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SCIENCE

Everyman, I will go with thee, and be thy guide,
In thy most need to go by thy side

JOHN LOCKE, born 1632. Entered Christ Church College, Oxford, 1652, where he taught until 1667. Elected to Royal Society, 1668. Became political secretary to Lord Shaftesbury. Exiled to Holland, 1683-9. Died 1704.

JOHN LOCKE
AN ESSAY CONCERNING
HUMAN UNDERSTANDING

ABRIDGED AND EDITED BY
RAYMOND WILBURN



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INTRODUCTION

THE seventeenth century is extraordinarily important in the history of western Europe. The energy that was expressed in the several renaissance movements, in the religious reformations, and in the political wars of the two centuries immediately preceding it, become more explicitly directed in the seventeenth century towards the establishment of the foundations of the modern world. Experimental science, Protestantism, and the tendency of political sovereignty to be assumed by the governed were firmly established between 1600 and 1700. John Locke's *Essay concerning Human Understanding* was written during the middle and later years of this significant period and is unusually characteristic and expressive of it.

The context of Locke's life particularly fitted him to speak for the seventeenth century in the *Essay*. His interests were many, and his friends included great men in science, politics, and religion, both in England and on the Continent. Locke could not properly be said to have had a single career, for in the usual senses, he was never a politician, or an academician, or a scientist, though the fields of politics, science, and of learning in general occupied his life.

Locke was born in 1632. His parents were Puritans, and the father established in the boy the habits of industry and simplicity, and a disposition to consider intolerance a major vice. Locke entered Westminster School in 1646, where he was apparently well trained in the customary classical disciplines. While he was a student there, the first major political event in his life occurred, the execution of Charles I, in 1649.

In 1652 Locke entered Christ Church College, Oxford, where he remained for the next fifteen years. He was unenthusiastic about the Aristotelian-Scholastic curriculum that hung on at Oxford in spite of the changes initiated there by Cromwell. Locke was certainly a competent scholar, but he found the conversation of lively-minded companions more instructive than the formalistic training in disciplines only reminiscent of the greatness of the Middle Ages and of Greece. During Locke's early career at Oxford, the new natural philosophy, or experimental

science, became a significant force in the university. The founding of the Royal Society, soon after the Restoration in 1660, symbolized the rapidly growing interest in natural science, and Locke's election in 1668 indicates his early connections with men like Sir Robert Boyle, a founder of modern chemistry.

The fifteen years which Locke spent at Oxford established his interests, particularly in politics and in science, but did not lead him to the definite selection of a career. He seriously considered diplomacy, and even served on a diplomatic mission to the Elector of Brandenburg in 1665; he studied medicine for several years in an intensive fashion; he lectured for some time at the university; and he decided not to go into the Church only after intense thought. A chance meeting at Oxford with Lord Ashley, who later became the first Earl of Shaftesbury and one of the most celebrated political figures of his time, resulted in Locke's becoming attached to Lord Ashley's household as family physician and adviser-assistant to Lord Ashley, particularly in political matters. Locke moved from Oxford to London and into the centre of the stormy political situations of the period.

The next few years in Locke's life were very busy ones. Lord Ashley rose rapidly in importance, became the Earl of Shaftesbury in 1672, and, shortly after, Lord High Chancellor. Locke's duties increased in proportion to Shaftesbury's prominence, and by 1675 Locke's health had so declined from overwork that he went to France for a long rest. Shaftesbury's fall in 1675 suggests that Locke's journey to France was intended to serve the double purpose of regaining his health and of retiring from active political duty, at least temporarily. Most important, the four years in France provided Locke with the leisure necessary to continue the philosophical work he had become progressively more inclined to since his early days at Oxford. In 1671 there had occurred an incident which led Locke into beginning the *Essay*. In the Epistle to the Reader, Locke relates the incident. 'Were it fit to trouble thee with the history of this Essay, I should tell thee, that five or six friends meeting at my chamber, and discoursing on a subject very remote from this, found themselves quickly at a stand, by the difficulties that rose on every side. After we had awhile puzzled ourselves, without coming any nearer a resolution of those doubts which perplexed us, it came into my thoughts that we took a wrong course; and that before we set ourselves upon inquiries of that nature, it was necessary to examine our own abilities, and see what *objects* our under-

standings were, or were not, fitted to deal with. This I proposed to the company, who all readily assented; and thereupon it was agreed that this should be our first inquiry. Some hasty and undigested thoughts, on a subject I had never before considered, which I set down against our next meeting, gave the first entrance into this Discourse, which having been thus begun by chance, was continued by entreaty; written by incoherent parcels; and, after long intervals of neglect, resumed again, as my humour or occasions permitted; and at last, in a retirement where an attendance on my health gave me leisure, it was brought into that order thou now seest it.'

Shaftesbury returned to power in 1678, became Lord President of the Privy Council, and soon after, Locke re-entered his service. Shaftesbury was greatly concerned to prevent the Duke of York, who became James II in 1685, from succeeding Charles II. Charles stubbornly opposed the popular demand, expressed particularly through Parliament, 'to disable the Duke of York to inherit the Crown of England.' Locke's affiliation with Shaftesbury and his cause finally led to Locke's retirement to Holland in 1683. In 1685 James came to the throne, and Locke officially became an exile.

The years in Holland improved Locke's health considerably, and the leisure and company he enjoyed there made the period of his exile most fruitful. He kept busy working on the *Essay* and writing various shorter pieces, among them an article on tolerance, *Epistola de Tolerantia*, *Two Treatises on Civil Government*, and an abstract of the *Essay*. The revolution of 1688, which placed William of Orange on the English throne, made it possible for Locke to return to England early in 1689. The first edition of the *Essay* was published in 1690.

In the second year after his return, Locke became a permanent resident at Oates, the home of Sir Francis and Lady Masham, who were close friends of long standing. Except for a period of public duty from 1696 to 1700 as a commissioner of the Board of Trade and Plantations, Locke spent the time until his death in 1704 in practically unbroken residence at Oates as a member of the Masham household. When his health permitted, he worked diligently upon successive editions of the *Essay*, on essays concerning education, economics, religion, and Christianity, and engaged in some spirited controversies aroused by his views, especially those expounded in the *Essay*.

The widespread circulation of the *Essay* after it first appeared,

the number of editions prepared before Locke's death, the many printings of it since, and the controversies and comments which it has inspired are a true measure of its importance in the history of thought. Much that Locke said in the *Essay* was not original, and scholars have laboured to show the influence of Descartes, Gassendi, Hobbes, a contemporary school of theologians known as the Cambridge Platonists which included such names as Cudworth and Whichcote (a favourite preacher of Locke's), and even of the Scholastics, the Romans, particularly Cicero, and the Greeks. The originality of Locke lies in his integral exposition of a point of view that cleared the ground for an understanding by both layman and professional of the new natural science.

Many pages of the *Essay* will seem to the average reader to be devoted to an exposition of theories that are almost commonplace and common-sense. Those theories have become commonplace and common-sense largely through the influence of the *Essay*. It is divided into four books: I. 'Of Innate Notions'; II. 'Of Ideas'; III. 'Of Words'; IV. 'Of Knowledge and Opinion.' The first book is designed to clear the way for the rest of the *Essay*. At the time the *Essay* was written, there was considerable interest in the theory of innate ideas, originally Platonic, and revived and restated many times in the history of thought to account in some measure for the processes of learning. The followers of Descartes and the Cambridge Platonists were notable exponents of a form of the theory in the seventeenth century, and Locke felt it was necessary to reject the theory before he could develop the major points of the *Essay*.

Book II, 'Of Ideas,' begins the positive exposition of Locke's theories. The mind is originally like white paper, void of all characters. It comes to be furnished with ideas from two sources only: (1) Sensation, and (2) Reflection on its own operations. Some ideas are simple, and some are complex, i.e., composed of simple ideas. Ideas of the qualities of bodies are of three sorts: (1) Primary, i.e. of bulk, figure, number, situation, and motion or rest; (2) Secondary, i.e. colours, sounds, smells, tastes, produced in the mind by the primary qualities in the bodies; (3) the Powers of bodies to produce changes in bulk, figure, texture, and the like in other bodies. Like the Secondary qualities, Powers are reducible to Primary qualities.

Complex ideas are of three sorts: (1) Modes, i.e. dependences on, or affections of substances, such as the ideas signified by the words *triangle*, *gratitude*, and *murder*; (2) Substances, i.e. par-

ticular things subsisting by themselves, such as a man or a sheep; (3) Relations, which consist in the consideration and comparing of one idea with another, e.g. the ideas denoted by the words *husband*, *whiter*, *great*, etc. Ideas of substances are nothing else but a collection of a certain number of simple ideas, considered as united in one thing, and knowledge of them can extend no further than experience. Ideas of modes are made by the mind in its compounding and comparing and are not referable to particular, existing entities without the mind, as are ideas of substances. Modes, substances, and relations, therefore, produce problems of communication which Locke examines in Book III, 'Of Words.' Since words stand for nothing but ideas in the mind of him that uses them, words can be easily abused. A speaker who uses the word *murder* may have a set of ideas as to what the word signifies which differs entirely from the ideas which his listener has. Yet, since the mind is at liberty to compose ideas of modes, great accuracy can be attained in the use of words to signify them; while ideas of substances must always be referred to standards outside the mind and can never fairly represent the real essences, the internal and hidden constitutions of substances. The words used to designate kinds, or sorts of substances, thus at best can refer only to nominal essences, that is to the complex idea the word stands for; e.g. *gold* is the name of a body yellow, of a certain weight, malleable, fusible, and fixed.

Book IV begins by defining knowledge as the perception of the connection of and agreement, or disagreement and repugnancy, of any of our ideas. There are degrees of this perception which give rise to degrees of knowledge, which are (1) Intuitive, (2) Demonstrative, and (3) Sensitive knowledge of the particular existence of finite beings without us. All other so-called knowledge is but opinion. Knowledge can extend no further than ideas extend, indeed no further than perception of the agreement or disagreement of ideas extends. Knowledge is real only so far as there is a conformity between ideas and the reality of things. Simple ideas have all the conformity that is necessary for real knowledge, for they are simply the products of things operating on the mind in a natural way. All complex ideas, *except those of substances*, being archetypes of the mind's own making, not intended to be copies of anything, nor referred to the existence of anything, as to their originals, cannot want any conformity necessary to real knowledge. Thus, complex ideas of modes and relations have the conformity requisite for real knowledge, if the ideas

are not inconsistent. Reality of the knowledge of substances is limited by the fact that all complex ideas of substances must be such, and such only, as are made up of such simple ones as have been discovered to co-exist in nature. Truth, in its proper meaning, is the joining or separating of Signs, as the Things signified by them do agree or disagree one with another. Signs joined or separated are propositions. Universal propositions referring to substances have limited certainty, for we are ignorant both of the real constitution in which a substance's qualities are founded, and also how the qualities flow from that constitution. Since ideas of modes and relations are referred to ideas alone, knowledge of them can be certain.

The vast sphere of uncertain knowledge whereupon men continually build with great confidence is called probability. Probability fails of being certain knowledge because it lacks the immediate connection between each idea and in each step which intuition supplies for certain knowledge. The grounds of probability are: (1) the conformity of anything with our own knowledge, observation, and experience; and (2) the testimony of others. As the grounds are strong or weak, so is the probable judgment.

This very brief setting down of some of the principles in the *Essay* should not be taken for an accurate, and certainly not for a complete, account. Its specific and only purposes are to show the scope and fundamental character of Locke's treatment of the human understanding and to provide for the reader some advance notion of the development of one part of the *Essay* into the next; for Locke sometimes writes as if he were attempting to get the whole *Essay* on one page, and at other times as if he intended to take the entire volume to develop a relatively minor point.

The central position of the principles of the *Essay* in the development of experimental science and of psychology is readily seen. Locke's analysis of the secondary qualities and powers of bodies into primary, quantitative, measurable qualities states a goal that has been omnipresent in the development of physics and chemistry, and more lately has been characteristic of psychology also. That the mind is originally like blank paper and comes to be furnished with ideas from sensation and reflection is a concept with many variations in the history of psychology. The difference between mathematics, whose objects are modes, and has certainty not possessed by the experimental sciences, and the

natural sciences, whose objects are largely substances, is basic to modern discussions of the application of mathematics to nature. Instances and details of this sort could be multiplied greatly, but the life of the contemporary is so heavily influenced by the natural sciences and a popular knowledge of the sciences is so widespread that many examples will occur to the reader as he encounters the principles in the *Essay*.

Locke is one of the first philosophers of experimental science, and as such he is in a great measure responsible for the division of modern academic faculties into a group of scholars with specific subject-matters, such as mathematics, physics, and literature, and a group called 'philosophers,' whose field is 'knowledge in general.' The title of Newton's *Mathematical Principles of Natural Philosophy* illustrates the understanding of philosophy by the seventeenth and earlier centuries as an integral part of a subject-matter, and not as a separate branch of learning. Descartes and Leibniz were mathematicians and natural scientists, highly skilled technically in these fields, and they were examining the implications of their discoveries when they wrote what we to-day could call their philosophical works. Locke's interest in and wide knowledge of science is well established, but one wonders, for example, why he did not become more interested in mathematics, which was in a most exciting stage of development during his lifetime. Descartes advanced mathematics immeasurably through analytic geometry, and Newton and Leibniz no less by their simultaneous but independent formulation of the calculus. As an undergraduate at Oxford, Locke studied under John Wallis, an important figure in the history of mathematics. Had Locke been drawn more deeply into the sciences, particularly in their mathematical aspects, the *Essay* might have had quite a different character; e.g. it might have been less concerned with describing the processes of learning and more concerned with describing the nature of the objects of learning. This point is made here because of the heavily epistemological character of the philosophy of science since Locke. It is certainly true that a treatment of analytic geometry and calculus would have enriched the *Essay* greatly, and that a more technical knowledge than Locke possessed would have made the discussion of certain topics, e.g. space and number, more satisfactory.

Locke's contributions to the philosophies of education and of politics have been particularly influential. It is proper here not to attempt a summary of Locke's theories of education and

politics, but the reader is instead referred to two of Locke's works: (1) *Some Thoughts Concerning Education*, and (2) *Two Treatises on Civil Government*, particularly the second treatise.

The men who were involved in the early development of experimental science have provided a number of excellent books in which the reader may examine further the problems raised in the *Essay*. A few of the most illuminating works are listed here. Descartes, *Discourse on Method*, and *Meditations*; Boyle, *Sceptical Chymist*; Hume, *Treatise of Human Nature*. Examples of the more technical books are: Harvey, *On the Motion of the Heart*; Galileo, *Two New Sciences*; Huygens, *Treatise on Light*; and the difficult *Principia Mathematica* of Newton. The reader who is particularly interested in politics will find Hobbes's *Leviathan* profitable.

The purpose of the present abridgment is to make the whole sweep of the *Essay* easily available. The sporadic composition of the *Essay* is apparent in the many repetitions and in the overdevelopment of some matters of minor importance. In the Epistle to the Reader, Locke himself says: 'I will not deny, but possibly it might be reduced to a narrower compass than it is. . . . But to confess the truth, I am now too lazy, or too busy, to make it shorter.' The present edition attempts to preserve the over-all composition of the *Essay*, and in reducing it to nearly half its original size, sentences and sections are deleted, rather than chapters and books. The more usual form of abridgment, a series of selections, has been avoided.

Two texts have been used in making the abridgment. The first is that of the fourth edition of the *Essay*, which was published in 1700. This has generally been the standard of reference in cases of textual divergences. The other text used is that of the Alexander Campbell Fraser edition, which collates the first four editions, and which modernizes the spelling and reduces the italics and brackets. Fraser's modernized spelling is used throughout the abridgment, but in some places his italics are changed to conform more closely to the fourth edition.

Since the purpose of the abridgment is to represent the *Essay* as a whole, deletions are not denoted by dots, which make a smooth reading almost impossible. Instead, whenever a deletion occurs in a section, the number of the section has been italicized. A synopsis has been placed at the beginning of each chapter in

the manner of the marginal notes which were first introduced by Locke in the second edition at the request of his publisher. Thus, reference to the complete text has been made easy for the reader who wishes to consult it, but the reader is not continually plagued by directions to references in which he is not immediately interested, but which he cannot overlook for fear of missing an integral part of the *Essay*.

RAYMOND WILBURN.

ANNAPOLIS, MARYLAND,
December 1942.

LIST OF THE WORKS OF JOHN LOCKE

Méthode nouvelle de dresser des Recueils, 1686, and later in English as *A New Method of making Common-place Books* (see Posthumous Works); *Epistola de Tolerantia* (and in English translation), 1689; *Essay concerning Human Understanding*, 1690 (and many later editions containing alterations and additions); *Two Treatises of Government*, 1690; *Second and Third Letters concerning Toleration*, 1690; *Some Considerations and the Consequences of Lowering the Interest, and Raising the Value of Money*, 1692, *Further Considerations*, 1695; *Some Thoughts concerning Education*, 1693; *Short Observations on a Printed Paper entitled 'For encouraging the Coining of Silver Money in England, and after, for keeping it here,'* 1695; *The Reasonableness of Christianity, as delivered in the Scriptures*, 1695, *A Vindication of the Same*, 1695, *A Second Vindication*, 1697; *A Letter to the Right Reverend Edward Lord Bishop of Worcester*, 1697, *A Reply to the Bishop's Answer to his Letter*, 1697, *A Reply to the Bishop's Answer to his Second Letter*, 1699; *A Paraphrase and Notes on the Epistles of St. Paul to the Galatians*, 1705.

Posthumous Works, 1706: *Of the Conduct of the Understanding—An Examination of Malebranche's Opinion of Seeing all things in God—A Discourse of Miracles—Part of a Fourth Letter for Toleration—Memoirs relating to the Life of Anthony, first Earl of Shaftesbury—A New Method of making Common-place Books*, written originally in French, and translated into English.

Some Familiar Letters between Mr. Locke and several of his Friends, 1708; *A Collection of Several Pisces of Mr. John Locke*, 1720; *The Fundamental Constitutions of Carolina—Remarks upon some of Mr. Norris's Books—Elements of Natural Philosophy—Some Thoughts concerning Reading and Study for a Gentleman—Rules of a Society, which met once a week, for their Improvement in Useful Knowledge—Observations upon the Growth and Culture of Vines and Olives; The Remains of John Locke*, 1714; *Memoirs of the Life of Dr. B. Picoche—Instructions for the Conduct of a Young Gentleman—The Best Method of studying the Scriptures—Sentiments concerning the Society for Promoting Christian Knowledge*.

Collected Works: 3 vols., 1714; 4 vols., 1768; 9 vols., 1801.

Biography: Le Clerc, 1710; Lord King, 1830; H. R. Fox Bourne, 1876; T. Fowler (*English Men of Letters*), 1878; A. C. Fraser, 1890.

On Locke's *Essay* see S. Alexander: *Locke* (Philosophies Ancient and Modern), London, 1908; J. Gibson, *Locke's Theory of Knowledge*, Cambridge, 1917; S. Lamprecht, *The Moral and Political Philosophy of John Locke*, New York, 1918; R. I. Aaron: *John Locke* (Leaders of Philosophy), Oxford, 1937. For fuller bibliography see R. I. Aaron, *John Locke*, pp. 314–21.

THE EPISTLE TO THE READER

READER,

I here put into thy hands what has been the diversion of some of my idle and heavy hours. If it has the good luck to prove so of any of thine, and thou hast but half so much pleasure in reading as I had in writing it, thou wilt as little think thy money, as I do my pains, ill bestowed. Mistake not this for a commendation of my work; nor conclude, because I was pleased with the doing of it, that therefore I am fondly taken with it now it is done. He that hawks at larks and sparrows has no less sport, though a much less considerable quarry, than he that flies at nobler game; and he is little acquainted with the subject of this treatise—the UNDERSTANDING—who does not know that, as it is the most elevated faculty of the soul, so it is employed with a greater and more constant delight than any of the other. Its searches after truth are a sort of hawking and hunting, wherein the very pursuit makes a great part of the pleasure. Every step the mind takes in its progress towards Knowledge makes some discovery, which is not only new, but the best too, for the time at least.

For the understanding, like the eye, judging of objects only by its own sight, cannot but be pleased with what it discovers, having less regret for what has escaped it, because it is unknown. Thus he who has raised himself above the alms-basket, and, not content to live lazily on scraps of begged opinions, sets his own thoughts on work, to find and follow truth, will (whatever he lights on) not miss the hunter's satisfaction; every moment of his pursuit will reward his pains with some delight; and he will have reason to think his time not ill spent, even when he cannot much boast of any great acquisition.

This, Reader, is the entertainment of those who let loose their own thoughts, and follow them in writing; which thou oughtest not to envy them, since they afford thee an opportunity of the like diversion, if thou wilt make use of thy own thoughts in reading. It is to them, if they are thy own, that I refer myself; but if they are taken upon trust from others, it is no great matter what they are; they are not following truth, but some meaner consideration; and it is not worth while to be concerned what he says or thinks, who says or thinks only as he is directed by another.

If thou judgest for thyself I know thou wilt judge candidly, and then I shall not be harmed or offended, whatever be thy censure. For though it be certain that there is nothing in this Treatise of the truth whereof I am not fully persuaded, yet I consider myself as liable to mistakes as I can think thee, and know that this book must stand or fall with thee, not by any opinion I have of it, but thy own. If thou findest little in it new or instructive to thee, thou art not to blame me for it. It was not meant for those that had already mastered this subject, and made a thorough acquaintance with their own understandings; but for my own information, and the satisfaction of a few friends, who acknowledged themselves not to have sufficiently considered it.

Were it fit to trouble thee with the history of this Essay, I should tell thee, that five or six friends meeting at my chamber, and discoursing on a subject very remote from this, found themselves quickly at a stand, by the difficulties that rose on every side. After we had awhile puzzled ourselves, without coming any nearer a resolution of those doubts which perplexed us, it came into my thoughts that we took a wrong course; and that before we set ourselves upon inquiries of that nature, it was necessary to examine our own abilities, and see what *objects* our understandings were, or were not, fitted to deal with. This I proposed to the company, who all readily assented; and thereupon it was agreed that this should be our first inquiry. Some hasty and undigested thoughts, on a subject I had never before considered, which I set down against our next meeting, gave the first entrance into this Discourse; which having been thus begun by chance, was continued by entreaty; written by incoherent parcels; and after long intervals of neglect, resumed again, as my humour or occasions permitted; and at last, in a retirement where an attendance on my health gave me leisure, it was brought into that order thou now seest it.

This discontinued way of writing may have occasioned, besides others, two contrary faults, viz. that too little and too much may be said in it. If thou findest anything wanting, I shall be glad that what I have written gives thee any desire that I should have gone further. If it seems too much to thee, thou must blame the subject; for when I put pen to paper, I thought all I should have to say on this matter would have been contained in one sheet of paper; but the further I went the larger prospect I had; new discoveries led me still on, and so it grew insensibly to the bulk it now appears in. I will not deny, but possibly it might be

reduced to a narrower compass than it is, and that some parts of it might be contracted, the way it has been writ in, by catches, and many long intervals of interruption, being apt to cause some repetitions. But to confess the truth, I am now too lazy, or too busy, to make it shorter.

I am not ignorant how little I herein consult my own reputation, when I knowingly let it go with a fault, so apt to disgust the most judicious, who are always the nicest readers. But they who know sloth is apt to content itself with any excuse, will pardon me if mine has prevailed on me, where I think I have a very good one. I will not therefore allege in my defence, that the same notion, having different respects, may be convenient or necessary to prove or illustrate several parts of the same discourse, and that so it has happened in many parts of this: but waiving that, I shall frankly avow that I have sometimes dwelt long upon the same argument, and expressed it different ways, with a quite different design. I pretend not to publish this Essay for the information of men of large thoughts and quick apprehensions; to such masters of knowledge I profess myself a scholar, and therefore warn them beforehand not to expect anything here, but what, being spun out of my own coarse thoughts, is fitted to men of my own size, to whom, perhaps, it will not be unacceptable that I have taken some pains to make plain and familiar to their thoughts some truths which established prejudice, or the abstractedness of the ideas themselves, might render difficult. Some objects had need be turned on every side; and when the notion is new, as I confess some of these are to me; or out of the ordinary road, as I suspect they will appear to others, it is not one simple view of it that will gain it admittance into every understanding, or fix it there with a clear and lasting impression. There are few, I believe, who have not observed in themselves or others, that what in one way of proposing was very obscure, another way of expressing it has made very clear and intelligible; though afterwards the mind found little difference in the phrases, and wondered why one failed to be understood more than the other. But everything does not hit alike upon every man's imagination. We have our understandings no less different than our palates; and he that thinks the same truth shall be equally relished by every one in the same dress, may as well hope to feast every one with the same sort of cookery: the meat may be the same, and the nourishment good, yet every one not be able to receive it with that seasoning; and it must be dressed another way, if you

will have it go down with some, even of strong constitutions. The truth is, those who advised me to publish it, advised me, for this reason, to publish it as it is: and since I have been brought to let it go abroad, I desire it should be understood by whoever gives himself the pains to read it. I have so little affection to be in print, that if I were not flattered this Essay might be of some use to others, as I think it has been to me, I should have confined it to the view of some friends, who gave the first occasion to it. My appearing therefore in print being on purpose to be as useful as I may, I think it necessary to make what I have to say as easy and intelligible to all sorts of readers as I can. And I had much rather the speculative and quick-sighted should complain of my being in some parts tedious, than that any one, not accustomed to abstract speculations, or prepossessed with different notions, should mistake or not comprehend my meaning.

It will possibly be censured as a great piece of vanity or insolence in me, to pretend to instruct this our knowing age; it amounting to little less, when I own that I publish this Essay with hopes it may be useful to others. But, if it may be permitted to speak freely of those who with a feigned modesty condemn as useless what they themselves write, methinks it savours much more of vanity or insolence to publish a book for any other end; and he fails very much of that respect he owes the public, who prints, and consequently expects men should read, that wherein he intends not they should meet with anything of use to themselves or others: and should nothing else be found allowable in this Treatise, yet my design will not cease to be so; and the goodness of my intention ought to be some excuse for the worthlessness of my present. It is that chiefly which secures me from the fear of censure, which I expect not to escape more than better writers. Men's principles, notions, and relishes are so different, that it is hard to find a book which pleases or displeases all men. I acknowledge the age we live in is not the least knowing, and therefore not the most easy to be satisfied. If I have not the good luck to please, yet nobody ought to be offended with me. I plainly tell all my readers, except half a dozen, this Treatise was not at first intended for them; and therefore they need not be at the trouble to be of that number. But yet if any one thinks fit to be angry and rail at it, he may do it securely, for I shall find some better way of spending my time than in such kind of conversation. I shall always have the satisfaction to have aimed sincerely at truth and usefulness, though in one of the meanest

ways. The commonwealth of learning is not at this time without master-builders, whose mighty designs, in advancing the sciences, will leave lasting monuments to the admiration of posterity; but every one must not hope to be a Boyle or a Sydenham; and in an age that produces such masters as the great Huygenius and the incomparable Mr. Newton, with some others of that strain, it is ambition enough to be employed as an under-labourer in clearing the ground a little, and removing some of the rubbish that lies in the way to knowledge; which certainly had been very much more advanced in the world, if the endeavours of ingenious and industrious men had not been much cumbered with the learned but frivolous use of uncouth, affected, or unintelligible terms, introduced into the sciences, and there made an art of, to that degree that Philosophy, which is nothing but the true knowledge of things, was thought unfit or incapable to be brought into well-bred company and polite conversation. Vague and insignificant forms of speech, and abuse of language, have so long passed for mysteries of science; and hard and misapplied words, with little or no meaning, have, by prescription, such a right to be mistaken for deep learning and height of speculation, that it will not be easy to persuade either those who speak or those who hear them, that they are but the covers of ignorance, and hindrance of true knowledge. To break in upon this sanctuary of vanity and ignorance will be, I suppose, some service to human understanding; though so few are apt to think they deceive or are deceived in the use of words, or that the language of the sect they are of has any faults in it which ought to be examined or corrected, that I hope I shall be pardoned if I have in the Third Book dwelt long on this subject, and endeavoured to make it so plain, that neither the inveterateness of the mischief, nor the prevalency of the fashion, shall be any excuse for those who will not take care about the meaning of their own words, and will not suffer the significancy of their expressions to be inquired into.

The booksellers, preparing for the fourth edition of my Essay, gave me notice of it, that I might, if I had leisure, make any additions or alterations I should think. Whereupon it may be convenient to advertise the reader, that besides several corrections I had made here and there, there is one alteration which I think necessary to mention here, because it runs through the whole book, and is of consequence to be rightly understood.

Clear and distinct ideas are terms which, though familiar and frequent in men's mouths, I have reason to think every one who

uses does not perfectly understand. And possibly 'tis but here and there one who gives himself the trouble to consider them so far as to know what he himself or others precisely mean by them. I have therefore in most places chose to put *determinate* or *determined*, instead of *clear* and *distinct*, as more likely to direct men's thoughts to my meaning in this matter. By those denominations, I mean some object in the mind, and consequently determined, i.e. such as it is there seen and perceived to be. This, I think, may fitly be called a *determinate* or *determined* idea, when such as it is at any time objectively in the mind, and so determined there, it is annexed, and without variation determined, to a name or articulate sound, which is to be steadily the sign of that very same object of the mind, or *determinate* idea.

To explain this a little more particularly. By *determinate*, when applied to a simple idea, I mean that simple appearance which the mind has in its view, or perceives in itself, when that idea is said to be in it: by *determined*, when applied to a complex idea, I mean such an one as consists of a *determinate* number of certain simple or less complex ideas, joined in such a proportion and situation as the mind has before its view, and sees in itself, when that idea is present in it, or should be present in it, when a man gives a name to it. I say *should* be, because it is not every one, nor perhaps any one, who is so careful of his language as to use no word till he views in his mind the precise determined idea which he resolves to make it the sign of. The want of this is the cause of no small obscurity and confusion in men's thoughts and discourses.

I know there are not words enough in any language to answer all the variety of ideas that enter into men's discourses and reasonings. But this hinders not but that when any one uses any term, he may have in his mind a *determined* idea, which he makes it the sign of, and to which he should keep it steadily annexed during that present discourse. Where he does not, or cannot do this, he in vain pretends to *clear* or *distinct* ideas: it is plain his are not so; and therefore there can be expected nothing but obscurity and confusion, where such terms are made use of which have not such a precise determination.

Upon this ground I have thought *determined* ideas a way of speaking less liable to mistakes, than *clear* and *distinct*: and where men have got such *determined* ideas of all that they reason, inquire, or argue about, they will find a great part of their doubts and disputes at an end; the greatest part of the questions and

controversies that perplex mankind depending on the doubtful and uncertain use of words, or (which is the same) indetermined ideas, which they are made to stand for. I have made choice of these terms to signify: (1) Some immediate object of the mind, which it perceives and has before it, distinct from the sound it uses as a sign of it; (2) That this idea, thus determined, i.e. which the mind has in itself, and knows, and sees there, be determined without any change to that name, and that name determined to that precise idea. If men had such determined ideas in their inquiries and discourses, they would both discern how far their own inquiries and discourses went, and avoid the greatest part of the disputes and wranglings they have with others.

BOOK I

OF INNATE NOTIONS

Chapter I

INTRODUCTION

Inquiry pleasant and useful, 1; Design, 2; Method, 3; To know Extent of Comprehension is useful, 4; Capacity suited to State and Concerns, 5; A Cure of Scepticism, 6; Occasion of Essay, 7; What Idea stands for, 8.

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 inquire 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 inquiry; 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.

2. This, therefore, being my purpose—to inquire 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 not. 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.

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 persuasion. In order whereunto I shall pursue this following method:

First, I shall inquire 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.

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

Thirdly, I shall make some inquiry 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*.

4. If by this inquiry 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 fall 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.

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) *πάντα πρὸς ζωὴν καὶ εὐσέβειαν*, 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 concerns, 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 everything. 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 sunshine. 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 concerns. If we will disbelieve everything, because we cannot certainly know all things, we shall do much what as

wisely as he who would not use his legs, but sit still and perish, because he had no wings to fly.

6. When we know our own strength, we shall the better know what to undertake with hopes of success; and when we have well surveyed the *powers* of our own minds, and made some estimate what we may expect from them, we shall not be inclined either to sit still, and not set our thoughts on work at all, in despair of knowing anything; nor, on the other side, question everything, and disclaim all knowledge, because some things are not to be understood. It is of great use to the sailor to know the length of his line, though he cannot with it fathom all the depths of the ocean. It is well he knows that it is long enough to reach the bottom, at such places as are necessary to direct his voyage, and caution him against running upon shoals that may ruin him. Our business here is not to know all things, but those which concern our conduct. If we can find out those measures, whereby a rational creature, put in that state in which man is in in this world, may and ought to govern his opinions, and actions depending thereon, we need not to be troubled that some other things escape our knowledge.

7. This was that which gave first rise to this Essay concerning the understanding. For I thought that the first step towards satisfying several inquiries the mind of man was very apt to run into, was, to take a survey of our own *understandings*, examine our own powers, and see to what things they were adapted. Till that was done I suspected we began at the wrong end, and in vain sought for satisfaction in a quiet and sure possession of truths that most concerned us, whilst we let loose our thoughts into the vast ocean of Being; as if all that boundless extent were the natural and undoubted possession of our understandings, wherein there was nothing exempt from its decisions, or that escaped its comprehension. Thus men, extending their inquiries beyond their capacities, and letting their thoughts wander into those depths where they can find no sure footing, it is no wonder that they raise questions and multiply disputes, which, never coming to any clear resolution, are proper only to continue and increase their doubts, and to confirm them at last in perfect scepticism. Whereas, were the capacities of our understandings well considered, the extent of our knowledge once discovered, and the horizon found which sets the bounds between the enlightened and dark parts of things—between what is and what is not comprehensible by us—men would perhaps with less scruple

acquiesce in the avowed ignorance of the one, and employ their thoughts and discourse with more advantage and satisfaction in the other.

8. Thus much I thought necessary to say concerning the occasion of this Inquiry into human Understanding. But, before I proceed on to what I have thought on this subject, I must here in the entrance beg pardon of my reader for the frequent use of the word *idea*, which he will find in the following treatise. It being that term which, I think, serves best to stand for whatsoever is the object of the understanding when a man thinks, I have used it to express whatever is meant by *phantasm*, *notion*, *species*, or whatever it is which the mind can be employed about in thinking; and I could not avoid frequently using it.

I presume it will be easily granted me, that there are such *ideas* in men's minds: every one is conscious of them in himself; and men's words and actions will satisfy him that they are in others.

Our first inquiry then shall be, how they come into the mind.

Chapter II

NO INNATE PRINCIPLES IN THE MIND

The way we come by Knowledge proves it not innate, 1; The great Argument, Universal Consent, proves nothing innate, 2-3; Statements of the principles of Identity and Contradiction not universally assented to, 4; Not known by Children and Idiots, 5; Reason does not discover these principles, and even if it did, this would not prove them innate, 6-14; Steps in attaining Truths, 15; Assent to Truths depends on clear and distinct Ideas of Terms, 16; Many Propositions are assented to, 18; Less general known before more general, 19-20; Assent to Principles upon first hearing exposed, 21-3; Recapitulation, 24-5, 27.

I. It is an established opinion amongst some men, that there are in the understanding certain *innate principles*; some primary notions, *κοινὰ ἐννοιαί*, 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 show (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.

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.

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 shown how men may come to that universal agreement, in the things they do consent in, which I presume may be done.

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. 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.

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 anything, being nothing else but the making certain truths to be perceived. But to imprint anything 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. 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.

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:

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.

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.

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.

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. For all reasoning is search, and casting about, and requires pains and application.

11. Those who will take the pains to reflect with a little attention on the operations of the understanding, will find that this ready assent of the mind to some truths, depends not, either on native inscription, or the use of reason, but on a faculty of the mind quite distinct from both of them, as we shall see hereafter. Reason, therefore, having nothing to do in procuring our assent to these maxims, if by saying, that 'men know and assent to them, when they come to the use of reason,' be meant, that the use of reason assists us in the knowledge of these maxims, it is utterly false; and were it true, would prove them not to be innate.

12. If by knowing and assenting to them 'when we come to the use of reason,' be meant, that this is the time when they come to be taken notice of by the mind; and that as soon as children come to the use of reason, they come also to know and assent to these maxims; this also is false and frivolous. First, it is false; because it is evident these maxims are not in the mind so early as the use of reason; and therefore the coming to the use of reason is falsely assigned as the time of their discovery. How many instances of the use of reason may we observe in children,

a long time before they have any knowledge of this maxim, that 'it is impossible for the same thing to be and not to be'! I grant, men come not to the knowledge of these general and more abstract truths, which are thought innate, till they come to the use of reason; and I add, nor then neither. Which is so, because, till after they come to the use of reason, those general abstract ideas are not framed in the mind, about which those general maxims are, which are mistaken for innate principles, but are indeed discoveries made and verities introduced and brought into the mind by the same way, and discovered by the same steps, as several other propositions, which nobody was ever so extravagant as to suppose innate.

13. This saying, that men know and assent to these maxims 'when they come to the use of reason,' amounts in reality of fact to no more but this—that they are never known nor taken notice of before the use of reason, but may possibly be assented to some time after, during a man's life; but when is uncertain. And so may all other knowable truths, as well as these.

14. But, secondly, were it true that the precise time of their being known and assented to were when men come to the use of reason, neither would that prove them innate. This way of arguing is as frivolous as the supposition itself is false. For, by what kind of logic will it appear that any notion is originally by nature imprinted in the mind in its first constitution, because it comes first to be observed and assented to when a faculty of the mind, which has quite a distinct province, begins to exert itself? And therefore the coming to the use of speech, if it were supposed the time that these maxims are first assented to (which it may be with as much truth as the time when men come to the use of reason), would be as good a proof that they were innate, as to say they are innate because men assent to them when they come to the use of reason.

