideas, for want of some immediate impression.[2]

No one can doubt but causation has the same influence as the other two relations of resemblance and contiguity. Superstitious people are fond of the reliques of saints and holy men, for the same reason, that they seek after types or images, in order to enliven their devotion, and give them a more intimate and strong conception of those exemplary lives, which they desire to imitate. Now it is evident, that one of the best reliques, which a devotee could procure, would be the handywork of a saint; and if his cloaths and furniture are ever to be considered in this light, it is because they were once at his disposal, and were moved and affected by him; in which respect they are to be considered as imperfect effects, and as connected with him by a shorter chain of consequences than any of those, by which we learn the reality of his existence.

Suppose, that the son of a friend, who had been long dead or absent, were presented to us; it is evident, that this object would instantly revive its correlative idea, and recall to our thoughts all past intimacies and familiarities, in more lively colours than they would otherwise have appeared to us. This is another phaenomenon, which seems to prove the principle above mentioned.

We may observe, that, in these phaenomena, the belief of the correlative object is always presupposed; without which the relation could have no effect. The influence of the picture supposes, that we believe our friend to have once existed. Contiguity to home can never excite our ideas of home, unless we believe that it really exists. Now I assert, that this belief, where it reaches beyond the memory or senses, is of a similar nature, and arises from similar causes, with the transition of thought and vivacity of conception here explained. When I throw a piece of dry wood into a fire, my mind is immediately carried to conceive, that it augments, not extinguishes the flame. This transition of thought from the cause to the effect proceeds not from reason. It derives its origin altogether from custom and experience. And as it first begins from an object, present to the senses, it renders the idea or conception of flame more strong and lively than any loose, floating reverie of the imagination. That idea arises immediately. The thought moves instantly towards it, and conveys to it all that force of conception, which is derived from the impression present to the senses. When a sword is levelled at my breast, does not the idea of wound and pain strike me more strongly, than when a glass of wine is presented to me, even though by accident this idea should occur after the appearance of the latter object? But what is there in this whole matter to cause such a strong conception, except only a present object and a customary transition of the idea of another object, which we have been accustomed to conjoin with the former? This is the whole operation of the mind, in all our conclusions concerning matter of fact and existence; and it is a satisfaction to find some analogies, by which it may be explained. The transition from a present object does in all cases give strength and solidity to the related idea.

Here, then, is a kind of pre-established harmony between the course of nature and the succession of our ideas; and though the powers and forces, by which the former is governed, be wholly unknown to us; yet our thoughts and conceptions have still, we find, gone on in the same train with the other works of nature. Custom is that principle, by which this correspondence has been effected; so necessary to the subsistence of our species, and the regulation of our conduct, in every circumstance and occurrence of human life. Had not the presence of an object, instantly excited the idea of those objects, commonly conjoined with it, all our knowledge must have been limited to the narrow sphere of our memory and senses; and we should never have been able to adjust means to ends, or employ our natural powers, either to the producing of good, or avoiding of evil. Those, who delight in the discovery and contemplation of final causes, have here ample subject to employ their wonder and admiration.

I shall add, for a further confirmation of the foregoing theory, that, as this operation of the mind, by which we infer like effects from like causes, and vice versa, is so essential to the subsistence of all human creatures, it is not probable, that it could be trusted to the fallacious deductions of our reason, which is slow in its operations; appears not, in any degree, during the first years of infancy; and at best is, in every age and period of human life, extremely liable to error and mistake. It is more conformable to the ordinary wisdom of nature to secure so necessary an act of the mind, by some instinct or mechanical tendency, which may be infallible in its operations, may discover itself at the first appearance of life and thought, and may be independent of all the laboured deductions of the understanding. As nature has taught us the use of our limbs, without giving us the knowledge of the muscles and nerves, by which they are actuated; so has she implanted in us an instinct, which carries forward the thought in a correspondent course to that which she has established among external objects; though we are ignorant of those powers and forces, on which this regular course and succession of objects totally depends.

[1] Nothing is more useful than for writers, even, on moral, political, or physical subjects, to distinguish between reason and experience, and to suppose, that these species of argumentation are entirely different from each other. The former are taken for the mere result of our intellectual faculties, which, by considering a priori the nature of things, and examining the effects, that must follow from their operation, establish particular principles of science and philosophy. The latter are supposed to be derived entirely from sense and observation, by which we learn what has actually resulted from the operation of particular objects, and are thence able to infer, what will, for the future, result from them. Thus, for instance, the limitations and restraints of civil government, and a legal constitution, may be defended, either from reason, which reflecting on the great frailty and corruption of human nature, teaches, that no man can safely be trusted with unlimited authority; or from experience and history, which inform us of the enormous abuses, that ambition, in every age and country, has been found to make so imprudent a confidence.

The same distinction between reason and experience is maintained in all our deliberations concerning the conduct of life; while the experienced statesman, general, physician, or merchant is trusted and followed; and the unpractised novice, with whatever natural talents endowed, neglected and despised. Though it be allowed, that reason may form very plausible conjectures with regard to the consequences of such a particular conduct in such particular circumstances; it is still supposed imperfect, without the assistance of experience, which is alone able to give stability and certainty to the maxims, derived from study and reflection.

But notwithstanding that this distinction be thus universally received, both in the active and speculative scenes of life, I shall not scruple to pronounce, that it is, at bottom, erroneous, at least, superficial.

If we examine those arguments, which, in any of the sciences above mentioned, are supposed to be mere effects of reasoning and reflection, they will be found to terminate, at last, in some general principle or, conclusion, for which we can assign no reason but observation and experience. The only difference between them and those maxims, which are vulgarly esteemed the result of pure experience, is, that the former cannot be established without some process of thought, and some reflection on what we have observed, in order to distinguish its circumstances, and trace its consequences: Whereas in the latter, the experienced event is exactly and fully familiar to that which we infer as the result of any particular situation. The history of a TIBERIUS or a NERO makes us dread a like tyranny, were our monarchs freed from the restraints of laws and senates: But the observation of any fraud or cruelty in private life is sufficient, with the aid of a little thought, to give us the same apprehension; while it serves as an instance of the general corruption of human nature, and shows us the danger which we must incur by reposing an entire confidence in mankind. In both cases, it is experience which is ultimately the foundation of our inference and conclusion.

There is no man so young and inexperienced, as not to have formed, from observation, many general and just maxims concerning human affairs and the conduct of life; but it must be confessed, that, when a man comes to put these in practice, he will be extremely liable to error, till time and farther experience both enlarge these maxims, and teach him their proper use and application. In every situation or incident, there are many particular and seemingly minute circumstances, which the man of greatest talent is, at first, apt to overlook, though on them the justness of his conclusions, and consequently the prudence of his conduct, entirely depend. Not to mention, that, to a young beginner, the general observations and maxims occur not always on the proper occasions, nor can be immediately applied with due calmness and distinction. The truth is, an unexperienced reasoner could be no reasoner at all, were he absolutely unexperienced; and when we assign that character to any one, we mean it only in a comparative sense, and suppose him possessed of experience, in a smaller and more imperfect degree.

[2] 'Naturane nobis, inquit, datum dicam, an errore quodam, ut, cum ea loca videamus, in quibus memoria dignos viros acceperimus multim esse versatos, magis moveamur, quam siquando eorum ipsorum aut facta audiamus aut scriptum aliquod legamus? Velut ego nunc moveor. Venit enim mihi Plato in mentem, quem accepimus primum hic disputare solitum; cuius etiam illi hortuli propinqui non memoriam solum mihi afferunt, sed ipsum videntur in conspectu meo hic ponere. Hic Speusippus, hic Xenocrates, hic eius auditor Polemo; cuius ipsa illa sessio fuit, quam videmus. Equidem etiam curiam nostram, Hostiliam dico, non hanc novam, quae mihi minor esse videtur postquam est maior, solebam intuens, Scipionem, Catonem, Laelium, nostrum vero in primis avum cogitare. Tanta vis admonitionis est in locis; ut non sine causa ex his memopriae deducta sit disciplina.'-- Cicero de Finibus. Lib. v.

## SECTION VI OF PROBABILITY

THOUGH there be no such thing as Chance in the world; our ignorance of the real cause of any event has the same influence on the understanding, and begets a like species of belief or opinion.

There is certainly a probability, which arises from a superiority of chances on any side; and according as this superiority increases, and surpasses the opposite chances, the probability receives a proportionable increase, and begets still a higher degree of belief or assent to that side, in which we discover the superiority. If a dye were marked with one figure or number of spots on four sides, and with another figure or number of spots on the two remaining sides, it would be more probable, that the former would turn up than the latter; though, if it had a thousand sides marked in the same manner, and only one side different, the probability would be much higher, and our belief or expectation of the event more steady and secure. This process of the thought or reasoning may seem trivial and obvious; but to those who consider it more narrowly, it may, perhaps, afford matter for curious speculation.

It seems evident, that, when the mind looks forward to discover the event, which may result from the throw of such a dye, it considers the turning up of each particular side as alike probable; and this is the very nature of chance, to render all the particular events, comprehended in it, entirely equal. But finding a greater number of sides concur in the one event than in the other, the mind is carried more frequently to that event, and meets it oftener, in revolving the various possibilities or chances, on which the ultimate result depends. This concurrence of several views in one particular event begets immediately, by an inexplicable contrivance of nature, the sentiment of belief, and gives that event the advantage over its antagonist, which is supported by a smaller number of views, and recurs less frequently to the mind. If we allow, that belief is nothing but a firmer and stronger conception of an object than what attends the mere fictions of the imagination, this operation may, perhaps, in some measure, be accounted for. The concurrence of these several views or glimpses imprints the idea more strongly on the imagination; gives it superior force and vigour; renders its influence on the passions and affections more sensible; and in a word, begets that reliance or security, which constitutes the nature of belief and opinion.

The case is the same with the probability of causes, as with that of chance. There are some causes, which are entirely uniform and constant in producing a particular effect; and no instance has ever yet been found of any failure or irregularity in their operation. Fire has always burned, and water suffocated every human creature: the production of motion by impulse and gravity is an universal law, which has hitherto admitted of no exception. But there are other causes, which have been found more irregular and uncertain; nor has rhubarb always proved a purge, or opium a soporific to every one, who has taken these medicines. It is true, when any cause fails of producing its usual effect, philosophers ascribe not this to any irregularity in nature; but suppose, that some secret causes, in the particular structure of parts, have prevented the operation. Our reasonings, however, and conclusions concerning the event are the same as if this principle had no place. Being determined by custom to transfer the past to the future, in all our inferences; where the past has been entirely regular and uniform, we expect the event with the greatest assurance, and leave no room for any contrary supposition. But where different effects have been found to follow from causes, which are to appearance exactly similar, all these various effects must occur to the mind in transferring the past to the future, and enter into our consideration, when we determine the probability of the event. Though we give the preference to that which has been found most usual, and believe that this effect will exist, we must not overlook the other effects, but must assign to each of them a particular weight and authority, in proportion as we have found it to be more or less frequent. It is more probable, in almost every country of Europe, that there will be frost sometime in January, than that the weather will continue open through out that whole month; though this probability varies according to the different climates, and approaches to a certainty in the more northern kingdoms. Here then it seems evident, that, when we transfer the past to the future, in order to determine the effect, which will result from any cause, we transfer all the different events, in the same proportion as they have appeared in the past, and conceive one to have existed a hundred times, for instance, another ten times, and another once. As a great number of views do here concur in one event, they fortify and confirm it to the imagination, beget that sentiment which we call belief, and give its object the preference above the contrary event, which is not supported by an equal number of experiments, and recurs not so frequently to the thought in transferring the past to the future. Let any one try to account for this operation of the mind upon any of the received systems of philosophy, and he will be sensible of the difficulty. For my part, I shall think it sufficient, if the present hints excite the curiosity of philosophers, and make them sensible how defective all common theories are in treating of such curious and such sublime subjects.

[1] Mr. Locke divides all arguments into demonstrative and probable. In this view, we must say, that it is only probable that all men must die, or that the sun will rise to-morrow. But to conform our language more to common use, we ought to divide arguments into demonstrations, proofs, and probabilities. By proofs meaning such arguments from experience as leave no room for doubt or opposition.

## SECTION VII OF THE IDEA OF NECESSARY CONNEXION PART I

THE great advantage of the mathematical sciences above the moral consists in this, that the ideas of the former, being sensible, are always clear and determinate, the smallest distinction between them is immediately perceptible, and the same terms are still expressive of the same ideas, without ambiguity or variation. An oval is never mistaken for a circle, nor an hyperbola for an ellipsis. The isosceles and scalenum are distinguished by boundaries more exact than vice and virtue, right and wrong. If any term be defined in geometry, the mind readily, of itself, substitutes, on all occasions, the definition for the term defined: or even when no definition is employed, the object itself may be presented to the senses, and by that means be steadily and clearly apprehended. But the finer sentiments of the mind, the operations of the understanding, the various agitations of the passions, though really in themselves distinct, easily escape us, when surveyed by reflection; nor is it in our power to recall the original object, as often as we have occasion to contemplate it. Ambiguity, by this means, is gradually introduced into our reasonings: similar objects are readily taken to be the same: and the conclusion becomes at last very wide of the premises.

One may safely, however, affirm, that, if we consider these sciences in a proper light, their advantages and disadvantages nearly compensate each other, and reduce both of them to a state of equality. If the mind, with greater facility, retains the ideas of geometry clear and determinate, it must carry on a much longer and more intricate chain of reasoning, and compare ideas much wider of each other, in order to reach the abstruser truths of that science. And if moral ideas are apt, without extreme care, to fall into obscurity and confusion, the inferences are always much shorter in these disquisitions, and the intermediate steps, which lead to the conclusion, much fewer than in the sciences which treat of quantity and number. In reality, there is scarcely a proposition in Euclid so simple, as not to consist of more parts, than are to be found in any moral reasoning which runs not into chimera and conceit. Where we trace the principles of the human mind through a few steps, we may be very well satisfied with our progress; considering how soon nature throws a bar to all our enquiries concerning causes, and reduces us to an acknowledgment of our ignorance. The chief obstacle, therefore, to our improvement in the moral or metaphysical sciences is the obscurity of the ideas, and ambiguity of the terms. The principal difficulty in the mathematics is the length of inferences and compass of thought, requisite to the forming of any conclusion. And, perhaps, our progress in natural philosophy is chiefly retarded by the want of proper experiments and phaenomena, which are often discovered by chance, and cannot always be found, when requisite, even by the most diligent and prudent enquiry. As moral philosophy seems hitherto to have received less improvement than either geometry or physics, we may conclude, that, if there be any difference in this respect among these sciences, the difficulties, which obstruct the progress of the former, require superior care and capacity to be surmounted.

There are no ideas, which occur in metaphysics, more obscure and uncertain, than those of power, force, energy or necessary connexion, of which it is every moment necessary for us to treat in all our disquisitions. We shall, therefore, endeavour, in this section, to fix, if possible, the precise meaning of these terms, and thereby remove some part of that obscurity, which is so much complained of in this species of philosophy.

It seems a proposition, which will not admit of much dispute, that all our ideas are nothing but copies of our impressions, or, in other words, that it is impossible for us to think of anything, which we have not antecedently felt, either by our external or internal senses. I have endeavoured[1] to explain and prove this proposition, and have expressed my hopes, that, by a proper application of it, men may reach a greater clearness and precision in philosophical reasonings, than what they have hitherto been able to attain. Complex ideas, may, perhaps, be well known by definition, which is nothing but an enumeration of those parts or simple ideas, that compose them. But when we have pushed up definitions to the most simple ideas, and find still more ambiguity and obscurity; what resource are we then possessed of? By what invention can we throw light upon these ideas, and render them altogether precise and determinate to our intellectual view? Produce the impressions or original sentiments, from which the ideas are copied. These impressions are all strong and sensible. They admit not of ambiguity. They are not only placed in a full light themselves, but may throw light on their correspondent ideas, which lie in obscurity. And by this means, we may, perhaps, attain a new microscope or species of optics, by which, in the moral sciences, the most minute, and most simple ideas may be so enlarged as to fall readily under our apprehension, and be equally known with the grossest and most sensible ideas, that can be the object of our enquiry.

To be fully acquainted, therefore, with the idea of power or necessary connexion, let us examine its impression; and in order to find the impression with greater certainty, let us search for it in all the sources, from which it may possibly be derived.

When we look about us towards external objects, and consider the operation of causes, we are never able, in a single instance, to discover any power or necessary connexion; any quality, which binds the effect to the cause, and renders the one an infallible consequence of the other. We only find, that the one does actually, in fact, follow the other. The impulse of one billiard-ball is attended with motion in the second. This is the whole that appears to the outward senses. The mind feels no sentiment or inward impression from this succession of objects: consequently, there is not, in any single, particular instance of cause and effect, any thing which can suggest the idea of power or necessary connexion.

From the first appearance of an object, we never can conjecture what effect will result from it. But were the power or energy of any cause discoverable by the mind, we could foresee the effect, even without experience; and might, at first, pronounce with certainty concerning it, by mere dint of thought and reasoning.

In reality, there is no part of matter, that does ever, by its sensible qualities, discover any power or energy, or give us ground to imagine, that it could produce any thing, or be followed by any other object, which we could denominate its effect. Solidity, extension, motion; these qualities are all complete in themselves, and never point out any other event which may result from them. The scenes of the universe are continually shifting, and one object follows another in an uninterrupted succession; but the power of force, which actuates the whole machine, is entirely concealed from us, and never discovers itself in any of the sensible qualities of body. We know that, in fact, heat is a constant attendant of flame; but what is the connexion between them, we have no room so much as to conjecture or imagine. It is impossible, therefore, that the idea of power can be derived from the contemplation of bodies, in single instances of their operation; because no bodies ever discover any power, which can be the original of this idea.[2]

Since, therefore, external objects as they appear to the senses, give us no idea of power or necessary connexion, by their operation in particular instances, let us see, whether this idea be derived from reflection on the operations of our own minds, and be copied from any internal impression. It may be said, that we are every moment conscious of internal power; while we feel, that, by the simple command of our will, we can move the organs of our body, or direct the faculties of our mind. An act of volition produces motion in our limbs, or raises a new idea in our imagination. This influence of the will we know by consciousness. Hence we acquire the idea of power or energy; and are certain, that we ourselves and all other intelligent beings are possessed of power. This idea, then, is an idea of reflection, since it arises from reflecting on the operations of our own mind, and on the command which is exercised by will, both over the organs of the body and faculties of the soul.

We shall proceed to examine this pretension; and first with regard to the influence of volition over the organs of the body. This influence, we may observe, is a fact, which, like all other natural events, can be known only by experience, and can never be foreseen from any apparent energy or power in the cause, which connects it with the effect, and renders the one an infallible consequence of the other. The motion of our body follows upon the command of our will. Of this we are every moment conscious. But the means, by which this is effected; the energy, by which the will performs so extraordinary an operation; of this we are so far from being immediately conscious, that it must for ever escape our most diligent enquiry.

For first: Is there any principle in all nature more mysterious than the union of soul with body; by which a supposed spiritual substance acquires such an influence over a material one, that the most refined thought is able to actuate the grossest matter? Were we empowered, by a secret wish, to remove mountains, or control the planets in their orbit; this extensive authority would not be more extraordinary, nor more beyond our comprehension. But if by consciousness we perceived any power or energy in the will, we must know this power; we must know its connexion with the effect; we must know the secret union of soul and body, and the nature of both these substances; by which the one is able to operate, in so many instances, upon the other.

Secondly, We are not able to move all the organs of the body with a like authority; though we cannot assign any reason besides experience, for so remarkable a difference between one and the other. Why has the will an influence over the tongue and fingers, not over the heart or liver? This question would never embarrass us, were we conscious of a power in the former case, not in the latter. We should then perceive, independent of experience, why the authority of will over the organs of the body is circumscribed within such particular limits. Being in that case fully acquainted with the power or force, by which it operates, we should also know, why its influence reaches precisely to such boundaries, and no farther.

A man, suddenly struck with palsy in the leg or arm, or who had newly lost those members, frequently endeavours, at first to move them, and employ them, in their usual offices. Here he is as much conscious of power to command such limbs, as a man in perfect health is conscious of power to actuate any member which remains in its natural state and condition. But consciousness never deceives. Consequently, neither in the one case nor in the other, are we ever conscious of any power. We learn the influence of our will from experience alone. And experience only teaches us, how one event constantly follows another; without instructing us in the secret connexion, which binds them together, and renders them inseparable.