15. The senses at first let in particular ideas, and furnish the yet empty cabinet, and the mind by degrees growing familiar with some of them, they are lodged in the memory, and names got to them. Afterwards the mind, proceeding further, abstracts them, and by degrees learns the use of general names. In this manner the mind comes to be furnished with ideas and language, the materials about which to exercise its discursive faculty. And the use of reason becomes daily more visible, as these materials that give it employment increase. But though the having of general ideas and the use of general words and reason

usually grow together, yet I see not how this way proves them innate.

16. A child knows not that three and four are equal to seven, till he comes to be able to count to seven, and has got the name and idea of equality; and then, upon the explaining those words, he presently assents to, or rather perceives the truth of that proposition. But neither does he then readily assent because it is an innate truth, nor was his assent wanting till then because he wanted the use of reason; but the truth of it appears to him as soon as he has settled in his mind the clear and distinct ideas that these names stand for. A man knows that eighteen and nineteen are equal to thirty-seven, by the same self-evidence that he knows one and two to be equal to three: yet a child knows this not so soon as the other; not for want of the use of reason, but because the ideas the words eighteen, nineteen, and thirty-seven stand for, are not so soon got, as those which are signified by one, two, and three.

18. I demand whether ready assent given to a proposition, upon first hearing and understanding the terms, be a certain mark of an innate principle. If it be not, such a general assent is in vain urged as a proof of them: if it be said that it is a mark of innate, they must then allow all such propositions to be innate which are generally assented to as soon as heard, whereby they will find themselves plentifully stored with innate principles. For upon the same ground, viz. of assent at first hearing and understanding the terms, that men would have those maxims pass for innate, they must also admit several propositions about numbers to be innate; and thus, that one and two are equal to three, that two and two are equal to four, and a multitude of other the like propositions in numbers, that everybody assents to at first hearing and understanding the terms, must have a place amongst these innate axioms. Nor is this the prerogative of numbers alone, and propositions made about several of them; but even natural philosophy, and all the other sciences, afford propositions which are sure to meet with assent as soon as they are understood. That 'two bodies cannot be in the same place' is a truth that nobody any more sticks at than at these maxims, that 'it is impossible for the same thing to be and not to be,' that 'white is not black,' that 'a square is not a circle,' that 'yellowness is not sweetness.'

19. Nor let it be said, that those more particular self-evident

propositions, which are assented to at first hearing, as that 'one and two are equal to three,' that 'green is not red,' etc., are received as the consequences of those more universal propositions which are looked on as innate principles; since any one, who will but take the pains to observe what passes in the understanding, will certainly find that these, and the like less general propositions, are certainly known and firmly assented to by those who are utterly ignorant of those more general maxims; and so, being earlier in the mind than those (as they are called) first principles, cannot owe to them the assent wherewith they are received at first hearing.

21. But we have not yet done with 'assenting to propositions at first hearing and understanding their terms.' It is fit we first take notice that this, instead of being a mark that they are innate, is a proof of the contrary; since it supposes that several, who understand and know other things, are ignorant of these principles till they are proposed to them; and that one may be unacquainted with these truths till he hears them from others. For, if they were innate, what need they be proposed in order to gaining assent, when, by being in the understanding, by a natural and original impression (if there were any such), they could not but be known before? This cannot be denied, that men grow first acquainted with many of these self-evident truths upon their being proposed: but it is clear that whosoever does so, finds in himself that he then begins to know a proposition, which he knew not before, and which from thenceforth he never questions; not because it was innate, but because the consideration of the nature of the things contained in those words would not suffer him to think otherwise, how or whensoever he is brought to reflect on them.

22. If it be said, the understanding hath an *implicit* knowledge of these principles, but not an *explicit*, before this first hearing (as they must who will say that they are in the understanding before they are known), it will be hard to conceive what is meant by a principle imprinted on the understanding implicitly, unless it be this—that the mind is capable of understanding and assenting firmly to such propositions. And thus all mathematical demonstrations, as well as first principles, must be received as native impressions on the mind; which I fear they will scarce allow them to be, who find it harder to demonstrate a proposition than assent to it when demonstrated. And few mathematicians will be

forward to believe, that all the diagrams they have drawn were but copies of those innate characters which nature had engraven upon their minds.

23. There is, I fear, this further weakness in the foregoing argument, which would persuade us that therefore those maxims are to be thought innate, which men admit at first hearing, because they assent to propositions which they are not taught, nor do receive from the force of any argument or demonstration, but a bare explication or understanding of the terms. Under which there seems to me to lie this fallacy, that men are supposed not to be taught nor to learn anything *de novo*; when, in truth, they are taught and do learn something they were ignorant of before. For, first, it is evident that they have learned the terms, and their signification; neither of which was born with them. But this is not all the acquired knowledge in the case: the ideas themselves, about which the proposition is, are not born with them, no more than their names, but got afterwards. So that in all propositions that are assented to at first hearing, the terms of the proposition, their standing for such ideas, and the ideas themselves that they stand for, being neither of them innate, I would fain know what there is remaining in such propositions that is innate. For I would gladly have any one name that proposition whose terms or ideas were either of them innate. We by degrees get ideas and names, and learn their appropriated connection one with another; and then to propositions made in such terms, whose signification we have learnt, and wherein the agreement or disagreement we can perceive in our ideas when put together is expressed, we at first hearing assent; though to other propositions, in themselves as certain and evident, but which are concerning ideas not so soon or so easily got, we are at the same time no way capable of assenting. For words being but empty sounds, any further than they are signs of our ideas, we cannot but assent to them as they correspond to those ideas we have, but no further than that. But the showing by what steps and ways knowledge comes into our minds, and the grounds of several degrees of assent, being the business of the following Discourse, it may suffice to have only touched on it here, as one reason that made me doubt of those innate principles.

24. To conclude this argument of universal consent, I agree with these defenders of innate principles, that if they are innate, they must needs have universal assent. For that a truth should be innate and yet not assented to, is to me as unintelligible as for

a man to know a truth and be ignorant of it at the same time. But then, by these men's own confession, they cannot be innate; since they are not assented to by those who understand not the terms; nor by a great part of those who do understand them, but have yet never heard nor thought of those propositions; which, I think, is at least one-half of mankind.

25. I say next, that these two general propositions are not the truths that first possess the minds of children, nor are antecedent to all acquired and adventitious notions: which, if they were innate, they must needs be. The child certainly knows that the nurse that feeds it is neither the cat it plays with, nor the black-moor it is afraid of: that the wormseed or mustard it refuses, is not the apple or sugar it cries for: this it is certainly and undoubtedly assured of: but will any one say, it is by virtue of this principle, that 'it is impossible for the same thing to be and not to be,' that it so firmly assents to these and other parts of its knowledge? Or that the child has any notion or apprehension of that proposition at an age wherein yet, it is plain, it knows a great many other truths? He that will say, 'Children join in these general abstract speculations with their sucking-bottles and their rattles,' may perhaps, with justice, be thought to have more passion and zeal for his opinion, but less sincerity and truth, than one of that age.

27. That the general maxims we are discoursing of are not known to children, idiots, and a great part of mankind, we have already sufficiently proved. But there is this further argument in it against their being innate: that these characters, if they were native and original impressions, should appear fairest and clearest in those persons in whom yet we find no footsteps of them; and it is, in my opinion, a strong presumption that they are not innate, since they are least known to those in whom, if they were innate, they must needs exert themselves with most force and vigour. For children, idiots, savages, and illiterate people, being of all others the least corrupted by custom or borrowed opinions; learning and education having not cast their native thoughts into new moulds; one might reasonably imagine that in their minds these innate notions should lie open fairly to every one's view, as it is certain the thoughts of children do. It might very well be expected that these principles should be perfectly known to naturals; which being stamped immediately on the soul (as these men suppose), can have no dependence on the constitution or

organs of the body, the only confessed difference between them and others. But alas, amongst children, idiots, savages, and the grossly illiterate, what general maxims are to be found? what universal principles of knowledge? Their notions are few and narrow, borrowed only from those objects they have had most to do with, and which have made upon their senses the frequentest and strongest impressions. Such kind of general propositions are seldom mentioned in the huts of Indians: much less are they to be found in the thoughts of children, or any impressions of them on the minds of naturals. They are the language and business of the schools and academies of learned nations, accustomed to that sort of conversation or learning, where disputes are frequent; these maxims being suited to artificial argumentation and useful for conviction, but not much conducing to the discovery of truth or advancement of knowledge.

Chapter III

NO INNATE PRACTICAL PRINCIPLES

Moral principles not universally accepted, 1-2; Men cannot admit them in their Thoughts and deny them in Practice, 3; Moral Rules need a Proof, 4-5; Virtue generally approved because profitable, 6; Instances that Conscience is no Proof of innate Moral Rules, 8; Instances, 9; Ignorance of innate principles excludes their certainty, 13; Contrary Principles in the World, 21; How they came to be held, 22-4, 26; Principles must be examined, 27.

1. If those speculative Maxims, whereof we discoursed in the foregoing chapter, have not an actual universal assent from all mankind, as we there proved, it is much more visible concerning *practical* Principles, that they come short of an universal reception: and I think it will be hard to instance any one moral rule which can pretend to so general and ready an assent as, 'What is, is'; or to be so manifest a truth as this, that 'It is impossible for the same thing to be and not to be.' Whereby it is evident that they are further removed from a title to be innate; and the doubt of their being native impressions on the mind is stronger against those moral principles than the others. Not that it brings their truth at all in question. They are equally true, though not equally evident. Those speculative maxims carry their own evidence with them: but moral principles require reasoning and

discourse, and some exercise of the mind, to discover the certainty of their truth. They lie not open as natural characters engraven on the mind; which, if any such were, they must needs be visible by themselves, and by their own light be certain and known to everybody. But this is no derogation to their truth and certainty; no more than it is to the truth or certainty of the three angles of a triangle being equal to two right ones: because it is not so evident as 'The whole is bigger than a part,' nor so apt to be assented to at first hearing. It may suffice that these moral rules are capable of demonstration; and therefore it is our own faults if we come not to a certain knowledge of them. But the ignorance wherein many men are of them, and the slowness of assent wherewith others receive them, are manifest proofs that they are not innate, and such as offer themselves to their view without searching.

2. Whether there be any such moral principles, wherein all men do agree, I appeal to any who have been but moderately conversant in the history of mankind, and looked abroad beyond the smoke of their own chimneys. Where is that practical truth that is universally received, without doubt or question, as it must be if innate? *Justice*, and keeping of contracts, is that which most men seem to agree in. This is a principle which is thought to extend itself to the dens of thieves, and the confederacies of the greatest villains; and they who have gone furthest towards the putting off of humanity itself, keep faith and rules of justice one with another. I grant that outlaws themselves do this one amongst another: but it is without receiving these as the innate laws of nature. They practise them as rules of convenience within their own communities: but it is impossible to conceive that he embraces justice as a practical principle, who acts fairly with his fellow highwayman, and at the same time plunders or kills the next honest man he meets with. Justice and truth are the common ties of society; and therefore even outlaws and robbers, who break with all the world besides, must keep faith and rules of equity amongst themselves; or else they cannot hold together. But will any one say, that those that live by fraud or rapine have innate principles of truth and justice which they allow and assent to?

3. Perhaps it will be urged, that the tacit assent of their minds agrees to what their practice contradicts. I answer, first, I have always thought the actions of men the best interpreters of their thoughts. But, since it is certain that most men's practices, and some men's open professions, have either questioned or denied

these principles, it is impossible to establish an universal consent), (though we should look for it only amongst grown men), without which it is impossible to conclude them innate. Secondly, it is very strange and unreasonable to suppose innate practical principles that terminate only in contemplation. Practical principles, derived from nature, are there for operation, and must produce conformity of action, not barely speculative assent to their truth, or else they are in vain distinguished from speculative maxims. Nature, I confess, has put into man a desire of happiness and an aversion to misery: these indeed are innate practical principles which (as practical principles ought) do continue constantly to operate and influence all our actions without ceasing: these may be observed in all persons and all ages, steady and universal; but these are inclinations of the appetite to good, not impressions of truth on the understanding.

4. Another reason that makes me doubt of any innate practical principles is, that I think *there cannot any one moral rule be proposed whereof a man may not justly demand a reason*: which would be perfectly ridiculous and absurd if they were innate, or so much as self-evident, which every innate principle must needs be, and not need any proof to ascertain its truth, nor want any reason to gain it approbation. He would be thought void of common sense who asked on the one side, or on the other side went to give a reason why 'it is impossible for the same thing to be and not to be.' It carries its own light and evidence with it, and needs no other proof: he that understands the terms assents to it for its own sake, or else nothing will ever be able to prevail with him to do it. But should that most unshaken rule of morality and foundation of all social virtue, that 'one should do as he would be done unto,' be proposed to one who never heard of it before, but yet is of capacity to understand its meaning; might he not without any absurdity ask a reason why? And were not he that proposed it bound to make out the truth and reasonableness of it to him? Which plainly shows it not to be innate; for if it were it could neither want nor receive any proof; but must needs (at least as soon as heard and understood) be received and assented to as an unquestionable truth, which a man can by no means doubt of.

5. That men should keep their compacts is certainly a great and undeniable rule in morality. But yet, if a Christian, who has the view of happiness and misery in another life, be asked why a man must keep his word, he will give this as a reason: 'Because God, who has the power of eternal life and death, requires

it of us.' But if a Hobbist be asked why, he will answer: 'Because the public requires it, and the Leviathan will punish you if you do not.' And if one of the old heathen philosophers had been asked, he would have answered: 'Because it was dishonest, below the dignity of a man, and opposite to virtue, the highest perfection of human nature, to do otherwise.'

6. Hence naturally flows the great variety of opinions concerning moral rules which are to be found among men, according to the different sorts of happiness they have a prospect of, or propose to themselves; which could not be if practical principles were innate, and imprinted in our minds immediately by the hand of God. I grant the existence of God is so many ways manifest, and the obedience we owe him so congruous to the light of reason, that a great part of mankind give testimony to the law of nature: but yet I think it must be allowed that several moral rules may receive from mankind a very general approbation, without either knowing or admitting the true ground of morality; which can only be the will and law of a God, who sees men in the dark, has in his hand rewards and punishments, and power enough to call to account the proudest offender. For, God having, by an inseparable connection, joined virtue and public happiness together, and made the practice thereof necessary to the preservation of society, and visibly beneficial to all with whom the virtuous man has to do; it is no wonder that every one should not only allow, but recommend and magnify those rules to others, from whose observance of them he is sure to reap advantage to himself. He may, out of interest as well as conviction, cry up that for sacred, which, if once trampled on and profaned, he himself cannot be safe nor secure. This, though it takes nothing from the moral and eternal obligation which these rules evidently have, yet it shows that the outward acknowledgment men pay to them in their words proves not that they are innate principles.

9. But I cannot see how any men should ever transgress those moral rules with confidence and serenity, were they innate and stamped upon their minds. View but an army at the sacking of a town, and see what observation or sense of moral principles, or what touch of conscience for all the outrages they do. Robberies, murders, rapes, are the sports of men set at liberty from punishment and censure. Have there not been whole nations, and those of the most civilized people, amongst whom the exposing their children, and leaving them in the fields to perish by want or wild

beasts has been the practice, as little condemned or scrupled as the begetting them? Do they not still, in some countries, put them into the same graves with their mothers, if they die in childbirth; or dispatch them, if a pretended astrologer declares them to have unhappy stars?

13. I think we may safely conclude, that whatever practical rule is in any place generally and with allowance broken, cannot be supposed innate; it being impossible that men should, without shame or fear, confidently and serenely, break a rule which they could not but evidently know that God had set up, and would certainly punish the breach of (which they must, if it were innate), to a degree to make it a very ill bargain to the transgressor. Without such a knowledge as this, a man can never be certain that anything is his duty. Ignorance or doubt of the law, hopes to escape the knowledge or power of the law-maker, or the like, may make men give way to a present appetite; but let any one see the fault, and the rod by it, and with the transgression, a fire ready to punish it; a pleasure tempting, and the hand of the Almighty visibly held up and prepared to take vengeance (for this must be the case where any duty is imprinted on the mind), and then tell me whether it be possible for people with such a prospect, such a certain knowledge as this, wantonly, and without scruple, to offend against a law which they carry about them in indelible characters, and that stares them in the face whilst they are breaking it? There is a great deal of difference between an innate law and a law of nature; between something imprinted on our minds in their very original, and something that we, being ignorant of, may attain to the knowledge of, by the use and due application of our natural faculties. And I think they equally forsake the truth who, running into contrary extremes, either affirm an innate law, or deny that there is a law knowable by the light of nature, i.e. without the help of positive revelation.

21. I easily grant that there are great numbers of opinions which, by men of different countries, educations, and tempers, are received and embraced as first and unquestionable principles; many whereof, both for their absurdity as well as oppositions to one another, it is impossible should be true. But yet all those propositions, how remote soever from reason, are so sacred somewhere or other, that men even of good understanding in other matters will sooner part with their lives, and whatever is dearest

to them, than suffer themselves to doubt, or others to question, the truth of them.

22. This, however strange it may seem, is that which every day's experience confirms; and will not, perhaps, appear so wonderful, if we consider the ways and steps by which it is brought about. Such who are careful (as they call it) to principle children well (and few there be who have not a set of those principles for them, which they believe in), instil into the unwary, and as yet unprejudiced, understanding (for white paper receives any characters) those doctrines they would have them retain and profess. These, being taught them as soon as they have any apprehension, and still as they grow up confirmed to them by those of whose wisdom, knowledge, and piety they have an opinion, come, by these means, to have the reputation of unquestionable, self-evident, and innate truths.

23. When men so instructed are grown up, and reflect on their own minds, they cannot find anything more ancient there than those opinions which were taught them before their memory began to keep a register of their actions; and therefore they make no scruple to conclude, that those propositions of whose knowledge they can find in themselves no original, were certainly the impress of God and nature upon their minds, and not taught them by any one else.

24. This will appear very likely, and almost unavoidable to come to pass, if we consider the nature of mankind and the constitution of human affairs; wherein most men cannot live without employing their time in the daily labours of their callings, nor be at quiet in their minds without some foundation or principle to rest their thoughts on. There is scarcely any one so floating and superficial in his understanding, who hath not some revered propositions, which are to him the principles on which he bottoms his reasonings, and by which he judgeth of truth and falsehood, right and wrong; which some, wanting skill and leisure, and others the inclination, and some being taught that they ought not to examine, there are few to be found who are not exposed by their ignorance, laziness, education, or precipitancy, to *take them upon trust*.

26. Since the reasoning faculties of the soul, which are almost constantly, though not always warily nor wisely, employed, would not know how to move, for want of a foundation and footing, in most men, who through laziness or avocation do not—or for want

of time, or true helps, or for other causes, cannot—penetrate into the principles of knowledge, and trace truth to its fountain and original, it is natural for them, and almost unavoidable, to take up with some borrowed principles; which being reputed and presumed to be the evident proofs of other things, are thought not to need any other proof themselves.

27. By this progress, how many there are who arrive at principles which they believe innate, may be easily observed in the variety of opposite principles held and contended for by all sorts and degrees of men. If it be the privilege of innate principles to be received upon their own authority, without examination, I know not what may not be believed, or how any one's principles can be questioned. If they may and ought to be examined and tried, I desire to know how first and innate principles can be tried; or at least it is reasonable to demand the marks and characters whereby the genuine innate principles may be distinguished from others: that so, amidst the great variety of pretenders, I may be kept from mistakes in so material a point as this. When this is done, I shall be ready to embrace such welcome and useful propositions; and till then I may with modesty doubt; since I fear universal consent, which is the only one produced, will scarcely prove a sufficient mark to direct my choice, and assure me of any innate principles.

Chapter IV

OTHER CONSIDERATIONS CONCERNING INNATE PRINCIPLES, BOTH SPECULATIVE AND PRACTICAL

Principles not innate unless their Ideas be innate, 1; Impossibility and Identity not innate ideas, 3-4; Instances of Ideas not innate, 6, 8; Idea of God discoverable, 9-11; God's goodness no proof that Idea of Him is innate, 12; Opposing ideas of God, 14-16; Idea of Substance not innate, 18; Difference of Men's Discoveries depends upon different Application of Faculties, 22; Conclusion, 25.

1. HAD those who would persuade us that there are innate principles not taken them together in gross, but considered separately the parts out of which those propositions are made, they would not, perhaps, have been so forward to believe they were innate; since, if the *ideas* which made up those truths were not, it was impossible that the propositions made up of

them should be innate, or our knowledge of them be born with us.

3. 'It is impossible for the same thing to be, and not to be,' is certainly (if there be any such) an innate principle. But can any one think, or will any one say, that 'impossibility' and 'identity' are two innate *ideas*? Are they such as all mankind have, and bring into the world with them? Hath a child an idea of impossibility and identity, before it has of white or black, sweet or bitter? And is it from the knowledge of this principle that it concludes, that wormwood rubbed on the nipple hath not the same taste that it used to receive from thence? The names *impossibility* and *identity* stand for two ideas, so far from being innate, or born with us, that I think it requires great care and attention to form them right in our understandings.

4. If *identity* (to instance that alone) be a native impression, and consequently so clear and obvious to us that we must needs know it even from our cradles, I would gladly be resolved by any one of seven, or seventy years old, whether a man, being a creature consisting of soul and body, be the same man when his body is changed? Whether Euphorbus and Pythagoras, having had the same soul, were the same men, though they lived several ages asunder? For if those innate ideas are not clear and distinct, so as to be universally known and naturally agreed on, they cannot be subjects of universal and undoubted truths, but will be the unavoidable occasion of perpetual uncertainty.

6. Let us examine that principle of mathematics, viz. *that the whole is bigger than a part*. This, I take it, is reckoned amongst innate principles. I am sure it has as good a title as any to be thought so; which yet nobody can think it to be, when he considers that the ideas it comprehends in it, *whole* and *part*, are perfectly relative; but the positive ideas to which they properly and immediately belong are extension and number, of which alone *whole* and *part* are relations. So that if *whole* and *part* are innate ideas, extension and number must be so too; it being impossible to have an idea of a relation, without having any at all of the thing to which it belongs, and in which it is founded. Now, whether the minds of men have naturally imprinted on them the ideas of extension and number, I leave to be considered by those who are the patrons of innate principles.

8. If any idea can be imagined innate, the idea of *God* may, of

all others, for many reasons, be thought so; since it is hard to conceive how there should be innate moral principles, without an innate idea of a Deity. Without a notion of a law-maker, it is impossible to have a notion of a law, and an obligation to observe it. Besides the atheists taken notice of amongst the ancients, and left branded upon the records of history, hath not navigation discovered, in these later ages, whole nations, at the bay of Soldania, in Brazil, and in the Caribbee islands, etc., amongst whom there was to be found no notion of a God, no religion?

9. But had all mankind everywhere a notion of a God (whereof yet history tells us the contrary), it would not from thence follow, that the idea of him was innate. For the visible marks of extraordinary wisdom and power appear so plainly in all the works of the creation, that a rational creature, who will but seriously reflect on them, cannot miss the discovery of a Deity. And the influence that the discovery of such a Being must necessarily have on the minds of all that have but once heard of it is so great, and carries such a weight of thought and communication with it, that it seems stranger to me that a whole nation of men should be anywhere found so brutish as to want the notion of a God, than that they should be without any notion of numbers, or fire.

10, 11. The name of God being once mentioned in any part of the world, to express a superior, powerful, wise, invisible Being, the suitableness of such a notion to the principles of common reason, and the interest men will always have to mention it often, must necessarily spread it far and wide, and continue it down to all generations. This is all could be inferred from the notion of a God, were it to be found universally in all the tribes of mankind, and generally acknowledged by men grown to maturity in all countries.

12. Indeed it is urged, that it is suitable to the goodness of God to imprint upon the minds of men characters and notions of himself, and not to leave them in the dark and doubt in so grand a concernment; and also, by that means, to secure to himself the homage and veneration due from so intelligent a creature as man; and therefore he has done it.

This argument, if it be of any force, will prove much more than those who use it in this case expect from it. For, if we may conclude that God hath done for men all that men shall judge is best for them, because it is suitable to his goodness so to do, it will prove, not only that God has imprinted on the minds of men an idea of himself, but that he hath plainly stamped there, in fair

characters, all that men ought to know or believe of him; all that they ought to do in obedience to his will; and that he hath given them a will and affections conformable to it. But it seems to me a little too much confidence of our own wisdom to say: 'I think it best; and therefore God hath made it so.' And in the matter in hand, it will be in vain to argue from such a topic, that God hath done so, when certain experience shows us that he hath not.

14. Can it be thought that the ideas men have of God are the characters and marks of himself, engraven in their minds by his own finger, when we see that, in the same country, under one and the same name, men have far different, nay, often contrary and inconsistent ideas and conceptions of him? Their agreeing in a name, or sound, will scarce prove an innate notion of him.

15. What true or tolerable notion of a Deity could they have, who acknowledged and worshipped hundreds? Every deity that they owned above one was an infallible evidence of their ignorance of Him, and a proof that they had no true notion of God, where unity, infinity, and eternity were excluded. To which if we add their gross conceptions of corporeity, expressed in their images and representations of their deities; the amours, marriages, copulations, lusts, quarrels, and other mean qualities attributed by them to their gods; we shall have little reason to think that the heathen world, i.e. the greatest part of mankind, had such ideas of God in their minds as he himself, out of care that they should not be mistaken about him, was author of. And this universality of consent, so much argued, if it prove any native impressions, it will be only this: that God imprinted on the minds of all men speaking the same language, a *name* for himself, but not any *idea*; since those people who agreed in the name, had, at the same time, far different apprehensions about the thing signified.

16. How many, even amongst us, will be found upon inquiry to fancy him in the shape of a man sitting in heaven; and to have many other absurd and unfit conceptions of him? Talk but with country people almost of any age, or young people almost of any condition, and you shall find that, though the name of God be frequently in their mouths, yet the notions they apply this name to are so odd, low, and pitiful, that nobody can imagine they were taught by a rational man; much less that they were characters written by the finger of God himself.

It is as certain that there is a God, as that the opposite angles made by the intersection of two straight lines are equal. There was never any rational creature that set himself sincerely to examine the truth of these propositions that could fail to assent to them; though yet it be past doubt that there are many men, who, having not applied their thoughts that way, are ignorant both of the one and the other. If any one think fit to call this (which is the utmost of its extent) *universal consent*, such an one I easily allow; but such an universal consent as this proves not the idea of God, any more than it does the idea of such angles, innate.

18. I confess there is another idea which would be of general use for mankind to have, as it is of general talk as if they had it; and that is the idea of *substance*; which we neither have nor can have by sensation or reflection. If nature took care to provide us any ideas, we might well expect they should be such as by our own faculties we cannot procure to ourselves; but we see, on the contrary, that since, by those ways whereby other ideas are brought into our minds, this is not, we have no such *clear* idea at all; and therefore signify nothing by the word *substance* but only an uncertain supposition of we know not what, i.e. of something whereof we have no particular distinct positive idea, which we take to be the *substratum*, or support, of those ideas we do know.

22. To conclude: some ideas forwardly offer themselves to all men's understanding; and some sorts of truths result from any ideas, as soon as the mind puts them into propositions: other truths require a train of ideas placed in order, a due comparing of them, and deductions made with attention, before they can be discovered and assented to. Some of the first sort, because of their general and easy reception, have been mistaken for innate: but the truth is, ideas and notions are no more born with us than arts and sciences; though some of them indeed offer themselves to our faculties more readily than others and therefore are more generally received: though that too be according as the organs of our bodies and powers of our minds happen to be employed; God having fitted men with faculties and means to discover, receive, and retain truths, according as they are employed. The great difference that is to be found in the notions of mankind is, from the different use they put their faculties to. Whilst some (and those the most), taking things upon trust, misemploy their

power of assent, by lazily enslaving their minds to the dictates and dominion of others, in doctrines which it is their duty carefully to examine, and not blindly, with an implicit faith, to swallow; others, employing their thoughts only about some few things, grow acquainted sufficiently with them, attain great degrees of knowledge in them, and are ignorant of all others, having never let their thoughts loose in the search of other inquiries.

25. To show *how* the understanding proceeds herein is the design of the following Discourse; which I shall proceed to when I have first premised, that hitherto—to clear my way to those foundations which I conceive are the only true ones whereon to establish those notions we can have of our own knowledge—it hath been necessary for me to give an account of the reasons I had to doubt of innate principles. Wherein I warn the reader not to expect undeniable cogent demonstrations, unless I may be allowed the privilege, not seldom assumed by others, to take my principles for granted; and then, I doubt not, but I can demonstrate too. All that I shall say for the principles I proceed on is, that I can only appeal to men's own unprejudiced experience and observation whether they be true or not; and this is enough for a man who professes no more than to lay down candidly and freely his own conjectures, concerning a subject lying somewhat in the dark, without any other design than an unbiased inquiry after truth.

BOOK II

OF IDEAS

Chapter I

OF IDEAS IN GENERAL, AND THEIR ORIGINAL

Ideas are the Objects of Thinking, 1; All Ideas come from Sensation or Reflection, 2; Objects of Sensation one Source of Ideas, 3; Operations of our Minds the other Source, 4; No other Sources, 5; Observable in Children, 6; Different Ideas in Men come from different objects, 7; Ideas of Reflection later, 8; Soul begins to have Ideas when it begins to perceive, 9; The Soul thinks not always, 10; It is not always conscious of it, 11; The Waking, the Sleeping, and the Thinking Man, 12-16; Thinking and Consciousness, 18; The mind thinks in proportion to the matter it gets from experience, 22; Ideas begin at first sensation, 23; The Original of all our Knowledge, 24; Understanding passive in most simple Ideas, 25.

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

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

3. First, our Senses, conversant about particular sensible objects, do convey into the mind several distinct perceptions of things, according to those various ways wherein those objects do

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

4. Secondly, the other fountain from which experience furnisheth the understanding with ideas is the perception of the operations of our own mind within us, as it is employed about the ideas it has got; which operations, when the soul comes to reflect on and consider, do furnish the understanding with another set of ideas, which could not be had from things without. And such are *perception, thinking, doubting, believing, reasoning, knowing, willing*, and all the different actings of our own minds; which we being conscious of, and observing in ourselves, do from these receive into our understandings as distinct ideas as we do from bodies affecting our senses. This source of ideas every man has wholly in himself; and though it be not sense, as having nothing 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.

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.

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.

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. 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.

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.

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. The first years are usually employed and diverted

in looking abroad. Men's business in them is to acquaint themselves with what is to be found without; and so growing up in a constant attention to outward sensations, seldom make any considerable reflection on what passes within them, till they come to be of riper years; and some scarce ever at all.

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

10. But whether the soul be supposed to exist antecedent 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 all things, who 'never slumbers nor sleeps'; but is not competent to any finite being, at least not to the soul of man. We know certainly, by experience, that we sometimes think; and thence draw this infallible consequence—that there is something in us that has a power to think. But whether that substance perpetually thinks or no, we can be no further assured than experience informs us.

11. I grant that the soul, in a waking man, is never without thought, because it is the condition of being awake. But whether sleeping without dreaming be not an affection of the whole man, mind as well as body, may be worth a waking man's consideration; it being hard to conceive that anything should think and not be conscious of it. If the soul doth think in a sleeping man without being conscious of it, I ask whether, during such thinking,

it has any pleasure or pain, or be capable of happiness or misery. I am sure the man is not; no more than the bed or earth he lies on. For to be happy or miserable without being conscious of it, seems to me utterly inconsistent and impossible. Or if it be possible that the soul can, whilst the body is sleeping, have its thinking, enjoyments, and concerns, its pleasures or pain, apart, which the man is not conscious of nor partakes in—it is certain that Socrates asleep and Socrates awake is not the same person; but his soul when he sleeps, and Socrates the man, consisting of body and soul, when he is waking, are two persons. 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.

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, 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 e.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.

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

14. It will perhaps be said that the soul thinks even in the soundest sleep, but the *memory* retains it not. That the soul in a sleeping man should be this moment busy a-thinking, and the next moment in a waking man not remember nor be able to recollect one jot of all those thoughts, is very hard to be conceived, and would need some better proof than bare assertion to make it be believed. For who can without any more ado, but being barely told so, imagine that the greatest part of men do, during all their lives, for several hours every day, think of something, which if they were asked, even in the middle of these thoughts, they could remember nothing at all of?

15. Perhaps it will be said, that in a waking man the materials of the body are employed, and made use of, in thinking; and that the memory of thoughts is retained by the impressions that are made on the brain, and the traces there left after such thinking; but that in the *thinking of the soul*, which is not perceived in a sleeping man, there the soul thinks apart, and making no use of the organs of the body, leaves no impression on it, and consequently no memory of such thoughts. If it has no memory of its own thoughts; if it cannot lay them up for its own use, and be able to recall them upon occasion; if it cannot reflect upon what is past, and make use of its former experiences, reasonings, and contemplations, to what purpose does it think?

Nature never makes excellent things for mean or no uses: and it is hardly to be conceived that our infinitely wise Creator should make so admirable a faculty as the power of thinking, that faculty which comes nearest the excellency of his own

incomprehensible being, to be so idly and uselessly employed, at least a fourth part of its time here, as to think constantly, without remembering any of those thoughts, without doing any good to itself or others, or being any way useful to any other part of the creation.

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

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

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 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.

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.

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. The impressions then that are made on our senses by outward objects that are extrinsical to the mind, and its own operations about these impressions, reflected on by itself, as proper objects to be contemplated by it, are, I conceive, the original of all knowledge. All those sublime thoughts which tower above the clouds and reach as high as heaven itself, take their rise and footing here: in all that great extent wherein the mind wanders, in those remote speculations it may seem to be elevated with, it stirs not one jot beyond those ideas which *sense* or *reflection* have offered for its contemplation.

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

Chapter II

OF SIMPLE IDEAS

Uncompounded Appearances, 1; The Mind can neither make nor destroy them, 2; Only the qualities that affect the senses are imaginable, 3.

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

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

2. These simple ideas, the materials of all our knowledge, are suggested and furnished to the mind only by those two ways above mentioned, viz. sensation and reflection. When the understanding is once stored with these simple ideas, it has the power to repeat, compare, and unite them, even to an almost infinite variety, and so can make at pleasure new complex ideas. But it is not in the power of the most exalted wit or enlarged understanding, by any quickness or variety of thought, to *invent* or *frame* one new simple idea in the mind, not taken in by the ways before mentioned: nor can any force of the understanding *destroy* those that are there, the dominion of man in this little world of his own understanding being muchwhat the same as it is in the great world of visible things; wherein his power, however

managed by art and skill, reaches no farther than to compound and divide the materials that are made to his hand; but can do nothing towards the making the least particle of new matter, or destroying one atom of what is already in being. The same inability will every one find in himself, who shall go about to fashion in his understanding one simple idea, not received in by his senses from external objects, or by reflection from the operations of his own mind about them.

3. This is the reason why 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. I have here followed the common opinion of man's having but five senses, though, perhaps, there may be justly counted more; but either supposition serves equally to my present purpose.

Chapter III

OF SIMPLE IDEAS OF SENSE

Division of Simple Ideas and the Ideas of one Sense, 1; Few simple Ideas have Names, 2.

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

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

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

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

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

We shall consider them apart under these several heads.

There are some ideas which have admittance only through one sense, which is peculiarly adapted to receive them. Thus light

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

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

2. I think it will be needless to enumerate all the particular simple ideas belonging to each sense. Nor indeed is it possible if we would; there being a great many more of them belonging to most of the senses than we have names for. The variety of smells, which are as many almost, if not more, than species of bodies in the world, do most of them want names. Sweet and stinking commonly serve our turn for these ideas, which in effect is little more than to call them pleasing or displeasing; though the smell of a rose and violet, both sweet, are certainly very distinct ideas. Nor are the different tastes, that by our palates we receive ideas of, much better provided with names. Sweet, bitter, sour, harsh, and salt are almost all the epithets we have to denominate that numberless variety of relishes, which are to be found distinct, not only in almost every sort of creatures, but in the different parts of the same plant, fruit, or animal. The same may be said of colours and sounds. I shall, therefore, in the account of simple ideas I am here giving, content myself to set down only such as are most material to our present purpose, or are in themselves less apt to be taken notice of, though they are very frequently the ingredients of our complex ideas; amongst which, I think, I may well account solidity, which therefore I shall treat of in the next chapter.

Chapter IV

OF SOLIDITY

This Idea from Touch, 1; Solidity fills Space, 2; Distinct from Space, 3; And from Hardness. 4; What Solidity is, 6.

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, we always feel something that hinders our further sinking downwards; 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*. If any one think it better to call it *impenetrability*, he has my consent. Only I have thought the term *solidity* the more proper to express this idea, not only because of its vulgar use in that sense, but also because it carries something more of positive in it than *impenetrability*; which is negative, and is perhaps more a consequence of solidity, than solidity itself. This, of all others, seems the idea most intimately connected with and essential to body, so as nowhere 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 further, and considers it, as well as figure, in the minutest particle of matter than can exist; and finds it inseparably inherent in body, wherever or however modified.

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.

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. 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 anything.

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.

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.

6. If any one asks me *what this solidity is*, I send him to his senses to inform him. Let him put a flint or a football between his hands, and then endeavour to join them, and he will know. If he thinks this not a sufficient explication of solidity, what it is, and wherein it consists; I promise to tell him what it is, and wherein it consists, when he tells me what thinking is, or wherein it consists; or explains to me what extension or motion is, which perhaps seems much easier. The simple ideas we have are such as experience teaches them us; but if, beyond that, we endeavour by words to make them clearer in the mind, we shall succeed no better than if we went about to clear up the darkness of a blind man's mind by talking; and to discourse into him the ideas of light and colours. The reason of this I shall show in another place.

Chapter V

OF SIMPLE IDEAS OF DIVERS SENSES

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

Chapter VI

OF SIMPLE IDEAS OF REFLECTION

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.

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.*

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

Chapter VII

OF SIMPLE IDEAS OF BOTH SENSATION AND REFLECTION

Ideas of Pleasure and Pain, 1; Mix with almost all our other Ideas, 2; As motives of our actions, 3; An end and use of pain, 4; Another end, 5; Goodness of God in annexing pleasure and pain to our other ideas, 6; Ideas of Existence and Unity, 7; Of Power, 8; Of Succession, 9; Simple Ideas the materials of all our Knowledge, 10.

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

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

different degrees of the same thing, and belong to the ideas of pleasure and pain, delight or uneasiness; which are the names I shall most commonly use for those two sorts of ideas.

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

4. Pain has the same efficacy and use to set us on work that pleasure has, we being as ready to employ our faculties to avoid that, as to pursue this: only this is worth our consideration, that pain is often produced by the same objects and ideas that produce pleasure in us. This their near conjunction, which makes us often feel pain in the sensations where we expected pleasure, gives us new occasion of admiring the wisdom and goodness of our Maker, who, designing the preservation of our being, has annexed pain to the application of many things to our bodies, to warn us of the harm that they will do, and as 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.

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—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.

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 inquiries: the knowledge and veneration of him being the chief end of all our thoughts, and the proper business of all understandings.

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

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

9. Besides these there is another idea, which, though suggested by our senses, yet is more constantly offered to us by what passes in our minds; and that is the idea of *succession*. For if we look

immediately into ourselves, and reflect on what is observable there, we shall find our ideas always, whilst we are awake, or have any thought, passing in train, one going and another coming, without intermission.

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

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

Chapter VIII

SOME FURTHER CONSIDERATIONS CONCERNING OUR SIMPLE IDEAS

Positive Ideas from so-called privative causes, 1, 4, 6; Ideas distinguished from things giving rise to them, 2; We may have Ideas but be ignorant of their physical causes, 3; Ideas in the Mind, Qualities in Bodies, 7, 8; Primary Qualities, 9; Secondary Qualities, 10; Bodies produce Ideas in us by motions, external, and in our organism, 11, 12; How Secondary Qualities produce their Ideas, 13-16; The ideas of the Primary alone really exist, 17; Secondary only modes of Primary, 18-22, 25; The Sorts of Qualities in Bodies, 23; Mediate and immediately perceivable Secondary Qualities, 26.

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.

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 those subjects from whence our senses derive those ideas. These the understanding, in its view of them, considers all as distinct positive ideas, without taking notice of the causes that produce them: which is an inquiry not belonging to the idea, as it is in the understanding, but to the nature of the things existing without us. These are two very different things, and carefully to be distinguished; it being one thing to perceive and know the idea of white or black, and quite another to examine what kind of particles they must be, and how ranged in the superficies, to make any object appear white or black.

3. A painter or dyer who never inquired into their causes hath the ideas of white and black, and other colours, as clearly, perfectly, and distinctly in his understanding, and perhaps more distinctly, than the philosopher who hath busied himself in considering their natures, and thinks he knows how far either of them is, in its cause, positive or privative; and the idea of black is no less positive in his mind than that of white, however the cause of that colour in the external object may be only a privation.

4. If it were the design of my present undertaking to inquire into the natural causes and manner of perception, I should offer this as a reason why a privative cause might, in some cases at least, produce a positive idea; viz. that all sensation being produced in us only by different degrees and modes of motion in our animal spirits, variously agitated by external objects, the abatement of any former motion must as necessarily produce a new sensation as the variation or increase of it; and so introduce a new idea, which depends only on a different motion of the animal spirits in that organ.

6. And thus one may truly be said to see darkness. For, supposing a hole perfectly dark, from whence no light is reflected, it is certain one may see the figure of it, or it may be painted.

7. To discover the nature of our *ideas* the better, and to dis-

course of them intelligibly, it will be convenient to distinguish them as they are ideas or perceptions in our minds, and as they are modifications of matter in the bodies that cause such perceptions in us: that so we may not think (as perhaps usually is done) that they are exactly the images and resemblances of something inherent in the subject; most of those of sensation being in the mind no more the likeness of something existing without us, than the names that stand for them are the likeness of our ideas, which yet upon hearing they are apt to excite in us.

8. Whatsoever the mind perceives *in 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 *quality* of the subject wherein that power is. Thus a snowball 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 snowball, 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.

9. Qualities thus considered in bodies are;

First, such as are utterly inseparable from the body, in what state soever it be; and 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: e.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 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.

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, etc. These I call *secondary qualities*. To these might be added a *third* sort, which are allowed to be barely powers; though they are as much real qualities in the subject as those which I, to comply with the common way of speaking, call qualities, but for distinction, secondary qualities. For the power in fire to produce a new colour, or consistency, in *wax* or *clay*, by its primary qualities, is as much a quality in fire, as the power it has to produce in *me* a new idea or sensation of warmth or burning, which I felt not before, by the same primary qualities, viz. the bulk, texture, and motion of its insensible parts.

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.

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.

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.

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.

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.

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 this 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?

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.

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 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 everybody 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.

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.

20. Pound an almond, and the clear white colour will be altered into a dirty one, and the sweet taste into an oily one. What real alteration can the beating of the pestle make in any body, but an alteration of the texture of it?

21. Ideas being thus distinguished and understood, we may be able to give an account how the same water, at the same time, may produce the idea of cold by one hand and of heat by the other, 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.

22. I have in what just goes before been engaged in physical inquiries a little further 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 inquiry 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 something really existing in the bodies we denominate from them.

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

First, The bulk, figure, number, situation, and motion or rest of their solid parts. Those are in them, whether we perceive them or not; 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*.

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, etc. These are usually called *sensible qualities*.

Thirdly, The power that is in any body, by reason of the particular constitution of its primary qualities, to make such a change in the bulk, figure, texture, and motion of *another body*, as to make it operate on our senses differently from what it did before. Thus the sun has a power to make wax white, and fire to make lead fluid. These are usually called *powers*.

The first of these, as has been said, I think may be properly called real, original, or primary qualities; because they are in the things themselves, whether they are perceived or not: and upon their different modifications it is that the secondary qualities depend.

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

25. In the operations of bodies changing the qualities one of another, we plainly discover that the quality produced hath commonly no resemblance with anything in the thing producing it; wherefore we look on it as a bare effect of power. For, through 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 anything 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.

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 IX

OF PERCEPTION

Perception the first simple idea of Reflection, 1; From Reflection alone, 2; Must be noticed by the mind, 3-4; Sensations often changed by the Judgment, 8; How Habit unconsciously changes ideas of Sensation into ideas of Judgment, 9-10; Perception distinguishes Animals and Vegetables, 11-12; Perception the Inlet of all materials of Knowledge, 15.

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 anything. For in bare naked perception, the mind is, for the most part, only passive; and what it perceives, it cannot avoid perceiving.

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

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

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

8. We are further to consider concerning perception, that the ideas we receive by sensation are often altered by the judgment, without our taking notice of it. When we set before our eyes a round globe of any uniform colour, v.g. gold, alabaster, or jet, it is certain that the idea thereby imprinted on our mind is of a flat circle, variously shadowed, with several degrees of light and brightness coming to our eyes. But we having, by use, been accustomed to perceive what kind of appearance convex bodies are wont to make in us; what alterations are made in the reflections of light by the difference of the sensible figures of bodies; the judgment presently, by an habitual custom, alters the appearances into their causes. So that from that which is truly variety of shadow or colour, collecting the figure, it makes it pass for a mark of figure, and frames to itself the perception of a convex figure and an uniform colour; when the idea we receive from thence is only a plane variously coloured, as is evident in painting. To which purpose I shall here insert a problem of that very ingenious and studious promoter of real knowledge, the learned and worthy Mr. Molineux, which he was pleased to send me in a letter some months since; and it is this: 'Suppose a man *born* blind, and now adult, and taught by his *touch* to distinguish between a cube and a sphere of the same metal, and nighly of the same bigness, so as to tell, when he felt one and the other, which is the cube, which the sphere. Suppose then the cube and

sphere placed on a table, and the blind man be made to see: *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.

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

10. Nor need we wonder that this is done with so little notice, if we consider how quick the actions of the mind are performed. For, as itself is thought to take up no space, to have no extension; so its actions seem to require no time, but many of them seem to be crowded into an instant. I speak this in comparison to the actions of the body. Any one may easily observe this in his own thoughts, who will take the pains to reflect on them. How, as it were in an instant, do our minds, with one glance, see all the parts of a demonstration, which may very well be called a long one, if we consider the time it will require to put it into words, and step by step show it another? Secondly, we shall not be so much surprised that this is done in us with so little notice, if we

consider how the facility which we get of doing things, by a custom of doing, makes them often pass in us without our notice.

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.

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.

15. Perception being the *first* step and degree towards knowledge, and the inlet of all the materials of it; the fewer senses any man, as well as any other creature, hath; and the fewer and duller the impressions are that are made by them; and the duller the faculties are that are employed about them—the more remote are they from that knowledge which is to be found in some men. But this being in great variety of degrees (as may be perceived amongst men) cannot certainly be discovered in the several species of animals, much less in their particular individuals. It suffices me only to have remarked here—that perception is the first operation of all our intellectual faculties, and the inlet of all knowledge in our minds.

Chapter X

OF RETENTION

Contemplation, 1; Memory, 2; Attention, Repetition, Pleasure, and Pain, fix Ideas, 3; Why Ideas fade in the Memory, 4, 5; Memory and Activity of the Mind, 6, 7; Oblivion and Slowness defects in the Memory, 8; Man as finite has defective Memory, 9; Brutes have Memory, 10.

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

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

2. The other way of retention is, the power to revive again in our minds those ideas which, after imprinting, have disappeared, or have been as it were laid aside out of sight. And thus we do, when we conceive heat or light, yellow or sweet, the object being removed. This is *memory*, which is as it were the storehouse of our ideas. For, the narrow mind of man not being capable of having many ideas under view and consideration at once, it was necessary to have a repository, to lay up those ideas which, at another time, it might have use of. But, our *ideas* being nothing but actual perceptions in the mind, which cease to be anything when there is no perception of them, this laying up of our ideas in the repository of the memory signifies no more but this—that the mind has a power in many cases to revive perceptions which it has once had, with this additional perception annexed to them, that *it has had them before*. And in this sense it is that our ideas are said to be in our memories, when indeed they are actually nowhere; but only there is an ability in the mind when it will to revive them again, and as it were paint them anew on itself, though some with more, some with less difficulty; some more lively, and others more obscurely.

3. Attention and repetition help much to the fixing any ideas in the memory. But those which naturally at first make the deepest and most lasting impressions, are those which are accompanied with pleasure or pain. The great business of the senses being, to make us take notice of what hurts or advantages the body, it is wisely ordered by nature, as has been shown, that pain should accompany the reception of several ideas; which, supplying the place of consideration and reasoning in children, and acting

quicker than consideration in grown men, makes both the old and young avoid painful objects with that haste which is necessary for their preservation; and in both settles in the memory a caution for the future.

4, 5. Concerning the several degrees of lasting, wherewith ideas are imprinted on the memory, we may observe, that many of those ideas which were produced in the minds of children, in the beginning of their sensation (some of which perhaps, as of some pleasures and pains, were before they were born, and others in their infancy), if in the future course of their lives they are not repeated again, are quite lost, without the least glimpse remaining of them. The memory of some men, it is true, is very tenacious, even to a miracle. But yet there seems to be a constant decay of all our ideas, even of those which are struck deepest, and in minds the most retentive; so that if they be not sometimes renewed, by repeated exercise of the senses, or reflection on those kinds of objects which at first occasioned them, the print wears out, and at last there remains nothing to be seen. Thus the ideas, as well as children, of our youth, often die before us: and our minds represent to us those tombs to which we are approaching; where, though the brass and marble remain, yet the inscriptions are effaced by time, and the imagery moulders away. The pictures drawn in our minds are laid in fading colours; and if not sometimes refreshed, vanish and disappear. How much the constitution of our bodies and the make of our animal spirits are concerned in this; and whether the temper of the brain makes this difference, that in some it retains the characters drawn on it like marble, in others like freestone, and in others little better than sand, I shall not here inquire; though it may seem probable that the constitution of the body does sometimes influence the memory, since we oftentimes find a disease quite strip the mind of all its ideas, and the flames of a fever in a few days calcine all those images to dust and confusion, which seemed to be as lasting as if graved in marble.

6. But concerning the ideas themselves, it is easy to remark, that those that are oftenest refreshed (amongst which are those that are conveyed into the mind by more ways than one) by a frequent return of the objects or actions that produce them, fix themselves best in the memory, and remain clearest and longest there; and therefore those which are of the original qualities of bodies, viz. solidity, extension, figure, motion, and rest; and those that almost constantly affect our bodies, as heat and cold; and

those which are the affections of all kinds of beings, as existence, duration, and number, which almost every object that affects our senses, every thought which employs our minds, bring along with them—these, I say, and the like ideas, are seldom quite lost, whilst the mind retains any ideas at all.

7. In this secondary perception, as I may so call it, or viewing again the ideas that are lodged in the memory, the mind is oftentimes more than barely passive; the appearance of those dormant pictures depending sometimes on the *will*. The mind very often sets itself on work in search of some hidden idea, and turns as it were the eye of the soul upon it; though sometimes too they start up in our minds of their own accord, and offer themselves to the understanding; and very often are roused and tumbled out of their dark cells into open daylight, by turbulent and tempestuous passions; our affections bringing ideas to our memory, which had otherwise lain quiet and unregarded.

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

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

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

9. These are defects we may observe in the memory of one man compared with another. There is another defect which we

may conceive to be in the memory of man in general—compared with some superior created intellectual beings, which in this faculty may so far excel man, that they may have *constantly* in view the whole scene of all their former actions, wherein no one of the thoughts they have ever had may slip out of their sight. The omniscience of God, who knows all things, past, present, and to come, and to whom the thoughts of men's hearts always lie open, may satisfy us of the possibility of this. For who can doubt but God may communicate to those glorious spirits, his immediate attendants, any of his perfections; in what proportions he pleases, as far as created finite beings can be capable? It is reported of that prodigy of parts, Monsieur Pascal, that till the decay of his health had impaired his memory, he forgot nothing of what he had done, read, or thought, in any part of his rational age. This is a privilege so little known to most men, that it seems almost incredible to those who, after the ordinary way, measure all others by themselves; but yet, when considered, may help us to enlarge our thoughts towards greater perfections of it, in superior ranks of spirits. For this of Monsieur Pascal was still with the narrowness that human minds are confined to here—of having great variety of ideas only by succession, not all at once. Whereas the several degrees of angels may probably have larger views; and some of them be endowed with capacities able to retain together, and constantly set before them, as in one picture, all their past knowledge at once. This, we may conceive, would be no small advantage to the knowledge of a thinking man, if all his past thoughts and reasonings could be *always* present to him. And therefore we may suppose it one of those ways, wherein the knowledge of separate spirits may exceedingly surpass ours.

10. This faculty of laying up and retaining the ideas that are brought into the mind, several other animals seem to have to a great degree, as well as man. For, to pass by other instances, birds learning of tunes, and the endeavours one may observe in them to hit the notes right, put it past doubt with me, that they have perception, and retain ideas in their memories, and use them for patterns.

Chapter XI

OF DISCERNING, AND OTHER OPERATIONS OF THE MIND

No knowledge without Discernment, 1; Wit and Judgment, 2; Clearness alone hinders Confusion, 3; Comparing, 4; Compounding, 6-7; Naming, 8; Abstraction, 9-10; Idiots and Madmen, 13; Method, 14; The true Beginning of Human Knowledge, 15; The Understanding is a Dark Room, 17.

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

2. How much the imperfection of accurately discriminating ideas one from another lies, either in the dullness or faults of the organs of sense; or want of acuteness, exercise, or attention in the understanding; or hastiness and precipitancy, natural to some tempers, I will not here examine: it suffices to take notice, that this is one of the operations that the mind may reflect on and observe in itself. It is of that consequence to its other knowledge, that so far as this faculty is in itself dull, or not rightly made use of, for the distinguishing one thing from another, so far our notions are confused, and our reason and judgment disturbed or misled. If in having our ideas in the memory ready at hand consists quickness of parts; in this, of having them unconfused, and being able nicely to distinguish one thing from another, where there is but the least difference, consists, in a great measure, the exactness of judgment, and clearness of reason, which is to be observed in one man above another. And hence perhaps may be given some reason of that common observation—that men who have a great deal of wit, and prompt memories,

have not always the clearest judgment or deepest reason. For *wit* lying most in the assemblage of ideas, and putting those together with quickness and variety, wherein can be found any resemblance or congruity, thereby to make up pleasant pictures and agreeable visions in the fancy; *judgment*, on the contrary, lies quite on the other side, in separating carefully, one from another, ideas wherein can be found the least difference, thereby to avoid being misled by similitude, and by affinity to take one thing for another. This is a way of proceeding quite contrary to metaphor and allusion; wherein for the most part lies that entertainment and pleasantry of wit, which strikes so lively on the fancy, and therefore is so acceptable to all people, because its beauty appears at first sight, and there is required no labour of thought to examine what truth or reason there is in it. The mind, without looking any further, rests satisfied with the agreeableness of the picture and the gaiety of the fancy. And it is a kind of affront to go about to examine it, by the severe rules of truth and good reason; whereby it appears that it consists in something that is not perfectly conformable to them.

3. To the well distinguishing our ideas, it chiefly contributes that they be *clear* and *determinate*. And when they are so, it will not breed any confusion or mistake about them, though the senses should (as sometimes they do) convey them from the same object differently on different occasions, and so seem to err. For, though a man in a fever should from a sugar have a bitter taste, which at another time would produce a sweet one, yet the idea of bitter in that man's mind would be as clear and distinct from the idea of sweet as if he had tasted only gall.

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.

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.

7. In this also, I suppose, brutes come far short of man. For, though they take in, and retain together, several combinations of simple ideas, as possibly the shape, smell, and voice of his master make up the complex idea a dog has of him, or rather are so many distinct marks whereby he knows him; yet I do not think they do of themselves ever compound them, and make complex ideas. And perhaps even where we think they have complex ideas, it is only one simple one that directs them in the knowledge of several things, which possibly they distinguish less by their sight than we imagine. For I have been credibly informed that a bitch will nurse, play with, and be fond of young foxes, as much as, and in place of her puppies, if you can but get them once to suck her so long that her milk may go through them.

8. When children have, by repeated sensations, got ideas fixed in their memories, they begin by degrees to learn the use of signs. And when they have got the skill to apply the organs of speech to the framing of articulate sounds, they begin to make use of words, to signify their ideas to others.

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.

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

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

14. I have subjoined the explication of these faculties of the mind to that of simple ideas, before I come to what I have to say concerning complex ones, for these following reasons:

First, Because several of these faculties being exercised at first principally about simple ideas, we might, by following nature

in its ordinary method, trace and discover them, in their rise, progress, and gradual improvements.

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

Thirdly, Because these very operations of the mind about ideas received from sensations, are themselves, when reflected on, another set of ideas, derived from that other source of our knowledge, which I call reflection; and therefore fit to be considered in this place after the simple ideas of sensation.

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

17. I pretend not to teach, but to inquire; and therefore cannot but confess here again, that external and internal sensation are the only passages I can find of knowledge to the understanding. These alone, as far as I can discover, are the windows by which light is let into this *dark room*. For, methinks, the understanding is not much unlike a closet wholly shut from light, with only some little openings left, to let in external visible resemblances, or ideas of things without.

Chapter XII

OF COMPLEX IDEAS

Made by the Mind out of Simple Ones, 1; Made Voluntarily, 2; Complex ideas are either of Modes, Substances, or Relations, 3; Modes, 4; Simple and Mixed, 5; Ideas of Substances, single or collective, 6; Ideas of Relation, 7; The abstrusest Ideas we can have are all from two Sources, 8.

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 shows man's power, and its ways of operation, to be much the same in the material and intellectual world. For the materials in both being such as he has no power over, either to make or destroy, all that man can do is either to unite them together, or to set them by one another, or wholly separate them. I shall here begin with the first of these in the consideration of complex ideas, and come to the other two in their due places. As simple ideas are observed to exist in several combinations united together, so the mind has a power to consider several of them united together as one idea; and that not only as they are united in external objects, but as itself has joined them together. Ideas thus made up of several simple ones put together, I call *complex*—such as are beauty, gratitude, a man, an army, the universe; which, though complicated of various simple ideas, or complex ideas made up of simple ones, yet are, when the mind pleases, considered each by itself, as one entire thing, and signified by one name.

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

3. *Complex ideas*, however compounded and decomposed, though their number be infinite, and the variety endless, where-with all fill and entertain the thoughts of men; yet I think they may be all reduced under these three heads:

1. MODES.

2. SUBSTANCES.

3. RELATIONS.

4. First, *Modes* I call such complex ideas which, however compounded, contain not in them the supposition of subsisting by themselves, but are considered as dependences on, or affections of substances—such as are the ideas signified by the words triangle, gratitude, murder, etc.

5. Of these *modes*, there are two sorts which deserve distinct consideration:

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

Secondly, there are others compounded of simple ideas of several kinds, put together to make one complex one—v.g. beauty, consisting of a certain composition of colour and figure, causing delight to the beholder; theft, which being the concealed change of the possession of anything, without the consent of the

proprietor, contains, as is visible, a combination of several ideas of several kinds: and these I call *mixed modes*.

6. 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.

7. Thirdly, the last sort of complex ideas is that we call *relation*, which consists in the consideration and comparing one idea with another.

Of these several kinds we shall treat in their order.

8. If we trace the progress of our minds, and with attention observe how it repeats, adds together, and unites its simple ideas received from sensation or reflection, it will lead us further than at first perhaps we should have imagined. And, I believe, we shall find, if we warily observe the originals of our notions, that *even the most abstruse ideas*, how remote soever they may seem from sense, or from any operations of our own minds, are yet only such as the understanding frames to itself, by repeating and joining together ideas that it had either from objects of sense, or from its own operations about them.

Chapter XIII

OF SIMPLE MODES; AND FIRST OF THE SIMPLE MODES OF SPACE

Simple modes of simple ideas, 1; Idea of Space and Capacity, 2-3; Immensity, 4; Figure, 5; Place, 7; Place relative to particular bodies, 8; Place relative to a present purpose, 9; Place of the Universe, 10; Extension and Body different, 11-14, 16; Extension, Body, and Substance, 17-20; A Vacuum beyond the utmost Bounds of Body, 21; Vacuum proved by Power of Annihilation, 21a; By Motion, 22; Space and Body distinct, 23-5; Space and Solidity distinct, 26; Men differ little in clear, simple ideas, 27.

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.

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.

2. I shall begin with the simple idea of *space*. I have showed above, chap. iv, 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.

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

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, etc., which are so many distinct ideas made up only of space. The power of repeating or doubling any idea we have of any distance, and adding it to the former as often as we will, without being ever able to come to any stop or stint, let us enlarge it as much as we will, is that which gives us the idea of *immensity*.

5. 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, 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*.

7. Another idea belonging to this tribe, is that we call *place*. As in simple place, we consider the relation of distance between any two bodies or points; so in our idea of place, we consider the relation of distance betwixt anything, and any two or more points, which are considered as keeping the same distance one with another, and so considered as at rest. For when we find anything at the same distance now which it was yesterday, from any two or more points, which have not since changed their distance one with another, and with which we then compared it, we say it hath kept the same place: but if it hath sensibly altered its distance with either of those points, we say it hath changed its place: though, vulgarly speaking, in the common notion of place, we do not always exactly observe the distance from these precise points, but from larger portions of sensible objects, to which we consider the thing placed to bear relation, and its distance from which we have some reason to observe.

8. Thus, a company of chess-men, standing on the same squares of the chess-board where we left them, we say they are all in the *same* place, or unmoved, though perhaps the chess-

board hath been in the meantime carried out of one room into another; because we compared them only to the parts of the chess-board, which keep the same distance one with another. The chess-board, we also say, is in the same place it was, if it remain in the same part of the cabin, though perhaps the ship which it is in sails all the while. And the ship is said to be in the same place, supposing it kept the same distance with the parts of the neighbouring land; though perhaps the earth hath turned round, and so both chess-men, and board, and ship, have every one changed place, in respect of remoter bodies, which have kept the same distance one with another. But yet the distance from certain parts of the board being that which determines the place of the chess-men; and the distance from the fixed parts of the cabin (with which we made the comparison) being that which determined the place of the chess-board; and the fixed parts of the earth that by which we determined the place of the ship—these things may be said to be in the same place in those respects: though their distance from some other things, which in this matter we did not consider, being varied, they have undoubtedly changed place in that respect; and we ourselves shall think so, when we have occasion to compare them with those other.

9. Men consider and determine place by reference to those adjacent things which best served to their present purpose, without considering other things which, to another purpose, would better determine the place of the same thing. Thus in the chess-board, the use of the designation of the place of each chess-man being determined only within that chequered piece of wood, it would cross that purpose to measure it by anything else; but when these very chess-men are put up in a bag, if any one should ask where the black king is, it would be proper to determine the place by the part of the room it was in, and not by the chess-board, there being another use of designing the place it is now in, than when in play it was on the chess-board, and so must be determined by other bodies.

10. That our idea of place is nothing else but such a relative position of any thing as I have before mentioned, I think is plain, and will be easily admitted, when we consider that we can have no idea of the place of the universe, though we can of all the parts of it; because beyond that we have not the idea of any fixed, distinct, particular beings, in reference to which we can imagine it to have any relation of distance; but all beyond it is

one uniform space or expansion, wherein the mind finds no variety, no marks. For to say that the world is somewhere, means no more than that it does exist; this, though a phrase borrowed from place, signifying only its existence, not location. The idea, therefore, of place we have by the same means that we get the idea of space, viz. by our sight and touch; by either of which we receive into our minds the ideas of extension or distance.

11. There are some that would persuade us, that body and extension are the same thing. I appeal to every man's own thoughts, whether the idea of space be not as distinct from that of solidity, as it is from the idea of scarlet colour? It is true, solidity cannot exist without extension, neither can scarlet colour exist without extension, but this hinders not, but that they are distinct ideas. Many ideas require others, as necessary to their existence or conception, which yet are very distinct ideas. Motion can neither be, nor be conceived, without space; and yet motion is not space, nor space motion; space can exist without it, and they are very distinct ideas; and so, I think, are those of space and solidity. Solidity is so inseparable an idea from body, that upon that depends its filling of space, its contact, impulse, and communication of motion upon impulse. Body and extension, it is evident, are two distinct ideas. For,

12. First, Extension includes no solidity, nor resistance to the motion of body, as body does.

13. Secondly, The parts of pure space are inseparable one from the other; so that the continuity cannot be separated, neither really nor mentally. For I demand of any one to remove any part of it from another, with which it is continued, even so much as in thought. To divide and separate actually is, as I think, by removing the parts one from another, to make two superficies, where before there was a continuity; and to divide mentally is, to make in the mind two superficies, where before there was a continuity, and consider them as removed one from the other; which can only be done in things considered by the mind as capable of being separated; and by separation, of acquiring new distinct superficies, which they then have not, but are capable of. But neither of these ways of separation, whether real or mental, is, as I think, compatible to pure space.

14. Thirdly, The parts of pure space are immovable, which follows from their inseparability; motion being nothing but change of distance between any two things; but this cannot be

between parts that are inseparable, which, therefore, must needs be at perpetual rest one amongst another.

Thus the determined idea of simple space distinguishes it plainly and sufficiently from body; since its parts are inseparable, immovable, and without resistance to the motion of body.

16. Those who contend that space and body are the same, bring this dilemma: either this space is something or nothing; if nothing be between two bodies, they must necessarily touch; if it be allowed to be something, 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*.

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 show me a clear distinct idea of substance.

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. 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 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 errors that will naturally follow from the promiscuous use of so doubtful a term. And if they can thus make three distinct ideas of substance, what hinders why another may not make a fourth?

19. They who first ran into the notion of *accidents*, as a sort of real beings that needed something 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 something 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 inquired 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.

20. 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 show of what use they are in deciding of questions in philosophy.

21. But to return to our idea of space. If body be not supposed infinite (which I think no one will affirm), I would ask, whether, if God placed a man at the extremity of corporeal beings, he could not stretch his hand beyond his body? If he could, then he would put his arm where there was before space without body; and if there he spread his fingers, there would still be space between them without body.

The argument is at least as good, that, where nothing hinders, a body put in motion may move on, as where there is nothing between, there two bodies must necessarily touch. For pure space between is sufficient to take away the necessity of mutual contact; but bare space in the way is not sufficient to stop motion. The truth is, men must either own that they think body infinite, or else affirm that space is not body. For I would fain meet with that thinking man that can in his thoughts set any bounds to space, more than he can to duration; or by thinking hope to arrive at the end of either. And therefore, if his idea of eternity be infinite, so is his idea of immensity; they are both finite or infinite alike.

21a. Further, those who assert the impossibility of space existing without matter, must not only make body infinite, but must also deny a power in God to annihilate any part of matter. No one, I suppose, will deny that God can put an end to all motion that is in matter, and fix all the bodies of the universe in a perfect

quiet and rest, and continue them so long as he pleases. Whoever then will allow that God can, during such a general rest, *annihilate* either this book or the body of him that reads it, must necessarily admit the possibility of a vacuum. For, it is evident that the space that was filled by the parts of the annihilated body will still remain, and be a space without body. The necessary motion of one particle of matter into the place from whence another particle of matter is removed, is but a consequence from the supposition of plenitude; which will therefore need some better proof than a supposed matter of fact, which experiment can never make out—our own clear and distinct ideas plainly satisfying us, that there is no necessary connection between space and solidity, since we can conceive the one without the other. And those who dispute for or against a vacuum, do thereby confess they have distinct *ideas* of vacuum and plenum, i.e. that they have an idea of extension void of solidity, though they deny its *existence*; or else they dispute about nothing at all.

22. I desire any one so to divide a solid body, of any dimension he pleases, as to make it possible for the solid parts to move up and down freely every way within the bounds of that superficies, if there be not left in it a void space as big as the least part into which he has divided the said solid body. And if, where the least particle of the body divided is as big as a mustard-seed, a void space equal to the bulk of a mustard-seed be requisite to make room for the free motion of the parts of the divided body within the bounds of its superficies, where the particles of matter are 100,000,000 less than a mustard-seed, there must also be a space void of solid matter as big as 100,000,000th part of a mustard-seed; for if it hold in the one it will hold in the other, and so on *in infinitum*. And let this void space be as little as it will, it destroys the hypothesis of plenitude.

23. But the question being here, Whether the idea of space or extension be the same with the idea of body? it is not necessary to prove the real existence of a vacuum, but the idea of it; which it is plain men have when they inquire and dispute whether there be a vacuum or no. For if they had not the idea of space without body, they could not make a question about its existence: and if their idea of body did not include in it something more than the bare idea of space, they could have no doubt about the plenitude of the world; and it would be as absurd to demand whether there were space without body, as whether there were space

without space, or body without body, since these were but different names of the same idea.

24. It is true, the idea of extension joins itself so inseparably with all visible, and most tangible qualities, that it suffers us to *see* no one, or *feel* very external objects, without taking in impressions of extension too. I shall argue only with those who conclude the essence of body to be extension, because they say they cannot imagine any sensible quality of any body without extension. I shall desire them to consider, that, had they examined their ideas of hunger and thirst, and several other pains, they would have found that *they* included in them no idea of extension at all, which is but an affection of body, as well as the rest, discoverable by our senses, which are scarce acute enough to look into the pure essences of things.

25. If those ideas which are constantly joined to all others, must therefore be concluded to be the essence of those things which have constantly those ideas joined to them, and are inseparable from them; then unity is without doubt the essence of everything. For there is not any object of sensation or reflection which does not carry with it the idea of one.

26. To conclude: Whatever men shall think concerning the existence of a vacuum, this is plain to me—that we have as clear an idea of space distinct from solidity, as we have of solidity distinct from motion, or motion from space. We have not any two more distinct ideas; and we can as easily conceive space without solidity, as we can conceive body or space without motion, though it be never so certain that neither body nor motion can exist without space. But whether any one will take space to be only a relation resulting from the existence of other beings at a distance; or whether they will think the words of the most knowing King Solomon, 'The heaven, and the heaven of heavens, cannot contain thee,' or those more emphatical ones of the inspired philosopher St. Paul, 'In him we live, move, and have our being,' are to be understood in a literal sense, I leave every one to consider: only our idea of space is, I think, such as I have mentioned, and distinct from that of body. For, whether we consider, in matter itself, the distance of its coherent solid parts, and call it, in respect of those solid parts, extension; or whether, considering it as lying between the extremities of any body in its several dimensions, we call it length, breadth, and thickness; or else, considering it as lying between any two bodies or positive beings, without any consideration whether there be any matter

or not between, we call it distance; however named or considered, it is always the same uniform simple idea of space, taken from objects about which our senses have been conversant; whereof, having settled ideas in our minds, we can revive, repeat, and add them one to another as often as we will, and consider the space or distance so imagined, either as filled with solid parts, so that another body cannot come there without displacing and thrusting out the body that was there before; or else as void of solidity, so that a body of equal dimensions to that empty or pure space may be placed in it, without the removing or expulsion of anything that was there. But, to avoid confusion in discourses concerning this matter, it were possibly to be wished that the name *extension* were applied only to matter, or the distance of the extremities of particular bodies; and the term *expansion* to space in general, with or without solid matter possessing it, so as to say space is expanded, and body extended. But in this every one has his liberty; I propose it only for the more clear and distinct way of speaking.

27. The knowing precisely what our words stand for, would, I imagine, in this as well as a great many other cases, quickly end the dispute. For I am apt to think that men, when they come to examine them, find their simple ideas all generally to agree, though in discourse with one another they perhaps confound one another with different names. I imagine that men who abstract their thoughts, and do well examine the ideas of their own minds, cannot much differ in thinking, however they may perplex themselves with words, according to the way of speaking of the several schools or sects they have been bred up in; though amongst unthinking men, who examine not scrupulously and carefully their own ideas, and strip them not from the marks men use for them, but confound them with words, there must be endless dispute, wrangling, and jargon; especially if they be learned, bookish men, devoted to some sect, and accustomed to the language of it, and have learned to talk after others. But if it should happen that any two thinking men should really have different ideas, I do not see how they could discourse or argue one with another. Here I must not be mistaken, to think that every floating imagination in men's brains is presently of that sort of ideas I speak of. It is not easy for the mind to put off those confused notions and prejudices it has imbibed from custom, inadvertency, and common conversation. It requires pains and assiduity to examine its ideas, till it resolves them into those clear and distinct simple

ones, out of which they are compounded; and to see which, amongst its simple ones, have or have not a *necessary* connection and dependence one upon another. Till a man doth this in the primary and original notions of things, he builds upon floating and uncertain principles, and will often find himself at a loss.

Chapter XIV

OF DURATION AND ITS SIMPLE MODES

Duration is fleeting Extension, 1; Its Idea from Reflection on the Train of our Ideas, 2-4; Duration applicable to things whilst we sleep, 5; Idea of Succession not from Motion, 6; Very slow or swift motions unperceived, 7-8; The Train of Ideas has a certain degree of quickness, 9; Real succession without sense of it in swift and slow motions, 10-11; Train of Ideas Measure of other Successions, 12; The Mind cannot fix long on one invariable Idea, 13-14; Extent of our power over the Succession of Ideas, 15; Ideas, however made, include no sense of motion, 16; Time is Duration set out by Measures, 17; A good Measure requires equal Periods, 18; Revolutions of Sun and Moon properest Measures, 19; Not by their Motion, but Periodical Appearances, 20; No two Parts of Duration can be certainly known equal, 21; Time not the Measure of Motion, 22-5; Eternity, 27-9, 31; Origin of our ideas of Duration and its measures, 32.

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*, etc., *time* and *eternity*.

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 something 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.

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*.

4. When that succession of ideas ceases, our perception of duration ceases with it; which every one clearly experiments in himself, whilst he sleeps soundly, whether an hour or a day, a month or a year; of which duration of things, while he sleeps or thinks not, he has no perception at all, but it is quite lost to him; and the moment wherein he leaves off to think, till the moment he begins to think again, seems to him to have no distance. And so I doubt not it would be to a waking man, if it were possible for him to keep *only one* idea in his mind, without variation and the succession of others.

5. A man having, from reflecting on the succession and number of his own thoughts, got the notion or idea of duration, he can apply that notion to things which exist while he does not think; as he that has got the idea of extension from bodies by his sight or touch, can apply it to distances, where no body is seen or felt. And therefore, though a man has no perception of the length of duration which passed whilst he slept or thought not; yet, having observed the revolution of days and nights, and found the length of their duration to be in appearance regular and constant, he can, upon the supposition that that revolution has proceeded after the same manner whilst he was asleep or thought not, as it used to do at other times, he can, I say, imagine and make allowance for the length of duration whilst he slept.

6. Thus by reflecting on the appearing of various ideas one after another in our understandings, we get the notion of succession; which, if any one should think we did rather get from our observation of motion by our senses, he will perhaps be of my mind when he considers, that even motion produces in his mind an idea of succession no otherwise than as it produces there a continued train of distinguishable ideas. For a man looking upon a body really moving, perceives yet not motion at all unless that motion produces a constant train of successive ideas: v.g. a

man becalmed at sea, out of sight of land, in a fair day, may look on the sun, or sea, or ship, a whole hour together, and perceive no motion at all in either; though it be certain that two, and perhaps all of them, have moved during that time a great way. But as soon as he perceives either of them to have changed distance with some other body, as soon as this motion produces any new idea in him, then he perceives that there has been motion. But wherever a man is, with all things at rest about him, without perceiving any motion at all, if during this hour of quiet he has been thinking, he will perceive the various ideas of his own thoughts in his own mind, appearing one after another, and thereby observe and find succession where he could observe no motion.