Thirdly, We learn from anatomy, that the immediate object of power in voluntary motion, is not the member itself which is moved, but certain muscles, and nerves, and animal spirits, and, perhaps, something still more minute and more unknown, through which the motion is successively propagated, ere it reach the member itself whose motion is the immediate object of volition. Can there be a more certain proof, that the power, by which this whole operation is performed, so far from being directly and fully known by an inward sentiment or consciousness is, to the last degree, mysterious and unintelligible? Here the mind wills a certain event. Immediately another event, unknown to ourselves, and totally different from the one intended, is produced: This event produces another, equally unknown: till at last, through a long succession, the desired event is produced. But if the original power were felt, it must be known: were it known, its effect also must be known; since all power is relative to its effect. And vice versa, if the effect be not known, the power cannot be known nor felt. How indeed can we be conscious of a power to move our limbs, when we have no such power; but only that to move certain animal spirits, which, though they produce at last the motion of our limbs, yet operate in such a manner as is wholly beyond our comprehension?

We may, therefore, conclude from the whole, I hope, without any temerity, though with assurance; that our idea of power is not copied from any sentiment or consciousness of power within ourselves, when we give rise to animal motion, or apply our limbs to their proper use and office. That their motion follows the command of the will is a matter of common experience, like other natural events: But the power or energy by which this is effected, like that in other natural events, is unknown and inconceivable.[3]

Shall we then assert, that we are conscious of a power or energy in our own minds, when, by an act or command of our will, we raise up a new idea, fix the mind to the contemplation of it, turn it on all sides, and at last dismiss it for some other idea, when we think that we have surveyed it with sufficient accuracy? I believe the same arguments will prove, that even this command of the will gives us no real idea of force or energy.

First, It must be allowed, that, when we know a power, we know that very circumstance in the cause, by which it is enabled to produce the effect: for these are supposed to be synonymous. We must, therefore, know both the cause and effect, and the relation between them. But do we pretend to be acquainted with the nature of the human soul and the nature of an idea, or the aptitude of the one to produce the other? This is a real creation; a production of something out of nothing: which implies a power so great, that it may seem, at first sight, beyond the reach of any being, less than infinite. At least it must be owned, that such a power is not felt, nor known, nor even conceivable by the mind. We only feel the event, namely, the existence of an idea, consequent to a command of the will: but the manner, in which this operation is performed, the power by which it is produced, is entirely beyond our comprehension.

Secondly, The command of the mind over itself is limited, as well as its command over the body; and these limits are not known by reason, or any acquaintance with the nature of cause and effect, but only by experience and observation, as in all other natural events and in the operation of external objects. Our authority over our sentiments and passions is much weaker than that over our ideas; and even the latter authority is circumscribed within very narrow boundaries. Will any one pretend to assign the ultimate reason of these boundaries, or show why the power is deficient in one case, not in another.

Thirdly, This self-command is very different at different times. A man in health possesses more of it than one languishing with sickness. We are more master of our thoughts in the morning than in the evening: fasting, than after a full meal. Can we give any reason for these variations, except experience? Where then is the power, of which we pretend to be conscious? Is there not here, either in a spiritual or material substance, or both, some secret mechanism or structure of parts, upon which the effect depends, and which, being entirely unknown to us, renders the power or energy of the will equally unknown and incomprehensible?

Volition is surely an act of the mind, with which we are sufficiently acquainted. Reflect upon it. Consider it on all sides. Do you find anything in it like this creative power, by which it raises from nothing a new idea, and with a kind of Fiat, imitates the omnipotence of its Maker, if I may be allowed so to speak, who called forth into existence all the various scenes of nature? So far from being conscious of this energy in the will, it requires as certain experience as that of which we are possessed, to convince us that such extraordinary effects do ever result from a simple act of volition.

The generality of mankind never find any difficulty in accounting for the more common and familiar operations of nature--such as the descent of heavy bodies, the growth of plants, the generation of animals, or the nourishment of bodies by food: but suppose that, in all these cases, they perceive the very force or energy of the cause, by which it is connected with its effect, and is for ever infallible in its operation. They acquire, by long habit, such a turn of mind, that, upon the appearance of the cause, they immediately expect with assurance its usual attendant, and hardly conceive it possible that any other event could result from it. It is only on the discovery of extraordinary phaenomena, such as earthquakes, pestilence, and prodigies of any kind, that they find themselves at a loss to assign a proper cause, and to explain the manner in which the effect is produced by it. It is usual for men, in such difficulties, to have recourse to some invisible intelligent principle[4] as the immediate cause of that event which surprises them, and which, they think, cannot be accounted for from the common powers of nature. But philosophers, who carry their scrutiny a little farther, immediately perceive that, even in the most familiar events, the energy of the cause is as unintelligible as in the most unusual, and that we only learn by experience the frequent Conjunction of objects, without being ever able to comprehend anything like Connexion between them.

Here, then, many philosophers think themselves obliged by reason to have recourse, on all occasions, to the same principle, which the vulgar never appeal to but in cases that appear miraculous and supernatural. They acknowledge mind and intelligence to be, not only the ultimate and original cause of all things, but the immediate and sole cause of every event which appears in nature. They pretend that those objects which are commonly denominated causes, are in reality nothing but occasions; and that the true and direct principle of every effect is not any power or force in nature, but a volition of the Supreme Being, who wills that such particular objects should for ever be conjoined with each other. Instead of saying that one billiard-ball moves another by a force which it has derived from the author of nature, it is the Deity himself, they say, who, by a particular volition, moves the second ball, being determined to this operation by the impulse of the first ball, in consequence of those general laws which he has laid down to himself in the government of the universe. But philosophers advancing still in their inquiries, discover that, as we are totally ignorant of the power on which depends the mutual operation of bodies, we are no less ignorant of that power on which depends the operation of mind on body, or of body on mind, nor are we able, either from our senses or consciousness, to assign the ultimate principle in one case more than in the other. The same ignorance, therefore, reduces them to the same conclusion. They assert that the Deity is the immediate cause of the union between soul and body; and that they are not the organs of sense, which, being agitated by external objects, produce sensations in the mind; but that it is a particular volition of our omnipotent Maker, which excites such a sensation, in consequence of such a motion in the organ. In like manner, it is not any energy in the will that produces local motion in our members: it is God himself, who is pleased to second our will, in itself impotent, and to command that motion which we erroneously attribute to our own power and efficacy. Nor do philosophers stop at this conclusion. They sometimes extend the same inference to the mind itself, in its internal operations. Our mental vision or conception of ideas is nothing but a revelation made to us by our Maker. When we voluntarily turn our thoughts to any object, and raise up its image in the fancy, it is not the will which creates that idea: it is the universal Creator, who discovers it to the mind, and renders it present to us.

Thus, according to these philosophers, every thing is full of God. Not content with the principle, that nothing exists but by his will, that nothing possesses any power but by his concession: they rob nature, and all created beings, of every power, in order to render their dependence on the Deity still more sensible and immediate. They consider not that, by this theory, they diminish, instead of magnifying, the grandeur of those attributes, which they affect so much to celebrate. It argues surely more power in the Deity to delegate a certain degree of power to inferior creatures than to produce every thing by his own immediate volition. It argues more wisdom to contrive at first the fabric of the world with such perfect foresight that, of itself, and by its proper operation, it may serve all the purposes of providence, than if the great Creator were obliged every moment to adjust its parts, and animate by his breath all the wheels of that stupendous machine.

But if we would have a more philosophical confutation of this theory, perhaps the two following reflections may suffice:

First, it seems to me that this theory of the universal energy and operation of the Supreme Being is too bold ever to carry conviction with it to a man, sufficiently apprized of the weakness of human reason, and the narrow limits to which it is confined in all its operations. Though the chain of arguments which conduct to it were ever so logical, there must arise a strong suspicion, if not an absolute assurance, that it has carried us quite beyond the reach of our faculties, when it leads to conclusions so extraordinary, and so remote from common life and experience. We are got into fairy land, long ere we have reached the last steps of our theory; and there we have no reason to trust our common methods of argument, or to think that our usual analogies and probabilities have any authority. Our line is too short to fathom such immense abysses. And however we may flatter ourselves that we are guided, in every step which we take, by a kind of verisimilitude and experience, we may be assured that this fancied experience has no authority when we thus apply it to subjects that lie entirely out of the sphere of experience. But on this we shall have occasion to touch afterwards.[5]

Secondly, I cannot perceive any force in the arguments on which this theory is founded. We are ignorant, it is true, of the manner in which bodies operate on each other: their force or energy is entirely incomprehensible: but are we not equally ignorant of the manner or force by which a mind, even the supreme mind, operates either on itself or on body? Whence, I beseech you, do we acquire any idea of it? We have no sentiment or consciousness of this power in ourselves. We have no idea of the Supreme Being but what we learn from reflection on our own faculties. Were our ignorance, therefore, a good reason for rejecting any thing, we should be led into that principle of denying all energy in the Supreme Being as much as in the grossest matter. We surely comprehend as little the operations of one as of the other. Is it more difficult to conceive that motion may arise from impulse than that it may arise from volition? All we know is our profound ignorance in both cases.[6]

## SECTION VII OF THE IDEA OF NECESSARY CONNEXION, PART II

BUT to hasten to a conclusion of this argument, which is already drawn out to too great a length: we have sought in vain for an idea of power or necessary connexion in all the sources from which we could suppose it to be derived. It appears that, in single instances of the operation of bodies, we never can, by our utmost scrutiny, discover any thing but one event following another, without being able to comprehend any force or power by which the cause operates, or any connexion between it and its supposed effect. The same difficulty occurs in contemplating the operations of mind on body--where we observe the motion of the latter to follow upon the volition of the former, but are not able to observe or conceive the tie which binds together the motion and volition, or the energy by which the mind produces this effect. The authority of the will over its own faculties and ideas is not a whit more comprehensible: so that, upon the whole, there appears not, throughout all nature, any one instance of connexion which is conceivable by us. All events seem entirely loose and separate. One event follows another; but we never can observe any tie between them. They seem conjoined, but never connected. And as we can have no idea of any thing which never appeared to our outward sense or inward sentiment, the necessary conclusion seems to be that we have no idea of connexion or power at all, and that these words are absolutely, without any meaning, when employed either in philosophical reasonings or common life.

But there still remains one method of avoiding this conclusion, and one source which we have not yet examined. When any natural object or event is presented, it is impossible for us, by any sagacity or penetration, to discover, or even conjecture, without experience, what event will result from it, or to carry our foresight beyond that object which is immediately present to the memory and senses. Even after one instance or experiment where we have observed a particular event to follow upon another, we are not entitled to form a general rule, or foretell what will happen in like cases; it being justly esteemed an unpardonable temerity to judge of the whole course of nature from one single experiment, however accurate or certain. But when one particular species of event has always, in all instances, been conjoined with another, we make no longer any scruple of foretelling one upon the appearance of the other, and of employing that reasoning, which can alone assure us of any matter of fact or existence. We then call the one object, Cause; the other, Effect. We suppose that there is some connexion between them; some power in the one, by which it infallibly produces the other, and operates with the greatest certainty and strongest necessity.

It appears, then, that this idea of a necessary connexion among events arises from a number of similar instances which occur of the constant conjunction of these events; nor can that idea ever be suggested by any one of these instances, surveyed in all possible lights and positions. But there is nothing in a number of instances, different from every single instance, which is supposed to be exactly similar; except only, that after a repetition of similar instances, the mind is carried by habit, upon the appearance of one event, to expect its usual attendant, and to believe that it will exist. This connexion, therefore, which we feel in the mind, this customary transition of the imagination from one object to its usual attendant, is the sentiment or impression from which we form the idea of power or necessary connexion. Nothing farther is in the case. Contemplate the subject on all sides; you will never find any other origin of that idea. This is the sole difference between one instance, from which we can never receive the idea of connexion, and a number of similar instances, by which it is suggested. The first time a man saw the communication of motion by impulse, as by the shock of two billiard balls, he could not pronounce that the one event was connected: but only that it was conjoined with the other. After he has observed several instances of this nature, he then pronounces them to be connected. What alteration has happened to give rise to this new idea of connexion? Nothing but that he now feels these events to be connected in his imagination, and can readily foretell the existence of one from the appearance of the other. When we say, therefore, that one object is connected with another, we mean only that they have acquired a connexion in our thought, and give rise to this inference, by which they become proofs of each other's existence: A conclusion which is somewhat extraordinary, but which seems founded on sufficient evidence. Nor will its evidence be weakened by any general diffidence of the understanding, or sceptical suspicion concerning every conclusion which is new and extraordinary. No conclusions can be more agreeable to scepticism than such as make discoveries concerning the weakness and narrow limits of human reason and capacity.

And what stronger instance can be produced of the surprising ignorance and weakness of the understanding than the present. For surely, if there be any relation among objects which it imports to us to know perfectly, it is that of cause and effect. On this are founded all our reasonings concerning matter of fact or existence. By means of it alone we attain any assurance concerning objects which are removed from the present testimony of our memory and senses. The only immediate utility of all sciences, is to teach us, how to control and regulate future events by their causes. Our thoughts and enquiries are, therefore, every moment, employed about this relation: yet so imperfect are the ideas which we form concerning it, that it is impossible to give any just definition of cause, except what is drawn from something extraneous and foreign to it. Similar objects are always conjoined with similar. Of this we have experience. Suitably to this experience, therefore, we may define a cause to be an object, followed by another, and where all the objects similar to the first are followed by objects similar to the second. Or in other words where, if the first object had not been, the second never had existed. The appearance of a cause always conveys the mind, by a customary transition, to the idea of the effect. Of this also we have experience. We may, therefore, suitably to this experience, form another definition of cause, and call it, an object followed by another, and whose appearance always conveys the thought to that other. But though both these definitions be drawn from circumstances foreign to the cause, we cannot remedy this inconvenience, or attain any more perfect definition, which may point out that circumstance in the cause, which gives it a connexion with its effect. We have no idea of this connexion, nor even any distant notion what it is we desire to know, when we endeavour at a conception of it. We say, for instance, that the vibration of this string is the cause of this particular sound. But what do we mean by that affirmation? We either mean that this vibration is followed by this sound, and that all similar vibrations have been followed by similar sounds; or, that this vibration is followed by this sound, and that upon the appearance of one the mind anticipates the senses, and forms immediately an idea of the other. We may consider the relation of cause and effect in either of these two lights; but beyond these, we have no idea of it.[7]

To recapitulate, therefore, the reasonings of this section: Every idea is copied from some preceding impression or sentiment; and where we cannot find any impression, we may be certain that there is no idea. In all single instances of the operation of bodies or minds, there is nothing that produces any impression, nor consequently can suggest any idea of power or necessary connexion. But when many uniform instances appear, and the same object is always followed by the same event; we then begin to entertain the notion of cause and connexion. We then feel a new sentiment or impression, to wit, a customary connexion in the thought or imagination between one object and its usual attendant; and this sentiment is the original of that idea which we seek for. For as this idea arises from a number of similar instances, and not from any single instance, it must arise from that circumstance, in which the number of instances differ from every individual instance. But this customary connexion or transition of the imagination is the only circumstance in which they differ. In every other particular they are alike. The first instance which we saw of motion communicated by the shock of two billiard balls (to return to this obvious illustration) is exactly similar to any instance that may, at present, occur to us; except only, that we could not, at first, infer one event from the other; which we are enabled to do at present, after so long a course of uniform experience. I know not whether the reader will readily apprehend this reasoning. I am afraid that, should I multiply words about it, or throw it into a greater variety of lights, it would only become more obscure and intricate. In all abstract reasonings there is one point of view which, if we can happily hit, we shall go farther towards illustrating the subject than by all the eloquence and copious expression in the world. This point of view we should endeavour to reach, and reserve the flowers of rhetoric for subjects which are more adapted to them.

[1] Section II.

[2] Mr. Locke, in his chapter of power, says that, finding from experience, that there are several new productions in matter, and concluding that there must somewhere be a power capable of producing them, we arrive at last by this reasoning at the idea of power. But no reasoning can ever give us a new, original, simple idea; as this philosopher himself confesses. This, therefore, can never be the origin of that idea.

[3] It may be pretended, that the resistance which we meet with in bodies, obliging us frequently to exert our force, and call up all our power, this gives us the idea of force and power. It is this nisus, or strong endeavour, of which we are conscious, that is the original impression from which this idea is copied. But, first, we attribute power to a vast number of objects, where we never can suppose this resistance or exertion of force to take place; to the Supreme Being, who never meets with any resistance; to the mind in its command over its ideas and limbs, in common thinking and motion, where the effect follows immediately upon the will, without any exertion or summoning up of force; to inanimate matter, which is not capable of this sentiment. Secondly, This sentiment of an endeavour to overcome resistance has no known connexion with any event: What follows it, we know by experience; but could not know it a priori. It must, however, be confessed, that the animal nisus, which we experience, though it can afford no accurate precise idea of power, enters very much into that vulgar, inaccurate idea, which is formed by it.

[4] [three greek words]

[5] Section XII.

[6] I need not examine at length the vis inertiae which is so much talked of in the new philosophy, and which is ascribed to matter. We find by experience, that a body at rest or in motion continues for ever in its present state, till put from it by some new cause; and that a body impelled takes as much motion from the impelling body as it acquires itself. These are facts. When we call this a vis inertiae, we only mark these facts, without pretending to have any idea of the inert power; in the same manner as, when we talk of gravity, we mean certain effects, without comprehending that active power. It was never the meaning of Sir ISAAC NEWTON to rob second causes of all force or energy; though some of his followers have endeavoured to establish that theory upon his authority. On the contrary, that great philosopher had recourse to an etherial active fluid to explain his universal attraction; though he was so cautious and modest as to allow, that it was a mere hypothesis, no to be insisted on, without more experiments. I must confess, that there is something in the fate of opinions a little extraordinary. DES CARTES insinuated that doctrine of the universal and sole efficacy of the Deity, without insisting on it. MALEBRANCHE and other CARTESIANS made it the foundation of all their philosophy. It had, however, no authority in England. LOCKE, CLARKE, and CUDWORTH, never so much as notice of it, but suppose all along, that matter has a real, though subordinate and derived power. By what means has it become so prevalent among our modern metaphysicians?

[7] According to these explications and definitions, the idea of power is relative as much as that of cause; and both have a reference to an effect, or some other event constantly conjoined with the former. When we consider the unknown circumstance of an object, by which the degree or quantity of its effect is fixed and determined, we call that its power: and accordingly, it is allowed by all philosophers, that the effect is the measure of the power. But if they had any idea of power, as it is in itself, why could not they Measure it in itself? The dispute whether the force of a body in motion be as its velocity, or the square of its velocity; this dispute, I say, need not be decided by comparing its effects in equal or unequal times; but by a direct mensuration and comparison.

As to the frequent use of the words, Force, Power, Energy, &c., which every where occur in common conversation, as well as in philosophy; that is no proof, that we are acquainted, in any instance, with the connecting principle between cause and effect, or can account ultimately for the production of one thing to another. These words, as commonly used, have very loose meanings annexed to them; and their ideas are very uncertain and confused. No animal can put external bodies in motion without the sentiment of a nisus or endeavour; and every animal has a sentiment or feeling from the stroke or blow of an external object, that is in motion. These sensations, which are merely animal, and from which we can a priori draw no inference, we are apt to transfer to inanimate objects, and to suppose, that they have some such feelings, whenever they transfer or receive motion. With regard to energies, which are exerted, without our annexing to them any idea of communicated motion, we consider only the constant experienced conjunction of the events; and as we feel a customary connexion between the ideas, we transfer that feeling to the objects; as nothing is more usual than to apply to external bodies every internal sensation, which they occasion.

## SECTION VIII OF LIBERTY AND NECESSITY, PART I

IT might reasonably be expected in questions which have been canvassed and disputed with great eagerness, since the first origin of science, and philosophy, that the meaning of all the terms, at least, should have been agreed upon among the disputants; and our enquiries, in the course of two thousand years, been able to pass from words to the true and real subject of the controversy. For how easy may it seem to give exact definitions of the terms employed in reasoning, and make these definitions, not the mere sound of words, the object of future scrutiny and examination? But if we consider the matter more narrowly, we shall be apt to draw a quite opposite conclusion. From this circumstance alone, that a controversy has been long kept on foot, and remains still undecided, we may presume that there is some ambiguity in the expression, and that the disputants affix different ideas to the terms employed in the controversy. For as the faculties of the mind are supposed to be naturally alike in every individual; otherwise nothing could be more fruitless than to reason or dispute together; it were impossible, if men affix the same ideas to their terms, that they could so long form different opinions of the same subject; especially when they communicate their views, and each party turn themselves on all sides, in search of arguments which may give them the victory over their antagonists. It is true, if men attempt the discussion of questions which lie entirely beyond the reach of human capacity, such as those concerning the origin of worlds, or the economy of the intellectual system or region of spirits, they may long beat the air in their fruitless contests, and never arrive at any determinate conclusion. But if the question regard any subject of common life and experience, nothing, one would think, could preserve the dispute so long undecided but some ambiguous expressions, which keep the antagonists still at a distance, and hinder them from grappling with each other.