7. And this, I think, is the reason why motions very slow, though they are constant, are not perceived by us; because in their remove from one sensible part towards another, their change of distance is so slow, that it causes no new ideas in us, but a good while one after another.

8. On the contrary, things that move so swift as not to affect the senses distinctly with several distinguishable distances of their motion, and so cause not any train of ideas in the mind, are not also perceived. For anything that moves round about in a circle, in less time than our ideas are wont to succeed one another in our minds, is not perceived to move; but seems to be a perfect entire circle of that matter or colour, and not a part of a circle in motion.

9. Hence I leave it to others to judge, whether it be not probable that our ideas do, whilst we are awake, succeed one another in our minds at certain distances; not much unlike the images in the inside of a lantern, turned round by the heat of a candle. This appearance of theirs in train, though perhaps it may be sometimes faster and sometimes slower, yet, I guess, varies not very much in a waking man: there seem to be certain bounds to the quickness and slowness of the succession of those ideas one to another in our minds, beyond which they can neither delay nor hasten.

10. The reason I have for this odd conjecture is, from observing that, in the impressions made upon any of our senses, we can but to a certain degree perceive any succession; which, if exceeding quick, the sense of succession is lost, even in cases where it is evident that there is a real succession. Let a cannon-bullet pass through a room, and in its way take with it any limb or

fleshy parts of a man, it is as clear as any demonstration can be, that it must strike successively the two sides of the room: it is also evident, that it must touch one part of the flesh first, and another after, and so in succession: and yet, I believe, nobody who ever felt the pain of such a shot, or heard the blow against the two distant walls, could perceive any succession either in the pain or sound of so swift a stroke. Such a part of duration as this, wherein we perceive no succession, is that which we call an *instant*, and is that which takes up the time of only one idea in our minds, without the succession of another; wherein, therefore, we perceive no succession at all.

11. This also happens where the motion is so slow as not to supply a constant train of fresh ideas to the senses, as fast as the mind is capable of receiving new ones into it; and so other ideas of our own thoughts having room to come into our minds between those offered to our senses by the moving body, there the sense of motion is lost; and the body, though it really moves, yet, not changing perceivable distance with some other bodies as fast as the ideas of our own minds do naturally follow one another in train, the thing seems to stand still; as is evident in the hands of clocks, and shadows of sun-dials, and other constant but slow motions, where, though, after certain intervals, we perceive, by the change of distance, that it hath moved, yet the motion itself we perceive not.

12. So that to me it seems, that the constant and regular succession of *ideas* in a waking man, is, as it were, the measure and standard of all other successions.

13. If it be so, that the ideas of our minds, whilst we have any there, do constantly change and shift in a continual succession, it would be impossible, may any one say, for a man to think long of any one thing. By which, if it be meant that a man may have one self-same single idea a long time alone in his mind, without any variation at all, I think, in matter of fact, it is not possible. For I would have any one try, whether he can keep one unvaried single idea in his mind, without any other, for any considerable time together.

14. For trial, let him take any figure, any degree of light or whiteness, or what other he pleases, and he will; I suppose, find it difficult to keep all other ideas out of his mind; but that some, either of another kind, or various considerations of that idea (each of which considerations is a new idea), will constantly succeed one another in his thoughts, let him be as wary as he can.

15. All that is in a man's power in this case, I think, is only to mind and observe what the ideas are that take their turns in his understanding; or else to direct the sort, and call in such as he hath a desire or use of: but hinder the constant succession of fresh ones I think he cannot, though he may commonly choose whether he will heedfully observe and consider them.

16. Whether these several ideas in a man's mind be made by certain motions, I will not here dispute; but this I am sure, that they include no idea of motion in their appearance; and if a man had not the idea of motion otherwise, I think he would have none at all. It is not then *motion*, but the constant train of *ideas* in our minds whilst we are waking, that furnishes us with the idea of duration.

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. 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*.

18. In the measuring of extension, there is nothing more required but the application of the standard or measure we make use of to the thing of whose extension we would be informed. But in the measuring of duration this cannot be done, because no two different parts of succession can be put together to measure one another. And nothing being a measure of duration but duration, as nothing is of extension but extension, we cannot keep by us any standing, unvarying measure of duration, which consists in a constant fleeting succession, as we can of certain lengths of extension, as inches, feet, yards, etc., marked out in permanent parcels of matter. Nothing then could serve well for a convenient measure of time, but what has divided the whole length of its duration into apparently equal portions, by constantly repeated periods.

19. The diurnal and annual revolutions of the sun, as having been, from the beginning of nature, constant, regular, and universally observable by all mankind, and supposed equal to one another, have been with reason made use of for the measure of duration. But the distinction of days and years having depended on the motion of the sun, it has brought this mistake with it, that it has been thought that motion and duration were the measure one of another. Any constant periodical appearance, or altera-

tion of ideas, in seemingly equidistant spaces of duration, if constant and universally observable, would have as well distinguished the intervals of time, as those that have been made use of. For, supposing the sun, which some have taken to be a fire, had been lighted up at the same distance of time that it now every day comes about to the same meridian, and then gone out again about twelve hours after, and that in the space of an annual revolution it had sensibly increased in brightness and heat, and so decreased again—would not such regular appearances serve to measure out the distances of duration to all that could observe it, as well without as with motion? For if the appearances were constant, universally observable, in equidistant periods, they would serve mankind for measure of time as well were the motion away.

20. For the freezing of water, or the blowing of a plant, returning at equidistant periods in all parts of the earth, would as well serve men to reckon their years by, as the motions of the sun: and in effect we see, that some people in America counted their years by the coming of certain birds amongst them at their certain seasons, and leaving them at others. For a fit of an ague; the sense of hunger or thirst; a smell or a taste; or any other idea returning constantly at equidistant periods, and making itself universally be taken notice of, would not fail to measure out the course of succession, and distinguish the distances of time.

21. But perhaps it will be said: Without a regular motion, such as of the sun, or some other, how could it ever be known that such periods were equal? To which I answer: The equality of any other returning appearances might be known by the same way that that of days was known, or presumed to be so at first; which was only by judging of them by the train of ideas which had passed in men's minds in the intervals; by which train of ideas discovering inequality in the natural days, but none in the artificial days, the artificial days, or *νυχθημερα*, were guessed to be equal, which was sufficient to make them serve for a measure; though exacter search has since discovered inequality in the diurnal revolutions of the sun, and we know not whether the annual also be not unequal. These yet, by their presumed and apparent equality, serve as well to reckon time by (though not to measure the parts of duration exactly) as if they could be proved to be exactly equal. We must, therefore, carefully distinguish betwixt duration itself, and the measures we make use of to judge of its length. Duration, in itself, is to be considered as going on in one constant, equal, uniform course: but none of

the measures of it which we make use of can be *known* to do so, nor can we be assured that their assigned parts or periods are equal in duration one to another; for two successive lengths of duration, however measured, can never be demonstrated to be equal. Men have, of late, made use of a pendulum, as a more steady and regular motion than that of the sun, or (to speak more truly), of the earth; yet if any one should be asked how he certainly knows that the two successive swings of a pendulum are equal, it would be very hard to satisfy him that they are infallibly so; since we cannot be sure that the cause of that motion, which is unknown to us, shall always operate equally; and we are sure that the medium in which the pendulum moves is not constantly the same: either of which varying, may alter the equality of such periods, and thereby destroy the certainty and exactness of the measure by motion, as well as any other periods of other appearances. Since then no two portions of succession can be brought together, it is impossible ever certainly to know their equality. All that we can do for a measure of time is, to take such as have continual successive appearances at seemingly equidistant periods; of which seeming equality we have no other measure but such as the train of our own ideas have lodged in our memories, with the concurrence of other probable reasons, to persuade us of their equality.

22. *One thing seems strange to me—that whilst all men manifestly measured time by the motion of the great and visible bodies of the world, time yet should be defined to be the 'measure of motion':* whereas it is obvious to every one who reflects ever so little on it, that to measure motion, space is as necessary to be considered as time. Nor indeed does motion any otherwise conduce to the measuring of duration, than as it constantly brings about the return of certain sensible ideas, in seeming equidistant periods.

23. Without some regular periodical returns, we could not measure ourselves, or signify to others, the length of any duration; though at the same time the world were as full of motion as it is now, but no part of it disposed into regular and apparently equidistant revolutions. But the different measures that may be made use of for the account of time, do not at all alter the notion of duration, which is the thing to be measured; no more than the different standards of a foot and a cubit alter the notion of extension to those who make use of those different measures.

25. The mind, having once got such a measure of time as the annual revolution of the sun, can apply that measure to duration wherein that measure itself did not exist, and with which, in the reality of its being, it had nothing to do. For should one say, that Abraham was born in the two thousand seven hundred and twelfth year of the Julian period, it is altogether as intelligible as reckoning from the beginning of the world, though there were so far back no motion of the sun, nor any motion at all.

27. If it be objected to me here, that, in this way of explaining of time, I have begged what I should not, viz. that the world is neither eternal nor infinite; I answer, that to my present purpose it is not needful, in this place, to make use of arguments to evince the world to be finite both in duration and extension. But it being at least as conceivable as the contrary, I have certainly the liberty to suppose it, as well as any one hath to suppose the contrary; and I doubt not, but that every one that will go about it, may easily conceive in his mind the beginning of motion, not of all duration, and so may come to a step and *non ultra* in his consideration of motion. So also, in his thoughts, he may set limits to body, and the extension belonging to it; but not to space, where no body is, the utmost bounds of space and duration being beyond the reach of thought, as well as the utmost bounds of number are beyond the largest comprehension of the mind; and all for the same reason, as we shall see in another place.

28. 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; 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 something 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 candle-light last night, as I can the duration of anything that does now exist.

29. All things past are equally and perfectly at rest; and to this way of consideration of them are all one, whether they were before the beginning of the world, or but yesterday: the measuring of any duration by some motion depending not at all on the *real* co-existence of that thing to that motion, or any other periods of revolution, but the having a clear *idea* of the length of some periodical known motion, or other interval of duration, in my mind, and applying that to the duration of the thing I would measure.

31. If I can but consider duration equal to one minute, before either the being or motion of any body, I can add one minute more till I come to sixty; and by the same way of adding minutes, hours, or years (i.e. such or such parts of the sun's revolutions, or any other period whereof I have the *idea*) proceed *in infinitum*, and suppose a duration exceeding as many such periods as I can reckon, let me add whilst I will, which I think is the notion we have of eternity; of whose infinity we have no other notion than we have of the infinity of number, to which we can add for ever without end.

32. 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.

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*.

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

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, etc.

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*, where nothing does *really endure or exist*; and thus we imagine to-morrow, next year, or seven years hence.

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.

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 XV

OF DURATION AND EXPANSION, CONSIDERED TOGETHER

Both capable of greater and less, 1; Expansion not bounded by Matter, 2; Nor Duration by Motion, 3; Why Men more easily admit infinite Duration than infinite Expansion, 4; Time to Duration as Place to Expansion, 5; The common measures of Time and Place, 6-7; They belong to all finite beings, 8; Homogeneous parts, 9; Parts inseparable, 10; Duration is as a Line, Expansion as a Solid, 11; Duration has never two parts together, Expansion altogether, 12.

1. **THOUGH** we have in the precedent chapters dwelt pretty long on the considerations of space and duration, yet, they being ideas of general concernment, that have something very abstruse and peculiar in their nature, the comparing them one with another may perhaps be of use for their illustration; and we may have the more clear and distinct conception of them by taking a view of them together. Distance or space, in its simple abstract conception, to avoid confusion, I call *expansion*, to distinguish it from extension, which by some is used to express this distance only as it is in the solid parts of matter, and so includes, or at least intimates, the idea of body: whereas the idea of pure distance includes no such thing. I prefer also the word expansion to space, because space is often applied to distance of fleeting successive parts, which never exist together, as well as to those which are permanent. In both these (viz. expansion and duration) the mind has this common idea of continued lengths, capable of greater or less quantities. For a man has as clear an idea of the difference of the length of an hour as of an inch and a foot.



2. The mind, having got the idea of the length of any part of expansion, let it be a span, or a pace, or what length you will, *can*, as has been said, repeat that idea, and so, adding it to the former, enlarge its idea of length, and make it equal to two spans, or two paces; and so, as often as it will, till it equals the distance of any parts of the earth one from another, and increase thus till it amounts to the distance of the sun or remotest star. It is true, we can easily in our thoughts come to the end of *solid* extension; the extremity and bounds of all body we have no difficulty to arrive at: but when the mind is there, it finds nothing to hinder its progress into this endless expansion; of that it can neither find nor conceive any end. Nor let any one say, that beyond the bounds of body, there is nothing at all; unless he will confine God within the limits of matter.

3. Just so is it in duration. The mind having got the idea of any length of duration, *can* double, multiply, and enlarge it, not only beyond its own, but beyond the existence of all corporeal beings, and all the measures of time, taken from the great bodies of all the world and their motions. But yet every one easily admits, that, though we make duration boundless, as certainly it is, we cannot yet extend it beyond all being. God, every one easily allows, fills eternity; and it is hard to find a reason why any one should doubt that he likewise fills immensity.

4. Hence I think we may learn the reason why every one familiarly and without the least hesitation speaks of and supposes Eternity, and sticks not to ascribe *infinity* to *duration*; but it is with more doubting and reserve that many admit or suppose the *infinity* of *space*. The reason whereof seems to me to be this: That duration and extension being used as names of affections belonging to other beings, we easily conceive in God infinite duration, and we cannot avoid doing so: but, not attributing to him extension, but only to matter, which is finite, we are apter to doubt of the existence of expansion without matter; of which alone we commonly suppose it an attribute. And, therefore, when men pursue their thoughts of space, they are apt to stop at the confines of body: as if space were there at an end too, and reached no further. Or if their ideas, upon consideration, carry them further, yet they term what is beyond the limits of the universe, imaginary space: as if it were nothing, because there is no body existing in it. Whereas duration, antecedent to all body, and to the motions which it is measured by, they never term imaginary: because it is never supposed void of some other

real existence. And if the names of things may at all direct our thoughts towards the original of men's ideas (as I am apt to think they may very much), one may have occasion to think by the name *duration*, that the continuation of existence, with a kind of resistance to any destructive force, and the continuation of solidity (which is apt to be confounded with, and if we will look into the minute anatomical parts of matter, is little different from, hardness) were thought to have some analogy, and gave occasion to words so near of kin as *durare* and *durum esse*. And that *durare* is applied to the idea of hardness, as well as that of existence, we see in Horace, Epod. xvi, *ferro duravit secula*. But, be that as it will, this is certain, that whoever pursues his own thoughts, will find them sometimes launch out beyond the extent of body, into the infinity of space or expansion; the idea whereof is distinct and separate from body and all other things: which may (to those who please) be a subject of further meditation.

5. Time in general is to duration as place to expansion. They are so much of those boundless oceans of eternity and immensity as is set out and distinguished from the rest, as it were by landmarks; and so are made use of to denote the position of *finite* real beings, in respect one to another, in those uniform infinite oceans of duration and space. These, rightly considered, are only ideas of determinate distances from certain known points, fixed in distinguishable sensible things, and supposed to keep the same distance one from another. From such points fixed in sensible beings we reckon, and from them we measure our portions of those infinite quantities; which, so considered, are that which we call *time* and *place*. For duration and space being in themselves uniform and boundless, the order and position of things, without such known settled points, would be lost in them; and all things would lie jumbled in an incurable confusion.

6. Time and place, taken thus for determinate distinguishable portions of those infinite abysses of space and duration, have each of them a twofold acceptance.

First, Time in general is commonly taken for so much of infinite duration as is measured by, and co-existent with, the existence and motions of the great bodies of the universe, as far as we know anything of them: and in this sense time begins and ends with the frame of this sensible world, as in these phrases, 'Before all time,' or, 'When time shall be no more.' Place likewise is taken sometimes for that portion of infinite space which is possessed by and comprehended within the material world; and

is thereby distinguished from the rest of expansion; though this may be more properly called extension than place. Within these two are confined, and by the observable parts of them are measured and determined, the particular time or duration, and the particular extension and place, of all corporeal beings.

7. Secondly, sometimes the word time is used in a larger sense, and is applied to parts of that infinite duration, not that were really distinguished and measured out by this real existence, and periodical motions of bodies, that were appointed from the beginning to be for signs and for seasons and for days and years, and are accordingly our measures of time; but such other portions too of that infinite uniform duration, which we upon any occasion do suppose equal to certain lengths of measured time; and so consider them as bounded and determined. For, if we should suppose the creation, or fall of the angels, was at the beginning of the Julian period, we should speak properly enough, and should be understood if we said, it is a longer time since the creation of angels than the creation of the world, by 7640 years: whereby we would mark out so much of that undistinguished duration as we suppose equal to, and would have admitted, 7640 annual revolutions of the sun, moving at the rate it now does. And thus likewise we sometimes speak of place, distance, or bulk, in the great *inane*, beyond the confines of the world, when we consider so much of that space as is equal to, or capable to receive, a body of any assigned dimensions, as a cubic foot; or do suppose a point in it, at such a certain distance from any part of the universe.

8. *Where* and *when* are questions belonging to all finite existences, and are by us always reckoned from some known parts of this sensible world, and from some certain epochs marked out to us by the motions observable in it. As the idea of the particular duration of anything is an idea of that portion of infinite duration which passes during the existence of that thing; so the time when the thing existed is the idea of that space of duration which passed between some known and fixed period of duration, and the being of that thing. One shows the distance of the extremities of the bulk or existence of the same thing, as that it is a foot square, or lasted two years; the other shows the distance of it in place or existence from other fixed points of space or duration, as that it was in the middle of Lincoln's Inn Fields, or the first degree of Taurus, and in the year of our Lord 1671, or the 1000th year of the Julian period.

9. There is one thing more wherein space and duration have a great conformity, and that is, though they are justly reckoned amongst our *simple ideas*, yet none of the distinct ideas we have of either is without all manner of composition: it is the very nature of both of them to consist of parts: but their parts being all of the same kind, and without the mixture of any other idea, hinder them not from having a place amongst simple ideas. Could the mind, as in number, come to so small a part of extension or duration as excluded divisibility, *that* would be, as it were, the indivisible unit or idea; by repetition of which, it would make its more enlarged ideas of extension and duration. But, since the mind is not able to frame an idea of *any* space without parts, instead thereof it makes use of the common measures, which, by familiar use in each country, have imprinted themselves on the memory, and these are the component parts of larger ideas, which the mind upon occasion makes by the addition of such known lengths which it is acquainted with. On the other side, the ordinary smallest measure we have of either is looked on as an unit in number, when the mind by division would reduce them into less fractions. Though on both sides, both in addition and division, either of space or duration, when the idea under consideration becomes very big or very small, its precise bulk becomes very obscure and confused; and it is the *number* of its repeated additions or divisions that alone remains clear and distinct; as will easily appear to any one who will let his thoughts loose in the vast expansion of space, or divisibility of matter. Every part of duration is duration too; and every part of extension is extension, both of them capable of addition or division *in infinitum*. But the least portions of either of them, whereof we have clear and distinct ideas, may perhaps be fittest to be considered by us, as the *simple ideas* of that kind out of which our complex modes of space, extension, and duration are made up, and into which they can again be distinctly resolved. Such a small part in duration may be called a *moment*, and is the time of one idea in our minds, in the train of their ordinary succession there. The other, wanting a proper name, I know not whether I may be allowed to call a *sensible point*, meaning thereby the least particle of matter or space we can discern, which is ordinarily about a minute, and to the sharpest eyes seldom less than thirty seconds of a circle, whereof the eye is the centre.

10. Expansion and duration have this further agreement, that, though they are both considered by us as having parts, yet their

parts are not separable one from another, no, not even in thought: though the parts of bodies from whence we take our measure of the one; and the parts of motion, or rather the succession of ideas in our minds, from whence we take the measure of the other, may be interrupted and separated; as the one is often by rest, and the other is by sleep, which we call rest too.

11. But there is this manifest difference between them, that the ideas of length which we have of expansion are turned every way, and so make figure, and breadth, and thickness; but duration is but as it were the length of one straight line, extended *in infinitum*, not capable of multiplicity, variation, or figure; but is one common measure of all existence whatsoever, wherein all things, whilst they exist, equally partake. For this present moment is common to all things that are now in being, and equally comprehends that part of their existence, as much as if they were all but one single being; and we may truly say, they all exist in the *same* moment of time. Whether angels and spirits have any analogy to this, in respect to expansion, is beyond my comprehension: and perhaps for us, who have understandings and comprehensions suited to our own preservation, and the ends of our own being, but not to the reality and extent of all other beings, it is near as hard to conceive any existence, or to have an idea of any real being, with a perfect negation of all manner of expansion, as it is to have the idea of any real existence with a perfect negation of all manner of duration. And therefore, what spirits have to do with space, or how they communicate in it, we know not. All that we know is, that bodies do each singly possess its proper portion of it, according to the extent of solid parts; and thereby exclude all other bodies from having any share in that particular portion of space, whilst it remains there.

12. *Duration*, and *time* which is a part of it, is the idea we have of *perishing* distance, of which no two parts exist together, but follow each other in succession; an *expansion* is the idea of *lasting* distance, all whose parts exist together, and are not capable of succession. And therefore, though we cannot conceive any duration without succession, nor can put it together in our thoughts that any being does *now* exist to-morrow, or possess at once more than the present moment of duration; yet we can conceive the eternal duration of the Almighty far different from that of man, or any other finite being. Because man comprehends not in his knowledge or power all past and future things: his thoughts are

but of yesterday, and he knows not what to-morrow will bring forth. What is once past he can never recall; and what is yet to come he cannot make present. What I say of man, I say of all finite beings; who, though they may far exceed man in knowledge and power, yet are no more than the meanest creature, in comparison with God himself. Finite or any magnitude holds not any proportion to infinite. God's infinite duration being accompanied with infinite knowledge and infinite power, he sees all things, past and to come; and they are no more distant from his knowledge, no further removed from his sight, than the present: they all lie under the same view: and there is nothing which he cannot make exist each moment he pleases. For, the existence of all things depending upon his good pleasure, all things exist every moment that he thinks fit to have them exist. To conclude: expansion and duration do mutually embrace and comprehend each other; every part of space being in every part of duration, and every part of duration in every part of expansion. Such a combination of two distinct ideas is, I suppose, scarce to be found in all that great variety we do or can conceive, and may afford matter to further speculation.

Chapter XVI

OF NUMBER

Simplest and most universal idea, 1; Modes made by addition, 2; Each Mode distinct, 3; Demonstrations most precise, 4; Names necessary to numbers, 5-6; Why children number not earlier, 7; Number measures all Measureables, 8.

1. AMONGST all the ideas we have, as there is none suggested to the mind by more ways, so there is none more simple, than that of *unity*, or one: it has no shadow of variety or composition in it: every object our senses are employed about; every idea in our understandings; every thought of our minds, brings this idea along with it. And therefore it is the most intimate to our thoughts, as well as it is, in its agreement to all other things, the most universal idea we have. For number applies itself to men, angels, actions, thoughts; everything that either doth exist, or can be imagined.

2. By repeating this idea in our minds, and adding the repetitions together, we come by the *complex* ideas of the *modes* of it.

Thus, by adding one to one, we have the complex idea of a couple; by putting twelve units together, we have the complex idea of a dozen; and so of a score, or a million, or any other number.

3. The *simple modes* of *number* are of all other the most distinct; every the least variation, which is an unit, making each combination as clearly different from that which approacheth nearest to it, as the most remote; two being as distinct from one, as two hundred; and the idea of two as distinct from the idea of three, as the magnitude of the whole earth is from that of a mite. This is not so in other simple modes, in which it is not so easy, nor perhaps possible, for us to distinguish betwixt two approaching ideas, which yet are really different. For who will undertake to find a difference between the white of this paper and that of the next degree to it; or can form distinct ideas of every the least excess in extension?

4. The clearness and distinctness of each mode of number from all others, even those that approach nearest, makes me apt to think that demonstrations in numbers, if they are not more evident and exact than in extension, yet they are more general in their use, and more determinate in their application. Because the ideas of numbers are more precise and distinguishable than in extension; where every equality and excess are not so easy to be observed or measured; because our thoughts cannot in space arrive at any determined smallness beyond which it cannot go, as an unit; and therefore the quantity or proportion of any the least excess cannot be discovered; which is clear otherwise in number, where, as has been said, 91 is as distinguishable from 90 as from 9000, though 91 be the next immediate excess to 90. But it is not so in extension, where, whatsoever is more than just a foot or an inch, is not distinguishable from the standard of a foot or an inch; and in lines which appear of an equal length, one may be longer than the other by innumerable parts: nor can any one assign an angle which shall be the next biggest to a right one.

5. By the repeating, as has been said, the idea of an unit, and joining it to another unit, we make thereof one collective idea, marked by the name two. And whosoever can do this, and proceed on, still adding one more to the last collective idea which he had of any number, and gave a name to it, may count, or have ideas, for several collections of units, distinguished one from another, as far as he hath a series of names for following

numbers, and a memory to retain that series, with their several names: all numeration being but still the adding of one unit more, and giving to the whole together, as comprehended in one idea, a new or distinct name or sign, whereby to know it from those before and after, and distinguish it from every smaller or greater multitude of units. Without such names or marks, we can hardly well make use of numbers in reckoning, especially where the combination is made up of any great multitude of units; which put together, without a name or mark to distinguish that precise collection, will hardly be kept from being a heap in confusion.

6. This I think to be the reason why some Americans I have spoken with (who were otherwise of quick and rational parts enough), could not, as we do, by any means count to 1000; nor had any distinct idea of that number, though they could reckon very well to 20. Because their language being scanty, and accommodated only to the few necessities of a needy, simple life, unacquainted either with trade or mathematics, had no words in it to stand for 1000; so that when they were discoursed with of those greater numbers, they would show the hairs of their head, to express a great multitude, which they could not number; which inability, I suppose, proceeded from their want of names.

7. Thus children, either for want of names to mark the several progressions of numbers, or not having yet the faculty to collect scattered ideas into complex ones, and range them in a regular order, and so retain them in their memories, as is necessary to reckoning, do not begin to number very early, nor proceed in it very far or steadily, till a good while after they are well furnished with good store of other ideas; and one may often observe them discourse and reason pretty well, and have very clear conceptions of several other things, before they can tell twenty. And some, through the default of their memories, who cannot retain the several combinations of numbers, with their names annexed in their distinct orders, and the dependence of so long a train of numerical progressions, and their relation one to another, are not able all their lifetime to reckon or regularly go over any moderate series of numbers. For he that will count 20, or have any idea of that number, must know that 19 went before, with the distinct name or sign of every one of them, as they stand marked in their order; for wherever this fails, a gap is made, the chain breaks, and the progress in numbering can go no further. So that to reckon right, it is required, (1) That the

mind distinguish carefully two ideas, which are different one from another only by the addition or subtraction of *one* unit: (2) That it retain in memory the names or marks of the several combinations, from an unit to that number; and that not confusedly, and at random, but in that exact order that the numbers follow one another. In either of which, if it trips, the whole business of numbering will be disturbed, and there will remain only the confused idea of multitude, but the ideas necessary to distinct numeration will not be attained to.

8. This further is observable in number, that it is that which the mind makes use of in measuring all things that by us are measurable, which principally are *expansion* and *duration*; and our idea of infinity, even when applied to those, seems to be nothing but the infinity of number. And this *endless addition* or *addibility* (if any one like the word better) of numbers, so apparent to the mind, is that, I think, which gives us the clearest and most distinct idea of inanity: of which more in the following chapter.

Chapter XVII

OF INFINITE

Attributed to Space, Duration, and Number, 1; The Idea of Finite easily got, 2; How we come by the Idea of Infinity, 3; Our Idea of Space boundless, 4; Also of Duration, 5; Why other Ideas are not, 6; Infinity of Space not Space infinite, 7-8; Number gives clearest Idea of Infinity, 9; Contrasted with Duration and Expansion, 10; Infinity of Space, 11; Infinite Divisibility, 12; No positive Idea of Infinity, 13; Nor of Quantity, 14; The positive and negative in our Idea of infinite, 15; No positive Idea of infinite Duration, 16-17; Nor of Infinite Space, 18; Some think they have positive Idea of Eternity but not of Infinite Space, 20; Supposed positive Ideas of Infinity cause of Mistakes, 21; All these are Modes of Ideas from Sensation and Reflection, 22.

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.

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 unicity; and, I think, more figuratively to his power, wisdom, and goodness, and other attributes, which are properly inexhaustible and incomprehensible, etc.

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.

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 additions, 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 whichever 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 further additions remaining still the same, he hence takes the idea of infinite space.

4. This, I think, is the way whereby the mind gets the *idea* of infinite space. It is a quite different consideration, to examine whether the mind has the idea of such a boundless space *actually existing*; since our ideas are not always proofs of the existence of things; but yet, since this comes here in our way, I suppose I may say, that we are apt to think that space in itself is actually boundless, to which imagination the idea of space or expansion of itself naturally leads us. For, it being considered by us, either as the extension of body, or as existing by itself, without any

solid matter taking it up (for of such a void space we have not only the idea, but I have proved, as I think, from the motion of body, its necessary existence), it is impossible the mind should be ever able to find or suppose any end of it, or be stopped anywhere in its progress in this space, how far soever it extends its thoughts. Any bounds made with body, even adamantine walls, are so far from putting a stop to the mind in its further progress in space and extension that it rather facilitates and enlarges it.

5. As, by the power we find in ourselves of repeating, as often as we will, any idea of space, we get the idea of *immensity*; so, by being able to repeat the idea of any length of duration we have in our minds, with all the endless addition of number, we come by the idea of *eternity*. For we find in ourselves, we can no more come to an end of such repeated ideas than we can come to the end of number; which every one perceives he cannot. But here again it is another question, quite different from our having an *idea* of eternity, to know whether there were *any real being*, whose duration has been eternal. And as to this, I say, he that considers something now existing, must necessarily come to Something eternal.

6. If it be so, that our idea of infinity be got from the power we observe in ourselves of repeating, without end, our own ideas, it may be demanded: Why we do not attribute infinity to other ideas, as well as those of space and duration; since they may be as easily, and as often, repeated in our minds as the other: and yet nobody ever thinks of infinite sweetness, or infinite whiteness, though he can repeat the idea of sweet or white, as frequently as those of a yard or a day. To which I answer: All the ideas that are considered as having parts, and are capable of increase by the addition of any equal or less parts, afford us, by their repetition, the idea of infinity; because, with this endless repetition, there is continued an enlargement of which there can be no end. But in other ideas it is not so. For to the largest idea of extension or duration that I at present have, the addition of any the least part makes an increase; but to the perfectest idea I have of the whitest whiteness, if I add another of a less or equal whiteness (and of a whiter than I have, I cannot add the idea), it makes no increase, and enlarges not my idea at all; and therefore the different ideas of whiteness, etc., are called degrees. For those ideas that consist of parts are capable of being augmented by every addition of the least part. Those ideas that consist not of parts cannot be augmented to what proportion

men please, or be stretched beyond what they have received by their senses; but space, duration, and number, being capable of increase by repetition, leave in the mind an idea of endless room for more; nor can we conceive anywhere a stop to a further addition or progression: and so those ideas alone lead our minds towards the thought of infinity.

7. Though our idea of infinity arise from the contemplation of quantity, and the endless increase the mind is able to make in quantity, by the repeated additions of what portions thereof it pleases; yet I guess we cause great confusion in our thoughts, when we join infinity to any supposed idea of quantity the mind can be thought to have, and so discourse or reason about an infinite quantity, as an infinite space, or an infinite duration. For, as our idea of infinity being, as I think, *an endless growing idea*, but the idea of any quantity the mind has, being at that time *terminated* in that idea (for be it as great as it will, it can be no greater than it is), to join infinity to it, is to adjust a standing measure to a growing bulk; and therefore I think it is not an insignificant subtilty, if I say, that we are carefully to distinguish between the idea of the infinity of space and the idea of a space infinite. The first is nothing but a supposed endless progression of the mind, over what repeated ideas of space it pleases; but to have actually in the mind the idea of a space infinite, is to suppose the mind already passed over, and actually to have a view of all those repeated ideas of space which an endless repetition can never totally represent to it; which carries in it a plain contradiction.

8. This, perhaps, will be a little plainer, if we consider it in numbers. The infinity of numbers to the end of whose addition every one perceives there is no approach, easily appears to any one that reflects on it. But, how clear soever this idea of the infinity of number be, there is nothing yet more evident than the absurdity of the actual idea of an infinite number. Whatsoever positive ideas we have in our minds of any space, duration, or number, let them be ever so great, they are still finite; but when we suppose an inexhaustible remainder, from which we remove all bounds, and wherein we allow the mind an endless progression of thought, without ever completing the idea, there we have our idea of infinity. Let a man frame in his mind an idea of any space or number, as great as he will; it is plain the mind rests and terminates in that idea, which is contrary to the idea of infinity, which *consists in a supposed endless progression*.

9. But of all other ideas, it is number, as I have said, which I think furnishes us with the clearest and most distinct idea of infinity we are capable of. For, even in space and duration, when the mind pursues the idea of infinity, it there makes use of the ideas and repetitions of numbers, as of millions and millions of miles, or years, which are so many distinct ideas, kept best by number from running into a confused heap, wherein the mind loses itself; and when it has added together as many millions, etc., as it pleases, of known lengths of space or duration, the clearest idea it can get of infinity is the confused incomprehensible remainder of endless addible numbers, which affords no prospect of stop or boundary.

10. It will, perhaps, give us a little further light into the idea we have of infinity, and discover to us that it is *nothing but the infinity of number applied to determinate parts*, of which we have in our minds the distinct ideas, if we consider that number is not generally thought by us infinite, whereas duration and extension are apt to be so; which arises from hence, that in number we are at one end, as it were: for there being in number nothing less than an unit, we there stop, and are at an end; but in addition, or increase of number, we can set no bounds; and so it is like a line, whereof one end terminating with us, the other is extended still forwards, beyond all that we can conceive. But in space and duration it is otherwise. For in duration we consider it as if this line of number were extended both ways—to an unconceivable, undeterminate, and infinite length; which is evident to any one that will but reflect on what consideration he hath of Eternity; which, I suppose, will find to be nothing else but the turning this infinity of number both ways, *a parte ante*, and *a parte post*, as they speak. And these two being put together, are that infinite duration we call *Eternity*: which, as we turn our view either way, forwards or backwards, appears infinite, because we still turn that way the infinite end of number, i.e. the power still of adding more.

11. The same happens also in space, wherein, conceiving ourselves to be, as it were, in the centre, we do on all sides pursue those indeterminable lines of number; and reckoning any way from ourselves, a yard, mile, diameter of the earth, or *orbis magnus*, by the infinity of number, we add others to them, as often as we will. And having no more reason to set bounds to those repeated ideas than we have to set bounds to number, we have that indeterminable idea of immensity.

12. And since in any bulk of matter our thoughts can never arrive at the utmost divisibility, therefore there is an apparent infinity to us also in that, which has the infinity also of number; but with this difference—that, in the former considerations of the infinity of space and duration, we only use addition of numbers; whereas this is like the division of an unit into its fractions, wherein the mind also can proceed *in infinitum*, as well as in the former additions; it being indeed but the addition still of new numbers: though in the addition of the one, we can have no more the positive idea of a space infinitely great, than, in the division of the other, we can have the positive idea of a body infinitely little; our idea of infinity being, as I may say, a growing or fugitive idea, still in a boundless progression, that can stop nowhere.

13. Though it be hard, I think to find any one so absurd as to say he has the *positive* idea of an actual infinite number, 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 show the mistake of such a positive idea. 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.

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 something 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.

15. The idea of infinite has, I confess, something of positive in all those things we apply to it. When we would think of infinite space or duration, we at first step usually make some very large idea, as perhaps of millions of ages, or miles, which

possibly we double and multiply several times. All that we thus amass together in our thoughts is positive, and the assemblage of a great number of positive ideas of space or duration. But what still remains beyond this we have no more a positive distinct notion of than a mariner has of the depth of the sea; where, having let down a large portion of his sounding-line, he reaches no bottom. So much space as the mind takes a view of in its contemplation of greatness, is a clear picture, and positive in the understanding: but infinite is still greater. (1) Then the idea of *so much* is positive and clear. (2) The idea of *greater* is also clear; but it is but a comparative idea, the idea of *so much greater as cannot be comprehended*. (3) And this is plainly negative: not positive. For to say a man has a positive clear idea of any quantity, without knowing how great it is, is as reasonable as to say, he has the positive clear idea of the number of the sands on the sea-shore, who knows not how many there be, but only that they are more than twenty. The negation of an end in any quantity is, in other words, only to say that it is bigger; and a total negation of an end is but carrying this bigger still with you, in all the progressions your thoughts shall make in quantity; and adding this *idea of still greater* to *all* the ideas you have, or can be supposed to have, of quantity. Now, whether such an idea as that be positive, I leave any one to consider.

16. I ask those who say they have a positive idea of eternity, whether their idea of duration includes in it succession, or not. If it does not, they ought to show the difference of their notion of duration, when applied to an eternal Being, and to a finite; since, perhaps, there may be others as well as I, who will own to them their weakness of understanding in this point, and acknowledge that the notion they have of duration forces them to conceive, that whatever has duration, is of a longer continuance to-day than it was yesterday. If, to avoid succession in external existence, they return to the *punctum stans* of the schools, I suppose they will thereby very little mend the matter, or help us to a more clear and positive idea of infinite duration; there being nothing more inconceivable to me than duration without succession. Besides, that *punctum stans*, if it signify anything, being not *quantum*, finite or infinite cannot belong to it. But, if our weak apprehensions cannot separate succession from any duration whatsoever, our idea of eternity can be nothing but of infinite succession of moments of duration wherein anything does exist; and whether any one has, or can have, a positive idea

of an actual infinite number, I leave him to consider, till his infinite number be so great that he himself can add no more to it.

17. I think it unavoidable for every considering, rational creature, that will but examine his own or any other existence, to have the notion of an eternal, wise Being, who had no beginning: and such an idea of infinite duration I am sure I have. But this negation of a beginning, being but the negation of a positive thing, scarce gives me a positive idea of infinity; which, whenever I endeavour to extend my thoughts to, I confess myself at a loss, and I find I cannot attain any clear comprehension of it.

18. He that thinks he has a positive idea of infinite space, will, when he considers it, find that he can no more have a positive idea of the greatest, than he has of the least space. For in this latter, which seems the easier of the two, and more within our comprehension, we are capable only of a comparative idea of smallness, which will always be less than any one whereof we have the positive idea. All our positive ideas of any quantity, whether great or little, have always bounds, though our comparative idea, whereby we can always add to the one, and take from the other, hath no bounds. For that which remains, either great or little, not being comprehended in that positive idea which we have, lies in obscurity; and we have no other idea of it, but of the power of enlarging the one and diminishing the other, without ceasing. A pestle and mortar will as soon bring any particle of matter to indivisibility, as the acutest thought of a mathematician; and a surveyor may as soon with his chain measure out infinite space, as a philosopher by the quickest flight of mind reach it, or by thinking comprehend it; which is to have a positive idea of it. He that thinks on a cube of an inch diameter, has a clear and positive idea of it in his mind, and so can frame one of $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{8}$, and so on, till he has the idea in his thoughts of something very little; but yet reaches not the idea of that incomprehensible littleness which division can produce.

20. There are some I have met that put so much difference between infinite duration and infinite space, that they persuade themselves that they have a positive idea of eternity, but that they have not, nor can have, any idea of infinite space. The reason of which mistake I suppose to be this, that finding, by a due contemplation of causes and effects, that it is necessary to admit some Eternal Being, and so to consider the real existence

of that Being as taken up and commensurate to their idea of eternity; but, on the other side, not finding it necessary, but, on the contrary, apparently absurd, that body should be infinite, they forwardly conclude that they can have no idea of infinite space, because they can have no idea of infinite matter. Which consequence, I conceive, is very ill collected, because the existence of matter is no ways necessary to the existence of space, no more than the existence of motion, or the sun, is necessary to duration, though duration uses to be measure by it. And I doubt not but that a man may have the idea of 10,000 miles square, without any body so big, as well as the idea of 10,000 years, without any body so old. It seems as easy to me to have the idea of space empty of body, as to think of the capacity of a bushel without corn, or the hollow of a nutshell without a kernel in it; it being no more necessary that there should be existing a solid body, infinitely extended, because we have an idea of the infinity of space, than it is necessary that the world should be eternal, because we have an idea of infinite duration.

21. But yet if after all this, there be men who persuade themselves that they have clear positive comprehensive ideas of infinity, it is fit they enjoy their privilege: and I should be very glad (with some others that I know, who acknowledge they have none such) to be better informed by their communication. For I have been hitherto apt to think that the great and inextricable difficulties which perpetually involve all discourses concerning infinity, whether of space, duration, or divisibility, have been the certain marks of a defect in our ideas of infinity, and the disproportion the nature thereof has to the comprehension of our narrow capacities. For, whilst men talk and dispute of infinite space or duration, as if they had as complete and positive ideas of them as they have of the names they use for them, or as they have of a yard, or an hour, or any other determinate quantity; it is no wonder if the incomprehensible nature of the thing they discourse of, or reason about, leads them into perplexities and contradictions, and their minds be overlaid by an object too large and mighty to be surveyed and managed by them.

22. If I have dwelt pretty long on the consideration of duration, space, and number, and what arises from the contemplation of them—Infinity, it is possibly no more than the matter requires; there being few simple ideas whose *modes* give more exercise to the thoughts of men than those do. I pretend not to treat of them in their full latitude. It suffices to my design to show how

the mind receives them, such as they are, from sensation and reflection; and how even the idea we have of infinity, how remote soever it may seem to be from any object of sense, or operation of our mind, has, nevertheless, as all our other ideas, its original there. Some mathematicians perhaps, of advanced speculations, may have other ways to introduce into their minds ideas of infinity. But this hinders not but that they themselves, as well as all other men, got the first ideas which they had of infinity from sensation and reflection, in the method we have here set down.

Chapter XVIII

OF OTHER SIMPLE MODES

Other simple Modes of simple Ideas of sensation, 1; Of Motion, 2; Of Sounds, 3; Of Colours, 4; Of Tastes, 5; Nameless Modes, 6, 7.

1. THOUGH I have, in the foregoing chapters, shown how, from simple ideas taken in by sensation, the mind comes to extend itself even to infinity; which, however it may of all others seem most remote from any sensible perception, yet at last hath nothing in it but what is made out of simple ideas: received into the mind by the senses, and afterwards there put together, by the faculty the mind has to repeat its own ideas—though, I say, these might be instances enough of simple modes of the simple ideas of sensation, and suffice to show how the mind comes by them, yet I shall, for method's sake, though briefly, give an account of some few more, and then proceed to more complex ideas.

2. To slide, roll, tumble, walk, creep, run, dance, leap, skip, and abundance of others that might be named, are words which are no sooner heard but every one who understands English has presently in his mind distinct ideas, which are all but the different modifications of motion. Modes of motion answer those of extension; swift and slow are two different ideas of motion, the measures whereof are made of the distances of time and space put together; so they are complex ideas, comprehending time and space with motion.

3. The like variety have we in sounds. Every articulate word is a different modification of sound; by which we see that, from

the sense of hearing, by such modifications, the mind may be furnished with distinct ideas, to almost an infinite number. Sounds are modified by diversity of notes of different length put together, which make that complex idea called a tune.

4. Those of colours are also very various: some we take notice of as the different degrees, or as they were termed shades, of the same colour. But since we very seldom make assemblages of colours, either for use or delight, but figure is taken in also, and has its part in it, as in painting, weaving, needleworks, etc.; those which are taken notice of do most commonly belong to *mixed modes*, as being made up of ideas of divers kinds, viz. figure and colour, such as beauty, rainbow, etc.

5. All compounded tastes and smells are also modes, made up of the simple ideas of those senses. But they, being such as generally we have no names for, are less taken notice of, and cannot be set down in writing; and therefore must be left without enumeration to the thoughts and experience of my reader.

6. In general it may be observed, that those simple modes which are considered but as different *degrees* of the same simple idea, though they are in themselves many of them very distinct ideas, yet have ordinarily no distinct names, nor are much taken notice of, as distinct ideas, where the difference is but very small between them. Whether men have neglected these modes, and given no names to them, as wanting measures nicely to distinguish them; or because, when they were so distinguished, that knowledge would not be of general or necessary use, I leave it to the thoughts of others. It is sufficient to my purpose to show that all our simple ideas come to our minds only by sensation and reflection; and that when the mind has them, it can variously repeat and compound them, and so make new complex ideas. But, though white, red, or sweet, etc., have not been modified, or made into complex ideas, by several combinations, so as to be named, and thereby ranked into species; yet some others of the simple ideas, viz. those of unity, duration, and motion, etc., above instanced in, as also power and thinking, have been thus modified to a great variety of complex ideas, with names belonging to them.

7. The reason whereof, I suppose, has been this: That the great concernment of men being with men one amongst another, the knowledge of men, and their actions, and the signifying of them to one another, was most necessary; and therefore they

made ideas of *actions* very nicely modified, and gave those complex ideas names, that they might the more easily record and discourse of those things they were daily conversant in, without long ambages and circumlocutions; and that the things they were continually to give and receive information about might be the easier and quicker understood. We see that there are great varieties of simple ideas, as of tastes and smells, which have no names; and of modes many more; which either not having been generally enough observed, or else not being of any great use to be taken notice of in the affairs and converse of men, they have not had names given to them, and so pass not for species. This we shall have occasion hereafter to consider more at large, when we come to speak of *words*.

Chapter XIX

OF THE MODES OF THINKING

The various modes of thinking, 1-2; Degrees of Attention, 3; Thinking probably the Action, not the Essence, of the Soul, 4.

I. 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 of thought 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 *rêverie*; when the ideas that offer themselves 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.

2. These are some few instances of those various modes of thinking, which the mind may observe in itself, and so have as distinct ideas of as it hath of white and red, a square or a circle. It suffices to my present purpose to have shown here, by some few examples, of what sort these ideas are, and how the mind comes by them.

3. But perhaps it may not be an unpardonable digression, nor wholly impertinent to our present design, if we reflect here upon the different state of the mind in thinking, which those instances of attention, reverie, and dreaming, etc., before mentioned, naturally enough suggest. That there are ideas, some or other, always present in the mind of a waking man, every one's experience convinces him; though the mind employs itself about them with several degrees of attention. Sometimes the mind fixes itself with so much earnestness on the contemplation of some objects, that it turns their ideas on all sides; at other times it barely observes the train of ideas that succeed in the understanding, without directing and pursuing any of them; and at other times it lets them pass almost quite unregarded, as faint shadows that make no impression.

4. This difference of intention and remission of the mind in thinking, with a great variety of degrees between earnest study and very near minding nothing at all, every one, I think, has experimented in himself. Trace it a little further, and you find the mind in sleep retired as it were from the senses, and out of the reach of those motions made on the organs of sense, which at other times produce very vivid and sensible ideas. That which I would conclude from hence is, that since the mind can sensibly put on, at several times, several degrees of thinking, and be sometimes, even in a waking man, so remiss, as to have thoughts dim and obscure to that degree that they are very little removed from none at all; and at last, in the dark retirements of sound sleep, loses the sight perfectly of all ideas whatsoever: since, I say,

this is evidently so in matter of fact and constant experience, I ask whether it be not probable, that thinking is the action and not the essence of the soul; since the operations of agents will easily admit of intention and remission; but the essences of things are not conceived capable of any such variation.

Chapter XX

OF MODES OF PLEASURE AND PAIN

Pleasure and Pain, simple Ideas, 1; Good and Evil, 2; Passions moved by Good and Evil, 3; Love, 4; Hatred, 5; Desire, 6; Joy, 7; Sorrow, 8; Hope, 9; Fear, 10; Despair, 11; Anger, 12; Envy, 13; What Passions all Men have, 14; Pleasure and Pain, What, 15; Removal or lessening of either, 16; Shame, 17.

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.

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.

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.

4. Thus any one reflecting upon the thought he has of the delight which any present or absent thing is apt to produce in him, has the idea we call *love*. For when a man declares in autumn when he is eating them, or in spring when there are none, that he loves grapes, it is no more but that the taste of grapes delights him: let an alteration of health or constitution destroy the delight of their taste, and he then can be said to love grapes no longer.

5. On the contrary, the thought of the pain which anything present or absent is apt to produce in us, is what we call *hatred*. Were it my business here to inquire any further than into the bare ideas of our passions, as they depend on different modifications of pleasure and pain, I should remark, that our love and hatred of inanimate insensible beings is commonly founded on that pleasure and pain which we receive from their use and application any way to our senses, though with their destruction. But hatred or love, to beings capable of happiness or misery, is often the uneasiness or delight which we find in ourselves, arising from a consideration of their very being or happiness. Thus the being and welfare of a man's children or friends, producing constant delight in him, he is said constantly to love them. But it suffices to note, that our ideas of love and hatred are but the dispositions of the mind, in respect of pleasure and pain in general, however caused in us.

6. The uneasiness a man finds in himself upon the absence of anything whose present enjoyment carries the idea of delight with it, is that we call *desire*; which is greater or less, as that uneasiness is more or less vehement.

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.

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.

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.

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

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.

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

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.

14. These two last, *envy* and *anger*, not being caused by pain and pleasure simply in themselves, but having in them some mixed considerations of ourselves and others, are not therefore to be found in all men, because those other parts, of valuing their merits, or intending revenge, is wanting in them. But all the rest, terminating purely in pain and pleasure, are, I think, to be found in all men.

15. By pleasure and pain, delight and uneasiness, I must all along be understood (as I have above intimated) to mean not only bodily pain and pleasure, but whatsoever delight or uneasiness is felt by us, whether arising from any grateful or unacceptable sensation or reflection.

16. It is further to be considered, that, in reference to the passions, the removal or lessening of a pain is considered, and operates, as a pleasure: and the loss or diminishing of a pleasure, as a pain.

17. The passions too have most of them, in most persons, operations on the body, and cause various changes in it; which not being always sensible, do not make a necessary part of the idea of each passion. For *shame*, which is an uneasiness of the mind upon the thought of having done something which is indecent, or will lessen the valued esteem which others have for us, has not always blushing accompanying it.

Chapter XXI

OF POWER

How got, 1; Active and Passive, 2; Includes Relation, 3; Clearest Idea of active Power from Spirit, 4; Will and Understanding are Powers, 5; Faculties not real, 6; Ideas of Liberty and Necessity, 7-8; Liberty supposes Understanding and Will, 9; Voluntary opposed to involuntary, not to necessary, 11; Liberty belongs not to the will, 12-15; Powers belong to Agents, 16; How the Will instead of the Man is called free, 17; Powers are relations, not agents, 19; Liberty belongs not to the Will, but to the Man, 20-3; Liberty is freedom to execute what is willed, 24, 26; Freedom, 27; Volition and Action, 28; What determines the Will, 29; Difference between Will and Desire, 30; Uneasiness determines the Will, 31; Uneasiness of Desire determines the Will, 33-5; Removal of Uneasiness first Step to Happiness, 36-7; All who allow Joys of Heaven pursue them not, 38; Desire accompanies all Uneasiness, 39; The most pressing Uneasiness naturally determines the Will, 40; All desire Happiness, 41; Happiness and Misery, Good and Evil, 42; What Good is desired, what not, 43; Greatest Good not always desired, 44; Therefore, it moves not the Will, 45-6; Suspended Prosecution of Desire makes way for Consideration, 47; Determination by Judgment no restraint to Liberty, 48-50; Necessity of pursuing true Happiness the Foundation of Liberty, 51; Power to Suspend, 52; Government of Passions right improvement of Liberty, 53; Men pursue different Happinesses, 54-5; Responsibility for ill choice, 5a; Why men choose what makes them miserable, 56-64; Wrong Judgment in considering Consequences of Actions, 66-7; In what is necessary to Happiness, 68; We can change the Agreeableness or Disagreeableness in Things, 69; Preference of Vice to Virtue a manifest wrong Judgment, 70; Recapitulation, 71-3.

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 itself, 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 had 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 anything, 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.

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.

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 something relative in them much more visibly. And sensible qualities, as colours and smells, etc., what are they but the powers of different bodies, in relation to our perception, etc.? 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.

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. 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.

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 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 agreement or disagreement that there is between any of our ideas.

6. These powers of the mind, viz. of perceiving, and of preferring, are usually called by another name. And the ordinary way of speaking is, that the understanding and will are two *faculties* of the mind; a word proper enough, if it be used, as all words should be, so as not to breed any confusion in men's thoughts, by being supposed (as I suspect it has been) to stand for some real beings in the soul that performed those actions of understanding and volition. For when we say the *will* is the commanding and superior faculty of the soul; that it is or is not free; that it determines the inferior faculties; that it follows the dictates of the understanding, etc.; though these and the like expressions, by those that carefully attend to their own ideas,

and conduct their thoughts more by the evidence of things than the sound of words, may be understood in a clear and distinct sense; yet I suspect, I say, that this way of speaking of *faculties* has misled many into a confused notion of so many distinct agents in us, which had their several provinces and authorities, and did command, obey, and perform several actions, as so many distinct beings; which has been no small occasion of wrangling, obscurity, and uncertainty, in questions relating to them.

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*.

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.

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 inquire 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. 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.

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 of these motions 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. 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.

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. 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.

13. Wherever thought is wholly wanting, or the power to act or forbear according to the direction of thought, there necessity takes place. Agents that have no thought, no volition at all, are in everything *necessary agents*.

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. 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.

15. Can it be denied that whatever agent has a power to think on its own actions, and to prefer their doing or omission either to other, has that faculty called will? *Will*, then, is nothing but such a power. *Liberty*, on the other side, is the power a *man* has to do or forbear doing any particular action according as its doing or forbearance has the actual preference in the mind; which is the same thing as to say, according as he himself wills it.

16. It is plain then that the will is nothing but one power or ability, and *freedom* another power or ability, so that to ask whether the will has freedom, is to ask whether one power has another power, one ability another ability; a question at first sight too grossly absurd to make a dispute, or need an answer. For, who is it that sees not that powers belong only to agents, and are attributes only of substances, and not of powers themselves? So that this way of putting the question (viz. whether the will be free) is in effect to ask whether the will be a substance, an agent, or at least to suppose it, since freedom can properly be attributed to nothing else.

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. If it be reasonable to suppose and talk of faculties as distinct beings that can act (as we do, when we say the will orders, and the will is free), it is fit that we should make a speaking faculty, and a walking faculty, and a dancing faculty, by which these actions are produced, which are but several modes of motion; as well as we make the will and understanding to be faculties by which the actions of choosing and perceiving are produced, which are but several modes of thinking. And we may as properly say that it is the singing faculty sings, and the

dancing faculty dances, as that the will chooses, or that the understanding conceives; or, as is usual, that the will directs the understanding, or the understanding obeys or obeys not the will: it being altogether as proper and intelligible to say that the power of speaking directs the power of singing, or the power of singing obeys or disobeys the power of speaking.

19. This or that actual thought may be the occasion of volition, or exercising the power a man has to choose; or the actual choice of the mind, the cause of actual thinking on this or that thing: as the actual singing of such a tune may be the cause of dancing such a dance, and the actual dancing of such a dance the occasion of singing such a tune. But in all these it is not one *power* that operates on another: but it is the mind that operates, and exerts these powers; it is the man that does the action; it is the agent that has power, or is able to do. For powers are relations, not agents: and that which has the power or not the power to operate, is that alone which is or is not free, and not the power itself. For freedom, or not freedom, can belong to nothing but what has or has not a power to act.

20. The fault has been, that faculties have been spoken of and represented as so many distinct agents. For, it being asked, what it was that digested the meat in our stomachs, it was a ready and very satisfactory answer to say, that it was the *digestive faculty*. What was it that made anything come out of the body? The *expulsive faculty*. What moved? The *motive faculty*. And so in the mind, the *intellectual faculty*, or the understanding, understood; and the *elective faculty*, or the will, willed or commanded, this is, in short, to say, that the ability to digest, digested; and the ability to move, moved; and the ability to understand, understood. For faculty, ability, and power, I think, are but different names of the same things: which ways of speaking, when put into more intelligible words, will, I think, amount to thus much—that digestion is performed by something that is able to digest, motion by something able to move, and understanding by something able to understand. And, in truth, it would be very strange if it should be otherwise; as strange as it would be for a man to be free without being able to be free.

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

First, 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?

22. But the inquisitive mind of man, willing to shift off from himself, as far as he can, all thoughts of guilt, though it be by putting himself into a worse state than that of fatal necessity, is not content with this: freedom, unless it reaches further than this, will not serve the turn: and it passes for a good plea, that a man is not free at all, if he be not as *free to will* as he is to *act what he wills*. Concerning a man's liberty, there yet, therefore, is raised this further question, *whether a man be free to will*, which I think is what is meant, when it is disputed whether the will be free. And as to that I imagine:

23. Secondly, 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 non-existence of that action; it is absolutely necessary that he will the one or the other. 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.

24. This, then, is evident, that *a man is not at liberty to will, or not to will, anything in his power that he once considers of*: 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 not: he must necessarily prefer one or the other of them; walking or not walking. 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.

26. If the ideas of liberty and volition were well fixed in our 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 there the confused signification of terms, or where the nature of the thing caused the obscurity.

27. First, then, it is carefully to be remembered, that freedom consists in our being able to act or not to act, according as we shall choose or will.

28. Secondly, we must remember, that *volition* or *willing* is an act of the mind directing its thought to the production of any action, and thereby exerting its power to produce it. To avoid multiplying of words, I would crave leave here, under the word *action*, to comprehend the forbearance too of any action proposed.

29. Thirdly, the will being nothing but a power in the mind to direct the operative faculties of a man to motion or rest, as far as they depend on such direction; to the question, What is it determines the will? the true and proper answer is, The mind. For that which determines the general power of directing, to this or that particular direction, is nothing but the agent itself exercising the power it has that particular way. If this answer satisfies not, it is plain the meaning of the question, What determines the will? is this: What moves the mind, in every particular

instance, to determine its general power of directing, to this or that particular motion or rest? And to this I answer: The motive for continuing in the same state or action, is only the present satisfaction in it; the motive to change is always some uneasiness: nothing setting us upon the change of state, or upon any new action, but some uneasiness.

30. 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. I find the will often confounded with several of the affections, especially *desire*, and this, I imagine, has been no small occasion of obscurity and mistake in this matter. 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 our own actions; terminates there; and reaches no further; and that volition is 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 shows 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. 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.

31. To return, then, to the inquiry, 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 at is 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. All pain of the body, of what sort soever, and disquiet of the mind, is *uneasiness*; and with this is always joined *desire*, equal to the pain or uneasiness felt; and is scarce distinguishable from it. For desire being nothing but an uneasiness in the want of an absent good, in reference to any pain felt, ease is that absent good; and till that ease be attained, we may call it desire; nobody feeling pain that he wishes not to be eased of, with a desire equal to that pain, and inseparable from it. Besides this desire of ease from pain, there is another of absent positive good; and here also the desire and uneasiness are equal. As much as we desire any absent good, so much are we in pain for it. But here all absent good does not, according to the greatness it has, or is acknowledged to have, cause pain equal to that greatness; as all pain causes desire equal to itself: because the absence of good is not always a pain, as the presence of pain is. And therefore absent good may be looked on and considered without desire. But so much as there is anywhere of desire, so much there is of uneasiness.

33. Good and evil, present and absent, it is true, work upon the mind. But that which immediately determines the will, from time to time, to every voluntary action, is the *uneasiness of desire*, fixed on some absent good: either negative, as indolence to one in pain; or positive, as enjoyment of pleasure. That it is this uneasiness that determines the will to the successive voluntary actions, whereof the greatest part of our lives is made up, and by which we are conducted through different courses to different ends, I shall endeavour to show, both from experience and the reason of the thing.

34. When a man is perfectly content with the state he is in—which is when he is perfectly without any uneasiness—what industry, what action, what will is there left, but to continue in it? Of this every man's observation will satisfy him. And thus we see our all-wise Maker, suitably to our constitution and frame, and knowing what it is that determines the will, has put into man the uneasiness of hunger and thirst, and other natural desires, that return at their seasons, to move and determine their wills, for the preservation of themselves, and the continuation of their species. For I think we may conclude, that, if the bare contemplation of these good ends to which we are carried by these several uneasinesses had been sufficient to determine the

will, and set us on work, we should have had none of these natural pains, and perhaps in this world little or no pain at all. 'It is better to marry than to burn,' says St. Paul, where we may see what it is that chiefly drives men into the enjoyments of a conjugal life. A little burning felt pushes us more powerfully than greater pleasures in prospect draw or allure.

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 inquiry, 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 proportionately to it, makes us uneasy in the want of it. Convince a man never 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. Let a man be ever so well persuaded of the advantages of virtue, that it is as necessary to a man who has any great aims in this world, or hopes in the next, as food to life: yet, till he hungers or thirsts after righteousness, till he *feels an uneasiness* in the want of it, his *will* will not be determined to any action in pursuit of this confessed greater good; but any other uneasiness he feels in himself shall take place, and carry his will to other actions. On the other side, let a drunkard see that his health decays, his estate wastes; discredit and diseases, and the want of all things, even of his beloved drink, attends him in the course he follows: yet the returns of uneasiness to miss his companions, the habitual thirst after his cups at the usual time, drives him to the tavern, though he has in his view the loss of health and plenty, and perhaps of the joys of another life: the least of which is no inconsiderable good, but such as he confesses is far greater than the tickling of his palate with a glass of wine, or the idle chat of a soaking club. It is not want of viewing the greater good: for he sees and acknowledges it, and, in the intervals of his drinking hours, will take resolutions to pursue the greater good; but when the uneasiness to miss his accustomed delight returns, the greater acknowledged good

loses its hold, and the present uneasiness determines the will to the accustomed action.

36. If we inquire into the reason of what experience makes so evident in fact, and examine why it is uneasiness alone operates on the will and determines it in its choice, we shall find that, we being capable but of one determination of the will to one action at once, the present uneasiness that we are under does naturally determine the will, in order to that happiness which we all aim at in all our actions. For as much as whilst we are under any uneasiness, we cannot apprehend ourselves happy, or in the way to it; pain and uneasiness being, by every one, concluded and felt to be inconsistent with happiness, spoiling the relish even of those good things which we have: a little pain serving to mar all the pleasure we rejoiced in. And, therefore, that which of course determines the choice of our will to the next action will always be the removing of pain, as long as we have any left, as the first and necessary step towards happiness.

37. Another reason why it is uneasiness alone determines the will, is this: because that alone is present, and it is against the nature of things that what is absent should operate where it is not. It may be said that absent good may, by contemplation, be brought home to the mind and made present. The idea of it indeed may be in the mind, and viewed as present there; but nothing will be in the mind as a present good, able to counterbalance the removal of any uneasiness which we are under, till it raises our desire; and the uneasiness of that has the prevalency in determining the will. Till then, the idea in the mind of whatever is good is there only, like other ideas, the object of bare unactive speculation; but operates not on the will, nor sets us on work.

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. For all absent good, by which alone, barely proposed and coming in view, the will is thought to be determined, and so to set us on action, being only possible, but not infallibly certain, it is unavoidable that the infinitely greater possible good should regularly and constantly determine the will in all the successive actions it directs; and then we should keep constantly and steadily in our

course towards heaven, without ever standing still, or directing our actions to any other end: the eternal condition of a future state infinitely outweighing the expectation of riches, or honour, or any other worldly pleasure which we can propose to ourselves, though we should grant these the more probable to be obtained: for nothing future is yet in possession, and so the expectation even of these may deceive us. If it were so that the greater good in view determines the will, so great a good, once proposed, could not but seize the will, and hold it fast to the pursuit of this infinitely greatest good, without ever letting it go again: for the will having a power over, and directing the thoughts, as well as other actions, would, if it were so, hold the contemplation of the mind fixed to that good.

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 before often neglected, to satisfy the successive uneasiness of our desires pursuing trifles. But, though the greatest allowed, even everlasting unspeakable, good, which has sometimes moved and affected the mind, does not steadfastly hold the will, yet we see any very great and prevailing uneasiness, having once laid hold on the will, let it not go; by which we may be convinced, what it is that determines the will. Thus any vehement pain of the body; the ungovernable passion of a man violently in love; or the impatient desire of revenge, keeps the will steady and intent; and the will, thus determined, never lets the understanding lay by the object, but all the thoughts of the mind and powers of the body are uninterruptedly employed that way, by the determination of the will, influenced by that topping uneasiness, as long as it lasts; whereby it seems to me evident, that the will, or power of setting us upon one action in preference to all others, is determined in us by uneasiness: and whether this be not so, I desire every one to observe in himself.

39. I have hitherto chiefly instanced in the *uneasiness* of desire, as that which determines the will: because that is the chief and most sensible; and the will seldom orders any action, nor is there any voluntary action performed, without some desire accompanying it; which I think is the reason why the will and desire are so often confounded. But yet we are not to look upon the uneasiness which makes up, or at least accompanies, most of the other passions, as wholly excluded in the case. Aversion, fear,

anger, envy, shame, etc., have each their uneasinesses too, and thereby influence the will. These passions are scarce any of them, in life and practice, simple and alone, and wholly unmixed with others; though usually, in discourse and contemplation, that carries the name which operates strongest, and appears most in the present state of the mind. Nay, there is, I think, scarce any of the passions to be found without desire joined with it.

40. We being in this world beset with sundry uneasinesses, distracted with different desires, the next inquiry naturally will be: Which of them has the precedency in determining the will to the next action? The most important and urgent uneasiness we at that time feel, is that which ordinarily determines the will, successively, in that train of voluntary actions which makes up our lives. The greatest present uneasiness is the spur to action, that is constantly most felt, and for the most part determines the will in its choice of the next action.

41. If it be further asked, what it is moves desire, I answer: Happiness, and that alone. Happiness and misery are the names of two extremes, the utmost bounds whereof we know not; it is what 'eye hath not seen, ear hath not heard, nor hath it entered into the heart of man to conceive.' But of some degrees of both we have very lively impressions, made by several instances of delight and joy on the one side, and torment and sorrow on the other; which, for shortness' sake, I shall comprehend under the names of pleasure and pain; there being pleasure and pain of the mind as well as the body: 'With him is fullness of joy, and pleasure for evermore.' Or, to speak truly, they are all of the mind; though some have their rise in the mind from thought, others in the body from certain modifications of motion.

42. *Happiness*, then, in its full extent, is the utmost pleasure we are capable of, and *misery* the utmost pain; and the lowest degree of what can be called happiness is so much ease from all pain, and so much present pleasure, as without which any one cannot be content. Now, because pleasure and pain are produced in us by the operation of certain objects, either on our minds or our bodies, and in different degrees; therefore, what has an aptness to produce pleasure in us is that we call *good*, and what is apt to produce pain in us we call *evil*; for no other reason but for its aptness to produce pleasure and pain in us, wherein consists our happiness and misery. Further, though what is apt to produce any degree of pleasure be in itself good; and what is apt to produce any degree of pain be evil; yet if we will rightly

estimate what we call good and evil, we shall find it lies much in comparison: for the cause of every less degree of pain, as well as every greater degree of pleasure, has the nature of good, and *vice versa*.

43. Though this be that which is called good and evil, and all good be the proper object of desire in general; yet all good, even seen and confessed to be so, does not necessarily move every particular man's desire; but only that part, or so much of it as is considered and taken to make a necessary part of *his* happiness. All other good, however great in reality or appearance, excites not a man's desires who looks not on it to make a part of that happiness wherewith he, in his present thoughts, can satisfy himself. Let one man place his satisfaction in sensual pleasures, another in the delight of knowledge: though each of them cannot but confess there is great pleasure in what the other pursues, yet, neither of them making the other's delight a part of *his* happiness, their desires are not moved, but each is satisfied without what the other enjoys; and so his will is not determined to the pursuit of it. But yet, as soon as the studious man's hunger and thirst make him uneasy, he, whose will was never determined to any pursuit of good cheer, poignant sauces, delicious wine, by the pleasant taste he has found in them, is, by the uneasiness of hunger and thirst, presently determined to eating and drinking, though possibly with great indifferency, what wholesome food comes in his way. And, on the other side, the epicure buckles to study, when shame, or the desire to recommend himself to his mistress, shall make him uneasy in the want of any sort of knowledge. Thus, how much soever men are in earnest and constant in pursuit of happiness, yet they may have a clear view of good, great and confessed good, without being concerned for it, or moved by it, if they think they can make up their happiness without it. Though as to pain, *that* they are always concerned for; they can feel no uneasiness without being moved.

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. If it did, we should be constantly and infinitely miserable; there being infinite degrees of happiness which are not in our possession. All uneasiness therefore being removed, a moderate portion of good serves at present to content men; and a few degrees of pleasure, in a succession of ordinary enjoyments, make up a happiness wherein they can be satisfied. If this were not so, there could be no room for those indifferent and visibly trifling actions, to which our wills are so often determined, and wherein we voluntarily waste so much of our lives.

45. The ordinary necessities of our lives fill a great part of them with the uneasinesses of hunger, thirst, heat, cold, weariness, with labour, and sleepiness, in their constant returns, etc. To which, if, besides accidental harms, we add the fantastical uneasiness (as itch after honour, power, or riches, etc.) which acquired habits, by fashion, example, and education, have settled in us, and a thousand other irregular desires, which custom has made natural to us, we shall find that a very little part of our life is so vacant from these uneasinesses, as to leave us free to the attraction of remoter absent good. We are seldom at ease, and free enough from the solicitation of our natural or adopted desires, but a constant succession of uneasinesses out of that stock which natural wants or acquired habits have heaped up, take the will in their turns; and no sooner is one action dispatched, which by such a determination of the will we are set upon, but another uneasiness is ready to set us on work. For, the removing of the pains we feel, and are at present pressed with, being the getting out of misery, and consequently the first thing to be done in order to happiness, absent good, though thought on, confessed, and appearing to be good, not making any part of this unhappiness in its absence, is justled out, to make way for the removal of those uneasiness we feel; till due and repeated contemplation has brought it nearer to our mind, given some relish of it, and raised in us some desire: which then beginning to make a part of our present uneasiness, stands upon fair terms with the rest to be satisfied, and so, according to its greatness and pressure, comes in its turn to determine the will.

46. And thus, by a due consideration, and examining any good proposed, it is in our power to raise our desires in a due proportion to the value of that good, whereby in its turn and place it may come to work upon the will, and be pursued.

47. There being in us a great many uneasinesses, always

soliciting and ready to determine the will, it is natural 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.

48. This is so far from being a restraint or diminution of freedom, that it is the very improvement and benefit of it; it is not an abridgment, it is the end and use of our liberty; and the further we are removed from such a determination, the nearer we are to misery and slavery. A perfect indifference in the mind, not determinable by its last judgment of the good or evil that is thought to attend its choice, would be so far from being an advantage and excellency of any intellectual nature, that it would be as great an imperfection, as the want of indifference to act, or not to act, till determined by the will, would be an imperfection on the other side. Were we determined by anything but the last result of our own minds, judging of the good or evil of any action, we were not free; the very end of our freedom being, that we may attain the good we choose. And therefore, every man is put under a necessity, by his constitution as an intelligent being, to be determined in willing by his own thought and judgment what is best for him to do; else he would be under the determination of some other than himself, which is

want of liberty. And to deny that a man's will, in every determination, follows his own judgment, is to say, that a man wills and acts for an end that he would not have, at the time that he wills and acts for it.

49. If it were fit for such poor finite creatures as we are to pronounce what infinite wisdom and goodness could do, I think we might say, that God himself cannot choose what is not good; *the freedom of the Almighty hinders not his being determined by what is best.*

50. But to give a right view of this mistaken part of liberty let me ask: Would any one be a changeling, because he is less determined by wise considerations than a wise man? Is it worth the name of freedom to be at liberty to play the fool, and draw shame and misery upon a man's self? If to break loose from the conduct of reason, and to want that restraint of examination and judgment which keeps us from choosing or doing the worse, be liberty, true liberty, madmen and fools are the only freemen: but yet, I think, nobody would choose to be mad for the sake of such liberty, but he that is mad already. The constant desire of happiness, and the constraint it puts upon us to act for it, nobody, I think, accounts an abridgment of liberty, or at least an abridgment of liberty to be complained of. God Almighty himself is under the necessity of being happy; and the more any intelligent being is so, the nearer is its approach to infinite perfection and happiness. That, in this state of ignorance, we short-sighted creatures might not mistake true felicity, we are endowed with a power to suspend any particular desire, and keep it from determining the will, and engaging us in action. This is standing still, where we are not sufficiently assured of the way: examination is consulting a guide.

51. As therefore the highest perfection of intellectual nature lies in a careful and constant pursuit of true and solid happiness; so the care of ourselves, that we mistake not imaginary for real happiness, is the necessary foundation of our liberty. The stronger ties we have to an unalterable pursuit of happiness in general, which is our greatest good, and which, as such, our desires always follow, the more are we free from any necessary determination of our will to any particular action, and from a necessary compliance with our desire, set upon any particular, and then appearing preferable good, till we have duly examined whether it has a tendency to, or be inconsistent with, our real happiness: and therefore, till we are as much informed upon

this inquiry as the weight of the matter and the nature of the case demands, we are, by the necessity of preferring and pursuing true happiness as our greatest good, obliged to suspend the satisfaction of our desires in particular cases.

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 lies in the way to their main end, and make a real part of that which is their greatest good. 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 showing us, that in most cases, we are able to suspend the present satisfaction of any desire.

53. The forbearance of a too hasty compliance with our desires, the moderation and restraint of our passions, so that our understandings may be free to examine, and reason unbiased give its judgment, being that whereon a right direction of our conduct to true happiness depends; it is in this we should employ our chief care and endeavours. In this we should take pains to suit the relish of our minds to the true intrinsic good or ill that is in things; and not permit an allowed or supposed possible great and

weighty good to slip out of our thoughts, without leaving any relish, any desire of itself there, till, by a due consideration of its true worth, we have formed appetites in our minds suitable to it, and made ourselves uneasy in the want of it, or in the fear of losing it. And how much this is in every one's power, by making resolutions to himself, such as he may keep, is easy for every one to try. Nor let any one say, he cannot govern his passions, nor hinder them from breaking out, and carrying him into action; for what he can do before a prince or a great man, he can do alone, or in the presence of God, if he will.

54. From what has been said, it is easy to give an account how it comes to pass, that, though all men desire happiness, yet their wills carry them so contrarily; and consequently some of them to what is evil. And to this I say, that the various and contrary choices that men make in the world do not argue that they do not all pursue good; but that the same thing is not good to every man alike.

55. The mind has a different relish, as well as the palate; and you will as fruitlessly endeavour to delight all men with riches or glory (which yet some men place their happiness in) as you would to satisfy all men's hunger with cheese or lobsters; which, though very agreeable and delicious fare to some, are to others extremely nauseous and offensive. Hence it was, I think, that the philosophers of old did in vain inquire, whether *summum bonum* consisted in riches, or bodily delights, or virtue, or contemplation: and they might have as reasonably disputed, whether the best relish were to be found in apples, plums, or nuts, and have divided themselves into sects upon it. For, as pleasant tastes depend not on the things themselves, but on their agreeableness to this or that particular palate, wherein there is great variety; so the greatest happiness consists in the having those things which produce the greatest pleasure, and in the absence of those which cause any disturbance, any pain. Now these, to different men, are very different things. Men may choose different things, and yet all choose right; supposing them only like a company of poor insects; whereof some are bees, delighted with flowers and their sweetness; others beetles, delighted with other kinds of viands, which having enjoyed for a season, they would cease to be, and exist no more for ever.