This has been the case in the long disputed question concerning liberty and necessity; and to so remarkable a degree that, if I be not much mistaken, we shall find, that all mankind, both learned and ignorant, have always been of the same opinion with regard to this subject, and that a few intelligible definitions would immediately have put an end to the whole controversy. I own that this dispute has been so much canvassed on all hands, and has led philosophers into such a labyrinth of obscure sophistry, that it is no wonder, if a sensible reader indulge his ease so far as to turn a deaf ear to the proposal of such a question, from which he can expect neither instruction or entertainment. But the state of the argument here proposed may, perhaps, serve to renew his attention; as it has more novelty, promises at least some decision of the controversy, and will not much disturb his ease by any intricate or obscure reasoning.

I hope, therefore, to make it appear that all men have ever agreed in the doctrine both of necessity and of liberty, according to any reasonable sense, which can be put on these terms; and that the whole controversy, has hitherto turned merely upon words. We shall begin with examining the doctrine of necessity.

It is universally allowed that matter, in all its operations, is actuated by a necessary force, and that every natural effect is so precisely determined by the energy of its cause that no other effect, in such particular circumstances, could possibly have resulted from it. The degree and direction of every motion is, by the laws of nature, prescribed with such exactness that a living creature may as soon arise from the shock of two bodies as motion in any other degree or direction than what is actually produced by it. Would we, therefore, form a just and precise idea of necessity, we must consider whence that idea arises when we apply it to the operation of bodies.

It seems evident that, if all the scenes of nature were continually shifted in such a manner that no two events bore any resemblance to each other, but every object was entirely new, without any similitude to whatever had been seen before, we should never, in that case, have attained the least idea of necessity, or of a connexion among these objects. We might say, upon such a supposition, that one object or event has followed another; not that one was produced by the other. The relation of cause and effect must be utterly unknown to mankind. Inference and reasoning concerning the operations of nature would, from that moment, be at an end; and the memory and senses remain the only canals, by which the knowledge of any real existence could possibly have access to the mind. Our idea, therefore, of necessity and causation arises entirely from the uniformity observable in the operations of nature, where similar objects are constantly conjoined together, and the mind is determined by custom to infer the one from the appearance of the other. These two circumstances form the whole of that necessity, which we ascribe to matter. Beyond the constant conjunction of similar objects, and the consequent inference from one to the other, we have no notion of any necessity or connexion.

If it appear, therefore, that all mankind have ever allowed, without any doubt or hesitation, that these two circumstances take place in the voluntary actions of men, and in the operations of mind; it must follow, that all mankind have ever agreed in the doctrine of necessity, and that they have hitherto disputed, merely for not understanding each other.

As to the first circumstance, the constant and regular conjunction of similar events, we may possibly satisfy ourselves by the following considerations: It is universally acknowledged that there is a great uniformity among the actions of men, in all nations and ages, and that human nature remains still the same, in its principles and operations. The same motives always produce the same actions: the same events follow from the same causes. Ambition, avarice, self-love, vanity, friendship, generosity, public spirit: these passions, mixed in various degrees, and distributed through society, have been, from the beginning of the world, and still are, the source of all the actions and enterprises, which have ever been observed among mankind. Would you know the sentiments, inclinations, and course of life of the Greeks and Romans? Study well the temper and actions of the French and English: You cannot be much mistaken in transferring to the former most of the observations which you have made with regard to the latter. Mankind are so much the same, in all times and places, that history informs us of nothing new or strange in this particular. Its chief use is only to discover the constant and universal principles of human nature, by showing men in all varieties of circumstances and situations, and furnishing us with materials from which we may form our observations and become acquainted with the regular springs of human action and behaviour. These records of wars, intrigues, factions, and revolutions, are so many collections of experiments, by which the politician or moral philosopher fixes the principles of his science, in the same manner as the physician or natural philosopher becomes acquainted with the nature of plants, minerals, and other external objects, by the experiments which he forms concerning them. Nor are the earth, water, and other elements, examined by Aristotle, and Hippocrates, more like to those which at present lie under our observation than the men described by Polybius and Tacitus are to those who now govern the world.

Should a traveller, returning from a far country, bring us an account of men, wholly different from any with whom we were ever acquainted; men, who were entirely divested of avarice, ambition, or revenge; who knew no pleasure but friendship, generosity, and public spirit; we should immediately, from these circumstances, detect the falsehood, and prove him a liar, with the same certainty as if he had stuffed his narration with stories of centaurs and dragons, miracles and prodigies. And if we would explode any forgery in history, we cannot make use of a more convincing argument, than to prove, that the actions ascribed to any person are directly contrary to the course of nature, and that no human motives, in such circumstances, could ever induce him to such a conduct. The veracity of Quintus Curtius is as much to be suspected, when he describes the supernatural courage of Alexander, by which he was hurried on singly to attack multitudes, as when he describes his supernatural force and activity, by which he was able to resist them. So readily and universally do we acknowledge a uniformity in human motives and actions as well as in the operations of body.

Hence likewise the benefit of that experience, acquired by long life and a variety of business and company, in order to instruct us in the principles of human nature, and regulate our future conduct, as well as speculation. By means of this guide, we mount up to the knowledge of men's inclinations and motives, from their actions, expressions, and even gestures; and again descend to the interpretation of their actions from our knowledge of their motives and inclinations. The general observations treasured up by a course of experience, give us the clue of human nature, and teach us to unravel all its intricacies. Pretexts and appearances no longer deceive us. Public declarations pass for the specious colouring of a cause. And though virtue and honour be allowed their proper weight and authority, that perfect disinterestedness, so often pretended to, is never expected in multitudes and parties; seldom in their leaders; and scarcely even in individuals of any rank or station. But were there no uniformity in human actions, and were every experiment which we could form of this kind irregular and anomalous, it were impossible to collect any general observations concerning mankind; and no experience, however accurately digested by reflection, would ever serve to any purpose. Why is the aged husbandman more skilful in his calling than the young beginner but because there is a certain uniformity in the operation of the sun, rain, and earth towards the production of vegetables; and experience teaches the old practitioner the rules by which this operation is governed and directed.

We must not, however, expect that this uniformity of human actions should be carried to such a length as that all men, in the same circumstances, will always act precisely in the same manner, without making any allowance for the diversity of characters, prejudices, and opinions. Such a uniformity in every particular, is found in no part of nature. On the contrary, from observing the variety of conduct in different men, we are enabled to form a greater variety of maxims, which still suppose a degree of uniformity and regularity.

Are the manners of men different in different ages and countries? We learn thence the great force of custom and education, which mould the human mind from its infancy and form it into a fixed and established character. Is the behaviour and conduct of the one sex very unlike that of the other? Is it thence we become acquainted with the different characters which nature has impressed upon the sexes, and which she preserves with constancy and regularity? Are the actions of the same person much diversified in the different periods of his life, from infancy to old age? This affords room for many general observations concerning the gradual change of our sentiments and inclinations, and the different maxims which prevail in the different ages of human creatures. Even the characters, which are peculiar to each individual, have a uniformity in their influence; otherwise our acquaintance with the persons and our observation of their conduct could never teach us their dispositions, or serve to direct our behaviour with regard to them.

I grant it possible to find some actions, which seem to have no regular connexion with any known motives, and are exceptions to all the measures of conduct which have ever been established for the government of men. But if we would willingly know what judgment should be formed of such irregular and extraordinary actions, we may consider the sentiments commonly entertained with regard to those irregular events which appear in the course of nature, and the operations of external objects. All causes are not conjoined to their usual effects with like uniformity. An artificer, who handles only dead matter, may be disappointed of his aim, as well as the politician, who directs the conduct of sensible and intelligent agents.

The vulgar, who take things according to their first appearance, attribute the uncertainty of events to such an uncertainty in the causes as makes the latter often fail of their usual influence; though they meet with no impediment in their operation. But philosophers, observing that, almost in every part of nature, there is contained a vast variety of springs and principles, which are hid, by reason of their minuteness or remoteness, find, that it is at least possible the contrariety of events may not proceed from any contingency in the cause, but from the secret operation of contrary causes. This possibility is converted into certainty by farther observation, when they remark that, upon an exact scrutiny, a contrariety of effects always betrays a contrariety of causes, and proceeds from their mutual opposition. A peasant can give no better reason for the stopping of any clock or watch than to say that it does not commonly go right: But an artist easily perceives that the same force in the spring or pendulum has always the same influence on the wheels; but fails of its usual effects, perhaps by reason of a grain of dust, which puts a stop to the whole movement. From the observation of several parallel instances, philosophers form a maxim that the connexion between all causes and effects is equally necessary, and that its seeming uncertainty in some instances proceeds from the secret opposition of contrary causes.

Thus, for instance, in the human body, when the usual symptoms of health or sickness disappoint our expectation; when medicines operate not with their wonted powers; when irregular events follow from any particular cause; the philosopher and physician are not surprised at the matter, nor are ever tempted to deny, in general, the necessity and uniformity of those principles by which the animal economy is conducted. They know that a human body is a mighty complicated machine: That many secret powers lurk in it, which are altogether beyond our comprehension: That to us it must often appear very uncertain in its operations: And that therefore the irregular events, which outwardly discover themselves, can be no proof that the laws of nature are not observed with the greatest regularity in its internal operations and government.

The philosopher, if he be consistent, must apply the same reasoning to the actions and volitions of intelligent agents. The most irregular and unexpected resolutions of men may frequently be accounted for by those who know every particular circumstance of their character and situation. A person of an obliging disposition gives a peevish answer: But he has the toothache, or has not dined. A stupid fellow discovers an uncommon alacrity in his carriage: But he has met with a sudden piece of good fortune. Or even when an action, as sometimes happens, cannot be particularly accounted for, either by the person himself or by others; we know, in general, that the characters of men are, to a certain degree, inconstant and irregular. This is, in a manner, the constant character of human nature; though it be applicable, in a more particular manner, to some persons who have no fixed rule for their conduct, but proceed in a continued course of caprice and inconstancy. The internal principles and motives may operate in a uniform manner, notwithstanding these seeming irregularities; in the same manner as the winds, rain, cloud, and other variations of the weather are supposed to be governed by steady principles; though not easily discoverable by human sagacity and enquiry.

Thus it appears, not only that the conjunction between motives and voluntary actions is as regular and uniform as that between the cause and effect in any part of nature; but also that this regular conjunction has been universally acknowledged among mankind, and has never been the subject of dispute, either in philosophy or common life. Now, as it is from past experience that we draw all inferences concerning the future, and as we conclude that objects will always be conjoined together which we find to have always been conjoined; it may seem superfluous to prove that this experienced uniformity in human actions is a source whence we draw inferences concerning them. But in order to throw the argument into a greater variety of lights we shall also insist, though briefly, on this latter topic.

The mutual dependence of men is so great in all societies that scarce any human action is entirely complete in itself, or is performed without some reference to the actions of others, which are requisite to make it answer fully the intention of the agent. The poorest artificer, who labours alone, expects at least the protection of the magistrate, to ensure him the enjoyment of the fruits of his labour. He also expects that, when he carries his goods to market, and offers them at a reasonable price, he shall find purchasers, and shall be able, by the money he acquires, to engage others to supply him with those commodities which are requisite for his subsistence. In proportion as men extend their dealings, and render their intercourse with others more complicated, they always comprehend, in their schemes of life, a greater variety of voluntary actions, which they expect, from the proper motives, to co-operate with their own. In all these conclusions they take their measures from past experience, in the same manner as in their reasonings concerning external objects; and firmly believe that men, as well as all the elements, are to continue, in their operations, the same that they have ever found them. A manufacturer reckons upon the labour of his servants for the execution of any work as much as upon the tools which he employs, and would be equally surprised were his expectations disappointed. In short, this experimental inference and reasoning concerning the actions of others enters so much into human life that no man, while awake, is ever a moment without employing it. Have we not reason, therefore, to affirm that all mankind have always agreed in the doctrine of necessity according to the foregoing definition and explication of it?

Nor have philosophers even entertained a different opinion from the people in this particular. For, not to mention that almost every action of their life supposes that opinion, there are even few of the speculative parts of learning to which it is not essential. What would become of history, had we not a dependence on the veracity of the historian according to the experience which we have had of mankind? How could politics be a science, if laws and forms of government had not a uniform influence upon society? Where would be the foundation of morals, if particular characters had no certain or determinate power to produce particular sentiments, and if these sentiments had no constant operation on actions? And with what pretence could we employ our criticism upon any poet or polite author, if we could not pronounce the conduct and sentiments of his actors either natural or unnatural to such characters, and in such circumstances? It seems almost impossible, therefore, to engage either in science or action of any kind without acknowledging the doctrine of necessity, and this inference from motive to voluntary actions, from characters to conduct.

And indeed, when we consider how aptly natural and moral evidence link together, and form only one chain of argument, we shall make no scruple to allow that they are of the same nature, and derived from the same principles. A prisoner who has neither money nor interest, discovers the impossibility of his escape, as well when he considers the obstinacy of the gaoler, as the walls and bars with which he is surrounded; and, in all attempts for his freedom, chooses rather to work upon the stone and iron of the one, than upon the inflexible nature of the other. The same prisoner, when conducted to the scaffold, foresees his death as certainly from the constancy and fidelity of his guards, as from the operation of the axe or wheel. His mind runs along a certain train of ideas: the refusal of the soldiers to consent to his escape; the action of the executioner; the separation of the head and body; bleeding, convulsive motions, and death. Here is a connected chain of natural causes and voluntary actions; but the mind feels no difference between them in passing from one link to another: Nor is it less certain of the future event than if it were connected with the objects present to the memory or senses, by a train of causes, cemented together by what we are pleased to call a physical necessity. The same experienced union has the same effect on the mind, whether the united objects be motives, volition, and actions; or figure and motion. We may change the name of things; but their nature and their operation on the understanding never change.

Were a man, whom I know to be honest and opulent, and with whom I live in intimate friendship, to come into my house, where I am surrounded with my servants, I rest assured that he is not to stab me before he leaves it in order to rob me of my silver standish; and I no more suspect this event than the falling of the house itself, which is new, and solidly built and founded.--But he may have been seized with a sudden and unknown frenzy.--So may a sudden earthquake arise, and shake and tumble my house about my ears. I shall therefore change the suppositions. I shall say that I know with certainty that he is not to put his hand into the fire and hold it there till it be consumed: and this event, I think I can foretell with the same assurance, as that, if he throw himself out at the window, and meet with no obstruction, he will not remain a moment suspended in the air. No suspicion of an unknown frenzy can give the least possibility to the former event, which is so contrary to all the known principles of human nature. A man who at noon leaves his purse full of gold on the pavement at Charing-Cross, may as well expect that it will fly away like a feather, as that he will find it untouched an hour after. Above one half of human reasonings contain inferences of a similar nature, attended with more or less degrees of certainty proportioned to our experience of the usual conduct of mankind in such particular situations.

I have frequently considered, what could possibly be the reason why all mankind, though they have ever, without hesitation, acknowledged the doctrine of necessity in their whole practice and reasoning, have yet discovered such a reluctance to acknowledge it in words, and have rather shown a propensity, in all ages, to profess the contrary opinion. The matter, I think, may be accounted for after the following manner. If we examine the operations of body, and the production of effects from their causes, we shall find that all our faculties can never carry us farther in our knowledge of this relation than barely to observe that particular objects are constantly conjoined together, and that the mind is carried, by a customary transition, from the appearance of one to the belief of the other. But though this conclusion concerning human ignorance be the result of the strictest scrutiny of this subject, men still entertain a strong propensity to believe that they penetrate farther into the powers of nature, and perceive something like a necessary connexion between the cause and the effect. When again they turn their reflections towards the operations of their own minds, and feel no such connexion of the motive and the action; they are thence apt to suppose, that there is a difference between the effects which result from material force, and those which arise from thought and intelligence. But being once convinced that we know nothing farther of causation of any kind than merely the constant conjunction of objects, and the consequent inference of the mind from one to another, and finding that these two circumstances are universally allowed to have place in voluntary actions; we may be more easily led to own the same necessity common to all causes. And though this reasoning may contradict the systems of many philosophers, in ascribing necessity to the determinations of the will, we shall find, upon reflection, that they dissent from it in words only, not in their real sentiment. Necessity, according to the sense in which it is here taken, has never yet been rejected, nor can ever, I think, be rejected by any philosopher. It may only, perhaps, be pretended that the mind can perceive, in the operations of matter, some farther connexion between the cause and effect; and connexion that has not place in voluntary actions of intelligent beings. Now whether it be so or not, can only appear upon examination; and it is incumbent on these philosophers to make good their assertion, by defining or describing that necessity, and pointing it out to us in the operations of material causes.

It would seem, indeed, that men begin at the wrong end of this question concerning liberty and necessity, when they enter upon it by examining the faculties of the soul, the influence of the understanding, and the operations of the will. Let them first discuss a more simple question, namely, the operations of body and of brute unintelligent matter; and try whether they can there form any idea of causation and necessity, except that of a constant conjunction of objects, and subsequent inference of the mind from one to another. If these circumstances form, in reality, the whole of that necessity, which we conceive in matter, and if these circumstances be also universally acknowledged to take place in the operations of the mind, the dispute is at an end; at least, must be owned to be thenceforth merely verbal. But as long as we will rashly suppose, that we have some farther idea of necessity and causation in the operations of external objects; at the same time, that we can find nothing farther in the voluntary actions of the mind; there is no possibility of bringing the question to any determinate issue, while we proceed upon so erroneous a supposition. The only method of undeceiving us is to mount up higher; to examine the narrow extent of science when applied to material causes; and to convince ourselves that all we know of them is the constant conjunction and inference above mentioned. We may, perhaps, find that it is with difficulty we are induced to fix such narrow limits to human understanding: but we can afterwards find no difficulty when we come to apply this doctrine to the actions of the will. For as it is evident that these have a regular conjunction with motives and circumstances and characters, and as we always draw inferences from one to the other, we must be obliged to acknowledge in words that necessity, which we have already avowed, in every deliberation of our lives, and in every step of our conduct and behaviour.[1]

But to proceed in this reconciling project with regard to the question of liberty and necessity; the most contentious question of metaphysics, the most contentious science; it will not require many words to prove, that all mankind have ever agreed in the doctrine of liberty as well as in that of necessity, and that the whole dispute, in this respect also, has been hitherto merely verbal. For what is meant by liberty, when applied to voluntary actions? We cannot surely mean that actions have so little connexion with motives, inclinations, and circumstances, that one does not follow with a certain degree of uniformity from the other, and that one affords no inference by which we can conclude the existence of the other. For these are plain and acknowledged matters of fact. By liberty, then, we can only mean a power of acting or not acting, according to the determinations of the will; this is, if we choose to remain at rest, we may; if we choose to move, we also may. Now this hypothetical liberty is universally allowed to belong to every one who is not a prisoner and in chains. Here, then, is no subject of dispute.

Whatever definition we may give of liberty, we should be careful to observe two requisite circumstances; First, that it be consistent with plain matter of fact; secondly, that it be consistent with itself. If we observe these circumstances, and render our definition intelligible, I am persuaded that all mankind will be found of one opinion with regard to it.

It is universally allowed that nothing exists without a cause of its existence, and that chance, when strictly examined, is a mere negative word, and means not any real power which has anywhere a being in nature. But it is pretended that some causes are necessary, some not necessary. Here then is the advantage of definitions. Let any one define a cause, without comprehending, as a part of the definition, a necessary connexion with its effect; and let him show distinctly the origin of the idea, expressed by the definition; and I shall readily give up the whole controversy. But if the foregoing explication of the matter be received, this must be absolutely impracticable. Had not objects a regular conjunction with each other, we should never have entertained any notion of cause and effect; and this regular conjunction produces that inference of the understanding, which is the only connexion, that we can have any comprehension of. Whoever attempts a definition of cause, exclusive of these circumstances, will be obliged either to employ unintelligible terms or such as are synonymous to the term which he endeavours to define.[2] And if the definition above mentioned be admitted; liberty, when opposed to necessity, not to constraint, is the same thing with chance; which is universally allowed to have no existence.

## SECTION VIII OF LIBERTY AND NECESSITY, PART II

THERE is no method of reasoning more common, and yet none more blameable, than, in philosophical disputes, to endeavour the refutation of any hypothesis, by a pretence of its dangerous consequences to religion and morality. When any opinion leads to absurdities, it is certainly false; but it is not certain that an opinion is false, because it is of dangerous consequence. Such topics, therefore, ought entirely to be forborne; as serving nothing to the discovery of truth, but only to make the person of an antagonist odious. This I observe in general, without pretending to draw any advantage from it. I frankly submit to an examination of this kind, and shall venture to affirm that the doctrines, both of necessity and of liberty, as above explained, are not only consistent with morality, but are absolutely essential to its support.