55a. These things, duly weighed, will give us, as I think, a clear view into the state of human liberty. Liberty, it is plain, consists in a power to do, or not to do; to do, or forbear doing,

as we will. This cannot be denied. But this seeming to comprehend only the actions of a man consecutive to volition, it is further inquired, whether he be at liberty to will or no. And to this it has been answered, that, in most cases, a man is not at liberty to forbear the act of volition: he must exert an act of his will, whereby the action proposed is made to exist or not to exist. But yet there is a case wherein a man is at liberty in respect of willing; and that is the choosing of a *remote* good as an end to be pursued. Here a man may *suspend* the act of his choice from being determined for or against the thing proposed, till he has examined whether it be really of a nature, in itself and consequences, to make him happy or not. If the neglect or abuse of the liberty he had, to examine that would really and truly make for his happiness, misleads him, the miscarriages that follow on it must be imputed to his own election. *He had a power to suspend his determination*; it was given him, that he might examine and take care of his own happiness, and look that he were not deceived. And he could never judge that it was better to be deceived than not, in a matter of so great and near concernment.

56. What has been said may also discover to us the reason why men in this world prefer different things, and pursue happiness by contrary courses. But yet, since men are always constant and in earnest in matters of happiness and misery, the question still remains, how men come often to prefer the worse to the better; and to choose that, which, by their own confession, has made them miserable.

57. To account for the various and contrary ways men take, though all aim at being happy, we must consider whence the *various uneasinesses* that determine the will, in the preference of each voluntary action, have their rise:

(1) Some of them come from causes not in our power; such as are often the pains of the body from want, disease, or outward injuries, as the rack, etc.; which, when present and violent, operate for the most part forcibly on the will, and turn the courses of men's lives from virtue, piety, and religion, and what before they judged to lead to happiness; every one not endeavouring, or, through disuse, not being able, by the contemplation of remote and future good, to raise in himself desires of them strong enough to counterbalance the uneasiness he feels in those bodily torments, and to keep his will steady in the choice of those actions which lead to future happiness.

(2) Other uneasinesses arise from our desires of absent good; which desires always bear proportion to, and depend on, the judgment we make, and the relish we have of any absent good; in both which we are apt to be variously misled, and that by our own fault.

58. In the first place, I shall consider the wrong judgments men make of *future* good and evil, whereby their desires are misled. For, as to *present* happiness and misery, when that alone comes into consideration, and the consequences are quite removed, a man never chooses amiss: he knows what best pleases him, and that he actually prefers. Things in their present enjoyment are what they seem: the apparent and real good are, in this case, always the same. For, the pain or pleasure being just so great and no greater than it is felt, the present good or evil is really so much as it appears. And therefore were every action of ours concluded *within itself*, and drew no consequences after it, we should undoubtedly never err in our choice of good: we should always infallibly prefer the best. Were the pains of honest industry, and of starving with hunger and cold set together before us, nobody would be in doubt which to choose: were the satisfaction of a lust and the joys of heaven offered at once to any one's present possession, he would not balance, or err in the determination of his choice.

59. But since our voluntary actions carry not all the happiness and misery that depend on them along with them in their present performance, but are the precedent causes of good and evil, which they draw after them, and bring upon us, when they themselves are past and cease to be; our desires look beyond our present enjoyments, and carry the mind out to *absent good*, according to the necessity which we think there is of it, to the making or increase of our happiness. It is our opinion of such a necessity that gives it its attraction: without that, we are not moved by absent good.

60. Their aptness to conclude that they can be happy without it, is one great occasion that men often are not raised to the desire of the greatest *absent* good. For, whilst such thoughts possess them, the joys of a future state move them not; they have little concern or uneasiness about them; and the will, free from the determination of such desires, is left to the pursuit of nearer satisfactions, and to the removal of those uneasinesses which it then feels, in its want of and longings after them.

61. To account more particularly for the misery that men often

bring on themselves, notwithstanding that they do all in earnest pursue happiness, we must consider how things come to be represented to our desires under deceitful appearances. We must remember that things are judged good or bad in a double sense:

First, *That which is properly good or bad, is nothing but barely pleasure or pain.*

Secondly, But because not only present pleasure and pain, but that also which is apt by its efficacy or consequences to bring it upon us at a distance, is a proper object of our desires, and apt to move a creature that has foresight; therefore *things also that draw after them pleasure and pain, are considered as good and evil.*

62. The wrong judgment that misleads us, and makes the will often fasten on the worse side, lies in misreporting upon the various comparisons of these. I shall not here speak of that mistake which is the consequence of *invincible* error, which scarce deserves the name of wrong judgment; but of that wrong judgment which every man himself must confess to be so.

63. Therefore, as to present pleasure and pain, the mind, as has been said, never mistakes that which is really good or evil; that which is the greater pleasure, or the greater pain, is really just as it appears. But, though present pleasure and pain show their difference and degrees so plainly as not to leave room to mistake; yet, *when we compare present pleasure or pain with future* (which is usually the case in most important determinations of the will), we often make wrong judgments of them; taking our measures of them in different positions of distance. Objects near our view are apt to be thought greater than those of a larger size that are more remote. And so it is with pleasures and pains: the present is apt to carry it; and those at a distance have the disadvantage in the comparison. Thus most men, like spend-thrift heirs, are apt to judge a little in hand better than a great deal to come. But that this is a wrong judgment every one must allow, let his pleasure consist in whatever it will: since that which is future will certainly come to be present; and then, having the same advantage of nearness, will show itself in its full dimensions, and discover his wilful mistake who judged of it by unequal measures.

64. The cause of our judging amiss, when we compare our present pleasure or pain with future, seems to me to be *the weak and narrow constitution of our minds.* We cannot well enjoy

two pleasures at once; much less any pleasure almost, whilst pain possesses us. A little bitter mingled in our cup, leaves no relish of the sweet. Hence it comes that, at any rate, we desire to be rid of the present evil, which we are apt to think nothing absent can equal; because, under the present pain, we find not ourselves capable of any the least degree of happiness. And because the abstinence from a present pleasure that offers itself is a pain, nay, oftentimes a very great one, the desire being inflamed by a near and tempting object, it is no wonder that that operates after the same manner pain does, and lessons in our thoughts what is future; and so forces us, as it were blindfold, into its embraces.

66. As to *things good or bad in their consequences*, and by the aptness that is in them to procure us good or evil in the future, we judge amiss several ways.

(1) When we judge that so much evil does not really depend on them as in truth there does.

(2) When we judge that, though the consequence be of that moment, yet it is not of that certainty, but that it may otherwise fall out, or else by some means be avoided; as by industry, address, change, repentance, etc.

That it is a very wrong and irrational way of proceeding, to venture a greater good for a less, upon uncertain guesses, I think every one must confess, especially if he considers the usual cause of this wrong judgment, whereof these following are some:

67. (i) *Ignorance*: He that judges without informing himself to the utmost that he is capable, cannot acquit himself of judging amiss.

(ii) *Inadvertency*: When a man overlooks even that which he does know. This is an affected and present ignorance, which misleads our judgments as much as the other. Judging is, as it were, balancing an account, and determining on which side the odds lie. If therefore either side be huddled up in haste, and several of the sums that should have gone into the reckoning be overlooked and left out, this precipitancy causes as wrong a judgment as if it were a perfect ignorance. That which most commonly causes this, is the prevalency of some present pleasure or pain, heightened by our feeble passionate nature, most strongly wrought on by what is present. To check this precipitancy, our understanding and reason were given us, if we will make a right use of them, to search and see, and then judge thereupon.

68. When a man misses his great end, happiness, he will acknowledge he judged not right. That which contributes to this mistake is the real or supposed unpleasantness of the actions which are the way to this end; it seeming so preposterous a thing to men, to make themselves unhappy in order to happiness, that they do not easily bring themselves to it.

69. The last inquiry, therefore, concerning this matter is, whether it be in a man's power to change the pleasantness and unpleasantness that accompanies any sort of action. And as to that, it is plain, in many cases he can. Men may and should correct their palates, and give relish to what either has, or they suppose has, none. The relish of the mind is as various as that of the body, and like that too may be altered; and it is a mistake to think that men cannot change the displeasingness or indifferency that is in actions into pleasure and desire, if they will do but what is in their power. A due consideration will do it in some cases; and practice, application, and custom in most. Bread or tobacco may be neglected where they are shown to be useful to health, because of an indifferency or disrelish to them; reason and consideration at first recommends and begins their trial, and use finds or custom makes them pleasant. That this is so in virtue too, is very certain. Actions are pleasing or displeasing, either in themselves, or considered as a means to a greater and more desirable end. Trials often reconcile us to that which at a distance we looked on with aversion; and by repetitions wear us into a liking of what possibly, in the first essay, displeased us. Habits have powerful charms, and put so strong attractions of easiness and pleasure into what we accustom ourselves to, that we cannot forbear to do, or at least be easy in the omission of, actions, which habitual practice has suited, and thereby recommends to us.

70. Whatever false notions, or shameful neglect of what is in their power, may put men out of their way to happiness, and distract them, as we see, into so different courses of life, this yet is certain, that morality, established upon its true foundations, cannot but determine the choice in any one that will but consider: and he that will not be so far a rational creature as to reflect seriously upon *infinite* happiness and misery, must needs condemn himself as not making that use of his understanding he should. He that will allow exquisite and endless happiness to be but the possible consequence of a good life here, and the contrary state the possible reward of a bad one, must own himself

to judge very much amiss if he does not conclude, that a virtuous life, with the certain expectation of everlasting bliss, which may come, is to be preferred to a vicious one, with the fear of that dreadful state of misery, which it is very possible may overtake the guilty; or, at best, the terrible uncertain hope of annihilation. When infinite happiness is put into one scale, against infinite misery in the other; if the worst that comes to the pious man, if he mistakes, be the best that the wicked can attain to if he be in the right, who can without madness run the venture? If the good man be in the right, he is eternally happy; if he mistakes, he is not miserable, he feels nothing. On the other side, if the wicked man be in the right, he is not happy; if he mistakes, he is infinitely miserable. Must it not be a most manifest wrong judgment that does not presently see to which side, in this case, the preference is to be given?

71. To conclude this inquiry: *Liberty* is a power to act or not to act, according as the mind directs. A power to direct the operative faculties to motion or rest in particular instances is that which we call the *will*. That which in the train of our voluntary actions determines the will to any change of operation is *some present uneasiness*, which is, or at least is always accompanied with, that of *desire*. Desire is always moved by evil, to fly it: because a total freedom from pain always makes a necessary part of our happiness: but every good, nay, every greater good, does not constantly move desire, because it may not make, or may not be taken to make, any necessary part of our happiness. For all that we desire, is only to be happy. But, though this general desire of happiness operates constantly and invariably, yet the satisfaction of any particular desire *can be suspended* from determining the will to any subservient action, till we have maturely examined whether the particular apparent good which we then desire makes a part of our real happiness, or be consistent or inconsistent with it. The result of our judgment upon that examination is what ultimately determines the man; who could not be *free* if his will were determined by anything but his own desire, guided by his own judgment.

72. 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*. In thinking, a power to receive ideas or thoughts from the operation of an 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. '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 sunbeams, 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.

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.

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 inquire 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 inquire 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 further 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 inquire into their causes, we cannot conceive anything 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 XXII

OF MIXED MODES

What they are, 1; Made by the Mind, 2; Sometimes got by the Explication of their Names, 3; Name gives unity to the Parts, 4; Cause of their making, 5; Their Names in different Languages, 6-7; Where the Ideas come from, 9; Motion, Thinking, and Power most modified, 10; Several Words, seeming to signify Action, signify but the Effect, 11; Other mixed Modes, 12.

1. HAVING treated of *simple modes* in the foregoing chapters, 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*, etc.; 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 characteristic 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.

2. That the mind, in respect of its simple ideas, is wholly passive, and receives them all from the existence and operations of things, such as sensation or reflection offers them, without being able to *make* any one idea, experience shows us. But if we attentively consider these ideas I call mixed modes, we are now speaking of, we shall find their original quite different. The mind often exercises an *active* power in making these several combinations. For, it being once furnished with simple ideas, it can put them together in several compositions, and so make variety of complex ideas, without examining whether they exist so together in nature. And hence I think it is that these ideas are called *notions*: as if they had their original, and constant existence, more in the thoughts of men, than in the reality of things; and to form such ideas, it sufficed that the mind put the parts of them together, and that they were consistent in the understanding, without considering whether they had any real being: though I do not deny but several of them might be taken from observation, and the existence of several simple ideas so combined, as they are put together in the understanding. For the man who first framed the idea of *hypocrisy*, might have either

taken it at first from the observation of one who made show of good qualities which he had not; or else have framed that idea in his mind without having any such pattern to fashion it by. For it is evident that, in the beginning of languages and societies of men, several of those complex ideas, which were consequent to the constitutions established amongst them, must needs have been in the minds of men, before they existed anywhere else; and that many names that stood for such complex ideas were in use, and so those ideas framed, before the combinations they stood for ever existed.

3. Indeed, now that languages are made, and abound with words standing for such combinations, an usual way of *getting* these complex ideas is, by the explication of those terms that stand for them. For, consisting of a company of simple ideas combined, they may, by words standing for those simple ideas, be represented to the mind of one who understands those words, though that complex combination of simple ideas were never offered to his mind by the real existence of things. Thus a man may come to have the idea of *sacrilege* or *murder*, by enumerating to him the simple ideas which these words stand for; without ever seeing either of them committed.

4. Every mixed mode consisting of many distinct simple ideas, it seems reasonable to inquire, whence it has its unity; and how such a precise multitude comes to make but one idea; since that combination does not always exist together in nature. To which I answer, it is plain it has its unity from an act of the mind, combining those several simple ideas together, and considering them as one complex one, consisting of those parts; and the mark of this union, or that which is looked on generally to complete it, is one *name* given to that combination. For it is by their names that men commonly regulate their account of their distinct species of mixed modes, seldom allowing or considering any number of simple ideas to make one complex one, but such collections as there be names for. Thus, though the killing of an old man be as fit in nature to be united into one complex idea as the killing a man's father; yet, there being no name standing precisely for the one, as there is the name of *parricide* to mark the other, it is not taken for a particular complex idea, nor a distinct species of actions from that of killing a young man, or any other man.

5. If we should inquire a little further, to see what it is that occasions men to make several combinations of simple ideas into distinct, and, as it were, settled modes, and neglect others, which

in the nature of things themselves, have as much an aptness to be combined and make distinct ideas, we shall find the reason of it to be the end of language; which being to mark or communicate men's thoughts to one another with all the dispatch that may be, they usually make *such* collections of ideas into complex modes, and affix names to them, as they have frequent use of in their way of living and conversation, leaving others, which they have but seldom an occasion to mention, loose and without names that tie them together.

6. This shows us how it comes to pass that there are in every language many particular words which cannot be rendered by any one single word of another. For the several fashions, customs, and manners of one nation, making several combinations of ideas familiar and necessary in one, which another people have had never an occasion to make, or perhaps so much as take notice of, names come of course to be annexed to them, to avoid long periphrases in things of daily conversation; and so they become so many distinct complex ideas in their minds.

7. Hence also we may see the reason, why languages constantly change, take up new and lay by old terms. Because change of customs and opinions bringing with it new combinations of ideas, which it is necessary frequently to think on and talk about, new names, to avoid long descriptions, are annexed to them; and so they become new species of complex modes.

9. There are therefore three ways whereby we get these complex ideas of mixed modes: (1) By experience and *observation* of things themselves; thus, by seeing two men wrestle or fence, we get the idea of wrestling or fencing. (2) By *invention*, or voluntary putting together of several simple ideas in our own minds: so he that first invented printing or etching, had an idea of it in his mind before it ever existed. (3) Which is the most usual way, by *explaining the names* of actions we never saw, or motions we cannot see; and by enumerating, and thereby, as it were, setting before our imaginations all those ideas which go to the making them up, and are the constituent parts of them. For, having by sensation and reflection stored our minds with simple ideas, and by use got the names that stand for them, we can by those means represent to another any complex idea we would have him conceive; so that it has in it no simple ideas but what he knows, and has with us the same name for.

10. The simple ideas of *thinking* and *motion* (which are the two

ideas which comprehend in them all action) and *power*, from whence these actions are conceived to flow, have been those which have been most modified; and out of whose modifications have been made most complex modes, with names to them. For *action* being the great business of mankind, and the whole matter about which all laws are conversant, it is no wonder that the several modes of thinking and motion should be taken notice of, the ideas of them observed, and laid up in the memory, and have names assigned to them; without which laws could be but ill made, or vice and disorders repressed.

11. *Power* being the source from whence all action proceeds, the substances wherein these powers are, when they exert this power into act, are called *causes*, and the substances which thereupon are produced, or the simple ideas which are introduced into any subject by the exerting of that power, are called *effects*. The *efficacy* whereby the new substance or idea is produced is called, in the subject exerting that power, *action*; but in the subject wherein any simple idea is changed or produced, it is called *passion*: which efficacy, however various, and the effects almost infinite, yet we can, I think, conceive it, in intellectual agents, to be nothing else but modes of thinking and willing; in corporeal agents, nothing else but modifications of motion. I say, I think we cannot conceive it to be any other but these two. For whatever sort of action besides these produces any effects, I confess myself to have no notion or idea of; and so it is quite remote from my thoughts, apprehensions, and knowledge; and as much in the dark to me as five other senses, or as the ideas of colours to a blind man. And therefore many words which seem to express some action, signify nothing of the action or *modus operandi* at all, but barely the effect, with some circumstances of the subject wrought on, or cause operating: v.g. creation, annihilation, contain in them no idea of the action or manner whereby they are produced, but barely of the cause, and the thing done. And when a countryman says the cold freezes water, though the word *freezing* seems to import some action, yet truly it signifies nothing but the effect, viz. that water that was before fluid is become hard and consistent, without containing any idea of the action whereby it is done.

12. I think I shall not need to remark here that, though power and action make the greatest part of mixed modes, marked by names, and familiar in the minds and mouths of men, yet other simple ideas, and their several combinations, are not excluded:

much less, I think, will it be necessary for me to enumerate all the mixed modes which have been settled, with names to them. That would be to make a dictionary of the greatest part of the words made use of in divinity, ethics, law, and politics, and several other sciences.

Chapter XXIII

OF OUR COMPLEX IDEAS OF SUBSTANCES

Ideas of Particular Substances, how made, 1; Idea of Substance obscure, 2; Sorts of Substances, 3; No clear or distinct Idea of Substance in general, 4; As clear of Spiritual as of Corporeal Substance, 5; Ideas of particular Sorts of Substances, 6; Active and Passive Powers part of our Ideas of Substances, 7; Why, 8; Our complex Ideas of Corporeal Substances, 9; Powers, 10; Disappearance of Secondary Qualities, 11; Our Faculties suited to our State, 12; Conjecture about the Corporeal Organs of Spirits, 13; Specific Ideas of Substances, 14; Spiritual as clear as Bodily, 15, 16; The Primary Ideas peculiar to Body, 17; To Spirits, 18; Spirits capable of Motion, 19; Our complex Idea of an immaterial Spirit and our complex Idea of Body, compared, 22-5, 27-8; Summary, 29-32; Our complex Idea of God, 33, 35; Recapitulation, 37.

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*.

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*. The idea 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 substantia*, without something to support them, we call that support *substantia*; which, according to the true import of the word, is, in plain English, standing under or upholding.

3. An obscure and relative idea of *substance in general* being thus made we come to have the ideas of *particular sorts of substances*, by collecting such combinations of simple ideas as are, by experience and observation of men's senses, taken notice of to exist together; and are therefore supposed to flow from the particular internal constitution or unknown essence of that substance. Thus we come to have the ideas of a man, horse, gold, water, etc.; of which substances, whether any one has any other clear idea, further 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 something to which they belong, and in which they subsist: and therefore when we speak of any sort of substance, we say it is a thing having such or such qualities; as body is a thing that is extended, figured, and capable of motion; spirit, a thing capable of thinking; and so hardness, friability, and power to draw iron, we say, are qualities to be found in a loadstone.

4. Hence, when we talk or think of any particular sort of corporeal substances, as horse, stone, etc., though the idea we have of either of them 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.

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

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. 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, properties, which are in that thing which he calls the sun.

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 loadstone; 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.

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 shown, 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.

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 not. Secondly, the sensible secondary qualities, which, depending on these, are nothing but the powers those substances have to produce several ideas in us by our senses; which ideas are not in the things themselves, otherwise than as anything is in its cause. Thirdly, the aptness we consider in any substance, to give or receive such alterations of primary qualities, as that the substance so altered should produce in us different ideas from what it did before; these are called active and passive powers: all 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.

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.

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. Blood, to the naked eye, appears all red; but by a good microscope, wherein its lesser parts appear, shows only some few globules of red, swimming in a pellucid liquor, and how these red globules would appear, if glasses could be found that could yet magnify them a thousand or ten thousand times more, is uncertain.

12. The infinite 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. 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 breathe in, will have reason to be satisfied, that in this globe of earth allotted for our mansion, the all-wise Architect has suited our organs, and the bodies that are to affect them, one to another. If our sense of hearing were but a 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. 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 something 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.

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?

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.

15. Besides the complex ideas we have of material sensible substances, we are able to frame the *complex idea of an immaterial spirit*. 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. For our idea of substance is equally obscure, or none at all, in both: it is but a supposed I know not what, to support those ideas we call accidents. It is for want of reflection that we are apt to think that our senses show us nothing but material things. Every act of sensation, when duly considered, gives us an equal view of both parts of

nature, the corporeal and spiritual. For whilst I know, by seeing or hearing, etc., that there is some corporeal being without me, the object of that sensation, I do more certainly know, that there is some spiritual being within me that sees and hears. This, I must be convinced, cannot be the action of bare insensible matter; nor ever could be, without an immaterial thinking being.

16. 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.

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.

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.

19. There is no reason why it should be thought strange, that I make mobility belong to spirit. 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. Indeed motion cannot be attributed to God; not because he is an immaterial, but because he is an infinite spirit.

22. Let us compare 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*.

23. If any one says 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. Further, 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. For though the pressure of the particles of air may account for the cohesion of several parts of matter that are grosser than the particles of air, and have pores less than the corpuscles of air, yet the weight or pressure of the air will not explain, nor can be a cause of, the coherence of the particles of air themselves. And if the pressure of the aether, or any subtler matter than the air, may unite, and hold fast together, the parts of a particle of air, as well as other bodies, yet it cannot make bonds for itself, and hold together the parts that make up every the least corpuscle of that *materia subtilis*. So that that hypothesis, how ingeniously soever explained, by showing that the parts of sensible bodies are held together by the pressure of other external insensible bodies, reaches not the parts of the aether itself; and by how much the *more evident it proves, that the parts of other bodies are held together by the external pressure of the aether*, and can have no other conceivable cause of their cohesion and union, by so much the more it leaves us in the dark concerning the cohesion of the parts of the corpuscles of the aether itself.

24. So that perhaps, how clear an idea soever we think we have of the extension of body, which is nothing but the cohesion of solid parts, he that shall well consider it in his mind, may have reason to conclude, that it is as easy for him to have a clear idea how the soul thinks as how body is extended. For, since body is no further, nor otherwise, extended, than by the union and cohesion of its solid parts, we shall very ill comprehend the extension of body, without understanding wherein consists the union and cohesion of its parts; which seems to me as incomprehensible as the manner of thinking, and how it is performed.

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 anything more common? And what

doubt can there be made of it? And the like I say concerning thinking and voluntary motion. Do we not every moment experiment it in ourselves, and therefore can it be doubted? The matter of fact is clear, I confess; but when we would a little nearer look into it, and consider how it is done, there I think we are at a loss, both in the one and the other; and can as little understand how the parts of body cohere, as how we ourselves perceive or move.

27. To extend our thoughts a little further, that pressure which is brought to explain the cohesion of bodies is as unintelligible as the cohesion itself. For if matter be considered, as no doubt it is, finite, let any one send his contemplation to the extremities of the universe, and there see what conceivable hoops, what bond he can imagine to hold this mass of matter in so close a pressure together; from whence steel has its firmness, and the parts of a diamond their hardness and indissolubility. If matter be finite, it must have its extremes; and there must be something to hinder it from scattering asunder. If, to avoid this difficulty, any one will throw himself into the supposition and abyss of infinite matter, let him consider what light he thereby brings to the cohesion of body, and whether he be ever the nearer making it intelligible, by resolving it into a supposition the most absurd and most incomprehensible of all other.

28. Another idea we have of body is, *the power of communication of motion by impulse*; and of our souls, *the power of exciting motion by thought*. If here again we inquire how this is done, we are equally in the dark. For, in the communication of motion by impulse, wherein as much motion is lost to one body as is got to the other, which is the ordinarist case, we can have no other conception, but of the passing of motion out of one body into another: which, I think, is as obscure and inconceivable as how our minds move or stop our bodies by thought, which we every moment find they do. If we consider the active power of moving, or, as I may call it, motivity, it is much clearer in spirit than body; since two bodies, placed by one another at rest, will never afford us the idea of a power in the one to move the other, but by a borrowed motion: whereas the mind every day affords us ideas of an active power of moving of bodies; and therefore it is worth our consideration, whether active power be not the proper attribute of spirits, and passive power of matter. Hence may be conjectured that created spirits are not totally separate

from matter, because they are both active and passive. Pure spirit, viz. God, is only active; pure matter is only passive; those beings that are both active and passive, we may judge to partake of both.

29. To conclude. Sensation convinces us that there are solid, extended substances; and reflection, that there are thinking ones: experience assures us of the existence of such beings, and that the one hath a power to move body by impulse, the other by thought; this we cannot doubt of. Experience, I say, every moment furnishes us with the clear ideas both of the one and the other. But beyond these ideas, as received from their proper sources, our faculties will not reach. If we would inquire further into their nature, causes, and manner, we perceive not the nature of extension clearer than we do of thinking. If we would explain them any further, one is as easy as the other; and there is no more difficulty to conceive how a substance we know not should, by thought, set body into motion, than how a substance we know not should, by impulse, set body into motion. So that we are no more able to discover wherein the ideas belonging to body consist, than those belonging to spirit. From whence it seems probable to me, that the simple ideas we receive from sensation and reflection are the boundaries of our thoughts; beyond which the mind, whatever efforts it would make, is not able to advance one jot; nor can it make any discoveries, when it would pry into the nature and hidden causes of those ideas.

30. In short, the idea we have of spirit, compared with the idea we have of body, stands thus: the substance of spirits is unknown to us; and so is the substance of body equally unknown to us. Two primary qualities or properties of body, viz. solid coherent parts and impulse, we have distinct clear ideas of: so likewise we know, and have distinct clear ideas, of two primary qualities or properties of spirit, viz. thinking, and a power of action; i.e. a power of beginning or stopping several thoughts or motions. We have also the ideas of several qualities inherent in bodies, and have the clear distinct ideas of them; which qualities are but the various modifications of the extension of cohering solid parts, and their motion. We have likewise the ideas of the several modes of thinking, viz. believing, doubting, intending, fearing, hoping; all which are but the several modes of thinking. We have also the ideas of willing, and moving the body consequent to it, and with the body itself too; for, as has been shown, spirit is capable of motion.

31. Lastly, if this notion of immaterial spirit may have, perhaps, some difficulties in it not easily to be explained, we have therefore no more reason to deny or doubt the existence of such spirits, than we have to deny or doubt the existence of body; because the notion of body is cumbered with some difficulties very hard, and perhaps impossible, to be explained or understood by us.

32. Which we are not at all to wonder at, since we, having but some few superficial ideas of things, discovered to us only by the senses from without, or by the mind reflecting on what it experiments in itself within, have no knowledge beyond that, much less of the internal constitution and true nature of things, being destitute of faculties to attain it. But whichever of these complex ideas be clearest, that of body, or immaterial spirit, this is evident, that the simple ideas that make them up are no other than what we have received from sensation or reflection: and so is it of all our other ideas of substances, even of God himself.

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

35. For it is infinity, which, joined to our ideas of existence, power, knowledge, etc., makes that complex idea, whereby we represent to ourselves, the best we can, the Supreme Being. For, though in his own essence (which certainly we do not know, not knowing the real essence of a pebble, or a fly, or of our own selves) God be simple and uncompounded; yet I think I may say we have no other idea of him, but a complex one of existence, knowledge, power, happiness, etc., infinite and eternal: which are all distinct ideas, and some of them, being relative, are again compounded of others: all which being, as has been shown,

originally got from sensation and reflection, go to make up the idea or notion we have of God.

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:

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

Secondly, That all the simple ideas that, thus united in one common *substratum*, make up our complex ideas of several *sorts* of substances, are no other but such as we have received from sensation or reflection.

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*, etc., 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 XXIV

OF COLLECTIVE IDEAS OF SUBSTANCES

A collective Idea is one Idea, 1; Made by the Power of composing in the Mind, 2; Artificial things that are made up of distinct substances are our collective Ideas, 3.

1. BESIDES these complex ideas of several *single* substances; as of man, horse, gold, violet, apple, etc., the mind hath also complex *collective* ideas of substances; which I so call, because such ideas are made up of many particular substances considered together, as united into one idea, and which so joined are looked

on as one; v.g. the idea of such a collection of men as make an *army*, though consisting of a great number of distinct substances, is as much one idea as the idea of a man: it sufficing to the unity of any idea, that it be considered as one representation or picture, though made up of ever so many particulars.

2. As the mind, by putting together the repeated ideas of unity, makes the collective mode, or complex idea, of any number, as a score, or a gross, etc., so, by putting together several particular substances, it makes collective ideas of substances, as a troop, an army, a swarm, a city, a fleet; each of which every one finds that he represents to his own mind by one idea, in one view; and so under that notion considers those several things as perfectly one, as one ship, or one atom. Nor is it harder to conceive how an army of ten thousand men should make one idea, than how a man should make one idea; it being as easy to the mind to unite into one the idea of a great number of men, and consider it as one, as it is to unite into one particular all the distinct ideas that make up the composition of a man, and consider them all together as one.

3. Amongst such kind of collective ideas are to be counted most part of artificial things, at least such of them as are made up of distinct substances: and, in truth, if we consider all these collective ideas aright, as *army*, *constellation*, *universe*, as they are united into so many single ideas, they are but the artificial draughts of the mind; bringing things very remote, and independent on one another, into one view, the better to contemplate and discourse of them, united into one conception, and signified by one name. For there are no things so remote, nor so contrary, which the mind cannot, by this art of composition, bring into one idea; as is visible in that signified by the name *universe*.

Chapter XXV

OF RELATION

Relation, what, 1; Relations without correlative Terms not easily apprehended, 2; Relations different from things related, 4; Change of Relation without change in the things related, 5; Relation only between two Things, 6; All things capable of Relation, 7; Ideas of Relations often clearer than of the Subjects related, 8; Relations all terminate in simple Ideas, 9; Terms leading the Mind beyond the Subject denominated are relative, 10.

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. When the mind so considers one thing, that it does as it were bring it to, and set it by, another, and carries 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 something 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 something beyond Caius, and there are two things brought into consideration.

2. 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.

4. This further may be observed, that the ideas of relation may be the same in men who have far different ideas of the things that are related, or that are thus compared: v.g. those who have far different ideas of a man, may yet agree in the notion of

a father; which is a notion superinduced to the substance, or man, and refers only to an act of that thing called man whereby he contributed to the generation of one of his own kind, let man be what it will.

5. The nature therefore of relation consists in the referring or comparing two things one to another; from which comparison one or both comes to be denominated. And if either of those things be removed, or cease to be, the relation ceases, and the denomination consequent to it, though the other receive in itself no alteration at all: v.g. Caius, whom I consider to-day as a father, ceases to be so to-morrow, only by the death of his son, without any alteration made in himself. Nay, barely by the mind's changing the object to which it compares anything, the same thing is capable of having contrary denominations at the same time: v.g. Caius, compared to several persons, may truly be said to be *older and younger, stronger and weaker, etc.*

6. Whatsoever doth or can exist, or be considered as one thing, is positive: and so not only simple ideas and substances, but modes also, are positive beings: though the parts of which they consist are very often relative one to another: but the whole together considered as one thing, and producing in us the complex idea of one thing, which idea is in our minds, as one picture, though an aggregate of divers parts, and under one name, it is a positive or absolute thing, or idea. Thus a triangle, though the parts thereof compared one to another be relative, yet the idea of the whole is a positive absolute idea. The same may be said of a family, a tune, etc.; for there can be no relation but betwixt two things considered as two things. There must always be in relation two ideas or things, either in themselves really separate, or considered as distinct, and then a ground or occasion for their comparison.

7. Concerning relation in general, these things may be considered:

First, That there is no one thing, whether simple idea, substance, mode, or relation, or name of either of them, which is not capable of almost an infinite number of considerations in reference to other things: v.g. one single man may at once be concerned in and sustain all these following relations, and many more, viz. father, brother, son, grandfather, grandson, father-in-law, son-in-law, husband, friend, enemy, subject, general, judge, patron, client, professor, European, Englishman, islander, servant, master, possessor, captain, superior, inferior, bigger, less,

older, younger, contemporary, like, unlike, etc., to an almost infinite number: he being capable of as many relations as there can be occasions of comparing him to other things, in any manner of agreement, disagreement, or respect whatsoever.

8. Secondly, This further may be considered concerning relation, that though it be not contained in the real existence of things, but something extraneous and superinduced, yet the ideas which relative words stand for are often clearer and more distinct than of those substances to which they do belong. The notion we have of a father or brother is a great deal clearer and more distinct than that we have of a man; or, if you will, *paternity* is a thing whereof it is easier to have a clear idea, than of *humanity*; because the knowledge of one action, or one simple idea, is oftentimes sufficient to give me the notion of a relation; but to the knowing of any substantial being, an accurate collection of sundry ideas is necessary. *The ideas, then, of relations, are capable at least of being more perfect and distinct in our minds than those of substances.* It is commonly hard to know all the simple ideas which are really in any substance, but for the most part easy enough to know the simple ideas that make up any relation I think on, or have a name for: v.g. comparing two men in reference to one common parent, it is very easy to frame the ideas of brothers, without having yet the perfect idea of a man.

9. Thirdly, Though there be a great number of considerations wherein things may be compared one with another, and so a multitude of relations, yet they all terminate in, and are concerned about those simple ideas, either of sensation or reflection, which I think to be the whole materials of all our knowledge.

10. Fourthly, That relation being the considering of one thing with another which is extrinsical to it, it is evident that all words that necessarily lead the mind to any other ideas than are supposed really to exist in that thing to which the words are applied are relative words: v.g. a *man, black, merry, thoughtful, thirsty, angry, extended*; these and the like are all absolute, because they neither signify nor intimate anything but what does or is supposed really to exist in the man thus denominated; but *father, brother, king, husband, blacker, merrier*, etc., are words which, together with the thing they denominate, imply also something else separate and exterior to the existence of that thing.

Chapter XXVI

OF CAUSE AND EFFECT, AND OTHER RELATIONS

Whence come the Ideas of Cause and Effect, 1; Creation, Generation, Making, Alteration, 2; Relations of Time, 3; Some Ideas of Time supposed positive and found to be negative, 4; Relations of Place and Extension, 5.

1. IN the notice that our senses take of the constant vicissitude of things, we cannot but observe that several particular, both qualities and substances, begin to exist; and that they receive this their existence from the due application and operation of some other being. From this observation we get our ideas of *cause* and *effect*. That which produces any simple or complex idea we denote by the general name, *cause*, and that which is produced, *effect*. Thus, finding that in that substance which we call wax, fluidity, which is a simple idea that was not in it before, is constantly produced by the application of a certain degree of heat, we call the simple idea of heat, in relation to fluidity in wax, the cause of it, and fluidity the effect. So also, finding that the substance, wood, which is a certain collection of simple ideas so called, by the application of fire is turned into another substance, called ashes; i.e. another complex idea, consisting of a collection of simple ideas, quite different from that complex idea which we call wood; we consider fire, in relation to ashes, as cause, and the ashes, as effect. So that whatever is considered by us to conduce or operate to the producing any particular simple idea, or collection of simple ideas, whether substance or mode, which did not before exist, hath thereby in our minds the relation of a cause, and so is denominated by us.

2. Having thus, from what our senses are able to discover in the operations of bodies on one another, got the notion of cause and effect, viz. that a cause is that which makes any other thing, either simple idea, substance, or mode, begin to be; and an effect is that which had its beginning from some other thing; the mind finds no great difficulty to distinguish the several originals of things into two sorts:

First, When the thing is wholly made new, so that no part thereof did ever exist before; as when a new particle of matter doth begin to exist, *in rerum natura*, which had before no being, and this we call *creation*.

Secondly, When a thing is made up of particles, which did all

of them before exist; but that very thing, so constituted of pre-existing particles, which, considered all together, make up such a collection of simple ideas, had not any existence before, as this man, this egg, rose, or cherry, etc. And this, when referred to a substance, produced in the ordinary course of nature by internal principle, but set on work by, and received from, some external agent, or cause, and working by insensible ways which we perceive not, we call *generation*. When the cause is extrinsical, and the effect produced by a sensible separation, or juxtaposition of discernible parts, we call it *making*; and such are all artificial things. When any simple idea is produced, which was not in that subject before, we call it *alteration*. Thus a man is generated, a picture made; and either of them altered, when any new sensible quality or simple idea is produced in either of them, which was not there before: and the things thus made to exist, which were not there before, are effects; and those things which operated to the existence, causes.

3. Time and place are also the foundations of very large relations; and all finite beings at least are concerned in them. When any one says that Queen Elizabeth lived sixty-nine, and reigned forty-five years, these words import the relation of that duration to some other, and mean no more but this, that the duration of her existence was equal to sixty-nine, and the duration of her government to forty-five annual revolutions of the sun.