Necessity may be defined two ways, conformably to the two definitions of cause, of which it makes an essential part. It consists either in the constant conjunction of like objects, or in the inference of the understanding from one object to another. Now necessity, in both these senses, (which, indeed, are at bottom the same) has universally, though tacitly, in the schools, in the pulpit, and in common life, been allowed to belong to the will of man; and no one has ever pretended to deny that we can draw inferences concerning human actions, and that those inferences are founded on the experienced union of like actions, with like motives, inclinations, and circumstances. The only particular in which any one can differ, is, that either, perhaps, he will refuse to give the name of necessity to this property of human actions: but as long as the meaning is understood, I hope the word can do no harm: or that he will maintain it possible to discover something farther in the operations of matter. But this, it must be acknowledged, can be of no consequence to morality or religion, whatever it may be to natural philosophy or metaphysics. We may here be mistaken in asserting that there is no idea of any other necessity or connexion in the actions of body: But surely we ascribe nothing to the actions of the mind, but what everyone does, and must readily allow of. We change no circumstance in the received orthodox system with regard to the will, but only in that with regard to material objects and causes. Nothing, therefore, can be more innocent, at least, than this doctrine.

All laws being founded on rewards and punishments, it is supposed as a fundamental principle, that these motives have a regular and uniform influence on the mind, and both produce the good and prevent the evil actions. We may give to this influence what name we please; but, as it is usually conjoined with the action, it must be esteemed a cause, and be looked upon as an instance of that necessity, which we would here establish.

The only proper object of hatred or vengeance is a person or creature, endowed with thought and consciousness; and when any criminal or injurious actions excite that passion, it is only by their relation to the person, or connexion with him. Actions are, by their very nature, temporary and perishing; and where they proceed not from some cause in the character and disposition of the person who performed them, they can neither redound to his honour, if good; nor infamy, if evil. The actions themselves may be blameable; they may be contrary to all the rules of morality and religion: but the person is not answerable for them; and as they proceeded from nothing in him that is durable and constant, and leave nothing of that nature behind them, it is impossible he can, upon their account, become the object of punishment or vengeance. According to the principle, therefore, which denies necessity, and consequently causes, a man is as pure and untainted, after having committed the most horrid crime, as at the first moment of his birth, nor is his character anywise concerned in his actions, since they are not derived from it, and the wickedness of the one can never be used as a proof of the depravity of the other.

Men are not blamed for such actions as they perform ignorantly and casually, whatever may be the consequences. Why? but because the principles of these actions are only momentary, and terminate in them alone. Men are less blamed for such actions as they perform hastily and unpremeditatedly than for such as proceed from deliberation. For what reason? but because a hasty temper, though a constant cause or principle in the mind, operates only by intervals, and infects not the whole character. Again, repentance wipes off every crime, if attended with a reformation of life and manners. How is this to be accounted for? but by asserting that actions render a person criminal merely as they are proofs of criminal principles in the mind; and when, by an alteration of these principles, they cease to be just proofs, they likewise cease to be criminal. But, except upon the doctrine of necessity, they never were just proofs, and consequently never were criminal.

It will be equally easy to prove, and from the same arguments, that liberty, according to that definition above mentioned, in which all men agree, is also essential to morality, and that no human actions, where it is wanting, are susceptible of any moral qualities, or can be the objects either of approbation or dislike. For as actions are objects of our moral sentiment, so far only as they are indications of the internal character, passions, and affections; it is impossible that they can give rise either to praise or blame, where they proceed not from these principles, but are derived altogether from external violence.

I pretend not to have obviated or removed all objections to this theory, with regard to necessity and liberty. I can foresee other objections, derived from topics which have not here been treated of. It may be said, for instance, that, if voluntary actions be subjected to the same laws of necessity with the operations of matter, there is a continued chain of necessary causes, pre-ordained and pre-determined, reaching from the original cause of all to every single volition of every human creature. No contingency anywhere in the universe; no indifference; no liberty. While we act, we are, at the same time, acted upon. The ultimate Author of all our volitions is the Creator of the world, who first bestowed motion on this immense machine, and placed all beings in that particular position, whence every subsequent event, by an inevitable necessity, must result. Human actions, therefore, either can have no moral turpitude at all, as proceeding from so good a cause; or if they have any turpitude, they must involve our Creator in the same guilt, while he is acknowledged to be their ultimate cause and author. For as a man, who fired a mine, is answerable for all the consequences whether the train he employed be long or short; so wherever a continued chain of necessary causes is fixed, that Being, either finite or infinite, who produces the first, is likewise the author of all the rest, and must both bear the blame and acquire the praise which belong to them. Our clear and unalterable ideas of morality establish this rule, upon unquestionable reasons, when we examine the consequences of any human action; and these reasons must still have greater force when applied to the volitions and intentions of a Being infinitely wise and powerful. Ignorance or impotence may be pleaded for so limited a creature as man; but those imperfections have no place in our Creator. He foresaw, he ordained, he intended all those actions of men, which we so rashly pronounce criminal. And we must therefore conclude, either that they are not criminal, or that the Deity, not man, is accountable for them. But as either of these positions is absurd and impious, it follows, that the doctrine from which they are deduced cannot possibly be true, as being liable to all the same objections. An absurd consequence, if necessary, proves the original doctrine to be absurd; in the same manner as criminal actions render criminal the original cause, if the connexion between them be necessary and inevitable.

This objection consists of two parts, which we shall examine separately; First, that, if human actions can be traced up, by a necessary chain, to the Deity, they can never be criminal; on account of the infinite perfection of that Being from whom they are derived, and who can intend nothing but what is altogether good and laudable. Or, Secondly, if they be criminal, we must retract the attribute of perfection, which we ascribe to the Deity, and must acknowledge him to be the ultimate author of guilt and moral turpitude in all his creatures.

The answer to the first objection seems obvious and convincing. There are many philosophers who, after an exact scrutiny of all the phenomena of nature, conclude, that the WHOLE, considered as one system, is, in every period of its existence, ordered with perfect benevolence; and that the utmost possible happiness will, in the end, result to all created beings, without any mixture of positive or absolute ill or misery. Every physical ill, say they, makes an essential part of this benevolent system, and could not possibly be removed, even by the Deity himself, considered as a wise agent, without giving entrance to greater ill, or excluding greater good, which will result from it. From this theory, some philosophers, and the ancient Stoics among the rest, derived a topic of consolation under all afflictions, while they taught their pupils that those ills under which they laboured were, in reality, goods to the universe; and that to an enlarged view, which could comprehend the whole system of nature, every event became an object of joy and exultation. But though this topic be specious and sublime, it was soon found in practice weak and ineffectual. You would surely more irritate than appease a man lying under the racking pains of the gout by preaching up to him the rectitude of those general laws, which produced the malignant humours in his body, and led them through the proper canals, to the sinews and nerves, where they now excite such acute torments. These enlarged views may, for a moment, please the imagination of a speculative man, who is placed in ease and security; but neither can they dwell with constancy on his mind, even though undisturbed by the emotions of pain or passion; much less can they maintain their ground when attacked by such powerful antagonists. The affections take a narrower and more natural survey of their object; and by an economy, more suitable to the infirmity of human minds, regard alone the beings around us, and are actuated by such events as appear good or ill to the private system.

The case is the same with moral as with physical ill. It cannot reasonably be supposed, that those remote considerations, which are found of so little efficacy with regard to one, will have a more powerful influence with regard to the other. The mind of man is so formed by nature that, upon the appearance of certain characters, dispositions, and actions, it immediately feels the sentiment of approbation or blame; nor are there any emotions more essential to its frame and constitution. The characters which engage our approbation are chiefly such as contribute to the peace and security of human society; as the characters which excite blame are chiefly such as tend to public detriment and disturbance: whence it may reasonably be presumed, that the moral sentiments arise, either mediately or immediately, from a reflection of these opposite interests. What though philosophical meditations establish a different opinion or conjecture; that everything is right with regard to the WHOLE, and that the qualities, which disturb society, are, in the main, as beneficial, and are as suitable to the primary intention of nature as those which more directly promote its happiness and welfare? Are such remote and uncertain speculations able to counterbalance the sentiments which arise from the natural and immediate view of the objects? A man who is robbed of a considerable sum; does he find his vexation for the loss anywise diminished by these sublime reflections? Why then should his moral resentment against the crime be supposed incompatible with them? Or why should not the acknowledgment of a real distinction between vice and virtue be reconcileable to all speculative systems of philosophy, as well as that of a real distinction between personal beauty and deformity? Both these distinctions are founded in the natural sentiments of the human mind: And these sentiments are not to be controuled or altered by any philosophical theory or speculation whatsoever.

The second objection admits not of so easy and satisfactory an answer; nor is it possible to explain distinctly, how the Deity can be the mediate cause of all the actions of men, without being the author of sin and moral turpitude. These are mysteries, which mere natural and unassisted reason is very unfit to handle; and whatever system she embraces, she must find herself involved in inextricable difficulties, and even contradictions, at every step which she takes with regard to such subjects. To reconcile the indifference and contingency of human actions with prescience; or to defend absolute decrees, and yet free the Deity from being the author of sin, has been found hitherto to exceed all the power of philosophy. Happy, if she be thence sensible of her temerity, when she pries into these sublime mysteries; and leaving a scene so full of obscurities and perplexities, return, with suitable modesty, to her true and proper province, the examination of common life; where she will find difficulties enough to employ her enquiries, without launching into so boundless an ocean of doubt, uncertainty, and contradiction!

[1] The prevalence of the doctrine of liberty may be accounted for, from another cause, viz. a false sensation of seeming experience which we have, or may have, of liberty or indifference, in many of our actions. The necessity of any action, whether of matter or of mind, is not, properly speaking, a quality in the agent, but in any thinking or intelligent being, who may consider the action; and it consists chiefly in the determination of his thoughts to infer the existence of that action from some preceding objects; as liberty, when opposed to necessity, is nothing but the want of that determination, and a certain looseness or indifference, which we feel, in passing, or not passing, from the idea of one object to that of any succeeding one. Now we may observe, that, though, in reflecting on human actions, we seldom feel such a looseness, or indifference, but are commonly able to infer them with considerable certainty from their motives, and from the dispositions of the agent; yet it frequently happens, that, in performing the actions themselves, we are sensible of something like it: And as all resembling objects are readily taken for each other, this has been employed as a demonstrative and even intuitive proof of human liberty. We feel, that our actions are subject to our will, on most occasions; and imagine we feel, that the will itself is subject to nothing, because, when by a denial of it we are provoked to try, we feel, that it moves easily every way, and produces an image of itself (or a Velleity, as it is called in the schools) even on that side, on which it did not settle. This image, or faint motion, we persuade ourselves, could, at that time, have been compleated into the thing itself; because, should that be denied, we find, upon a second trial, that, at present, it can. We consider not, that the fantastical desire of shewing liberty, is here the motive of our actions. And it seems certain, that, however we may imagine we feel a liberty within ourselves, a spectator can commonly infer our actions from our motives and character; and even where he cannot, he concludes in general, that he might, were he perfectly acquainted with every circumstance of our situation and temper, and the most secret springs of our complexion and disposition. Now this is the very essence of necessity, according to the foregoing doctrine.

[2] Thus, if a cause be defined, that which produces any thing, it is easy to observe, that producing is synonymous to causing. In like manner, if a cause be defined, that by which any thing exists, this is liable to the same objection. For what is meant by these words, by which? Had it been said, that a cause is that after which any thing constantly exists; we should have understood the terms. For this is, indeed, all we know of the matter. And this constantly forms the very essence of necessity, nor have we any other idea of it.

## SECTION IX OF THE REASON OF ANIMALS

ALL our reasonings concerning matter of fact are founded on a species of Analogy, which leads us to expect from any cause the same events, which we have observed to result from similar causes. Where the causes are entirely similar, the analogy is perfect, and the inference, drawn from it, is regarded as certain and conclusive: nor does any man ever entertain a doubt, where he sees a piece of iron, that it will have weight and cohesion of parts; as in all other instances, which have ever fallen under his observation. But where the objects have not so exact a similarity, the analogy is less perfect, and the inference is less conclusive; though still it has some force, in proportion to the degree of similarity and resemblance. The anatomical observations, formed upon one animal, are, by this species of reasoning, extended to all animals; and it is certain, that when the circulation of the blood, for instance, is clearly proved to have place in one creature, as a frog, or fish, it forms a strong presumption, that the same principle has place in all. These analogical observations may be carried farther, even to this science, of which we are now treating; and any theory, by which we explain the operations of the understanding, or the origin and connexion of the passions in man, will acquire additional authority, if we find, that the same theory is requisite to explain the same phenomena in all other animals. We shall make trial of this, with regard to the hypothesis, by which we have, in the foregoing discourse, endeavoured to account for all experimental reasonings; and it is hoped, that this new point of view will serve to confirm all our former observations.

First, It seems evident, that animals as well as men learn many things from experience, and infer, that the same events will always follow from the same causes. By this principle they become acquainted with the more obvious properties of external objects, and gradually, from their birth, treasure up a knowledge of the nature of fire, water, earth, stones, heights, depths, &c., and of the effects which result from their operation. The ignorance and inexperience of the young are here plainly distinguishable from the cunning and sagacity of the old, who have learned, by long observation, to avoid what hurt them, and to pursue what gave ease or pleasure. A horse, that has been accustomed to the field, becomes acquainted with the proper height which he can leap, and will never attempt what exceeds his force and ability. An old greyhound will trust the more fatiguing part of the chace to the younger, and will place himself so as to meet the hare in her doubles; nor are the conjectures, which he forms on this occasion, founded in any thing but his observation and experience.

This is still more evident from the effects of discipline and education on animals, who, by the proper application of rewards and punishments, may be taught any course of action, and most contrary to their natural instincts and propensities. Is it not experience, which renders a dog apprehensive of pain, when you menace him, or lift up the whip to beat him? Is it not even experience, which makes him answer to his name, and infer, from such an arbitrary sound, that you mean him rather than any of his fellows, and intend to call him, when you pronounce it in a certain manner, and with a certain tone and accent?

In all these cases, we may observe, that the animal infers some fact beyond what immediately strikes his senses; and that this inference is altogether founded on past experience, while the creature expects from the present object the same consequences, which it has always found in its observation to result from similar objects.

Secondly, It is impossible, that this inference of the animal can be founded on any process of argument or reasoning, by which he concludes, that like events must follow like objects, and that the course of nature will always be regular in its operations. For if there be in reality any arguments of this nature, they surely lie too abstruse for the observation of such imperfect understandings; since it may well employ the utmost care and attention of a philosophic genius to discover and observe them. Animals, therefore are not guided in these inferences by reasoning: neither are children; neither are the generality of mankind, in their ordinary actions and conclusions: neither are philosophers themselves, who, in all the active parts of life, are, in the main, the same with the vulgar, and are governed by the same maxims. Nature must have provided some other principle, of more ready, and more general use and application; nor can an operation of such immense consequence in life, as that of inferring effects from causes, be trusted to the uncertain process of reasoning and argumentation. Were this doubtful with regard to men, it seems to admit of no question with regard to the brute creation; and the conclusion being once firmly established in the one, we have a strong presumption, from all the rules of analogy, that it ought to be universally admitted, without any exception or reserve. It is custom alone, which engages animals, from every object, that strikes their senses, to infer its usual attendant, and carries their imagination, from the appearance of the one, to conceive the other, in that particular manner, which we denominate belief. No other explication can be given of this operation, in all the higher, as well as lower classes of sensitive beings, which fall under our notice and observation.[1]

But though animals learn many parts of their knowledge from observation, there are also many parts of it, which they derive from the original hand of nature; which much exceed the share of capacity they possess on ordinary occasions; and in which they improve, little or nothing, by the longest practice and experience. These we denominate Instincts, and are so apt to admire as something very extraordinary, and inexplicable by all the disquisitions of human understanding. But our wonder will, perhaps, cease or diminish, when we consider, that the experimental reasoning itself, which we possess in common with beasts, and on which the whole conduct of life depends, is nothing but a species of instinct or mechanical power, that acts in us unknown to ourselves; and in its chief operations, is not directed by any such relations or comparisons of ideas, as are the proper objects of our intellectual faculties. Though the instinct be different, yet still it is an instinct, which teaches a man to avoid the fire; as much as that, which teaches a bird, with such exactness, the art of incubation, and the whole economy and order of its nursery.

[1] Since all reasoning concerning facts or causes is derived merely from custom, it may be asked how it happens, that men so much surpass animals in reasoning, and one man so much surpasses another? Has not the same custom the same influence on all?

We shall here endeavour briefly to explain the great difference in human understandings: After which the reason of the difference between men and animals will easily be comprehended.

1. When we have lived any time, and have been accustomed to the uniformity of nature, we acquire a general habit, by which we always transfer the known to the unknown, and conceive the latter to resemble the former. By means of this general habitual principle, we regard even one experiment as the foundation of reasoning, and expect a similar event with some degree of certainty, where the experiment has been made accurately, and free from all foreign circumstances. It is therefore considered as a matter of great importance to observe the consequences of things; and as one man may very much surpass another in attention and memory and observation, this will make a very great difference in their reasoning.

2. Where there is a complication of causes to produce any effect, one mind may be much larger than another, and better able to comprehend the whole system of objects, and to infer justly their consequences.

3. One man is able to carry on a chain of consequences to a greater length than another.

4. Few men can think long without running into a confusion of ideas, and mistaking one for another; and there are various degrees of this infirmity.

5. The circumstance, on which the effect depends, is frequently involved in other circumstances, which are foreign and extrinsic. The separation of it often requires great attention, accuracy, and subtility.

6. The forming of general maxims from particular observation is a very nice operation; and nothing is more usual, from haste or a narrowness of mind, which sees not on all sides, than to commit mistakes in this particular.

7. When we reason from analogies, the man, who has the greater experience or the greater promptitude of suggesting analogies, will be the better reasoner.

8. Biases from prejudice, education, passion, party, &c. hang more upon one mind than another.

9. After we have acquired a confidence in human testimony, books and conversation enlarge much more the sphere of one man's experience and thought than those of another.

It would be easy to discover many other circumstances that make a difference in the understandings of men.

## SECTION X OF MIRACLES, PART I

THERE is, in Dr. Tillotson's writings, an argument against the real presence, which is as concise, and elegant, and strong as any argument can possibly be supposed against a doctrine, so little worthy of a serious refutation. It is acknowledged on all hands, says that learned prelate, that the authority, either of the scripture or of tradition, is founded merely in the testimony of the Apostles, who were eye-witnesses to those miracles of our Saviour, by which he proved his divine mission. Our evidence, then, for, the truth of the Christian religion is less than the evidence for the truth of our senses; because, even in the first authors of our religion, it was no greater; and it is evident it must diminish in passing from them to their disciples; nor can any one rest such confidence in their testimony, as in the immediate object of his senses. But a weaker evidence can never destroy a stronger; and therefore, were the doctrine of the real presence ever so clearly revealed in scripture, it were directly contrary to the rules of just reasoning to give our assent to it. It contradicts sense, though both the scripture and tradition, on which it is supposed to be built, carry not such evidence with them as sense; when they are considered merely as external evidences, and are not brought home to every one's breast, by the immediate operation of the Holy Spirit.

Nothing is so convenient as a decisive argument of this kind, which must at least silence the most arrogant bigotry and superstition, and free us from their impertinent solicitations. I flatter myself, that I have discovered an argument of a like nature, which, if just, will, with the wise and learned, be an everlasting check to all kinds of superstitious delusion, and consequently, will be useful as long as the world endures. For so long, I presume, will the accounts of miracles and prodigies be found in all history, sacred and profane.

Though experience be our only guide in reasoning concerning matters of fact; it must be acknowledged, that this guide is not altogether infallible, but in some cases is apt to lead us into errors. One, who in our climate, should expect better weather in any week of June than in one of December, would reason justly, and conformably to experience; but it is certain, that he may happen, in the event, to find himself mistaken. However, we may observe, that, in such a case, he would have no cause to complain of experience; because it commonly informs us beforehand of the uncertainty, by that contrariety of events, which we may learn from a diligent observation. All effects follow not with like certainty from their supposed causes. Some events are found, in all countries and all ages, to have been constantly conjoined together: Others are found to have been more variable, and sometimes to disappoint our expectations; so that, in our reasonings concerning matter of fact, there are all imaginable degrees of assurance, from the highest certainty to the lowest species of moral evidence.

A wise man, therefore, proportions his belief to the evidence. In such conclusions as are founded on an infallible experience, he expects the event with the last degree of assurance, and regards his past experience as a full proof of the future existence of that event. In other cases, he proceeds with more caution: he weighs the opposite experiments: he considers which side is supported by the greater number of experiments: to that side he inclines, with doubt and hesitation; and when at last he fixes his judgement, the evidence exceeds not what we properly call probability. All probability, then, supposes an opposition of experiments and observations, where the one side is found to overbalance the other, and to produce a degree of evidence, proportioned to the superiority. A hundred instances or experiments on one side, and fifty on another, afford a doubtful expectation of any event; though a hundred uniform experiments, with only one that is contradictory, reasonably beget a pretty strong degree of assurance. In all cases, we must balance the opposite experiments, where they are opposite, and deduct the smaller number from the greater, in order to know the exact force of the superior evidence.

To apply these principles to a particular instance; we may observe, that there is no species of reasoning more common, more useful, and even necessary to human life, than that which is derived from the testimony of men, and the reports of eye-witnesses and spectators. This species of reasoning, perhaps, one may deny to be founded on the relation of cause and effect. I shall not dispute about a word. It will be sufficient to observe that our assurance in any argument of this kind is derived from no other principle than our observation of the veracity of human testimony, and of the usual conformity of facts to the reports of witnesses. It being a general maxim, that no objects have any discoverable connexion together, and that all the inferences, which we can draw from one to another, are founded merely on our experience of their constant and regular conjunction; it is evident, that we ought not to make an exception to this maxim in favour of human testimony, whose connexion with any event seems, in itself, as little necessary as any other. Were not the memory tenacious to a certain degree; had not men commonly an inclination to truth and a principle of probity; were they not sensible to shame, when detected in a falsehood: were not these, I say, discovered by experience to be qualities, inherent in human nature, we should never repose the least confidence in human testimony. A man delirious, or noted for falsehood and villainy, has no manner of authority with us.

And as the evidence, derived from witnesses and human testimony, is founded on past experience, so it varies with the experience, and is regarded either as a proof or a probability, according as the conjunction between any particular kind of report and any kind of object has been found to be constant or variable. There are a number of circumstances to be taken into consideration in all judgements of this kind; and the ultimate standard, by which we determine all disputes, that may arise concerning them, is always derived from experience and observation. Where this experience is not entirely uniform on any side, it is attended with an unavoidable contrariety in our judgements, and with the same opposition and mutual destruction of argument as in every other kind of evidence. We frequently hesitate concerning the reports of others. We balance the opposite circumstances, which cause any doubt or uncertainty; and when we discover a superiority on any side, we incline to it; but still with a diminution of assurance, in proportion to the force of its antagonist.

This contrariety of evidence, in the present case, may be derived from several different causes; from the opposition of contrary testimony; from the character or number of the witnesses; from the manner of their delivering their testimony; or from the union of all these circumstances. We entertain a suspicion concerning any matter of fact, when the witnesses contradict each other; when they are but few, or of a doubtful character; when they have an interest in what they affirm; when they deliver their testimony with hesitation, or on the contrary, with too violent asseverations. There are many other particulars of the same kind, which may diminish or destroy the force of any argument, derived from human testimony.

Suppose, for instance, that the fact, which the testimony endeavours to establish, partakes of the extraordinary and the marvellous; in that case, the evidence, resulting from the testimony, admits of a diminution, greater or less, in proportion as the fact is more or less unusual. The reason why we place any credit in witnesses and historians, is not derived from any connexion, which we perceive a priori, between testimony and reality, but because we are accustomed to find a conformity between them. But when the fact attested is such a one as has seldom fallen under our observation, here is a contest of two opposite experiences; of which the one destroys the other, as far as its force goes, and the superior can only operate on the mind by the force, which remains. The very same principle of experience, which gives us a certain degree of assurance in the testimony of witnesses, gives us also, in this case, another degree of assurance against the fact, which they endeavour to establish; from which contradiction there necessarily arises a counterpoize, and mutual destruction of belief and authority.

I should not believe such a story were it told me by Cato, was a proverbial saying in Rome, even during the lifetime of that philosophical patriot.[1] The incredibility of a fact, it was allowed, might invalidate so great an authority.

The Indian prince, who refused to believe the first relations concerning the effects of frost, reasoned justly; and it naturally required very strong testimony to engage his assent to facts, that arose from a state of nature, with which he was unacquainted, and which bore so little analogy to those events, of which he had had constant and uniform experience. Though they were not contrary to his experience, they were not conformable to it.[2]

But in order to encrease the probability against the testimony of witnesses, let us suppose, that the fact, which they affirm, instead of being only marvellous, is really miraculous; and suppose also, that the testimony considered apart and in itself, amounts to an entire proof; in that case, there is proof against proof, of which the strongest must prevail, but still with a diminution of its force, in proportion to that of its antagonist.

A miracle is a violation of the laws of nature; and as a firm and unalterable experience has established these laws, the proof against a miracle, from the very nature of the fact, is as entire as any argument from experience can possibly be imagined. Why is it more than probable, that all men must die; that lead cannot, of itself, remain suspended in the air; that fire consumes wood, and is extinguished by water; unless it be, that these events are found agreeable to the laws of nature, and there is required a violation of these laws, or in other words, a miracle to prevent them? Nothing is esteemed a miracle, if it ever happen in the common course of nature. It is no miracle that a man, seemingly in good health, should die on a sudden: because such a kind of death, though more unusual than any other, has yet been frequently observed to happen. But it is a miracle, that a dead man should come to life; because that has never been observed in any age or country. There must, therefore, be a uniform experience against every miraculous event, otherwise the event would not merit that appellation. And as a uniform experience amounts to a proof, there is here a direct and full proof, from the nature of the fact, against the existence of any miracle; nor can such a proof be destroyed, or the miracle rendered credible, but by an opposite proof, which is superior.[3]

The plain consequence is (and it is a general maxim worthy of our attention), 'that no testimony is sufficient to establish a miracle, unless the testimony be of such a kind, that its falsehood would be more miraculous, than the fact, which it endeavors to establish; and even in that case there is a mutual destruction of arguments, and the superior only gives us an assurance suitable to that degree of force, which remains, after deducting the inferior.' When anyone tells me, that he saw a dead man restored to life, I immediately consider with myself, whether it be more probable, that this person should either deceive or be deceived, or that the fact, which he relates, should really have happened. I weigh the one miracle against the other; and according to the superiority, which I discover, I pronounce my decision, and always reject the greater miracle. If the falsehood of his testimony would be more miraculous, than the event which he relates; then, and not till then, can he pretend to command my belief or opinion.

## SECTION X OF MIRACLES, PART II

IN the foregoing reasoning we have supposed, that the testimony, upon which a miracle is founded, may possibly amount to an entire proof, and that the falsehood of that testimony would be a real prodigy: but it is easy to shew, that we have been a great deal too liberal in our concession, and that there never was a miraculous event established on so full an evidence.

For first, there is not to be found, in all history, any miracle attested by a sufficient number of men, of such unquestioned good-sense, education, and learning, as to secure us against all delusion in themselves; of such undoubted integrity, as to place them beyond all suspicion of any design to deceive others; of such credit and reputation in the eyes of mankind, as to have a great deal to lose in case of their being detected in any falsehood; and at the same time, attesting facts performed in such a public manner and in so celebrated a part of the world, as to render the detection unavoidable: all which circumstances are requisite to give us a full assurance in the testimony of men.

Secondly. We may observe in human nature a principle which, if strictly examined, will be found to diminish extremely the assurance, which we might, from human testimony, have in any kind of prodigy. The maxim, by which we commonly conduct ourselves in our reasonings, is, that the objects, of which we have no experience, resembles those, of which we have; that what we have found to be most usual is always most probable; and that where there is an opposition of arguments, we ought to give the preference to such as are founded on the greatest number of past observations. But though, in proceeding by this rule, we readily reject any fact which is unusual and incredible in an ordinary degree; yet in advancing farther, the mind observes not always the same rule; but when anything is affirmed utterly absurd and miraculous, it rather the more readily admits of such a fact, upon account of that very circumstance, which ought to destroy all its authority. The passion of surprise and wonder, arising from miracles, being an agreeable emotion, gives a sensible tendency towards the belief of those events, from which it is derived. And this goes so far, that even those who cannot enjoy this pleasure immediately, nor can believe those miraculous events, of which they are informed, yet love to partake of the satisfaction at second-hand or by rebound, and place a pride and delight in exciting the admiration of others.

With what greediness are the miraculous accounts of travellers received, their descriptions of sea and land monsters, their relations of wonderful adventures, strange men, and uncouth manners? But if the spirit of religion join itself to the love of wonder, there is an end of common sense; and human testimony, in these circumstances, loses all pretensions to authority. A religionist may be an enthusiast, and imagine he sees what has no reality: he may know his narrative to be false, and yet persevere in it, with the best intentions in the world, for the sake of promoting so holy a cause: or even where this delusion has not place, vanity, excited by so strong a temptation, operates on him more powerfully than on the rest of mankind in any other circumstances; and self-interest with equal force. His auditors may not have, and commonly have not, sufficient judgement to canvass his evidence: what judgement they have, they renounce by principle, in these sublime and mysterious subjects: or if they were ever so willing to employ it, passion and a heated imagination disturb the regularity of its operations. their credulity increases his impudence: and his impudence overpowers their credulity.

Eloquence, when at its highest pitch, leaves little room for reason or reflection; but addressing itself entirely to the fancy or the affections, captivates the willing hearers, and subdues their understanding. Happily, this pitch it seldom attains. But what a Tully or a Demosthenes could scarcely effect over a Roman or Athenian audience, every Capuchin, every itinerant or stationary teacher can perform over the generality of mankind, and in a higher degree, by touching such gross and vulgar passions.

The many instances of forged miracles, and prophecies, and supernatural events, which, in all ages, have either been detected by contrary evidence, or which detect themselves by their absurdity, prove sufficiently the strong propensity of mankind to the extraordinary and the marvellous, and ought reasonably to beget a suspicion against all relations of this kind. This is our natural way of thinking, even with regard to the most common and most credible events. For instance: There is no kind of report which rises so easily, and spreads so quickly, especially in country places and provincial towns, as those concerning marriages; insomuch that two young persons of equal condition never see each other twice, but the whole neighbourhood immediately join them together. The pleasure of telling a piece of news so interesting, of propagating it, and of being the first reporters of it, spreads the intelligence. And this is so well known, that no man of sense gives attention to these reports, till he find them confirmed by some greater evidence. Do not the same passions, and others still stronger, incline the generality of mankind to believe and report, with the greatest vehemence and assurance, all religious miracles?

Thirdly. It forms a strong presumption against all supernatural and miraculous relations, that they are observed chiefly to abound among ignorant and barbarous nations; or if a civilized people has ever given admission to any of them, that people will be found to have received them from ignorant and barbarous ancestors, who transmitted them with that inviolable sanction and authority, which always attend received opinions. When we peruse the first histories of all nations, we are apt to imagine ourselves transported into some new world; where the whole frame of nature is disjointed, and every element performs its operations in a different manner, from what it does at present. Battles, revolutions, pestilence, famine and death, are never the effect of those natural causes, which we experience. Prodigies, omens, oracles, judgements, quite obscure the few natural events, that are intermingled with them. But as the former grow thinner every page, in proportion as we advance nearer the enlightened ages, we soon learn, that there is nothing mysterious or supernatural in the case, but that all proceeds from the usual propensity of mankind towards the marvellous, and that, though this inclination may at intervals receive a check from sense and learning, it can never be thoroughly extirpated from human nature.

It is strange, a judicious reader is apt to say, upon the perusal of these wonderful historians, that such prodigious events never happen in our days. But it is nothing strange, I hope, that men should lie in all ages. You must surely have seen instances enough of that frailty. You have yourself heard many such marvellous relations started, which, being treated with scorn by all the wise and judicious, have at last been abandoned even by the vulgar. Be assured, that those renowned lies, which have spread and flourished to such a monstrous height, arose from like beginnings; but being sown in a more proper soil, shot up at last into prodigies almost equal to those which they relate.

It was a wise policy in that false prophet, Alexander, who though now forgotten, was once so famous, to lay the first scene of his impostures in Paphlagonia, where, as Lucian tells us, the people were extremely ignorant and stupid, and ready to swallow even the grossest delusion. People at a distance, who are weak enough to think the matter at all worth enquiry, have no opportunity of receiving better information. The stories come magnified to them by a hundred circumstances. Fools are industrious in propagating the imposture; while the wise and learned are contented, in general, to deride its absurdity, without informing themselves of the particular facts, by which it may be distinctly refuted. And thus the impostor above mentioned was enabled to proceed, from his ignorant Paphlagonians, to the enlisting of votaries, even among the Grecian philosophers, and men of the most eminent rank and distinction in Rome; nay, could engage the attention of that sage emperor Marcus Aurelius; so far as to make him trust the success of a military expedition to his delusive prophecies.

The advantages are so great, of starting an imposture among an ignorant people, that, even though the delusion should be too gross to impose on the generality of them (which, though seldom, is sometimes the case) it has a much better chance for succeeding in remote countries, than if the first scene had been laid in a city renowned for arts and knowledge. The most ignorant and barbarous of these barbarians carry the report abroad. None of their countrymen have a large correspondence, or sufficient credit and authority to contradict and beat down the delusion. Men's inclination to the marvellous has full opportunity to display itself. And thus a story, which is universally exploded in the place where it was first started, shall pass for certain at a thousand miles distance. But had Alexander fixed his residence at Athens, the philosophers of that renowned mart of learning had immediately spread, throughout the whole Roman empire, their sense of the matter; which, being supported by so great authority, and displayed by all the force of reason and eloquence, had entirely opened the eyes of mankind. It is true; Lucian, passing by chance through Paphlagonia, had an opportunity of performing this good office. But, though much to be wished, it does not always happen, that every Alexander meets with a Lucian, ready to expose and detect his impostures.

I may add as a fourth reason, which diminishes the authority of prodigies, that there is no testimony for any, even those which have not been expressly detected, that is not opposed by an infinite number of witnesses; so that not only the miracle destroys the credit of testimony, but the testimony destroys itself. To make this the better understood, let us consider, that, in matters of religion, whatever is different is contrary; and that it is impossible the religions of ancient Rome, of Turkey, of Siam, and of China should, all of them, be established on any solid foundation. Every miracle, therefore, pretended to have been wrought in any of these religions (and all of them abound in miracles), as its direct scope is to establish the particular system to which it is attributed; so has it the same force, though more indirectly, to overthrow every other system. In destroying a rival system, it likewise destroys the credit of those miracles, on which that system was established; so that all the prodigies of different religions are to be regarded as contrary facts, and the evidences of these prodigies, whether weak or strong, as opposite to each other. According to this method of reasoning, when we believe any miracle of Mahomet or his successors, we have for our warrant the testimony of a few barbarous Arabians: and on the other hand, we are to regard the authority of Titus Livius, Plutarch, Tacitus, and, in short, of all the authors and witnesses, Grecian, Chinese, and Roman Catholic, who have related any miracle in their particular religion; I say, we are to regard their testimony in the same light as if they had mentioned that Mahometan miracle, and had in express terms contradicted it, with the same certainty as they have for the miracle they relate. This argument may appear over subtile and refined; but is not in reality different from the reasoning of a judge, who supposes, that the credit of two witnesses, maintaining a crime against any one, is destroyed by the testimony of two others, who affirm him to have been two hundred leagues distant, at the same instant when the crime is said to have been committed.

One of the best attested miracles in all profane history, is that which Tacitus reports of Vespasian, who cured a blind man in Alexandria, by means of his spittle, and a lame man by the mere touch of his foot; in obedience to a vision of the god Serapis, who had enjoined them to have recourse to the Emperor, for these miraculous cures. The story may be seen in that fine historian[4]; where every circumstance seems to add weight to the testimony, and might be displayed at large with all the force of argument and eloquence, if any one were now concerned to enforce the evidence of that exploded and idolatrous superstition. The gravity, solidity, age, and probity of so great an emperor, who, through the whole course of his life, conversed in a familiar manner with his friends and courtiers, and never affected those extraordinary airs of divinity assumed by Alexander and Demetrius. The historian, a contemporary writer, noted for candour and veracity, and withal, the greatest and most penetrating genius, perhaps, of all antiquity; and so free from any tendency to credulity, that he even lies under the contrary imputation, of atheism and profaneness: The persons, from whose authority he related the miracle, of established character for judgement and veracity, as we may well presume; eye-witnesses of the fact, and confirming their testimony, after the Flavian family was despoiled of the empire, and could no longer give any reward, as the price of a lie. Utrumque, qui interfuere, nunc quoque memorant, postquam nullum mendacio pretium. To which if we add the public nature of the facts, as related, it will appear, that no evidence can well be supposed stronger for so gross and so palpable a falsehood.

There is also a memorable story related by Cardinal de Retz, which may well deserve our consideration. When that intriguing politician fled into Spain, to avoid the persecution of his enemies, he passed through Saragossa, the capital of Arragon, where he was shewn, in the cathedral, a man, who had served seven years as a doorkeeper, and was well known to every body in town, that had ever paid his devotions at that church. He had been seen, for so long a time, wanting a leg; but recovered that limb by the rubbing of holy oil upon the stump; and the cardinal assures us that he saw him with two legs. This miracle was vouched by all the canons of the church; and the whole company in town were appealed to for a confirmation of the fact; whom the cardinal found, by their zealous devotion, to be thorough believers of the miracle. Here the relater was also contemporary to the supposed prodigy, of an incredulous and libertine character, as well as of great genius; the miracle of so singular a nature as could scarcely admit of a counterfeit, and the witnesses very numerous, and all of them, in a manner, spectators of the fact, to which they gave their testimony. And what adds mightily to the force of the evidence, and may double our surprise on this occasion, is, that the cardinal himself, who relates the story, seems not to give any credit to it, and consequently cannot be suspected of any concurrence in the holy fraud. He considered justly, that it was not requisite, in order to reject a fact of this nature, to be able accurately to disprove the testimony, and to trace its falsehood, through all the circumstances of knavery and credulity which produced it. He knew, that, as this was commonly altogether impossible at any small distance of time and place; so was it extremely difficult, even where one was immediately present, by reason of the bigotry, ignorance, cunning, and roguery of a great part of mankind. He therefore concluded, like a just reasoner, that such an evidence carried falsehood upon the very face of it, and that a miracle, supported by any human testimony, was more properly a subject of derision than of argument.

There surely never was a greater number of miracles ascribed to one person, than those, which were lately said to have been wrought in France upon the tomb of Abbe Paris, the famous Jansenist, with whose sanctity the people were so long deluded. The curing of the sick, giving hearing to the deaf, and sight to the blind, were every where talked of as the usual effects of that holy sepulchre. But what is more extraordinary; many of the miracles were immediately proved upon the spot, before judges of unquestioned integrity, attested by witnesses of credit and distinction, in a learned age, and on the most eminent theatre that is now in the world. Nor is this all: a relation of them was published and dispersed everywhere; nor were the Jesuits, though a learned body supported by the civil magistrate, and determined enemies to those opinions, in whose favour the miracles were said to have been wrought, ever able distinctly to refute or detect them.[5] Where shall we find such a number of circumstances, agreeing to the corroboration of one fact? And what have we to oppose to such a cloud of witnesses, but the absolute impossibility or miraculous nature of the events, which they relate? And this surely, in the eyes of all reasonable people, will alone be regarded as a sufficient refutation.

Is the consequence just, because some human testimony has the utmost force and authority in some cases, when it relates the battle of Philippi or Pharsalia for instance; that therefore all kinds of testimony must, in all cases, have equal force and authority? Suppose that the Caesarean and Pompeian factions had, each of them, claimed the victory in these battles, and that the historians of each party had uniformly ascribed the advantage to their own side; how could mankind, at this distance, have been able to determine between them? The contrariety is equally strong between the miracles related by Herodotus or Plutarch, and those delivered by Mariana, Bede, or any monkish historian.

The wise lend a very academic faith to every report which favours the passion of the reporter; whether it magnifies his country, his family, or himself, or in any other way strikes in with his natural inclinations and propensities. But what greater temptation than to appear a missionary, a prophet, an ambassador from heaven? Who would not encounter many dangers and difficulties, in order to attain so sublime a character? Or if, by the help of vanity and a heated imagination, a man has first made a convert of himself, and entered seriously into the delusion; who ever scruples to make use of pious frauds, in support of so holy and meritorious a cause?

The smallest spark may here kindle into the greatest flame; because the materials are always prepared for it. The avidum genus auricularum[6], the gazing populace, receive greedily, without examination, whatever sooths superstition, and promotes wonder.