4. There are yet, besides those, other words of time, that ordinarily are thought to stand for positive ideas, which yet will, when considered, be found to be relative; such as are *young*, *old*, etc., which include and intimate the relation anything has to a certain length of duration, whereof we have the idea in our minds. A horse we call old at twenty, and a dog at seven years, because in each of these we compare their age to different ideas of duration, which are settled in our minds as belonging to these several sorts of animals, in the ordinary course of nature. But the sun and stars, though they have outlasted several generations of men, we call not old, because we do not know what period God hath set to that sort of beings.

5. The relation also that things have to one another in their *places* and distances is very obvious to observe; as above, below, a mile distant from Charing-cross, in England, and in London. But as in duration, so in extension and bulk, there are some ideas that are relative which we signify by names that are thought positive; as *great* and *little* are truly relations. Thus we call a

great apple, such a one as is bigger than the ordinary sort of those we have been used to; and a little horse, such a one as comes not up to the size of that idea which we have in our minds to belong ordinarily to horses.

Chapter XXVII

OF IDENTITY AND DIVERSITY

Wherein Identity consists, 1; Identity of Substances, 2; *Principium Individuationis*, 3; Identity of Vegetables and Brutes, 4-5; Identity of Man, 6; Idea of Identity suited to Idea applied to, 7-8; Personal Identity, 9; Consciousness makes Personal Identity, 10-17; Persons, not Substances, the Objects of Reward and Punishment, 18-19; Oblivion separates the person, but not the man, 20; Difference between Identity of Man and of Person, 21-2; Consciousness alone unites remote existences into one Person, 23-5; Person a forensic Term, 26.

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 from the Ideas of *identity* and *diversity*. When we see anything to be in any place in any instant of time, we are sure (be it what it will) that it is that very thing, and not another which at that same time exists in another place, 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 anywhere at any time, excludes all of the same kind, and is there itself alone. When therefore we demand whether anything be the same or no, it refers always to something that existed such a time in such a place, which it was certain, at that instant, was the same with itself, and no other. From 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.

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 everywhere, and therefore concerning his identity there can be no doubt.

Secondly, *Finite spirits* having had each its determinate time and place of beginning to exist, the relation to that time and place will always determine to each of them its identity, as long as it exists.

Thirdly, The same will hold of every *particle of matter*, to which no addition or subtraction of matter being made, it is the same. For, though these three sorts of substances, as we term them, do not exclude one another out of the same place, yet we cannot conceive but that they must necessarily each of them exclude any of the same kind out of the same place: or else the notions and names of identity and diversity would be in vain, and there could be no such distinctions of substances, or anything else one from 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.

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.

3. From what has been said, it is easy to discover what is so much inquired 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 something 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.

4, 5. 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, etc., of an oak, in which consists the vegetable life. 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. 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.

6. This also shows 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

vitality united to the same organized body. He that shall place the identity of man in anything 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.

7, 8. 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. For I presume it is not the idea of a thinking or rational being alone that makes the *idea of a man* in most people's sense: but of a body, so and so shaped, joined to it; and if that be the idea of a man, the same successive body not shifted all at once must, as well as the same immaterial spirit, go to the making of the same man.

9. 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 anything, 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*.

10. But it is further inquired, whether it be the same identical substance. That which seems to make the difficulty is this, that *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.

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.

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.

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 something 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 show 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.

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 shown. 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 error 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 shown, 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.

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 further than consciousness reaches, a pre-existent spirit not having continued so many ages in a state of silence, must needs make different persons. 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 shown that he wanted not parts or learning); would any one say, that he, being not conscious of any of Socrates' 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 anything 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 never so true, that the same *spirit* that informed Nestor's or Thersites' 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.

15. And thus may we 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 cobbler, 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*?

16. But though the same immaterial substance or soul does not alone, wherever it be, 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.

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 further; as every one who reflects will perceive.

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.

19. This may show 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.

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 *I* 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.

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*.

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

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

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

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

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.

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 something 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.

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.

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 carcass may be a person, as well as any sort of substance be so, without consciousness.

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 clothings? 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.

24, 25. 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. 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. I agree, the more probable opinion is, that this consciousness is annexed to, and the affection of, one individual immaterial substance. Any substance vitally united to the present thinking being is a part of that very same self which now is; anything 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.

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 forensic 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 as 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.

Chapter XXVIII

OF OTHER RELATIONS

Ideas of Proportional Relations, 1; Natural Relation, 2; Voluntary Relations, 3; Moral Relations, 4; Moral Good and Evil, 5; Laws, 7; Divine Law the Measure of Sin and Duty, 8; Civil Law the Measure of Crimes and Innocence, 9; Philosophical Law the Measure of Virtue and Vice, 10; The Common measure of Virtue and Vice, 11; Enforcement is Commendation and Discredit, 12; Morality is the Relation of Voluntary Actions to these Rules, 14; Moral Actions regarded absolutely or as Ideas of Relations, 15; Names of Actions often misleading, 16; Relations innumerable, 17; All Relations terminate in simple Ideas, 18; Clearer idea of simple Ideas than Relations, 19; Relation the same even though Rule be false, 20.

1. BESIDES the before-mentioned occasions of time, place, and causality of comparing or referring things one to another, there are, as I have said, infinite others, some whereof I shall mention.

First, The first I shall name is some one simple idea, which, being capable of parts or degrees, affords an occasion of comparing the subjects wherein it is to one another, in respect of that simple idea, v.g. whiter, sweeter, equal, more, etc. These relations depending on the equality and excess of the same simple idea, in several subjects, may be called, if one will, *proportional*; and that these are only conversant about those simple ideas received from sensation or reflection is so evident that nothing need be said to evince it.

2. Secondly, Another occasion of comparing things together, or considering one thing, so as to include in that consideration some other thing, is the circumstances of their origin of beginning; which being not afterwards to be altered, make the relations depending thereon as lasting as the subjects to which they belong, v.g. father and son, brothers, cousin-germans, etc., which have their relations by one community of blood, wherein they partake in several degrees; countrymen, i.e. those who were born in the same country or tract of ground; and these I call *natural relations*.

3. Thirdly, Sometimes the foundation of considering things, with reference to one another, is some act whereby any one comes by a moral right, power, or obligation to do something. Thus, a general is one that hath power to command an army; and an army under a general is a collection of armed men, obliged to obey one man. A citizen, or a burgher, is one who has a right to certain privileges in this or that place. All this sort depending

upon men's wills, or agreement in society, I call *instituted*, or *voluntary*.

4. Fourthly, There is another sort of relation, which is the conformity or disagreement men's *voluntary actions* have to a *rule* to which they are referred, and by which they are judged of; which, I think, may be called *moral relation*, as being that which denominates our moral actions, and deserves well to be examined.

5. Good and evil, as hath been shown (bk. II, chap. XX, § 2, and chap. XXI, § 43), are nothing but pleasure or pain, or that which occasions or procures pleasure or pain to us. *Moral good and evil*, then, is only *the conformity or disagreement of our voluntary actions to some law, whereby good or evil is drawn on us, from the will and power of the law-maker*; which good and evil, pleasure or pain, attending our observance or breach of the law by the decree of the law-maker, is that we call *reward and punishment*.

7. The laws that men generally refer their actions to, to judge of their rectitude or obliquity, seem to me to be these three: (1) The *divine law*. (2) The *civil law*. (3) The law of *opinion or reputation*, if I may so call it. By the relation they bear to the first of these, men judge whether their actions are sins or duties; by the second, whether they be criminal or innocent; and by the third, whether they be virtues or vices.

8. That God has given a rule whereby men should govern themselves, I think there is nobody so brutish as to deny. He has a right to do it; we are his creatures: he has goodness and wisdom to direct our actions to that which is best: and he has power to enforce it by rewards and punishments of infinite weight and duration in another life; for nobody can take us out of his hands. This is the only true touchstone of moral rectitude; and by comparing them to this law it is that men judge of the most considerable moral good or evil of their actions; that is, whether, as duties or sins, they are like to procure them happiness or misery from the hands of the ALMIGHTY.

9. Secondly, the *civil law*—the rule set by the commonwealth to the actions of those who belong to it—is another rule to which men refer their actions; to judge whether they be criminal or no.

10. Thirdly, the *law of opinion or reputation*. Virtue and vice are names pretended and supposed everywhere to stand for actions in their own nature right and wrong: and as far as they really are so applied, they so far are coincident with the divine law above

mentioned. But yet, whatever is pretended, this is visible, that these names, virtue and vice, in the particular instances of their application, through the several nations and societies of men in the world, are constantly attributed only to such actions as in each country and society are in reputation or discredit. Nor is it to be thought strange, that men everywhere should give the name of virtue to those actions, which amongst them are judged praiseworthy; and call that vice, which they account blamable: since otherwise they would condemn themselves, if they should think anything right, to which they allowed not commendation, anything wrong, which they let pass without blame.

11. That this is the common *measure* of virtue and vice, will appear to any one who considers, that, though that passes for vice in one country which is counted a virtue, or at least not vice, in another, yet everywhere virtue and praise, vice and blame, go together. Virtue is everywhere that which is thought praiseworthy; and nothing else but that which has the allowance of public esteem is called virtue.

12. If any one shall imagine that I have forgot my own notion of a law, when I make the law, whereby men judge of virtue and vice, to be nothing else but the consent of private men, who have not authority enough to make a law: especially wanting that which is so necessary and essential to a law, a power to enforce it: I think I may say, that he who imagines commendation and disgrace not to be strong motives to men to accommodate themselves to the opinions and rules of those with whom they converse, seems little skilled in the nature or history of mankind: the greatest part whereof we shall find to govern themselves chiefly, if not solely, by this law of fashion; and so they do that which keeps them in reputation with their company, little regard the laws of God or the magistrate. The penalties that attend the breach of God's laws some, nay, perhaps most men seldom seriously reflect on: and amongst those that do, many, whilst they break the law, entertain thoughts of future reconciliation, and making their peace for such breaches. And as to the punishments due from the laws of the commonwealth, they frequently flatter themselves with the hopes of impunity. But no man escapes the punishment of their censure and dislike, who offends against the fashion and opinion of the company he keeps, and would recommend himself to. Solitude many men have sought, and been reconciled to: but nobody that has the least thought or sense of a man about him, can live in society under

the constant dislike and ill opinion of his familiars, and those he converses with. This is a burden too heavy for human sufferance: and he must be made up of irreconcilable contradictions, who can take pleasure in company, and yet be insensible of contempt and disgrace from his companions.

14. Whether the rule to which, as to a touchstone, we bring our voluntary actions, to examine them by, and try their goodness, and accordingly to name them, which is, as it were, the mark of the value we set upon them: whether, I say, we take that rule from the fashion of the country, or the will of a law-maker, the mind is easily able to observe the relation any action hath to it, and to judge whether the action agrees or disagrees with the rule. This rule being nothing but a collection of several simple ideas, the conformity thereto is but so ordering the action, that the simple ideas belonging to it may correspond to those which the law requires. And thus we see how moral beings and notions are founded on, and terminated in, these simple ideas we have received from sensation or reflection.

15. To conceive rightly of moral actions, we must take notice of them under this two-fold consideration. First, as they are in themselves, each made up of such a collection of simple ideas. Thus drunkenness, or lying, signify such or such a collection of simple ideas, which I call mixed modes: and in this sense they are as much *positive absolute* ideas, as the drinking of a horse, or speaking of a parrot. Secondly, our actions are considered as good, bad, or indifferent; and in this respect they are *relative*, it being their conformity to, or disagreement with, some rule that makes them to be regular or irregular, good or bad; and so, as far as they are compared with a rule, and thereupon denominated, they come under relation. Thus the challenging and fighting with a man, as it is a certain positive mode, or particular sort of action, by particular ideas, distinguished from all others, is called *duelling*: which, when considered in relation to the law of God, will deserve the name of sin; to the law of fashion, in some countries, valour and virtue; and to the municipal laws of some governments, a capital crime.

16. But because very frequently the positive idea of the action, and its moral relation, are comprehended together under one name, and the same word made use of to express both the mode or action, and its moral rectitude or obliquity: therefore the relation itself is less taken notice of; and there is often no dis-

inction made between the positive idea of the action, and the reference it has to a rule. Thus, the taking from another what is his, without his knowledge or allowance, is properly called *stealing*: but that name being commonly understood to signify also the moral pravity of the action, and to denote its contrariety to the law, men are apt to condemn whatever they hear called stealing, as an ill action, disagreeing with the rule of right. And yet the private taking away his sword from a madman, to prevent his doing mischief, though it be properly denominated stealing, as the name of such a mixed mode; yet when compared to the law of God, and considered in its relation to that supreme rule, it is no sin or transgression, though the name stealing ordinarily carries such an intimation with it.

17. It would make a volume to go over all sorts of *relations*: it is not, therefore, to be expected that I should here mention them all. But before I quit this argument, from what has been said give me leave to observe:

18. First, That it is evident, that all relation terminates in, and is ultimately founded on, those simple ideas we have got from sensation or reflection: so that all we have in our thoughts ourselves (if we think of anything, or have any meaning), or would signify to others, when we use words standing for relations, is nothing but some simple ideas, or collections of simple ideas, compared one with another.

19. Secondly, That in relations, we have for the most part, if not always, as clear a notion of *the relation* as we have of *those simple ideas wherein it is founded*: agreement or disagreement, whereon relation depends, being things whereof we have commonly as clear ideas as of any other whatsoever; it being but the distinguishing simple ideas, or their degrees one from another, without which we could have no distinct knowledge at all. For, if I have a clear idea of sweetness, light, or extension, I have, too, of equal, or more, or less, of each of these: if I know what it is for one man to be born of a woman, viz. Sempronia, I know what it is for another man to be born of the same woman Sempronia; and so have as clear a notion of brothers as of births, and perhaps clearer. For if I believed that Sempronia digged Titus out of the parsley-bed (as they used to tell children), and thereby became his mother; and that afterwards, in the same manner, she digged Caius out of the parsley-bed, I had as a clear a notion of the relation of brothers between them, as if I had all the skill of a midwife: the notion that the same woman contributed, as mother,

equally to their births (though I were ignorant or mistaken in the manner of it), being that on which I grounded the relation; and that they agreed in that circumstance of birth, let it be what it will. The comparing them then in their descent from the same person, without knowing the particular circumstances of that descent, is enough to found my notion of their having or not having the relation of brothers. But though the ideas of particular relations are capable of being as clear and distinct in the minds of those who will duly consider them as those of mixed modes, and more determinate than those of substances: yet, the names belonging to relation are often of as doubtful and uncertain signification as those of substances or mixed modes; and much more than those of simple ideas. Because relative words, being the marks of this comparison, which is made only by men's thoughts, and is an idea only in men's minds, men frequently apply them to different comparisons of things, according to their own imaginations; which do not always correspond with those of others using the same name.

20. Thirdly, That in these I call *moral relations*, I have a true notion of relation, by comparing the action with the rule, whether the rule be true or false. Though, measuring by a wrong rule, I shall thereby be brought to judge amiss of its moral rectitude; because I have tried it by that which is not the true rule: yet I am not mistaken in the relation which that action bears to that rule I compare it to, which is agreement or disagreement.

Chapter XXIX

OF CLEAR AND OBSCURE, DISTINCT AND CONFUSED, IDEAS

Clear and obscure explained by sight, 2; Causes of obscurity, 3; Distinct and confused, what, 4; Defaults which make this confusion, 7-10; Confusion concerns always two ideas, 11; Complex Ideas may be distinct in one Part, and confused in another, 13; Instance in Eternity, 15; Infinite Divisibility of Matter, 16.

2. THE perception of the mind being most aptly explained by words relating to the sight, we shall best understand what is meant by *clear* and *obscure* in our ideas, by reflecting on what we call clear and obscure in the objects of sight. Light being that which discovers to us visible objects, we give the name of

obscure to that which is not placed in a light sufficient to discover minutely to us the figure and colours which are observable in it, and which, in a better light, would be discernible. In like manner, our simple ideas are *clear*, when they are such as the objects themselves from whence they were taken did or might, in a well-ordered sensation or perception, present them. Whilst the memory retains them thus, and can produce them to the mind whenever it has occasion to consider them, they are clear ideas. So far as they either want anything of the original exactness, or have lost any of their first freshness, and are, as it were, faded or tarnished by time, so far are they obscure. Complex ideas, as they are made up of simple ones, so they are clear, when the ideas that go to their composition are clear, and the number and order of those simple ideas that are the ingredients of any complex one is determinate and certain.

3. The causes of obscurity, in simple ideas, seem to be either dull organs; or very slight and transient impressions made by the objects; or else a weakness in the memory, not able to retain them as received. For to return again to visible objects, to help us to apprehend this matter: If the organs, or faculties of perception, like wax over-hardened with cold, will not receive the impression of the seal, from the usual impulse wont to imprint it; or, like wax of a temper too soft, will not hold it well, when well imprinted; or else supposing the wax of a temper fit, but the seal not applied with a sufficient force to make a clear impression: in any of these cases, the print left by the seal will be obscure. This, I suppose, needs no application to make it plainer.

4. As a clear idea is that whereof the mind has such a full and evident perception as it does receive from an outward object operating duly on a well-disposed organ, so a *distinct* idea is that wherein the mind perceives a difference from all other; and a *confused* idea is such an one as is not sufficiently distinguishable from another, from which it ought to be different.

7. The defaults which usually occasion this confusion, I think, are chiefly these following:

First, When any complex idea (for it is complex ideas that are most liable to confusion) is made up of too small a number of simple ideas, and such only as are common to other things, whereby the differences that make it deserve a different name are left out. Thus, he that has an idea made up of barely the

simple ones of a beast with spots, has but a confused idea of a leopard; it not being thereby sufficiently distinguished from a lynx, and several other sorts of beasts that are spotted.

8. Secondly, Another fault which makes our ideas confused is, when, though the particulars that make up any idea are in number enough, yet they are so jumbled together, that it is not easily discernible whether it more belongs to the name that is given it to than to any other.

9, 10. Thirdly, A third defect that frequently gives the name of confused to our ideas, is, when one one of them is uncertain and undetermined. Thus we may observe men who, not forbearing to use the ordinary words of their language till they have learned their precise signification, change the idea they make this or that term stand for, almost as often as they use it. By what has been said, we observe how much *names*, as supposed steady signs of things, and by their difference to stand for and keep things distinct that in themselves are different, are the occasion of denominating ideas distinct or confused, by a secret and unobserved reference the mind makes of its ideas to such names.

11. Confusion, making it a difficulty to separate two things that should be separated, concerns always two ideas; and those most which most approach one another. Whenever, therefore, we suspect any idea to be confused, we must examine what other it is in danger to be confounded with, or which it cannot easily be separated from; and that will always be found an idea belonging to another name, and so should be a different thing, from which yet it is not sufficiently distinct: being either the same with it, or making a part of it, or at least as properly called by that name as the other it is ranked under; and so keeps not that difference from that other idea which the different names import.

13. Our complex ideas, being made up of collections, and so variety of simple ones, may accordingly be very clear and distinct in one part, and very obscure and confused in another. In a man who speaks of a *chiliahedron*, or a body of a thousand sides, the ideas of the figure may be very confused, though that of the number be very distinct; so that he being able to discourse and demonstrate concerning that part of his complex idea which depends upon the number of thousand, he is apt to think he has a distinct idea of a *chiliahedron*; though it be plain he has no precise idea of its figure, so as to distinguish it, by that, from

one that has but 999 sides: the not observing whereof causes no small error in men's thoughts, and confusion in their discourses.

15. Having frequently in our mouths the name Eternity, we are apt to think we have a positive comprehensive idea of it, which is as much as to say, that there is no part of that duration which is not clearly contained in our idea. It is true that he that thinks so may have a clear idea of duration; he may also have a clear idea of a very great length of duration; he may also have a clear idea of the comparison of that great one with still a greater: but it not being possible for him to include in his idea of any duration, let it be as great as it will, the whole extent together of a duration where he supposes no end, that part of his idea, which is still beyond the bounds of that large duration he represents to his own thoughts, is very obscure and undertermined. And hence it is that in disputes and reasonings concerning eternity, or any other infinite, we are very apt to blunder, and involve ourselves in manifest absurdities.

16. In matter, we have no clear ideas of the smallness of parts much beyond the smallest that occur to any of our senses: and therefore, when we talk of the divisibility of matter *in infinitum*, though we have clear ideas of division and divisibility, and have also clear ideas of parts made out of a whole by division; yet we have but very obscure and confused ideas of corpuscles, or minute bodies, so to be divided, when, by forming divisions, they are reduced to a smallness much exceeding the perception of any of our senses; and so all that we have clear and distinct ideas of is of what division in general or abstractedly is, and the relation of *totum* and *pars*: but of the bulk of the body, to be thus infinitely divided after certain progressions, I think we have no clear nor distinct idea at all.

Chapter XXX

OF REAL AND FANTASTICAL IDEAS

Ideas in reference to their Archetypes, 1; All Simple Ideas are real appearances of things, 2; Complex Ideas are voluntary combinations, 3; Mixed Modes and Relations, made of consistent Ideas, are real, 4; Complex Ideas of Substances real when they agree with the existence of things, 5.

1. BESIDES what we have already mentioned concerning ideas, other considerations belong to them, in reference to things from whence they are taken, or which they may be supposed to represent; and thus, I think, they may come under a threefold distinction, and are;

First, either real or fantastical;

Secondly, adequate or inadequate;

Thirdly, true or false.

First, By *real ideas*, I mean such as have a foundation in nature; such as have a conformity with the real being and existence of things, or with their archetypes. *Fantastical* or *chimerical*, I call such as have no foundation in nature, nor have any conformity with that reality of being to which they are tacitly referred, as to their archetypes.

2. First, Our *simple ideas* are all real, all agree to the reality of things: not that they are all of them the images or representations of what does exist; the contrary whereof, in all but the primary qualities of bodies, hath been already shown. But, though whiteness and coldness are no more in snow than pain is; yet those ideas of whiteness and coldness, pain, etc., being in us the effects of powers in things without us, they are real ideas in us, whereby we distinguish the qualities that are really in things themselves. Our ideas are real distinguishing characters, whether they be only *constant effects*, or else *exact resemblances* of something in the things themselves: the reality lying in that steady correspondence they have with the distinct constitutions of real beings. But whether they answer to those constitutions, as to causes or patterns, it matters not; it suffices that they are constantly produced by them. And thus our simple ideas are all real and true, because they answer and agree to those powers of things which produce them in our minds.

3. Though the mind be wholly passive in respect of its simple ideas; yet, I think, we may say it is not so in respect of its complex ideas. For those being combinations of simple ideas put

together, and united under one general name, it is plain that the mind of man uses some kind of liberty in forming those complex ideas. The question then is, What collections agree to the reality of things, and what not? And to this I say that.

4. Secondly, *Mixed modes and relations* having no other reality but what they have in the minds of men, there is nothing more required to this kind of ideas to make them real, but that they be so framed that there be a possibility of existing conformable to them. These ideas themselves, being archetypes, cannot differ from their archetypes, and so cannot be chimerical, unless any one will jumble together in them inconsistent ideas. Indeed, as any of them have the names of a known language assigned to them, by which he that has them in his mind would signify them to others, so bare possibility of existing is not enough; they must have a conformity to the ordinary signification of the name that is given them, that they may not be thought fantastical.

5. Thirdly, Our complex ideas of *substances*, being made all of them in reference to things existing without us, and intended to be representations of substances as they really are, are no further real than as they are such combinations of simple ideas as are really united, and co-exist in things without us.

Chapter XXXI

OF ADEQUATE AND INADEQUATE IDEAS

Adequate Ideas perfectly represent Archetypes, 1; All simple Ideas adequate, 2; Modes are all adequate, 3; Modes in reference to settled Names, may be inadequate, 4-5; Ideas of Substances, as referred to real Essences, not adequate, 6; Ideas of Substances, being got only by collecting their qualities, are all inadequate, 10-11; Recapitulation, 12-14.

1. OF our real ideas, some are adequate, and some are inadequate. Those I call *adequate*, which perfectly represent those archetypes which the mind supposes them taken from: which it intends them to stand for, and to which it refers them. *Inadequate ideas* are such, which are but a partial or incomplete representation of those archetypes to which they are referred. Upon which account it is plain,

2. First, That *all our simple ideas are adequate*. Because, being

nothing but the effects of certain powers in things, fitted and ordained by God to produce such sensations in us, they cannot but be correspondent and adequate to those powers: and we are sure they agree to the reality of things. For, if sugar produce in us the ideas which we call whiteness and sweetness, we are sure there is a power in sugar to produce those ideas in our minds, or else they could not have been produced by it. And so each sensation answering the power that operates on any of our senses, the idea so produced is a real idea (and not a fiction of the mind, which has no power to produce any simple idea), and cannot but be adequate, since it ought only to answer that power: and so all simple ideas are adequate.

3. Secondly, *Our complex ideas of modes*, being voluntary collections of simple ideas, which the mind puts together, without reference to any real archetypes, or standing patterns, existing anywhere, are and cannot but be *adequate ideas*. Because they, not being intended for copies of things really existing, but for archetypes made by the mind, to rank and denominate things by, cannot want anything. Thus, by having the idea of a figure with three sides meeting at three angles, I have a complete idea, wherein I require nothing else to make it perfect. That the mind is satisfied with the perfection of this its idea is plain, in that it does not conceive that any understanding hath, or can have, a *more complete or perfect idea of that thing it signifies* by the word triangle, wherever or however it exists. But in our *ideas of substances* it is otherwise. For there, desiring to copy things as they really do exist, and to represent to ourselves that constitution on which all their properties depend, we perceive our ideas attain not that perfection we intend: we find they still want something we should be glad were in them; and so are all inadequate. But *mixed modes and relations*, being archetypes without patterns, and so having nothing to represent but themselves, cannot but be adequate, everything being so to itself. He that at first put together the idea of danger perceived, absence of disorder from fear, sedate consideration of what was justly to be done, and executing that without disturbance, or being deterred by the danger of it, had certainly in his mind that complex idea made up of that combination: and laying this up in his memory, with the name *courage* annexed to it, had thereby a standard to measure and denominate actions by. This idea, thus made and laid up for a pattern, must necessarily be adequate, being referred to nothing else but itself, nor made by any

other original but the good liking and will of him that first made this combination.

4. Indeed another coming after, and in conversation learning from him the word *courage*, may make an idea, to which he gives the name *courage*, different from what the first author applied it to, and has in his mind when he uses it. And in this case, if he designs that his idea in thinking should be conformable to the other's idea, as the name he uses in speaking is conformable in sound to his from whom he learned it, his idea is so far defective and inadequate, as it is distant from the archetype and pattern he refers it to, and intends to express and signify by the name he uses for it.

5. Therefore these complex ideas of *modes*, when they are referred by the mind, and intended to correspond, to the ideas in the mind of some other intelligent being, expressed by the names we apply to them, they may be very deficient, wrong, and inadequate; because they agree not to that which the mind designs to be their archetype and pattern: in which respect only any idea of *modes* can be wrong, imperfect, or inadequate. And on this account our ideas of mixed *modes* are the most liable to be faulty of any other; but this refers more to proper speaking than knowing right.

6. Thirdly, What *ideas we have of substances*, I have above shown. Now, those ideas have in the mind a double reference: (1) Sometimes they are referred to a supposed real essence of each species of things. (2) Sometimes they are only designed to be pictures and representations in the mind of things that do exist, by ideas of those qualities that are discoverable in them. In both which ways these copies of those originals and archetypes are imperfect and inadequate.

First, It is usual for men to make the names of substances stand for things as supposed to have certain real essences, whereby they are of this or that species: and names standing for nothing but the ideas that are in men's minds, they must constantly refer their ideas to such real essences, as to their archetypes. And yet if you demand what those real essences are, it is plain men are ignorant, and know them not. From whence it follows, that the ideas they have in their minds, being referred to real essences, as to archetypes which are unknown, must be so far from being adequate that they cannot be supposed to be any representation of them at all. The complex ideas we have of substances are, as it has been shown, certain collections of simple ideas that

have been observed or supposed constantly to exist together. But such a complex idea cannot be the real essence of any substance; for then the properties we discover in that body would depend on that complex idea, and be deducible from it, and their necessary connection with it be known; as all properties of a triangle depend on, and, as far as they are discoverable, are deducible from, the complex idea of three lines including a space. But it is plain that in our complex ideas of substances are not contained such ideas, on which all the other qualities that are to be found in them do depend. The common idea men have of iron is, a body of a certain colour, weight, and hardness; and a property that they look on as belonging to it, is malleableness. But yet this property has no necessary connection with that complex idea, or any part of it: and there is no more reason to think that malleableness depends on that colour, weight, and hardness, than that colour or that weight depends on its malleableness. This essence, from which all these properties flow, when I inquire into it and search after it, I plainly perceive I cannot discover: the furthest I can go is, only to presume that, it being nothing but body, its real essence or internal constitution, on which these qualities depend, can be nothing but the figure, size, and connection of its solid parts; of neither of which having any distinct perception at all can I have any idea of its essence: which is the cause that it has that particular shining yellowness; a greater weight than anything I know of the same bulk; and a fitness to have its colour changed by the touch of quicksilver. When I am told that something besides the figure, size, and posture of the solid parts of that body is its essence, something called *substantial form*, of that I confess I have no idea at all, but only of the sound form; which is far enough from an idea of its real essence or constitution.

10. But no one who hath considered the properties of bodies in general, or this sort in particular, can doubt that this, called *gold*, has infinite other properties not contained in that complex idea. It is probable, if any one knew all the properties that are by divers men known of this metal, there would be an hundred times as many ideas go to the complex idea of gold as any one man has yet in his; and yet perhaps that not be the thousandth part of what is to be discovered in it.

11. So that all our complex ideas of substances are imperfect and inadequate. Which would be so also in mathematical

figures, if we were to have our complex ideas of them, only by collecting their properties in reference to other figures. How uncertain and imperfect would our ideas be of an ellipsis, if we had no other idea of it, but some few of its properties? Whereas, having in our plain idea the *whole* essence of that figure, we from thence discover those properties, and demonstratively see how they flow and are inseparable from it.

12. Thus the mind has three sorts of abstract ideas or nominal essences:

First, *Simple* ideas, which are *εκτυπα* or copies; but yet certainly adequate. Because, being intended to express nothing but the power in things to produce in the mind such a sensation, that sensation, when it is produced, cannot but be the effect of that power.

13. Secondly, The *complex* ideas of *substances* are ectypes, copies too; but not perfect ones, not adequate: which is very evident to the mind, in that it plainly perceives, that whatever collection of simple ideas it makes of any substance that exists, it cannot be sure that it exactly answers all that are in that substance. Since, not having tried all the operations of all other substances upon it, and found all the alterations it would receive from, or cause in, other substances, it cannot have an exact adequate collection of all its active and passive capacities;

14. Thirdly, *Complex* ideas of *modes and relations* are originals, and archetypes; are not copies, nor made after the pattern of an real existence, to which the mind intends them to be conformable, and exactly to answer. These being such collections of simple ideas that the mind itself puts together, and such collections that each of them contains in it precisely all that the mind intends that it should, they are archetypes and essences of modes that may exist; and so are designed only for, and belong only to, such modes as, when they do exist, have an exact conformity with those complex ideas. The ideas, therefore, of modes and relations cannot but be adequate.

Chapter XXXII

OF TRUE AND FALSE IDEAS

Truth and Falsehood properly belong to Propositions, not to Ideas, 1-2; No Idea as an Appearance in the Mind, either true or false, 3; Only as referred to something extraneous, 4; What Ideas are referred to, 5; Names supposed to carry essences, 7; How men suppose Ideas to correspond to things, 8; Simple Ideas least liable to be mistaken, 9; Mixed Modes most liable, 10-12; The kinds of Ideas referred to Real Existence, 13-16; Modes cannot be false in reference to essences of things, 17; Ideas of Substances may be false in reference to existing things, 18; Ideas in themselves neither true nor false, 20; When Ideas are false, 21-5; Ideas more properly called right or wrong, 26.

1. *THOUGH* truth and falsehood belong, in propriety of speech, only to *propositions*: yet *ideas* are oftentimes termed true or false (as what words are there that are not used with great latitude, and with some deviation from their strict and proper significations?). Though I think that when ideas themselves are termed true or false, there is still some secret or tacit proposition, which is the foundation of that denomination: as we shall see, if we examine the particular occasions wherein they come to be called true or false. In all which we shall find some kind of affirmation or negation, which is the reason of that denomination. For our ideas, being nothing but bare *appearances*, or perceptions in our minds, cannot properly and simply in themselves be said to be true or false, no more than a single name of anything can be said to be true or false.

2. Indeed both ideas and words may be said to be true, in a metaphysical sense of the word truth; as all other things that any way exist are said to be true, i.e. really to be such as they exist. Though in things called true, even in that sense, there is perhaps a secret reference to our ideas, looked upon as the standards of that truth; which amounts to a mental proposition, though it be usually not taken notice of.

3. But it is not in that metaphysical sense of truth which we inquire here, when we examine whether our ideas are capable of being true or false, but in the more ordinary acceptation of those words: and so I say that the ideas in our minds, being only so many perceptions or appearances there, none of them are false; the idea of a centaur having no more falsehood in it when it appears in our minds, than the name centaur has falsehood in it when it is pronounced by our mouths, or written on paper. For truth or falsehood lying always in some affirmation or nega-

tion, mental or verbal, our ideas are not capable, any of them, of being false, till the mind passes some judgment on them: that is, affirms or denies something of them.

4. Whenever the mind refers any of its ideas to anything extraneous to them, they are then capable to be called true or false. Because the mind, in such a reference, makes a tacit supposition of their conformity to that thing; which supposition, as it happens to be true or false, so the ideas themselves come to be denominated. The most usual cases wherein this happens are these following:

5. First, When the mind supposes any idea it has *conformable* to that in *other men's minds*, called by the same common name; v.g. when the mind intends or judges its ideas of justice, temperance, religion, to be the same with what other men give those names to.

Secondly, When the mind supposes any idea it has in itself to be *conformable* to some *real existence*. Thus the two ideas of a man and a centaur, supposed to be the ideas of real substances, are the one true and the other false; the one having a conformity to what has really existed, the other not.

Thirdly, When the mind *refers* any of its ideas to that *real constitution and essence* of anything, whereon all its properties depend: and thus the greatest part, if not all our ideas of substances, are false.

7. If we will warily attend to the motions of the mind, and observe what course it usually takes in its way to knowledge, we shall, I think, find that the mind having got an idea which it thinks it may have use of either in contemplation or discourse, the first thing it does is to abstract it, and then get a name to it; and so lay it up in its storehouse, the memory, as containing the essence of a sort of things, of which that name is always to be the mark. Hence it is, that we may often observe that, when any one sees a new thing of a kind that he knows not, he presently asks, what it is; meaning by that inquiry nothing but the name; as if the name carried with it the knowledge of the species, or the essence of it; whereof it is indeed used as the mark, and is generally supposed annexed to it.

8. But this *abstract idea*, being something in the mind, between the thing that exists, and the name that is given to it; it is in our ideas that both the rightness of our knowledge, and the propriety and intelligibleness of our speaking, consists. And hence it is

that men are so forward to suppose, that the abstract ideas they have in their minds are such as agree to the things existing without them, to which they are referred; and are the same also to which the names they give them do by the use and propriety of that language belong. For without this double conformity of their ideas, they find they should both think amiss of things in themselves, and talk of them unintelligibly to others.

9. First, then, I say, that when the truth of our ideas is judged of by the conformity they have to the ideas which other men have, and commonly signify by the same name, they may be any of them false. But yet *simple ideas* are least of all liable to be so mistaken. Because a man, by his senses and every day's observation, may easily satisfy himself what the simple ideas are which their several names that are in common use stand for; they being but few in number, and such as, if he doubts or mistakes in, he may easily rectify by the objects they are to be found in.

10. Complex ideas are much more liable to be false in this respect; and the complex ideas of *mixed modes*, much more than those of substances; because in substances (especially those which the common and unborrowed names of any language are applied to) some remarkable sensible qualities, serving ordinarily to distinguish one sort from another, easily preserve those who take any care in the use of their words, from applying them to sorts of substances to which they do not at all belong. But in mixed modes we are much more uncertain; it being not so easy to determine of several actions, whether they are to be called *justice* or *cruelty*, *liberality* or *prodigality*. And so in referring our ideas to those of other men, called by the same names, ours may be false; and the idea in our minds, which we express by the word *justice*, may perhaps be that which ought to have another name.

11. When a man is thought to have a false idea of *justice*, or *gratitude*, or *glory*, it is for no other reason, but that his agrees not with the ideas which each of those names are the signs of in other men.

12. The reason whereof seems to me to be this: That the abstract ideas of mixed modes being men's voluntary combinations of such a precise collection of simple ideas, and so the essence of each species being made by men alone, whereof we have no other sensible standard existing anywhere but the name itself, or the definition of that name; we having nothing else to refer these our ideas of mixed modes to, as a standard to which we would conform them, but the ideas of those who are thought

to use those names in their most proper significations; and, so as our ideas conform or differ from *them*, they pass for true or false. And thus much concerning the truth and falsehood of our ideas, in reference to their names.

13. Secondly, as to the truth and falsehood of our ideas, in reference to the real existence of things. When that is made the standard of their truth, none of them can be termed false, but only our complex ideas of substances.