How many stories of this nature have, in all ages, been detected and exploded in their infancy? How many more have been celebrated for a time, and have afterwards sunk into neglect and oblivion? Where such reports, therefore, fly about, the solution of the phenomenon is obvious; and we judge in conformity to regular experience and observation, when we account for it by the known and natural principles of credulity and delusion. And shall we, rather than have a recourse to so natural a solution, allow of a miraculous violation of the most established laws of nature?

I need not mention the difficulty of detecting a falsehood in any private or even public history, at the place, where it is said to happen; much more when the scene is removed to ever so small a distance. Even a court of judicature, with all the authority, accuracy, and judgement, which they can employ, find themselves often at a loss to distinguish between truth and falsehood in the most recent actions. But the matter never comes to any issue, if trusted to the common method of altercations and debate and flying rumours; especially when men's passions have taken part on either side.

In the infancy of new religions, the wise and learned commonly esteem the matter too inconsiderable to deserve their attention or regard. And when afterwards they would willingly detect the cheat in order to undeceive the deluded multitude, the season is now past, and the records and witnesses, which might clear up the matter, have perished beyond recovery.

No means of detection remain, but those which must be drawn from the very testimony itself of the reporters: and these, though always sufficient with the judicious and knowing, are commonly too fine to fall under the comprehension of the vulgar.

Upon the whole, then, it appears, that no testimony for any kind of miracle has ever amounted to a probability, much less to a proof; and that, even supposing it amounted to a proof, it would be opposed by another proof; derived from the very nature of the fact, which it would endeavour to establish. It is experience only, which gives authority to human testimony; and it is the same experience, which assures us of the laws of nature. When, therefore, these two kinds of experience are contrary, we have nothing to do but subtract the one from the other, and embrace an opinion, either on one side or the other, with that assurance which arises from the remainder. But according to the principle here explained, this subtraction, with regard to all popular religions, amounts to an entire annihilation; and therefore we may establish it as a maxim, that no human testimony can have such force as to prove a miracle, and make it a just foundation for any such system of religion.

I beg the limitations here made may be remarked, when I say, that a miracle can never be proved, so as to be the foundation of a system of religion. For I own, that otherwise, there may possibly be miracles, or violations of the usual course of nature, of such a kind as to admit of proof from human testimony; though, perhaps, it will be impossible to find any such in all the records of history. Thus, suppose, all authors, in all languages, agree, that, from the first of January, 1600, there was a total darkness over the whole earth for eight days: suppose that the tradition of this extraordinary event is still strong and lively among the people: that all travellers, who return from foreign countries, bring us accounts of the same tradition, without the least variation or contradiction: it is evident, that our present philosophers, instead of doubting the fact, ought to receive it as certain, and ought to search for the causes whence it might be derived. The decay, corruption, and dissolution of nature, is an event rendered probable by so many analogies, that any phenomenon, which seems to have a tendency towards that catastrophe, comes within the reach of human testimony, if that testimony be very extensive and uniform.

But suppose, that all the historians who treat of England, should agree, that, on the first of January, 1600, Queen Elizabeth died; that both before and after her death she was seen by her physicians and the whole court, as is usual with persons of her rank; that her successor was acknowledged and proclaimed by the parliament; and that, after being interred a month, she again appeared, resumed the throne, and governed England for three years: I must confess that I should be surprised at the concurrence of so many odd circumstances, but should not have the least inclination to believe so miraculous an event. I should not doubt of her pretended death, and of those other public circumstances that followed it: I should only assert it to have been pretended, and that it neither was, nor possibly could be real. You would in vain object to me the difficulty, and almost impossibility of deceiving the world in an affair of such consequence; the wisdom and solid judgment of that renowned queen; with the little or no advantage which she could reap from so poor an artifice: all this might astonish me; but I would still reply, that the knavery and folly of men are such common phenomena, that I should rather believe the most extraordinary events to arise from their concurrence, than admit of so signal a violation of the laws of nature.

But should this miracle be ascribed to any new system of religion; men, in all ages, have been so much imposed on by ridiculous stories of that kind, that this very circumstance would be a full proof of a cheat, and sufficient, with all men of sense, not only to make them reject the fact, but even reject it without farther examination. Though the Being to whom the miracle is ascribed, be, in this case, Almighty, it does not, upon that account, become a whit more probable; since it is impossible for us to know the attributes or actions of such a Being, otherwise than from the experience which we have of his productions, in the usual course of nature. This still reduces us to past observation, and obliges us to compare the instances of the violation of truth in the testimony of men, with those of the violation of the laws of nature by miracles, in order to judge which of them is most likely and probable. As the violations of truth are more common in the testimony concerning religious miracles, than in that concerning any other matter of fact; this must diminish very much the authority of the former testimony, and make us form a general resolution, never to lend any attention to it, with whatever specious pretence it may be covered.

Lord Bacon seems to have embraced the same principles of reasoning. 'We ought,' says he, 'to make a collection or particular history of all monsters and prodigious births or productions, and in a word of every thing new, rare, and extraordinary in nature. But this must be done with the most severe scrutiny, lest we depart from truth. Above all, every relation must be considered as suspicious, which depends in any degree upon religion, as the prodigies of Livy: and no less so, everything that is to be found in the writers of natural magic or alchimy, or such authors, who seem, all of them, to have an unconquerable appetite for falsehood and fable.[7]

I am the better pleased with the method of reasoning here delivered, as I think it may serve to confound those dangerous friends or disguised enemies to the Christian Religion, who have undertaken to defend it by the principles of human reason. Our most holy religion is founded on Faith, not on reason; and it is a sure method of exposing it to put it to such a trial as it is, by no means, fitted to endure. To make this more evident, let us examine those miracles, related in scripture; and not to lose ourselves in too wide a field, let us confine ourselves to such as we find in the Pentateuch, which we shall examine, according to the principles of these pretended Christians, not as the word or testimony of God himself, but as the production of a mere human writer and historian. Here then we are first to consider a book, presented to us by a barbarous and ignorant people, written in an age when they were still more barbarous, and in all probability long after the facts which it relates, corroborated by no concurring testimony, and resembling those fabulous accounts, which every nation gives of its origin. Upon reading this book, we find it full of prodigies and miracles. It gives an account of a state of the world and of human nature entirely different from the present: of our fall from that state: of the age of man, extended to near a thousand years: of the destruction of the world by a deluge: of the arbitrary choice of one people, as the favourites of heaven; and that people the countrymen of the author: of their deliverance from bondage by prodigies the most astonishing imaginable: I desire any one to lay his hand upon his heart, and after a serious consideration declare, whether he thinks that the falsehood of such a book, supported by such a testimony, would be more extraordinary and miraculous than all the miracles it relates; which is, however, necessary to make it be received, according to the measures of probability above established.

What we have said of miracles may be applied, without any variation, to prophecies; and indeed, all prophecies are real miracles, and as such only, can be admitted as proofs of any revelation. If it did not exceed the capacity of human nature to foretell future events, it would be absurd to employ any prophecy as an argument for a divine mission or authority from heaven. So that, upon the whole, we may conclude, that the Christian Religion not only was at first attended with miracles, but even at this day cannot be believed by any reasonable person without one. Mere reason is insufficient to convince us of its veracity: and whoever is moved by Faith to assent to it, is conscious of a continued miracle in his own person, which subverts all the principles of his understanding, and gives him a determination to believe what is most contrary to custom and experience.

[1] Plutarch, in vita Catonis.

[2] No Indian, it is evident, could have experience that water did not freeze in cold climates. This is placing nature in a situation quite unknown to him; and it is impossible for him to tell a priori what will result from it. It is making a new experiment, the consequence of which is always uncertain. One may sometimes conjecture from analogy what will follow; but still this is but conjecture. And it must be confessed, that, in the present case of freezing, the event follows contrary to the rules of analogy, and is such as a rational Indian would not look for. The operations of cold upon water are not gradual, according to the degrees of cold; but whenever it comes to the freezing point, the water passes in a moment, from the utmost liquidity to perfect hardness. Such an event, therefore, may be denominated extraordinary, and requires a pretty strong testimony, to render it credible to people in a warm climate: But still it is not miraculous, nor contrary to uniform experience of the course of nature in cases where all the circumstances are the same. The inhabitants of Sumatra have always seen water fluid in their own climate, and the freezing of their rivers ought to be deemed a prodigy: But they never saw water in Muscovy during the winter; and therefore they cannot reasonably be positive what would there be the consequence.

[3] Sometimes an event may not, in itself, seem to be contrary to the laws of nature, and yet, if it were real, it might, by reason of some circumstances, be denominated a miracle; because, in fact, it is contrary to these laws. Thus if a person, claiming a divine authority, should command a sick person to be well, a healthful man to fall down dead, the clouds to pour rain, the winds to blow, in short, should order many natural events, which immediately follow upon his command; these might justly be esteemed miracles, because they are really, in this case, contrary to the laws of nature. For if any suspicion remain, that the event and command concurred by accident there is no miracle and no transgression of the laws of nature. If this suspicion be removed, there is evidently a miracle, and a transgression of these laws; because nothing can be more contrary to nature than that the voice or command of a man should have such an influence. A miracle may be accurately defined, a transgression of a law of nature by a particular volition of the Deity, or by the interposition of some invisible agent. A miracle may either be discoverable by men or not. This alters not its nature and essence. The raising of a house or ship into the air is a visible miracle. The raising of a feather, when the wind wants ever so little of a force requisite for that purpose, is as real a miracle, though not so sensible with regard to us.

[4] Hist. lib. v. cap. 8, Suetonius gives nearly the same account in vita Vesp.

[5] By Mons. Montgeron, counsellor or judge of the Parliament of Paris.

[6] Lucret.

[7] Nov. Org. lib. ii. aph. 29.

## SECTION XI OF A PARTICULAR PROVIDENCE AND OF A FUTURE STATE

I WAS lately engaged in conversation with a friend who loves sceptical paradoxes; where, though he advanced many principles, of which I can by no means approve, yet as they seem to be curious, and to bear some relation to the chain of reasoning carried on throughout this enquiry, I shall here copy them from my memory as accurately as I can, in order to submit them to the judgement of the reader.

Our conversation began with my admiring the singular good fortune of philosophy, which, as it requires entire liberty above all other privileges, and chiefly flourishes from the free opposition of sentiments and argumentation, received its first birth in an age and country of freedom and toleration, and was never cramped, even in its most extravagant principles, by any creeds, concessions, or penal statutes. For, except the banishment of Protagoras, and the death of Socrates, which last event proceeded partly from other motives, there are scarcely any instances to be met with, in ancient history, of this bigoted jealousy, with which the present age is so much infested. Epicurus lived at Athens to an advanced age, in peace and tranquillity: Epicureans[1] were even admitted to receive the sacerdotal character, and to officiate at the altar, in the most sacred rites of the established religion: and the public encouragement[2] of pensions and salaries was afforded equally, by the wisest of all the Roman emperors[3], to the professors of every sect of philosophy. How requisite such kind of treatment was to philosophy, in her early youth, will easily be conceived, if we reflect, that, even at present, when she may be supposed more hardy and robust, she bears with much difficulty the inclemency of the seasons, and those harsh winds of calumny and persecution, which blow upon her.

You admire, says my friend, as the singular good fortune of philosophy, what seems to result from the natural course of things, and to be unavoidable in every age and nation. This pertinacious bigotry, of which you complain, as so fatal to philosophy, is really her offspring, who, after allying with superstition, separates himself entirely from the interest of his parent, and becomes her most inveterate enemy and persecutor. Speculative dogmas of religion, the present occasions of such furious dispute, could not possibly be conceived or admitted in the early ages of the world; when mankind, being wholly illiterate, formed an idea of religion more suitable to their weak apprehension, and composed their sacred tenets of such tales chiefly as were the objects of traditional belief, more than of argument or disputation. After the first alarm, therefore, was over, which arose from the new paradoxes and principles of the philosophers; these teachers seem ever after, during the ages of antiquity, to have lived in great harmony with the established superstition, and to have made a fair partition of mankind between them; the former claiming all the learned and wise, the latter possessing all the vulgar and illiterate.

It seems then, say I, that you leave politics entirely out of the question, and never suppose, that a wise magistrate can justly be jealous of certain tenets of philosophy, such as those of Epicurus, which, denying a divine existence, and consequently a providence and a future state, seem to loosen, in a great measure the ties of morality, and may be supposed, for that reason, pernicious to the peace of civil society.

I know, replied he, that in fact these persecutions never, in any age, proceeded from calm reason, or from experience of the pernicious consequences of philosophy; but arose entirely from passion and prejudice. But what if I should advance farther, and assert, that if Epicurus had been accused before the people, by any of the sycophants or informers of those days, he could easily have defended his cause, and proved his principles of philosophy to be as salutary as those of his adversaries, who endeavoured, with such zeal, to expose him to the public hatred and jealousy?

I wish, said I, you would try your eloquence upon so extraordinary a topic, and make a speech for Epicurus, which might satisfy, not the mob of Athens, if you will allow that ancient and polite city to have contained any mob, but the more philosophical part of his audience, such as might be supposed capable of comprehending his arguments.

The matter would not be difficult, upon such conditions, replied he: and if you please, I shall suppose myself Epicurus for a moment, and make you stand for the Athenian people, and shall deliver you such an harangue as will fill all the urn with white beans, and leave not a black one to gratify the malice of my adversaries.

Very well: pray proceed upon these suppositions.

I come hither, O ye Athenians, to justify in your assembly what I maintain in my school, and I find myself impeached by furious antagonists, instead of reasoning with calm and dispassionate enquirers. Your deliberations, which of right should be directed to questions of public good, and the interest of the commonwealth, are diverted to the disquisitions of speculative philosophy; and these magnificent, but perhaps fruitless enquiries, take place of your more familiar but more useful occupations. But so far as in me lies, I will prevent this abuse. We shall not here dispute concerning the origin and government of worlds. We shall only enquire how far such questions concern the public interest. And if I can persuade you, that they are entirely indifferent to the peace of society and security of government, I hope that you will presently send us back to our schools, there to examine, at leisure, the question the most sublime, but, at the same time, the most speculative of all philosophy.

The religious philosophers, not satisfied with the tradition of your forefathers, and doctrine of your priests (in which I willingly acquiesce), indulge a rash curiosity, in trying how far they can establish religion upon the principles of reason; and they thereby excite, instead of satisfying, the doubts, which naturally arise from a diligent and scrutinous enquiry. They paint, in the most magnificent colours, the order, beauty, and wise arrangement of the universe; and then ask, if such a glorious display of intelligence could proceed from the fortuitous concourse of atoms, or if chance could produce what the greatest genius can never sufficiently admire. I shall not examine the justness of this argument. I shall allow it to be as solid as my antagonists and accusers can desire. It is sufficient, if I can prove, from this very reasoning, that the question is entirely speculative, and that, when, in my philosophical disquisitions, I deny a providence and a future state, I undermine not the foundations of society, but advance principles, which they themselves, upon their own topics, if they argue consistently, must allow to be solid and satisfactory.

You then, who are my accusers, have acknowledged, that the chief or sole argument for a divine existence (which I never questioned) is derived from the order of nature; where there appear such marks of intelligence and design, that you think it extravagant to assign for its cause, either chance, or the blind and unguided force of matter. You allow, that this is an argument drawn from effects to causes. From the order of the work, you infer, that there must have been project and forethought in the workman. If you cannot make out this point, you allow, that your conclusion fails; and you pretend not to establish the conclusion in a greater latitude than the phenomena of nature will justify. These are your concessions. I desire you to mark the consequences.

When we infer any particular cause from an effect, we must proportion the one to the other, and can never be allowed to ascribe to the cause any qualities, but what are exactly sufficient to produce the effect. A body of ten ounces raised in any scale may serve as a proof, that the counterbalancing weight exceeds ten ounces; but can never afford a reason that it exceeds a hundred. If the cause, assigned for any effect, be not sufficient to produce it, we must either reject that cause, or add to it such qualities as will give it a just proportion to the effect. But if we ascribe to it farther qualities, or affirm it capable of producing other effects, we can only indulge the licence of conjecture, and arbitrarily suppose the existence of qualities and energies, without reason or authority.

The same rule holds, whether the cause assigned be brute unconscious matter, or a rational intelligent being. If the cause be known only by the effect, we never ought to ascribe to it any qualities, beyond what are precisely requisite to produce the effect: nor can we, by any rules of just reasoning, return back from the cause, and infer other effects from it, beyond those by which alone it is known to us. No one, merely from the sight of one of Zeuxis's pictures, could know, that he was also a statuary or architect, and was an artist no less skilful in stone and marble than in colours. The talents and taste, displayed in the particular work before us; these we may safely conclude the workman to be possessed of. The cause must be proportioned to the effect; and if we exactly and precisely proportion it, we shall never find in it any qualities, that point farther, or afford an inference concerning any other design or performance. Such qualities must be somewhat beyond what is merely requisite for producing the effect, which we examine.

Allowing, therefore, the gods to be the authors of the existence or order of the universe; it follows, that they possess that precise degree of power, intelligence, and benevolence, which appears in their workmanship; but nothing farther can ever be proved, except we call in the assistance of exaggeration and flattery to supply the defects of argument and reasoning. So far as the traces of any attributes, at present, appear, so far may we conclude these attributes to exist. The supposition of farther attributes is mere hypothesis; much more the supposition, that, in distant regions of space or periods of time, there has been, or will be, a more magnificent display of these attributes, and a scheme of administration more suitable to such imaginary virtues. We can never be allowed to mount up from the universe, the effect, to Jupiter, the cause; and then descend downwards, to infer any new effect from that cause; as if the present effects alone were not entirely worthy of the glorious attributes, which we ascribe to that deity. The knowledge of the cause being derived solely from the effect, they must be exactly adjusted to each other; and the one can never refer to anything farther, or be the foundation of any new inference and conclusion.

You find certain phenomena in nature. You seek a cause or author. You imagine that you have found him. You afterwards become so enamoured of this offspring of your brain, that you imagine it impossible, but he must produce something greater and more perfect than the present scene of things, which is so full of ill and disorder. You forget, that this superlative intelligence and benevolence are entirely imaginary, or, at least, without any foundation in reason; and that you have no ground to ascribe to him any qualities, but what you see he has actually exerted and displayed in his productions. Let your gods, therefore, O philosophers, be suited to the present appearances of nature: and presume not to alter these appearances by arbitrary suppositions, in order to suit them to the attributes, which you so fondly ascribe to your deities.

When priests and poets, supported by your authority, O Athenians, talk of a golden or silver age, which preceded the present state of vice and misery, I hear them with attention and with reverence. But when philosophers, who pretend to neglect authority, and to cultivate reason, hold the same discourse, I pay them not, I own, the same obsequious submission and pious deference. I ask; who carried them into the celestial regions, who admitted them into the councils of the gods, who opened to them the book of fate, that they thus rashly affirm, that their deities have executed, or will execute, any purpose beyond what has actually appeared? If they tell me, that they have mounted on the steps or by the gradual ascent of reason, and by drawing inferences from effects to causes, I still insist, that they have aided the ascent of reason by the wings of imagination; otherwise they could not thus change their manner of inference, and argue from causes to effects; presuming, that a more perfect production than the present world would be more suitable to such perfect beings as the gods, and forgetting that they have no reason to ascribe to these celestial beings any perfection or any attribute, but what can be found in the present world.

Hence all the fruitless industry to account for the ill appearances of nature, and save the honour of the gods; while we must acknowledge the reality of that evil and disorder, with which the world so much abounds. The obstinate and intractable qualities of matter, we are told, or the observance of general laws, or some such reason, is the sole cause, which controlled the power and benevolence of Jupiter, and obliged him to create mankind and every sensible creature so imperfect and so unhappy. These attributes then, are, it seems, beforehand, taken for granted, in their greatest latitude. And upon that supposition, I own that such conjectures may, perhaps, be admitted as plausible solutions of the ill phenomena. But still I ask; Why take these attributes for granted, or why ascribe to the cause any qualities but what actually appear in the effect? Why torture your brain to justify the course of nature upon suppositions, which, for aught you know, may be entirely imaginary, and of which there are to be found no traces in the course of nature?

The religious hypothesis, therefore, must be considered only as a particular method of accounting for the visible phenomena of the universe: but no just reasoner will ever presume to infer from it any single fact, and alter or add to the phenomena, in any single particular. If you think, that the appearances of things prove such causes, it is allowable for you to draw an inference concerning the existence of these causes. In such complicated and sublime subjects, every one should be indulged in the liberty of conjecture and argument. But here you ought to rest. If you come backward, and arguing from your inferred causes, conclude, that any other fact has existed, or will exist, in the course of nature, which may serve as a fuller display of particular attributes; I must admonish you, that you have departed from the method of reasoning, attached to the present subject, and have certainly added something to the attributes of the cause, beyond what appears in the effect; otherwise you could never, with tolerable sense or propriety, add anything to the effect, in order to render it more worthy of the cause.

Where, then, is the odiousness of that doctrine, which I teach in my school, or rather, which I examine in my gardens? Or what do you find in this whole question, wherein the security of good morals, or the peace and order of society, is in the least concerned?

I deny a providence, you say, and supreme governor of the world, who guides the course of events, and punishes the vicious with infamy and disappointment, and rewards the virtuous with honour and success, in all their undertakings. But surely, I deny not the course itself of events, which lies open to every one's inquiry and examination. I acknowledge, that, in the present order of things, virtue is attended with more peace of mind than vice, and meets with a more favourable reception from the world. I am sensible, that, according to the past experience of mankind, friendship is the chief joy of human life, and moderation the only source of tranquillity and happiness. I never balance between the virtuous and the vicious course of life; but am sensible, that, to a well-disposed mind, every advantage is on the side of the former. And what can you say more, allowing all your suppositions and reasonings? You tell me, indeed, that this disposition of things proceeds from intelligence and design. But whatever it proceeds from, the disposition itself, on which depends our happiness or misery, and consequently our conduct and deportment in life is still the same. It is still open for me, as well as you, to regulate my behaviour, by my experience of past events. And if you affirm, that, while a divine providence is allowed and a supreme distributive justice in the universe, I ought to expect some more particular reward of the good, and punishment of the bad, beyond the ordinary course of events; I here find the same fallacy, which I have before endeavoured to detect. You persist in imagining, that, if we grant that divine existence, for which you so earnestly contend, you may safely infer consequences from it, and add something to the experienced order of nature, by arguing from the attributes which you ascribe to your gods. You seem not to remember, that all your reasonings on this subJect can only be drawn from effects to causes; and that every argument, deducted from causes to effects, must of necessity be a gross sophism; since it is impossible for you to know anything of the cause, but what you have antecedently, not inferred, but discovered to the full, in the effect.

But what must a philosopher think of those vain reasoners, who instead of regarding the present scene of things as the sole object of their contemplation, so far reverse the whole course of nature, as to render this life merely a passage to something farther; a porch, which leads to a greater, and vastly different building; a prologue, which serves only to introduce the piece, and give it more grace and propriety? Whence, do you think, can such philosophers derive their idea of the gods? From their own conceit and imagination surely. For if they derived it from the present phenomena, it would never point to anything farther, but must be exactly adjusted to them. That the divinity may possibly be endowed with attributes, which we have never seen exerted; may be governed by principles of action, which we cannot discover to be satisfied: all this will freely be allowed. But still this is mere possibility and hypothesis. We never can have reason to infer any attributes, or any principles of action in him, but so far as we know them to have been exerted and satisfied.

Are there any marks of a distributive justice in the world? If you answer in the affirmative, I conclude, that, since justice here exerts itself, it is satisfied. If you reply in the negative, I conclude, that you have then no reason to ascribe justice, in our sense of it, to the gods. If you hold a medium between affirmation and negation, by saying, that the justice of the gods, at present, exerts itself in part, but not in its full extent; I answer, that you have no reason to give it any particular extent, but only so far as you see it, at present, exert itself.

Thus I bring the dispute, O Athenians, to a short issue with my antagonists. The course of nature lies open to my contemplation as well as to theirs. The experienced train of events is the great standard, by which we all regulate our conduct. Nothing else can be appealed to in the field, or in the senate. Nothing else ought ever to be heard of in the school, or in the closet. In vain would our limited understanding break through those boundaries, which are too narrow for our fond imagination. While we argue from the course of nature, and infer a particular intelligent cause, which first bestowed, and still preserves order in the universe, we embrace a principle, which is both uncertain and useless. It is uncertain; because the subject lies entirely beyond the reach of human experience. It is useless; because our knowledge of this cause being derived entirely from the course of nature, we can never, according to the rules of just reasoning, return back from the cause with any new inference, or making additions to the common and experienced course of nature, establish any new principles of conduct and behaviour.

I observe (said I, finding he had finished his harangue) that you neglect not the artifice of the demagogues of old; and as you were pleased to make me stand for the people, you insinuate yourself into my favour by embracing those principles, to which, you know, I have always expressed a particular attachment. But allowing you to make experience (as indeed I think you ought) the only standard of our judgement concerning this, and all other questions of fact; I doubt not but, from the very same experience, to which you appeal, it may be possible to refute this reasoning, which you have put into the mouth of Epicurus. If you saw, for instance, a half-finished building, surrounded with heaps of brick and stone and mortar, and all the instruments of masonry; could you not infer from the effect, that it was a work of design and contrivance? And could you not return again, from this inferred cause, to infer new additions to the effect, and conclude, that the building would soon be finished, and receive all the further improvements, which art could bestow upon it? If you saw upon the sea-shore the print of one human foot, you would conclude, that a man had passed that way, and that he had also left the traces of the other foot, though effaced by the rolling of the sands or inundation of the waters. Why then do you refuse to admit the same method of reasoning with regard to the order of nature? Consider the world and the present life only as an imperfect building, from which you can infer a superior intelligence; and arguing from that superior intelligence, which can leave nothing imperfect; why may you not infer a more finished scheme or plan, which will receive its completion in some distant point of space or time? Are not these methods of reasoning exactly similar? And under what pretence can you embrace the one, while you reject the other?

The infinite difference of the subjects, replied he, is a sufficient foundation for this difference in my conclusions. In works of human art and contrivance, it is allowable to advance from the effect to the cause, and returning back from the cause, to form new inferences concerning the effect, and examine the alterations, which it has probably undergone, or may still undergo. But what is the foundation of this method of reasoning? Plainly this; that man is a being, whom we know by experience, whose motives and designs we are acquainted with, and whose projects and inclinations have a certain connexion and coherence, according to the laws which nature has established for the government of such a creature. When, therefore, we find, that any work has proceeded from the skill and industry of man; as we are otherwise acquainted with the nature of the animal, we can draw a hundred inferences concerning what may be expected from him; and these inferences will all be founded in experience and observation. But did we know man only from the single work or production which we examine, it were impossible for us to argue in this manner; because our knowledge of all the qualities, which we ascribe to him, being in that case derived from the production, it is impossible they could point to anything farther, or be the foundation of any new inference. The print of a foot in the sand can only prove, when considered alone, that there was some figure adapted to it, by which it was produced: but the print of a human foot proves likewise, from our other experience, that there was probably another foot, which also left its impression, though effaced by time or other accidents. Here we mount from the effect to the cause; and descending again from the cause, infer alterations in the effect; but this is not a continuation of the same simple chain of reasoning. We comprehend in this case a hundred other experiences and observations, concerning the usual figure and members of that species of animal, without which this method of argument must be considered as fallacious and sophistical.

The case is not the same with our reasonings from the works of nature. The Deity is known to us only by his productions, and is a single being in the universe, not comprehended under any species or genus, from whose experienced attributes or qualities, we can, by analogy, infer any attribute or quality in him. As the universe shews wisdom and goodness, we infer wisdom and goodness. As it shews a particular degree of these perfections, we infer a particular degree of them, precisely adapted to the effect which we examine. But farther attributes or farther degrees of the same attributes, we can never be authorised to infer or suppose, by any rules of just reasoning. Now, without some such licence of supposition, it is impossible for us to argue from the cause, or infer any alteration in the effect, beyond what has immediately fallen under our observation. Greater good produced by this Being must still prove a greater degree of goodness: a more impartial distribution of rewards and punishments must proceed from a greater regard to justice and equity. Every supposed addition to the works of nature makes an addition to the attributes of the Author of nature; and consequently, being entirely unsupported by any reason or argument, can never be admitted but as mere conjecture and hypothesis.[4]

The great source of our mistake in this subject, and of the unbounded licence of conjecture, which we indulge, is, that we tacitly consider ourselves, as in the place of the Supreme Being, and conclude, that he will, on every occasion, observe the same conduct, which we ourselves, in his situation, would have embraced as reasonable and eligible. But, besides that the ordinary course of nature may convince us, that almost everything is regulated by principles and maxims very different from ours; besides this, I say, it must evidently appear contrary to all rules of analogy to reason, from the intentions and projects of men, to those of a Being so different, and so much superior. In human nature, there is a certain experienced coherence of designs and inclinations; so that when, from any fact, we have discovered one intention of any man, it may often be reasonable, from experience, to infer another, and draw a long chain of conclusions concerning his past or future conduct. But this method of reasoning can never have place with regard to a Being, so remote and incomprehensible, who bears much less analogy to any other being in the universe than the sun to a waxen taper, and who discovers himself only by some faint traces or outlines, beyond which we have no authority to ascribe to him any attribute or perfection. What we imagine to be a superior perfection, may really be a defect. Or were it ever so much a perfection, the ascribing of it to the Supreme Being, where it appears not to have been really exerted, to the full, in his works, savours more of flattery and panegyric, than of just reasoning and sound philosophy. All the philosophy, therefore, in the world, and all the religion, which is nothing but a species of philosophy, will never be able to carry us beyond the usual course of experience, or give us measures of conduct and behaviour different from those which are furnished by reflections on common life. No new fact can ever be inferred from the religious hypothesis; no event foreseen or foretold; no reward or punishment expected or dreaded, beyond what is already known by practice and observation. So that my apology for Epicurus will still appear solid and satisfactory; nor have the political interests of society any connexion with the philosophical disputes concerning metaphysics and religion.

There is still one circumstance, replied I, which you seem to have overlooked. Though I should allow your premises, I must deny your conclusion. You conclude, that religious doctrines and reasonings can have no influence on life, because they ought to have no influence; never considering, that men reason not in the same manner you do, but draw many consequences from the belief of a divine Existence, and suppose that the Deity will inflict punishments on vice, and bestow rewards on virtue, beyond what appear in the ordinary course of nature. Whether this reasoning of theirs be just or not, is no matter. Its influence on their life and conduct must still be the same. And those, who attempt to disabuse them of such prejudices, may, for aught I know, be good reasoners, but I cannot allow them to be good citizens and politicians; since they free men from one restraint upon their passions, and make the infringement of the laws of society, in one respect, more easy and secure.

After all, I may, perhaps, agree to your general conclusion in favour of liberty, though upon different premises from those, on which you endeavour to found it. I think, that the state ought to tolerate every principle of philosophy; nor is there an instance, that any government has suffered in its political interests by such indulgence. There is no enthusiasm among philosophers; their doctrines are not very alluring to the people; and no restraint can be put upon their reasonings, but what must be of dangerous consequence to the sciences, and even to the state, by paving the way for persecution and oppression in points, where the generality of mankind are more deeply interested and concerned.

But there occurs to me (continued I) with regard to your main topic, a difficulty, which I shall just propose to you without insisting on it; lest it lead into reasonings of too nice and delicate a nature. In a word, I much doubt whether it be possible for a cause to be known only by its effect (as you have all along supposed) or to be of so singular and particular a nature as to have no parallel and no similarity with any other cause or object, that has ever fallen under our observation. It is only when two species of objects are found to be constantly conjoined, that we can infer the one from the other; and were an effect presented, which was entirely singular, and could not be comprehended under any known species, I do not see, that we could form any conjecture or inference at all concerning its cause. If experience and observation and analogy be, indeed, the only guides which we can reasonably follow in inferences of this nature; both the effect and cause must bear a similarity and resemblance to other effects and causes, which we know, and which we have found, in many instances, to be conjoined with each other. I leave it to your own reflection to pursue the consequences of this principle. I shall just observe, that, as the antagonists of Epicurus always suppose the universe, an effect quite singular and unparalleled, to be the proof of a Deity, a cause no less singular and unparalleled; your reasonings, upon that supposition, seem, at least, to merit our attention. There is, I own, some difficulty, how we can ever return from the cause to the effect, and, reasoning from our ideas of the former, infer any alteration on the latter, or any, addition to it.

[1] Luciani, [3 greek words].

[2] Luciani, [greek word].

[3] Luciani and Dio.

[4] In general, it may, I think, Be established as a maxim, that where any cause is known only by its particular effects, it must be impossible to infer any new effects from that cause; since the qualities, which are requisite to produce these new effects along with the former, must either be different, or superior, or of more extensive operation, than those which simply produced the effect, whence alone the cause is supposed to be known to us. We can never, therefore, have any reason to suppose the existence of these qualities. To say, that the new effects proceed only from a continuation of the same energy, which is already known from the first effects, will not remove the difficulty. For even granting this to be the case (which can seldom be supposed), the very continuation and exertion of a like energy (for it is impossible it can be absolutely the same), I say, this exertion of a like energy, in a different period of space and time, is a very arbitrary supposition, and what there cannot possibly be any traces of it in the effects, from which all our knowledge of the cause is originally derived. Let the inferred cause be exactly proportioned (as it should be) to the known effect; and it is impossible that it can possess any qualities, from which new or different effects can be inferred.

## SECTION XII OF THE ACADEMICAL OR SCEPTICAL PHILOSOPHY, PART I

THERE is not a greater number of philosophical reasonings, displayed upon any subject, than those, which prove the existence of a Deity, and refute the fallacies of Atheists; and yet the most religious philosophers still dispute whether any man can be so blinded as to be a speculative atheist. How shall we reconcile these contradictions? The knights errant, who wandered about to clear the world of dragons and giants, never entertained the least doubt with regard to the existence of these monsters.

The Sceptic is another enemy of religion, who naturally provokes the indignation of all divines and graver philosophers; though it is certain, that no man ever met with any such absurd creature, or conversed with a man, who had no opinion or principle concerning any subject, either of action or speculation. This begets a very natural question; What is meant by a sceptic? And how far it is possible to push these philosophical principles of doubt and uncertainty?

There is a species of scepticism, antecedent to all study and philosophy, which is much inculcated by Des Cartes and others, as a sovereign preservative against error and precipitate judgement. It recommends an universal doubt, not only of all our former opinions and principles, but also of our very faculties; of whose veracity, say they, we must assure ourselves, by a chain of reasoning, deduced from some original principle, which cannot possibly be fallacious or deceitful. But neither is there any such original principle, which has a prerogative above others, that are self-evident and convincing: or if there were, could we advance a step beyond it, but by the use of those very faculties, of which we are supposed to be already diffident. The Cartesian doubt, therefore, were it ever possible to be attained by any human creature (as it plainly is not) would be entirely incurable; and no reasoning could ever bring us to a state of assurance and conviction upon any subject.

It must, however, be confessed, that this species of scepticism, when more moderate, may be understood in a very reasonable sense, and is a necessary preparative to the study of philosophy, by preserving a proper impartiality in our judgements, and weaning our mind from all those prejudices, which we may have imbibed from education or rash opinion. To begin with clear and self-evident principles, to advance by timorous and sure steps, to review frequently our conclusions, and examine accurately all their consequences; though by these means we shall make both a slow and a short progress in our systems; are the only methods, by which we can ever hope to reach truth, and attain a proper stability and certainty in our determinations.

There is another species of scepticism, consequent to science and enquiry, when men are supposed to have discovered, either the absolute fallaciousness of their mental faculties, or their unfitness to reach any fixed determination in all those curious subjects of speculation, about which they are commonly employed. Even our very senses are brought into dispute, by a certain species of philosophers; and the maxims of common life are subjected to the same doubt as the most profound principles or conclusions of metaphysics and theology. As these paradoxical tenets (if they may be called tenets) are to be met with in some philosophers, and the refutation of them in several, they naturally excite our curiosity, and make us enquire into the arguments, on which they may be founded.

I need not insist upon the more trite topics, employed by the sceptics in all ages, against the evidence of sense; such as those which are derived from the imperfection and fallaciousness of our organs, on numberless occasions; the crooked appearance of an oar in water; the various aspects of objects, according to their different distances; the double images which arise from the pressing one eye; with many other appearances of a like nature. These sceptical topics, indeed, are only sufficient to prove, that the senses alone are not implicitly to be depended on; but that we must correct their evidence by reason, and by considerations, derived from the nature of the medium, the distance of the object, and the disposition of the organ, in order to render them, within their sphere, the proper criteria of truth and falsehood. There are other more profound arguments against the senses, which admit not of so easy a solution.

It seems evident, that men are carried, by a natural instinct or prepossession, to repose faith in their senses; and that, without any reasoning, or even almost before the use of reason, we always suppose an external universe, which depends not on our perception, but would exist, though we and every sensible creature were absent or annihilated. Even the animal creation are governed by a like opinion, and preserve this belief of external objects, in all their thoughts, designs, and actions.

It seems also evident, that, when men follow this blind and powerful instinct of nature, they always suppose the very images, presented by the senses, to be the external objects, and never entertain any suspicion, that the one are nothing but representations of the other. This very table, which we see white, and which we feel hard, is believed to exist, independent of our perception, and to be something external to our mind, which perceives it. Our presence bestows not being on it: our absence does not annihilate it. It preserves its existence uniform and entire, independent of the situation of intelligent beings, who perceive or contemplate it.

But this universal and primary opinion of all men is soon destroyed by the slightest philosophy, which teaches us, that nothing can ever be present to the mind but an image or perception, and that the senses are only the inlets, through which these images are conveyed, without being able to produce any immediate intercourse between the mind and the object. The table, which we see, seems to diminish, as we remove farther from it: but the real table, which exists independent of us, suffers no alteration: it was, therefore, nothing but its image, which was present to the mind. These are the obvious dictates of reason; and no man, who reflects, ever doubted, that the existences, which we consider, when we say, this house and that tree, are nothing but perceptions in the mind, and fleeting copies or representations of other existences, which remain uniform and independent.

So far, then, are we necessitated by reasoning to contradict or depart from the primary instincts of nature, and to embrace a new system with regard to the evidence of our senses. But here philosophy finds herself extremely embarrassed, when she would justify this new system, and obviate the cavils and objections of the sceptics. She can no longer plead the infallible and irresistible instinct of nature: for that led us to a quite different system, which is acknowledged fallible and even erroneous. And to justify this pretended philosophical system, by a chain of clear and convincing argument, or even any appearance of argument, exceeds the power of all human capacity.

By what argument can it be proved, that the perceptions of the mind must be caused by external objects, entirely different from them, though resembling them (if that be possible) and could not arise either from the energy of the mind itself, or from the suggestion of some invisible and unknown spirit, or from some other cause still more unknown to us? It is acknowledged, that, in fact, many of these perceptions arise not from anything external, as in dreams, madness, and other diseases. And nothing can be more inexplicable than the manner, in which body should so operate upon mind as ever to convey an image of itself to a substance, supposed of so different, and even contrary a nature.

It is a question of fact, whether the perceptions of the senses be produced by external objects, resembling them: how shall this question be determined? By experience surely; as all other questions of a like nature. But here experience is, and must be entirely silent. The mind has never anything present to it but the perceptions, and cannot possibly reach any experience of their connexion with objects. The supposition of such a connexion is, therefore, without any foundation in reasoning.

To have recourse to the veracity of the supreme Being, in order to prove the veracity of our senses, is surely making a very unexpected circuit. If his veracity were at all concerned in this matter, our senses would be entirely infallible; because it is not possible that he can ever deceive. Not to mention, that, if the external world be once called in question, we shall be at a loss to find arguments, by which we may prove the existence of that Being or any of his attributes.

This is a topic, therefore, in which the profounder and more philosophical sceptics will always triumph, when they endeavour to introduce an universal doubt into all subjects of human knowledge and enquiry. Do you follow the instincts and propensities of nature, may they say, in assenting to the veracity of sense? But these lead you to believe that the very perception or sensible image is the external object. Do you disclaim this principle, in order to embrace a more rational opinion, that the perceptions are only representations of something external? You here depart from your natural propensities and more obvious sentiments; and yet are not able to satisfy your reason, which can never find any convincing argument from experience to prove, that the perceptions are connected with any external objects.

There is another sceptical topic of a like nature, derived from the most profound philosophy; which might merit our attention, were it requisite to dive so deep, in order to discover arguments and reasonings, which can so little serve to any serious purpose. It is universally allowed by modern enquirers, that all the sensible qualities of objects, such as hard, soft, hot, cold, white, black, &c. are merely secondary, and exist not in the objects themselves, but are perceptions of the mind, without any external archetype or model, which they represent. If this be allowed, with regard to secondary qualities, it must also follow, with regard to the supposed primary qualities of extension and solidity; nor can the latter be any more entitled to that denomination than the former. The idea of extension is entirely acquired from the senses of sight and feeling; and if all the qualities, perceived by the senses, be in the mind, not in the object, the same conclusion must reach the idea of extension, which is wholly dependent on the sensible ideas or the ideas of secondary qualities. Nothing can save us from this conclusion, but the asserting, that the ideas of those primary qualities are attained by Abstraction, an opinion, which, if we examine it accurately, we shall find to be unintelligible, and even absurd. An extension, that is neither tangible nor visible, cannot possibly be conceived: and a tangible or visible extension, which is neither hard nor soft, black nor white, is equally beyond the reach of human conception. Let any man try to conceive a triangle in general, which is neither Isosceles nor Scalenum, nor has any particular length or proportion of sides; and he will soon perceive the absurdity of all the scholastic notions with regard to abstraction and general ideas.[1]

Thus the first philosophical objection to the evidence of sense or to the opinion of external existence consists in this, that such an opinion, if rested on natural instinct, is contrary to reason, and if referred to reason, is contrary to natural instinct, and at the same time carries no rational evidence with it, to convince an impartial enquirer. The second objection goes farther, and represents this opinion as contrary to reason: at least, if it be a principle of reason, that all sensible qualities are in the mind, not in the object. Bereave matter of all its intelligible qualities, both primary and secondary, you in a manner annihilate it, and leave only a certain unknown, inexplicable something, as the cause of our perceptions; a notion so imperfect, that no sceptic will think it worth while to contend against it.

## SECTION XII OF THE ACADEMICAL OR SCEPTICAL PHILOSOPHY, PART II

IT may seem a very extravagant attempt of the sceptics to destroy reason by argument and ratiocination; yet is this the grand scope of all their enquiries and disputes. They endeavour to find objections, both to our abstract reasonings, and to those which regard matter of fact and existence.

The chief objection against all abstract reasonings is derived from the ideas of space and time; ideas, which, in common life and to a careless view, are very clear and intelligible, but when they pass through the scrutiny of the profound sciences (and they are the chief object of these sciences) afford principles, which seem full of absurdity and contradiction. No priestly dogmas, invented on purpose to tame and subdue the rebellious reason of mankind, ever shocked common sense more than the doctrine of the infinitive divisibility of extension, with its consequences; as they are pompously displayed by all geometricians and metaphysicians, with a kind of triumph and exultation. A real quantity, infinitely less than any finite quantity, containing quantities infinitely less than itself, and so on in infinitum; this is an edifice so bold and prodigious, that it is too weighty for any pretended demonstration to support, because it shocks the clearest and most natural principles of human reason.[2] But what renders the matter more extraordinary, is, that these seemingly absurd opinions are supported by a chain of reasoning, the clearest and most natural; nor is it possible for us to allow the premises without admitting the consequences. Nothing can be more convincing and satisfactory than all the conclusions concerning the properties of circles and triangles; and yet, when these are once received, how can we deny, that the angle of contact between a circle and its tangent is infinitely less than any rectilineal angle, that as you may increase the diameter of the circle in infinitum, this angle of contact becomes still less, even in infinitum, and that the angle of contact between other curves and their tangents may be infinitely less than those between any circle and its tangent, and so on, in infinitum? The demonstration of these principles seems as unexceptionable as that which proves the three angles of a triangle to be equal to two right ones, though the latter opinion be natural and easy, and the former big with contradiction and absurdity. Reason here seems to be thrown into a kind of amazement and suspence, which, without the suggestions of any sceptic, gives her a diffidence of herself, and of the ground on which she treads. She sees a full light, which illuminates certain places; but that light borders upon the most profound darkness. And between these she is so dazzled and confounded, that she scarcely can pronounce with certainty and assurance concerning any one object.

The absurdity of these bold determinations of the abstract sciences seems to become, if possible, still more palpable with regard to time than extension. An infinite number of real parts of time, passing in succession, and exhausted one after another, appears so evident a contradiction, that no man, one should think, whose judgement is not corrupted, instead of being improved, by the sciences, would ever be able to admit of it.

Yet still reason must remain restless, and unquiet, even with regard to that scepticism, to which she is driven by these seeming absurdities and contradictions. How any clear, distinct idea can contain circumstances, contradictory to itself, or to any other clear, distinct idea, is absolutely incomprehensible; and is, perhaps, as absurd as any proposition, which can be formed. So that nothing can be more sceptical, or more full of doubt and hesitation, than this scepticism itself, which arises from some of the paradoxical conclusions of geometry or the science of quantity.[3]

The sceptical objections to moral evidence, or to the reasonings concerning matter of fact, are either popular or philosophical. The popular objections are derived from the natural weakness of human understanding; the contradictory opinions, which have been entertained in different ages and nations; the variations of our judgement in sickness and health, youth and old age, prosperity and adversity; the perpetual contradiction of each particular man's opinions and sentiments; with many other topics of that kind. It is needless to insist farther on this head. These objections are but weak. For as, in common life, we reason every moment concerning fact and existence, and cannot possibly subsist, without continually employing this species of argument, any popular objections, derived from thence, must be insufficient to destroy that evidence. The great subverter of Pyrrhonism or the excessive principles of scepticism is action, and employment, and the occupations of common life. These principles may flourish and triumph in the schools; where it is, indeed, difficult, if not impossible, to refute them. But as soon as they leave the shade, and by the presence of the real objects, which actuate our passions and sentiments, are put in opposition to the more powerful principles of our nature, they vanish like smoke, and leave the most determined sceptic in the same condition as other mortals.

The sceptic, therefore, had better keep within his proper sphere, and display those philosophical objections, which arise from more profound researches. Here he seems to have ample matter of triumph; while he justly insists, that all our evidence for any matter of fact, which lies beyond the testimony of sense or memory, is derived entirely from the relation of cause and effect; that we have no other idea of this relation than that of two objects, which have been frequently conjoined together; that we have no argument to convince us, that objects, which have, in our experience, been frequently conjoined, will likewise, in other instances, be conjoined in the same manner; and that nothing leads us to this inference but custom or a certain instinct of our nature; which it is indeed difficult to resist, but which, like other instincts, may be fallacious and deceitful. While the sceptic insists upon these topics, he shows his force, or rather, indeed, his own and our weakness; and seems, for the time at least, to destroy all assurance and conviction. These arguments might be displayed at greater length, if any durable good or benefit to society could ever be expected to result from them.

For here is the chief and most confounding objection to excessive scepticism, that no durable good can ever result from it; while it remains in its full force and vigour. We need only ask such a sceptic, What his meaning is? And what he proposes by all these curious researches? He is immediately at a loss, and knows not what to answer. A Copernican or Ptolemaic, who supports each his different system of astronomy, may hope to produce a conviction, which will remain constant and durable, with his audience. A Stoic or Epicurean displays principles, which may not be durable, but which have an effect on conduct and behaviour. But a Pyrrhonian cannot expect, that his philosophy will have any constant influence on the mind: or if it had, that its influence would be beneficial to society. On the contrary, he must acknowledge, if he will acknowledge anything, that all human life must perish, were his principles universally and steadily to prevail. All discourse, all action would immediately cease; and men remain in a total lethargy, till the necessities of nature, unsatisfied, put an end to their miserable existence. It is true; so fatal an event is very little to be dreaded. Nature is always too strong for principle. And though a Pyrrhonian may throw himself or others into a momentary amazement and confusion by his profound reasonings; the first and most trivial event in life will put to flight all his doubts and scruples, and leave him the same, in every point of action and speculation, with the philosophers of every other sect, or with those who never concerned themselves in any philosophical researches. When he awakes from his dream, he will be the first to join in the laugh against himself, and to confess, that all his objections are mere amusement, and can have no other tendency than to show the whimsical condition of mankind, who must act and reason and believe; though they are not able, by their most diligent enquiry, to satisfy themselves concerning the foundation of these operations, or to remove the objections, which may be raised against them.

## SECTION XII OF THE ACADEMICAL OR SCEPTICAL PHILOSOPHY, PART III

THERE is, indeed, a more mitigated scepticism or academical philosophy, which may be both durable and useful, and which may, in part, be the result of this Pyrrhonism, or excessive scepticism, when its undistinguished doubts are, in some measure, corrected by common sense and reflection. The greater part of mankind are naturally apt to be affirmative and dogmatical in their opinions; and while they see objects only on one side, and have no idea of any counterpoising argument, they throw themselves precipitately into the principles, to which they are inclined; nor have they any indulgence for those who entertain opposite sentiments. To hesitate or balance perplexes their understanding, checks their passion, and suspends their action. They are, therefore, impatient till they escape from a state, which to them is so uneasy: and they think, that they could never remove themselves far enough from it, by the violence of their affirmations and obstinacy of their belief. But could such dogmatical reasoners become sensible of the strange infirmities of human understanding, even in its most perfect state, and when most accurate and cautious in its determinations; such a reflection would naturally inspire them with more modesty and reserve, and diminish their fond opinion of themselves, and their prejudice against antagonists. The illiterate may reflect on the disposition of the learned, who, amidst all the advantages of study and reflection, are commonly still diffident in their determinations: and if any of the learned be inclined, from their natural temper, to haughtiness and obstinacy, a small tincture of Pyrrhonism might abate their pride, by showing them, that the few advantages, which they may have attained over their fellows, are but inconsiderable, if compared with the universal perplexity and confusion, which is inherent in human nature. In general, there is a degree of doubt, and caution, and modesty, which, in all kinds of scrutiny and decision, ought for ever to accompany a just reasoner.

Another species of mitigated scepticism which may be of advantage to mankind, and which may be the natural result of the Pyrrhonian doubts and scruples, is the limitation of our enquiries to such subjects as are best adapted to the narrow capacity of human understanding. The imagination of man is naturally sublime, delighted with whatever is remote and extraordinary, and running, without control, into the most distant parts of space and time in order to avoid the objects, which custom has rendered too familiar to it. A correct Judgement observes a contrary method, and avoiding all distant and high enquiries, confines itself to common life, and to such subjects as fall under daily practice and experience; leaving the more sublime topics to the embellishment of poets and orators, or to the arts of priests and politicians. To bring us to so salutary a determination, nothing can be more serviceable, than to be once thoroughly convinced of the force of the Pyrrhonian doubt, and of the impossibility, that anything, but the strong power of natural instinct, could free us from it. Those who have a propensity to philosophy, will still continue their researches; because they reflect, that, besides the immediate pleasure attending such an occupation, philosophical decisions are nothing but the reflections of common life, methodized and corrected. But they will never be tempted to go beyond common life, so long as they consider the imperfection of those faculties which they employ, their narrow reach, and their inaccurate operations. While we cannot give a satisfactory reason, why we believe, after a thousand experiments, that a stone will fall, or fire burn; can we ever satisfy ourselves concerning any determination, which we may form, with regard to the origin of worlds, and the situation of nature, from, and to eternity?

This narrow limitation, indeed, of our enquiries, is, in every respect, so reasonable, that it suffices to make the slightest examination into the natural powers of the human mind and to compare them with their objects, in order to recommend it to us. We shall then find what are the proper subjects of science and enquiry.

It seems to me, that the only objects of the abstract science or of demonstration are quantity and number, and that all attempts to extend this more perfect species of knowledge beyond these bounds are mere sophistry and illusion. As the component parts of quantity and number are entirely similar, their relations become intricate and involved; and nothing can be more curious, as well as useful, than to trace, by a variety of mediums, their equality or inequality, through their different appearances. But as all other ideas are clearly distinct and different from each other, we can never advance farther, by our utmost scrutiny, than to observe this diversity, and, by an obvious reflection, pronounce one thing not to be another. Or if there be any difficulty in these decisions, it proceeds entirely from the undeterminate meaning of words, which is corrected by juster definitions. That the square of the hypothenuse is equal to the squares of the other two sides, cannot be known, let the terms be ever so exactly defined, without a train of reasoning and enquiry. But to convince us of this proposition, that where there is no property, there can be no injustice, it is only necessary to define the terms, and explain injustice to be a violation of property. This proposition is, indeed, nothing but a more imperfect definition. It is the same case with all those pretended syllogistical reasonings, which may be found in every other branch of learning, except the sciences of quantity and number; and these may safely, I think, be pronounced the only proper objects of knowledge and demonstration.

All other enquiries of men regard only matter of fact and existence; and these are evidently incapable of demonstration. Whatever is may not be. No negation of a fact can involve a contradiction. The non-existence of any being, without exception, is as clear and distinct an idea as its existence. The proposition, which affirms it not to be, however false, is no less conceivable and intelligible, than that which affirms it to be. The case is different with the sciences, properly so called. Every proposition, which is not true, is there confused and unintelligible. That the cube root of 64 is equal to the half of 10, is a false proposition, and can never be distinctly conceived. But that Caesar, or the angel Gabriel, or any being never existed, may be a false proposition, but still is perfectly conceivable, and implies no contradiction.

The existence, therefore, of any being can only be proved by arguments from its cause or its effect; and these arguments are founded entirely on experience. If we reason a priori, anything may appear able to produce anything. The falling of a pebble may, for aught we know, extinguish the sun; or the wish of a man control the planets in their orbits. It is only experience, which teaches us the nature and bounds of cause and effect, and enables us to infer the existence of one object from that of another.[4] Such is the foundation of moral reasoning, which forms the greater part of human knowledge, and is the source of all human action and behaviour.

Moral reasonings are either concerning particular or general facts. All deliberations in life regard the former; as also all disquisitions in history, chronology, geography, and astronomy.

The sciences, which treat of general facts, are politics, natural philosophy, physic, chemistry, &c. where the qualities, causes and effects of a whole species of objects are enquired into.

Divinity or Theology, as it proves the existence of a Deity, and the immortality of souls, is composed partly of reasonings concerning particular, partly concerning general facts. It has a foundation in reason, so far as it is supported by experience. But its best and most solid foundation is faith and divine revelation.

Morals and criticism are not so properly objects of the understanding as of taste and sentiment. Beauty, whether moral or natural, is felt, more properly than perceived. Or if we reason concerning it, and endeavour to fix its standard, we regard a new fact, to wit, the general tastes of mankind, or some such fact, which may be the object of reasoning and enquiry.

When we run over libraries, persuaded of these principles, what havoc must we make? If we take in our hand any volume; of divinity or school metaphysics, for instance; let us ask, Does it contain any abstract reasoning concerning quantity or number? No. Does it contain any experimental reasoning concerning matter of fact and existence? No. Commit it then to the flames: for it can contain nothing but sophistry and illusion.

[1] This argument is drawn from Dr. Berkeley; and indeed most of the writings of that very ingenious author form the best lessons of scepticism, which are to be found either among the ancient or modern philosophers, Bayle not excepted. He professes, however, in his title-page (and undoubtedly with great truth) to have composed his book against the sceptics as well as against the atheists and free-thinkers. But that all his arguments, though otherwise intended, are, in reality, merely sceptical, appears from this, that they admit of no answer and produce no conviction. Their only effect is to cause that momentary amazement and irresolution and confusion, which is the result of scepticism.

[2] Whatever disputes there may be about the mathematical points, we must allow that there are physical points; that is, parts of extension, which cannot be divided or lessened, either by the eye or imagination. These images, then, which are present to the fancy or senses, are absolutely indivisible, and consequently must be allowed by mathematicians to be infinitely less than any real part of extension; and yet nothing appears more certain to reason, than that an infinite number of them composes an infinite extension. How much more an infinite number of those infinitely small parts of extension, which are still supposed infinitely divisible.

[3] It seems to be not impossible to avoid these absurdities and contradictions, if it be admitted, that there is no such thing as abstract or general ideas, properly speaking; but that all general ideas are, in reality, particular ones, attached to a general term, which recalls, upon occasion, other particular ones, that resemble, in certain circumstances, the idea, present to the mind. Thus when the term Horse is pronounced, we immediately figure to ourselves the idea of a black or a white animal, of a particular size or figure: But as that term is also usually applied to animals of other colours, figures and sizes, these ideas, though not actually present to the imagination, are easily recalled; and our reasoning and conclusion proceed in the same way, as if they were actually present. If this be admitted (as seems reasonable) it follows that all the ideas of quantity, upon which mathematicians reason, are nothing but particular, and such as are suggested by the senses and imagination, and consequently, cannot be infinitely divisible. It is sufficient to have dropped this hint at present, without prosecuting it any farther. It certainly concerns all lovers of science not to expose themselves to the ridicule and contempt of the ignorant by their conclusions; and this seems the readiest solution of these difficulties.

[4] That impious maxim of the ancient philosophy, Ex nihilo, nihil fit, by which the creation of matter was excluded, ceases to be a maxim, according to this philosophy. Not only the will of the supreme Being may create matter; but, for aught, we know a priori, the will of any other being might create it, or any other cause, that the most whimsical imagination can assign.

[End]

# Hume, Treatise of Human Nature, (1737-1739)

## Appendix

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I had entertained some hopes, that however deficient our theory of the intellectual world might be, it would be free from those contradictions, and absurdities, which seem to attend every explication, that human reason can give of the material world. But upon a more strict review of the section concerning personal identity, I find myself involved in such a labyrinth, that, I must confess, I neither know how to correct my former opinions, nor how to render them consistent. If this be not a good general reason for scepticism, it is at least a sufficient one (if I were not already abundantly supplied) for me to entertain a diffidence and modesty in all my decisions. I shall propose the arguments on both sides, beginning with those that induced me to deny the strict and proper identity and simplicity of a self or thinking being.

When we talk of self or substance, we must have an idea annexed to these terms, otherwise they are altogether unintelligible. Every idea is derived from preceding impressions; and we have no impression of self or substance, as something simple and individual. We have, therefore, no idea of them in that sense.

Whatever is distinct, is distinguishable; and whatever is distinguishable, is separable by the thought or imagination. All perceptions are distinct. They are, therefore, distinguishable, and separable, and may be conceived as separately existent, and may exist separately, without any contradiction or absurdity.

When I view this table and that chimney, nothing is present to me but particular perceptions, which are of a like nature with all the other perceptions. This is the doctrine of philosophers. But this table, which is present to me, and the chimney, may and do exist separately. This is the doctrine of the vulgar, and implies no contradiction. There is no contradiction, therefore, in extending the same doctrine to all the perceptions.

In general, the following reasoning seems satisfactory. All ideas are borrowed from preceding perceptions. Our ideas of objects, therefore, are derived from that source. Consequently no proposition can be intelligible or consistent with regard to objects, which is not so with regard to perceptions. But it is intelligible and consistent to say, that objects exist distinct and independent, without any common simple substance or subject of inhesion. This proposition, therefore, can never be absurd with regard to perceptions.

When I turn my reflection on myself, I never can perceive this self without some one or more perceptions; nor can I ever perceive any thing but the perceptions. It is the composition of these, therefore, which forms the self. We can conceive a thinking being to have either many or few perceptions. Suppose the mind to be reduced even below the life of an oyster. Suppose it to have only one perception, as of thirst or hunger. Consider it in that situation. Do you conceive any thing but merely that perception? Have you any notion of self or substance? If not, the addition of other perceptions can never give you that notion.

The annihilation, which some people suppose to follow upon death, and which entirely destroys this self, is nothing but an extinction of all particular perceptions; love and hatred, pain and pleasure, thought and sensation. These therefore must be the same with self; since the one cannot survive the other.

Is self the same with substance? If it be, how can that question have place, concerning the subsistence of self, under a change of substance? If they be distinct, what is the difference betwixt them? For my part, I have a notion of neither, when conceived distinct from particular perceptions.

Philosophers begin to be reconciled to the principle, that we have no idea of external substance, distinct from the ideas of particular qualities. This must pave the way for a like principle with regard to the mind, that we have no notion of it, distinct from the particular perceptions.

So far I seem to be attended with sufficient evidence. But having thus loosened all our particular perceptions, when I proceed to explain the principle of connexion, which binds them together, and makes us attribute to them a real simplicity and identity; I am sensible, that my account is very defective, and that nothing but the seeming evidence of the precedent reasonings coued have induced me to receive it. If perceptions are distinct existences, they form a whole only by being connected together. But no connexions among distinct existences are ever discoverable by human understanding. We only feel a connexion or determination of the thought, to pass from one object to another. It follows, therefore, that the thought alone finds personal identity, when reflecting on the train of past perceptions, that compose a mind, the ideas of them are felt to be connected together, and naturally introduce each other. However extraordinary this conclusion may seem, it need not surprize us. Most philosophers seem inclined to think, that personal identity arises from consciousness; and consciousness is nothing but a reflected thought or perception. The present philosophy, therefore, has so far a promising aspect. But all my hopes vanish, when I come to explain the principles, that unite our successive perceptions in our thought or consciousness. I cannot discover any theory, which gives me satisfaction on this head.

In short there are two principles, which I cannot render consistent; nor is it in my power to renounce either of them, viz, that all our distinct perceptions are distinct existences, and that the mind never perceives any real connexion among distinct existences. Did our perceptions either inhere in something simple and individual, or did the mind perceive some real connexion among them, there would be no difficulty in the case. For my part, I must plead the privilege of a sceptic, and confess, that this difficulty is too hard for my understanding. I pretend not, however, to pronounce it absolutely insuperable. Others, perhaps, or myself, upon more mature reflections, may discover some hypothesis, that will reconcile those contradictions.

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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)
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