14. First, our simple ideas, being barely such perceptions as God has fitted us to receive, and given power to external objects to produce in us by established laws and ways, suitable to his wisdom and goodness, though incomprehensible to us, their truth consists in nothing else but in such appearances as are produced in us, and must be suitable to those powers he has placed in external objects, or else they could not be produced in us; and thus answering those powers, they are what they should be, true ideas. Nor do they become liable to any imputation of falsehood, if the mind (as in most men I believe it does) judges these ideas to be in the things themselves. It alters not the nature of our simple idea, whether we think that the idea of blue be in the violet itself, or in our mind only; and only the power of producing it by the texture of its parts, reflecting the particles of light after a certain manner, to be in the violet itself. The name, *blue*, notes properly nothing but that mark of distinction that is in a violet, discernible only by our eyes, whatever it consists in; that being beyond our capacities distinctly to know, and perhaps would be of less use to us, if we had faculties to discern.

15. Neither would it carry any imputation of falsehood to our simple ideas, if by the different structure of our organs it were so ordered, that *the same object should produce in several men's minds different ideas* at the same time; v.g. if the idea that a violet produced in one man's mind by his eyes were the same that a marigold produced in another man's, and *vice versa*. For, since this could never be known, because one man's mind could not pass into another man's body, to perceive what appearances were produced by those organs; neither the ideas hereby, nor the names, would be at all confounded, or any falsehood be in either. I am nevertheless very apt to think that the sensible ideas produced by any object in different men's minds, are most commonly very near and undiscernibly alike. For which opinion,

I think, there might be many reasons offered: but that being besides my present business, I shall not trouble my reader with them; but only mind him, that the contrary supposition, if it could be proved, is of little use, either for the improvement of our knowledge, or conveniency of life, and so we need not trouble ourselves to examine it.

16. Blue and yellow, bitter or sweet, can never be false ideas: these perceptions in the mind are just such as they are there, answering the powers appointed by God to produce them; and so are truly what they are, and are intended to be. Indeed the names may be misapplied, but that in this respect makes no falsehood in the ideas; as if a man ignorant in the English tongue should call purple scarlet.

17. Secondly, neither can our complex ideas of modes, in reference to the essence of anything really existing, be false; because whatever complex ideas I have of any mode, it hath no reference to any pattern existing, and made by nature; it is not supposed to contain in it any other ideas than what it hath; nor to represent anything but such a complication of ideas as it does. Thus, when I have the idea of such an action of a man who forbears to afford himself such meat, drink, and clothing, and other conveniences of life, as his riches and estate will be sufficient to supply and his station requires, I have no false idea; but such an one as represents an action, either as I find or imagine it, and so is capable of neither truth nor falsehood. But when I give the name *frugality* or *virtue* to this action, then it may be called a false idea, if thereby it be supposed to agree with that idea to which, in propriety of speech, the name of *frugality* doth belong, or to be conformable to that law which is the standard of virtue and vice.

18. Thirdly, our complex ideas of substances, being all referred to patterns in things themselves, may be false. That they are all false, when looked upon as the representations of the unknown essences of things, is so evident that there needs nothing to be said of it. I shall therefore consider them as collections of simple ideas in the mind, taken from combinations of simple ideas existing together constantly in things, of which patterns they are the supposed copies; and in this reference of them to the existence of things, they are false ideas: (1) When they put together simple ideas, which in the real existence of things have no union; as when to the shape and size that exist together in a horse, is joined in the same complex idea the power of barking like a dog.

(2) Ideas of substances are, in this respect, also false, when, from any collection of simple ideas that do always exist together, there is separated, by a direct negation, any other simple idea which is constantly joined with them. Thus, if to extension, solidity, fusibility, the peculiar weightiness, and yellow colour of gold, any one join in his thoughts the negation of a greater degree of fixedness than is in lead or copper, he may be said to have a false complex idea, as well as when he joins to those other simple ones the idea of perfect absolute fixedness.

20. Any idea, then, which we have in our minds, whether conformable or not to the existence of things, or to any idea in the minds of other men, cannot properly for this alone be called false. For these representations, if they have nothing in them but what is really existing in things without, cannot be thought false, being exact representations of something: nor yet if they have anything in them differing from the reality of things, can they properly be said to be false representations, or ideas of things they do not represent. But the mistake and falsehood is:

21. When the mind having any idea, it *judges* and concludes it the same that is in other men's minds, signified by the same name.

22. (2) When it having a complex idea made up of such a collection of simple ones as nature never put together, it *judges* it to agree to a species of creatures really existing.

23. (3) When in its complex idea it has united a certain number of simple ideas that do really exist together in some sort of creatures, but has also left out others as much inseparable, it *judges* this to be a perfect complete idea of a sort of things which really it is not.

24. (4) The mistake is yet greater, when I *judge* that this complex idea contains in it the real essence of any body existing; when at least it contains but some few of those properties which flow from its real essence and constitution.

25. To conclude, a man having no notion of anything without him, but by the idea he has of it in his mind (which idea he has a power to call by what name he pleases), he may indeed make an idea neither answering the reason of things, nor agreeing to the idea commonly signified by other people's words; but cannot make a wrong or false idea of a thing which is not otherwise known to him but by the idea he has of it; v.g. when I frame an idea of the legs, arms, and body of a man, and join to this a horse's head and neck, I do not make a false idea of anything; because

it represents nothing without me. But when I call it a *man* or *Tartar*, and imagine it to represent some real being without me, or to be the same idea that others call by the same name; in either of these cases I may err. And upon this account it is that it comes to be termed a false idea; though indeed the falsehood lies not in the idea, but in that tacit mental proposition, wherein a conformity and resemblance is attributed to it which it has not. But yet, if, having framed such an idea in my mind, without thinking either that existence, or the name *man* or *Tartar*, belongs to it, I will call it *man* or *Tartar*, I may be justly thought fantastical in the naming; but not erroneous in my judgment; nor the idea any way false.

26. Upon the whole matter, I think that our ideas, as they are considered by the mind—either in reference to the proper signification of their names, or in reference to the reality of things—may very fitly be called *right* or *wrong* ideas, according as they agree or disagree to those patterns to which they are referred. But if any one had rather call them true or false, it is fit he use a liberty, which every one has, to call things by those names he thinks best; though, in propriety of speech, *truth* or *falsehood* will, I think, scarce agree to them, but as they, some way or other, virtually contain in them some mental proposition. The ideas that are in a man's mind, simply considered, cannot be wrong; unless complex ones, wherein inconsistent parts are jumbled together. All other ideas are in themselves right, and the knowledge about them right and true knowledge; but when we come to refer them to anything, as to their patterns and archetypes, then they are capable of being wrong, as far as they disagree with such archetypes.

Chapter XXXIII

OF THE ASSOCIATION OF IDEAS

Something unreasonable in most Men, 1; Not wholly from Self-love, 2; Nor Education, 3; Approaches Madness, 4; From a wrong connection of Ideas, 5; Made by Custom, 6; Some Antipathies an Effect of it, 7; A Cause of Errors, 9-11, 16-17; Conclusion, 19

1. THERE is scarce any one that does not observe something that seems odd to him, and is in itself really extravagant, in the opinions, reasonings, and actions of other men. The least flaw

of this kind, if at all different from his own, every one is quick-sighted enough to espy in another, and will by the authority of reason forwardly condemn; though he be guilty of much greater unreasonableness in his own tenets and conduct, which he never perceives, and will very hardly, if at all, be convinced of.

2. This proceeds not wholly from self-love, though that has often a great hand in it. Men of fair minds, and not given up to the overweening of self-flattery, are frequently guilty of it; and in many cases one with amazement hears the arguings, and is astonished at the obstinacy, of a worthy man who yields not to the evidence of reason, though laid before him as clear as daylight.

3. This sort of unreasonableness is usually imputed to education and prejudice, and for the most part truly enough, though that reaches not the bottom of the disease, nor shows distinctly enough whence it rises, or wherein it lies. Education is often rightly assigned for the cause, and prejudice is a good general name for the thing itself: but yet, I think, he ought to look a little further, who would trace this sort of madness to the root it springs from, and so explain it, as to show whence this flaw has its original in very sober and rational minds, and wherein it consists.

4. I shall be pardoned for calling it by so harsh a name as madness, when it is considered that opposition to reason deserves that name, and is really madness; and there is scarce a man so free from it, but that if he should always, on all occasions, argue or do as in some cases he constantly does, would not be thought fitter for Bedlam than civil conversation. I do not here mean when he is under the power of an unruly passion, but in the steady calm course of his life. That which will yet more apologize for this harsh name, and ungrateful imputation on the greatest part of mankind, is, that, inquiring a little by the bye into the nature of madness (bk. II, chap. xi, § 13), I found it to spring from the very same root, and to depend on the very same cause we are here speaking of. This consideration of the thing itself, at a time when I thought not the least on the subject which I am now treating of, suggested it to me. And if this be a weakness to which all men are so liable, if this be a taint which so universally infects mankind, the greater care should be taken to lay it open under its due name, thereby to excite the greater care in its prevention and cure.

5. Some of our ideas have a *natural* correspondence and connection one with another: it is the office and excellency of our

reason to trace these, and hold them together in that union and correspondence which is founded in their peculiar beings. Besides this, there is another connection of ideas wholly owing to *chance* or *custom*. Ideas that in themselves are not all of kin, come to be so united in some men's minds, that it is very hard to separate them; they always keep in company, and the one no sooner at any time comes into the understanding, but its associate appears with it; and if they are more than two which are thus united, the whole gang, always inseparable, show themselves together.

6. *Custom* settles habits of thinking in the understanding, as well as of determining in the will, and of motions in the body: all which seems to be but trains of motions in the animal spirits, which, once set a-going, continue in the same steps they have been used to; which, by often treading, are worn into a smooth path, and the motion in it becomes easy, and as it were natural. As far as we can comprehend thinking, thus ideas seem to be produced in our minds; or, if they are not, this may serve to explain their following one another in an habitual train, when once they are put into their track, as well as it does to explain such motions of the body. A musician used to any tune will find that, let it but once begin in his head, the ideas of the several notes of it will follow one another orderly in his understanding, without any care or attention, as regularly as his fingers move orderly over the keys of the organ to play out the tune he has begun, though his unattentive thoughts be elsewhere a-wandering.

7. That there are such associations of them made by custom, in the minds of most men, I think nobody will question, who has well considered himself or others; and to this, perhaps, might be justly attributed most of the sympathies and antipathies observable in men, which work as strongly, and produce as regular effects, as if they were natural; and are therefore called so, though they at first had no other original but the accidental connection of two ideas, which either the strength of the first impression or future indulgence so united, that they always afterwards kept company together in that man's mind, as if they were but one idea.

9. This wrong connection in our minds of ideas in themselves loose and independent of one another, has such an influence, and is of so great force to set us awry in our actions, as well moral as natural, passions, reasonings, and notions themselves, that

perhaps there is not any one thing that deserves more to be looked after.

10. The ideas of goblins and sprites have really no more to do with darkness than light: yet let but a foolish maid inculcate these often on the mind of a child, and raise them there together, possibly he shall never be able to separate them again so long as he lives, but darkness shall ever afterwards bring with it those frightful ideas, and they shall be so joined, that he can no more bear the one than the other.

11. A man receives a sensible injury from another, thinks on the man and that action over and over, and by ruminating on them strongly, or much, in his mind, so cements those two ideas together, that he makes them almost one; never thinks on the man, but the pain and displeasure he suffered comes into his mind with it, so that he scarce distinguishes them, but has as much an aversion for the one as the other. Thus hatreds are often begotten from slight and innocent occasions, and quarrels propagated and continued in the world.

16. Instances of this kind are so plentiful everywhere, that if I add one more, it is only for the pleasant oddness of it. It is of a young gentleman, who, having learnt to dance, and that to great perfection, there happened to stand an old trunk in the room where he learnt. The idea of this remarkable piece of household stuff had so mixed itself with the turns and steps of all his dances, that though in that chamber he could dance excellently well, yet it was only whilst that trunk was there; nor could he perform well in any other place, unless that or some such other trunk had its due position in the room. If this story shall be suspected to be dressed up with some comical circumstances, a little beyond precise nature, I answer for myself that I had it some years since from a very sober and worthy man, upon his own knowledge, as I report it; and I dare say there are very few inquisitive persons who read this, who have not met with accounts, if not examples, of this nature, that may parallel, or at least justify this.

17. Intellectual habits and defects this way contracted, are not less frequent and powerful, though less observed. Let the ideas of being and matter be strongly joined, either by education or much thought; whilst these are still combined in the mind, what notions, what reasonings, will there be about separate spirits? Let the idea of infallibility be inseparably joined to any person,

and these two constantly together possess the mind; and then one body in two places at once, shall unexamined be swallowed for a certain truth, by an implicit faith, whenever that imagined infallible person dictates and demands assent without inquiry.

19. Having thus given an account of the original, sorts, and extent of our IDEAS, with several other considerations about these (I know not whether I may say) instruments, or materials of our knowledge, the method I at first proposed to myself would now require that I should immediately proceed to show, what use the understanding makes of them, and what KNOWLEDGE we have by them. This was that which, in the first general view I had of this subject, was all that I thought I should have to do: but, upon a nearer approach, I find that there is so close a connection between ideas and WORDS, and our abstract ideas and general words have so constant a relation one to another, that it is impossible to speak clearly and distinctly of our knowledge, which all consists in propositions, without considering, first, the nature, use, and signification of Language; which, therefore, must be the business of the next Book.

BOOK III

OF WORDS

Chapter I

OF WORDS AND LANGUAGE IN GENERAL

Man fitted to form articulate Sounds, 1; Sounds as Signs of Ideas, 2-4; Words ultimately derived from such as signify sensible Ideas, 5; Subjects to be treated, 6.

1. *GOD, having designed man for a sociable creature, made him not only with an inclination and under a necessity to have fellowship with those of his own kind, but furnished him also with language, which was to be the great instrument and common tie of society. Man, therefore, had by nature his organs so fashioned, as to be fit to frame articulate sounds, which we call words. But this was not enough to produce language; for parrots, and several other birds, will be taught to make articulate sounds distinct enough, which yet by no means are capable of language.*

2. *Besides articulate sounds, therefore, it was further necessary that he should be able to use these sounds as signs of internal conceptions; and to make them stand as marks for the ideas within his own mind, whereby they might be made known to others, and the thoughts of men's minds be conveyed from one to another.*

3. *But neither was this sufficient to make words so useful as they ought to be. It is not enough for the perfection of language, that sounds can be made signs of ideas, unless those signs can be so made use of as to comprehend several particular things: for the multiplication of words would have perplexed their use, had every particular thing need of a distinct name to be signified by. To remedy this inconvenience, language had yet a further improvement in the use of *general terms*, whereby one word was made to mark a multitude of particular existences: which advantageous use of sounds was obtained only by the difference of the ideas they were made signs of: those names becoming*

general, which are made to stand for *general ideas*, and those remaining particular, where the *ideas* they are used for are *particular*.

4. Besides these names which stand for ideas, there be other words which men make use of, not to signify any idea, but the want or absence of some ideas, simple or complex, or all ideas together; such as are *nihil* in Latin, and in English, *ignorance* and *barrenness*. All which negative or privative words cannot be said properly to belong to or signify no ideas: for then they would be perfectly insignificant sounds; but they relate to positive ideas, and signify their absence.

5. It may also lead us a little towards the original of all our notions and knowledge, if we remark how great a dependence our words have on common sensible ideas; and how those which are made use of to stand for actions and notions quite removed from sense, have their rise from thence, and from obvious sensible ideas are transferred to more abstruse significations, and made to stand for ideas that come not under the cognizance of our senses; v.g. to *imagine*, *apprehend*, *comprehend*, *adhere*, *conceive*, *instil*, *disgust*, *disturbance*, *tranquillity*, etc., are all words taken from the operations of sensible things, and applied to certain modes of thinking. *Spirit*, in its primary signification, is breath; *angel*, a messenger; and I doubt not but, if we could trace them to their sources, we should find, in all languages, the names which stand for things that fall not under our senses to have had their first rise from sensible ideas. By which we may give some kind of guess what kind of notions they were, and whence derived, which filled their minds who were the first beginners of languages, and how nature, even in the naming of things, unawares suggested to men the originals and principles of all their knowledge: whilst, to give names that might make known to others any operations they felt in themselves, or any other ideas that came not under their senses, they were fain to borrow words from ordinary known ideas of sensation, by that means to make others the more easily to conceive those operations they experimented in themselves, which made no outward sensible appearances; and then, when they had got known and agreed names to signify those internal operations of their own minds, they were sufficiently furnished to make known by words all their other ideas; since they could consist of nothing but either of outward sensible perceptions, or of the inward operations of their minds about them; we having, as has been proved,

no ideas at all, but what originally come either from sensible objects without, or what we feel within ourselves, from the inward workings of our own spirits, of which we are conscious to ourselves within.

6. But to understand better the use and force of Language, as subservient to instruction and knowledge, it will be convenient to consider:

First, *To what it is that names, in the use of language, are immediately applied.*

Secondly, Since all (except proper) names are general, and so stand not particularly for this or that single thing, but for sorts and ranks of things, it will be necessary to consider, in the next place, what the sorts and kinds, or, if you rather like the Latin names, *what the Species and Genera of things are, wherein they consist, and how they come to be made.* These being (as they ought) well looked into, we shall the better come to find the right use of words; the natural advantages and defects of language; and the remedies that ought to be used, to avoid the inconveniences of obscurity or uncertainty in the signification of words: without which it is impossible to discourse with any clearness or order concerning knowledge: which, being conversant about propositions, and those most commonly universal ones, has greater connection with words than perhaps is suspected.

These considerations, therefore, shall be the matter of the following chapters.

Chapter II

OF THE SIGNIFICATION OF WORDS

Words are sensible Signs of Ideas, 1; Primarily Signs of his Ideas who uses them, 2-3; Often secretly referred to Ideas in other men's minds, 4; And to the Reality of Things, 5; Words by Use excite Ideas of their objects, 6; Words often used without Signification, 7; Signification of Words is arbitrary, 8.

1. MAN, though he have great variety of thoughts, and such from which others as well as himself might receive profit and delight; yet they are all within his own breast, invisible and hidden from others, nor can of themselves be made to appear. The comfort and advantage of society not being to be had

without communication of thoughts, it was necessary that man should find out some external sensible signs, whereof those invisible ideas, which his thoughts are made up of, might be made known to others. For this purpose nothing was so fit, either for plenty or quickness, as those articulate sounds, which with so much ease and variety he found himself able to make. Thus we may conceive how *words*, which were by nature so well adapted to that purpose, came to be made use of by men as the signs of their ideas; not by any natural connection that there is between particular articulate sounds and certain ideas, for then there would be but one language amongst all men; but by a voluntary imposition, whereby such a word is made arbitrarily the mark of such an idea. The use, then, of words, is to be sensible marks of ideas; and the ideas they stand for are their proper and immediate signification.

2. The use men have of these marks being either to record their own thoughts, for the assistance of their own memory; or, as it were, to bring out their ideas, and lay them before the view of others: words, in their primary or immediate signification, stand for nothing but *the ideas in the mind of him that uses them*, how imperfectly soever or carelessly those ideas are collected from the things which they are supposed to represent. When a man speaks to another, it is that he may be understood: and the end of speech is, that those sounds, as marks, may make known his ideas to the hearer. That then which words are the marks of are the ideas of the speaker: nor can any one apply them as marks, immediately, to anything else but the ideas that he himself hath: for this would be to make them signs of his own conceptions, and yet apply them to other ideas; which would be to make them signs and not signs of his ideas at the same time; and so in effect to have no signification at all. Words being voluntary signs, they cannot be voluntary signs imposed by him on things he knows not. That would be to make them signs of nothing, sounds without signification. A man cannot make his words the signs either of qualities in things, or of conceptions in the mind of another, whereof he has none in his own. Till he has some ideas of his own, he cannot suppose them to correspond with the conceptions of another man. But when he represents to himself other men's ideas by some of his own, if he consent to give them the same names that other men do, it is still to his own ideas; to ideas that he has, and not to ideas that he has not.

3. This is so necessary in the use of language, that in this

respect the knowing and the ignorant, the learned and the unlearned, use the words they speak (with any meaning) all alike. They, in every man's mouth, stand for the ideas he has, and which he would express by them. A child having taken notice of nothing in the metal he hears called *gold*, but the bright shining yellow colour, he applies the word *gold* only to his own idea of that colour, and nothing else; and therefore calls the same colour in a peacock's tail *gold*. Another that hath better observed, adds to shining yellow great weight: and then the sound *gold*, when he uses it, stands for a complex idea of a shining yellow and a very weighty substance. Another adds to those qualities fusibility: and then the word *gold* signifies to him a body, bright, yellow, fusible, and very heavy. Another adds malleability. Each of these uses equally the word *gold*, when they have occasion to express the idea which they have applied it to: but it is evident that each can apply it only to his own idea; nor can he make it stand as a sign of such a complex idea as he has not.

4. But though words, as they are used by men, can properly and immediately signify nothing but the ideas that are in the mind of the speaker; yet they in their thoughts give them a secret reference to two other things.

First, *They suppose their words to be marks of the ideas in the minds also of other men, with whom they communicate*: for else they should talk in vain, and could not be understood, if the sounds they applied to one idea were such as by the hearer were applied to another, which is to speak two languages.

5. Secondly, *Because men would not be thought to talk barely of their own imagination, but of things as really they are; therefore they often suppose the words to stand also for the reality of things.* We shall speak of different ways of applying words more at large, when we come to treat of the names of mixed modes and substances in particular: though give me leave here to say, that it is a perverting the use of words, and brings unavoidable obscurity and confusion into their signification, whenever we make them stand for anything but those ideas we have in our own minds.

6. Concerning words, also, it is further to be considered: First, that there comes, by constant use, to be such a connection between certain sounds and the ideas they stand for, that the names heard almost as readily excite certain ideas as if the objects themselves, which are apt to produce them, did actually affect the senses. Which is manifestly so in all obvious sensible

qualities, and in all substances that frequently and familiarly occur to us.

7. Secondly, That though the proper and immediate signification of words are *ideas in the mind of the speaker*, yet, because by familiar use from our cradles, we come to learn certain articulate sounds very perfectly, and have them readily on our tongues, and always at hand in our memories, but yet are not always careful to examine or settle their significations perfectly; it often happens that men, even when they would apply themselves to an attentive consideration, do set their thoughts more on words than things.

8. Words, by long and familiar use, as has been said, come to excite in men certain ideas so constantly and readily, that they are apt to suppose a natural connection between them. But that they signify only men's peculiar ideas, and that *by a perfect arbitrary imposition*, is evident, in that they often fail to excite in others (even that use the same language) the same ideas we take them to be signs of: and every man has so inviolable a liberty to make words stand for what ideas he pleases, that no one hath the power to make others have the same ideas in their minds that he has, when they use the same words that he does. And therefore the great Augustus himself, in the possession of that power which ruled the world, acknowledged he could not make a new Latin word: which was as much as to say, that he could not arbitrarily appoint what idea any sound should be a sign of, in the mouths and common language of his subjects. Whatever be the consequence of any man's using of words differently, either from their general meaning, or the particular sense of the person to whom he addressed them; this is certain, their signification, in his use of them, is limited to his ideas, and they can be signs of nothing else.

Chapter III

OF GENERAL TERMS

Greatest Part of Words are general terms, 1; Each Particular cannot have distinct Name, 2; Useless, if possible, 3-4; How general Words are made, 6-8; What general Natures are, 9; Use of Genus in Definitions, 10; Universals exist only in the Understanding, 11; Abstract Ideas are Essences of Genera and Species, 12; Their Foundation in the Similitude of Things, 13-14; Several Significations of word Essence, 15; Connection between Name and nominal Essence, 16; Supposition, that Species are distinguished by real Essences, useless, 17; Real and nominal Essence same in Modes and simple Ideas, different in Substances, 18; Essences ingenerable and incorruptible, 19; Recapitulation, 20.

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 quite the 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.

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 connection 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.

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. 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.

4. Thirdly, 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. These, with the names belonging to them, come within some compass, and do not multiply every moment, beyond what either the mind can contain, or use requires. And therefore, in these, men have for the most part stopped: but yet not so as to hinder themselves from distinguishing particular things by appropriated names, where convenience demands it. And therefore in their own species, which they have most to do with, and wherein they have often occasion to mention particular persons, they make use of proper names; and there distinct individuals have distinct denominations.

6. 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.

7. 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 *manma* 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.

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.

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 anything 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.

10. This may show us the reason why, in the defining of words, which is nothing but declaring their signification, 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. 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.

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.

12. 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. 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 anything 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.

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, to which as particular things existing are found to agree, so they come to be of that species.* 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 anything precisely ceases to be of the species of a *horse* or *lead*.

14. In truth, every distinct abstract idea is a distinct essence; and the names that stand for such distinct ideas are the names of things essentially different. Thus a circle is as essentially different from an oval as a sheep from a goat; and rain is as essentially different from snow as water from earth: that abstract idea which is the essence of one being impossible to be communicated to the other.

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*.

First, Essence may be taken for the very being of anything, 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.

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*.

16. Between the *nominal essence* and the *name* there is so near a connection, 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.

17. Concerning the *real essences* of corporeal substances 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.

18. Essences being thus distinguished into nominal and real, we may further 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, etc., which are to be found in it: which constitution we know not, and so, having no particular idea of, having no name that is the sign of it. But yet it is its colour, weight, fusibility, fixedness, etc., which makes it to be gold, or gives it a right to that name, which is therefore its nominal essence.

19. That such abstract ideas, with names to them, as we have been speaking of are essences, may further appear by what we are told concerning essences, viz. that they are all ingenerable and incorruptible. Which cannot be true of the real constitutions of things, which begin and perish with them. All things that exist, besides their Author, are all liable to change; especially those things we are acquainted with, and have ranked into bands under distinct names or ensigns. Thus, that which was grass to-day is to-morrow the flesh of a sheep; and, within a few days after, becomes part of a man: in all which and the like changes, it is evident their real essence—i.e. that constitution whereon the properties of these several things depended—is destroyed, and perishes with them. But essences being taken for ideas established in the mind, with names annexed to them, they are supposed to remain steadily the same, whatever mutations the particular substances are liable to. For, were there now no circle existing anywhere in the world (as perhaps that figure exists not anywhere exactly marked out), yet the idea annexed to that name would not cease to be what it is.

20. To conclude. This is that which in short I would say, viz. that all the great business of *genera* and *species*, and their *essences*, amounts to no more but this: that men making abstract ideas, and settling them in their minds with names annexed to them, do thereby enable themselves to consider things, and discourse of them, as it were in bundles, for the easier and readier improvement and communication of their knowledge, which would advance but slowly were their words and thoughts confined only to particulars.

Chapter IV

OF THE NAMES OF SIMPLE IDEAS

Names of simple Ideas and Substances intimate real Existence, 1-2; Names of simple Ideas and Modes signify always both real and nominal Essences, 3; Names of simple Ideas are undefinable, 4, 7-8, 11; What a Definition is, 6; Contrariwise in complex Ideas, 12, 14; Names of simple Ideas of less doubtful meaning than those of mixed Modes and Substances, 15; Simple Ideas have few Ascents in *linea praedicamentali*, 16; Names of simple Ideas and Modes not arbitrary, but perfectly taken from the Existence of Things, 17.

1. The names of *simple ideas*, *mixed modes* (under which I comprise *relations* too), and *natural substances*, have each of them something peculiar and different from the other. For example:

2. First, The names of *simple ideas* and *substances*, with the abstract ideas in the mind which they immediately signify, intimate also some real existence, from which was derived their original pattern. But the names of *mixed modes* terminate in the idea that is in the mind, and lead not the thoughts any further.

3. Secondly, The names of simple ideas and modes signify always the real as well as nominal essence of their species. But the names of natural substances signify rarely, if ever, anything but barely the nominal essences of those species.

4. Thirdly, The names of simple ideas are not capable of any definition; the names of all complex ideas are.

6. I think it is agreed, that a *definition* is nothing else but *the showing the meaning of one word by several other not synonymous terms*. The meaning of words being only the ideas they are made to stand for by him that uses them, the meaning of any term is then showed, or the word is defined, when, by other words, the idea it is made the sign of, and annexed to, in the mind of the speaker, is as it were represented or set before the view of another. This is the only measure of what is or is not a good definition.

7. This being premised, I say that the *names of simple ideas, and those only, are incapable of being defined*. The reason whereof is this, that the several terms of a definition signifying several ideas, they can all together by no means represent an idea which has no composition at all: and therefore a definition which is properly nothing but the showing the meaning of one word by several others not signifying each the same thing, can in the names of simple ideas have no place.

8. The not observing this difference in our ideas and their names, has produced that eminent trifling in the schools, which is so easy to be observed in the definitions they give us of some few of these simple ideas. For, as to the greatest part of them, even those masters of definitions were fain to leave them untouched, merely by the impossibility they found in it. What more exquisite jargon could the wit of man invent, than this definition [of motion]: 'The act of a being in power, as far forth as in power'; which would puzzle any rational man, to whom it was not already known by its famous absurdity, to guess what word it could ever be supposed to be the explication of.

11. Simple ideas, as has been shown, are only to be got by those impressions objects themselves make on our minds, by the proper inlets appointed to each sort. If they are not received this way, all the words in the world, made use of to explain or define any of their names, will never be able to produce in us the idea it stands for. For words, being sounds, can produce in us no other simple ideas than of those very sounds; nor excite any in us, but by that voluntary connection which is known to be between them and those simple ideas which common use has made them the signs of. He that thinks otherwise, let him try if any words can give him the taste of a pineapple, and make him have the true idea of the relish of that celebrated delicious fruit. So far as he is told it has a resemblance with any tastes whereof he has the ideas already in his memory, imprinted there by sensible objects, not strangers to his palate, so far may he approach that resemblance in his mind. But this is not giving us that idea by a definition, but exciting in us other simple ideas by their known names; which will be still very different from the true taste of that fruit itself. In light and colours, and all other simple ideas, it is the same thing; for the signification of sounds is not natural, but only imposed and arbitrary.

12. The case is quite otherwise in *complex ideas*; which consisting of several simple ones, it is in the power of words, standing for the several ideas that make that composition, to imprint complex ideas in the mind which were never there before, and so make their names be understood. In such collections of ideas passing under one name, definition, or the teaching the signification of one word by several others, has place, and may make us understand the names of things which never came within the reach of our senses; and frame ideas suitable to those in other

men's minds, when they use those names: provided that none of the terms of the definition stand for any such simple ideas, which he to whom the explication is made has never yet had in his thought. Thus the word *status* may be explained to a blind man by other words, when *picture* cannot; his senses having given him the idea of figure, but not of colours, which therefore words cannot excite in him.

14. Simple ideas, as has been shown, can only be got by experience from those objects which are proper to produce in us those perceptions. When, by this means, we have our minds stored with them, and know the names for them, then we are in a condition to define, and by definition to understand, the names of complex ideas that are made up of them.

15. Fourthly, But though the names of simple ideas have not the help of definition to determine their signification, yet that hinders not but that they are generally less doubtful and uncertain than those of mixed modes and substances; because, they standing only for one simple perception, men for the most part easily and perfectly agree in their signification; and there is little room for mistake and wrangling about their meaning. He that knows once that whiteness is the name of that colour he has observed in snow or milk, will not be apt to misapply that word, as long as he retains that idea; which when he has quite lost, he is not apt to mistake the meaning of it, but perceives he understands it not.

16. Fifthly, This further may be observed concerning simple ideas and their names, that they have but few ascents *in linea praedicamentali* (as they call it), from the lowest species to the *summum genus*. The reason whereof is, that the lowest species being but one simple idea, nothing can be left out of it, that so the difference being taken away, it may agree with some other thing in one idea common to them both; which, having one name, is the genus of the other two: v.g. there is nothing that can be left out of the idea of white and red to make them agree in one common appearance, and so have one general name; as *rationality* being left out of the complex idea of man, makes it agree with brute in the more general idea and name of animal. And therefore when, to avoid unpleasant enumerations, men would comprehend both white and red, and several other such simple ideas, under one general name, they have been fain to do it by a word which denotes only the way they get into the mind. For

when white, red, and yellow are all comprehended under the genus or name colour, it signifies no more but such ideas as are produced in the mind only by the sight, and have entrance only through the eyes. And when they would frame yet a more general term to comprehend both colours and sounds, and the like simple ideas, they do it by a word that signifies all such as come into the mind only by one sense. And so the general term *quality*, in its ordinary acceptation, comprehends colours, sounds, tastes, smells, and tangible qualities, with distinction from extension, number, motion, pleasure, and pain, which make impressions on the mind and introduce their ideas by more senses than one.

17. Sixthly, The names of simple ideas, substances, and mixed modes have also this difference: that those of *mixed modes* stand for ideas perfectly arbitrary; those of *substances* are not perfectly so, but refer to a pattern, though with some latitude; and those of *simple ideas* are perfectly taken from the existence of things, and are not arbitrary at all. Which, what difference it makes in the significations of their names, we shall see in the following chapters.

The names of *simple modes* differ little from those of simple ideas.

Chapter V

OF THE NAMES OF MIXED MODES AND RELATIONS

Mixed Modes stand for abstract Ideas, 1; Which are made by the Understanding, 2; And arbitrarily, 3; How done, 4; Idea often before Existence, 5; Instances, 6; But still subservient to the End of Language, not made at random, 7; Intranslatable Words, 8; Species made for Communication, 9; In mixed Modes, the Name ties the various simple Ideas into one Species, 10; Originals of mixed Modes in Mind, 12; Names of mixed Modes stand for real Essences in the Mind, 14; Their Names got before Ideas, 15.

1. THE names of *mixed modes* being general, they stand, as has been showed, for sorts or species of things, each of which has its peculiar essence. The essences of these species also, as has been showed, are nothing but the abstract ideas in the mind, to which the name is annexed. Thus far the names and essences of mixed modes have nothing but what is common to them with other ideas: but if we take a little nearer survey of them, we shall find that they have something peculiar, which perhaps may deserve our attention.

2. The first particularity I shall observe in them is, that the abstract ideas, or, if you please, the essences, of the several species of mixed modes, are *made by the understanding*, wherein they differ from those of simple ideas; in which sort the mind has no power to make any one, but only receives such as are presented to it by the real existence of things operating upon it.

3. In the next place, these essences of the species of mixed modes are not only made by the mind, but *made very arbitrarily, made without patterns, or reference to any real existence*. Wherein they differ from those of substances, which carry with them the supposition of some real being, from which they are taken, and to which they are conformable. But, in its complex ideas of mixed modes, the mind takes a liberty not to follow the existence of things exactly. It unites and retains certain collections, as so many distinct specific ideas; whilst others, that as often occur in nature, and are as plainly suggested by outward things, pass neglected, without particular names or specifications. Nor does the mind, in these of mixed modes, as in the complex idea of substances, examine them by the real existence of things; or verify them by patterns containing such peculiar compositions in nature.

4. To understand this right, we must consider wherein this making of these complex ideas consists; and that is not in the making any new idea, but putting together those which the mind had before. Wherein the mind does these three things: First, It chooses a certain number; Secondly, It gives them connection, and makes them into one idea; Thirdly, It ties them together by a name.

5. Nobody can doubt but that these ideas of mixed modes are made by a voluntary collection of ideas, put together in the mind independent from any original patterns in nature, who will but reflect that this sort of complex ideas may be made, abstracted, and have names given them, and so a species be constituted, before any one individual of that species ever existed. Who can doubt but the ideas of *sacrilege* or *adultery* might be framed in the minds of men, and have names given them, and so these species of mixed modes be constituted, before either of them was ever committed; and might be as well discoursed of and reasoned about, and as certain truths discovered of them, whilst yet they had no being but in the understanding, as well as now that they have but too frequently a real existence? Whereby it is plain how much the sorts of mixed modes are the creatures of the

understanding, where they have a being as subservient to all the ends of real truth and knowledge, as when they really exist. And we cannot doubt but law-makers have often made laws about species of actions which were only the creatures of their own understandings; beings that had no other existence but in their own minds. And I think nobody can deny but that the *resurrection* was a species of mixed modes in the mind, before it really existed.

6. What greater connection in nature has the idea of a man than the idea of a sheep with killing, that this is made a particular species of action, signified by the word *murder*, and the other not? Or what union is there in nature between the idea of the relation of a father with killing than that of a son or neighbour, that those are combined into one complex idea, and thereby made the essence of the distinct species *parricide*, whilst the other makes no distinct species at all? But, though they have made killing a man's father or mother a distinct species from killing his son or daughter, yet, in some other cases, son and daughter are taken in too, as well as father and mother: and they are all equally comprehended in the same species, as in that of *incest*. Thus the mind in mixed modes arbitrarily unites into complex ideas such as it finds convenient; whilst others that have altogether as much union in nature are left loose, and never combined into one idea, because they have no need of one name. In framing these ideas, the mind searches not its patterns in nature, nor refers the ideas it makes to the real existence of things, but puts such together as may best serve its own purposes, without tying itself to a precise imitation of anything that really exists.

7. But, though these complex ideas or essences of mixed modes depend on the mind, and are made by it with great liberty, yet they are not made at random, and jumbled together without any reason at all. Though these complex ideas be not always copied from nature, yet they are always suited to the end for which abstract ideas are made: and though they be combinations made of ideas that are loose enough, and have as little union in themselves as several others to which the mind never gives a connection that combines them into one idea; yet they are always made for the convenience of communication, which is the chief end of language. In the making therefore of the species of mixed modes, men have had regard only to such combinations as they had occasion to mention one to another.

8. A moderate skill in different languages will easily satisfy

one of the truth of this, it being so obvious to observe great store of words in one language which have not any that answer them in another. Which plainly shows that those of one country, by their customs and manner of life, have found occasion to make several complex ideas, and given names to them, which others never collected into specific ideas. This could not have happened if these species were the steady workmanship of nature, and not collections made and abstracted by the mind, in order to naming, and for the convenience of communication. Nay, if we look a little more nearly into this matter, and exactly compare different languages, we shall find that, though they have words which in translations and dictionaries are supposed to answer one another, yet there is scarce one of ten amongst the names of complex ideas, especially of mixed modes, that stands for the same precise idea which the word does that in dictionaries it is rendered by. There are no ideas more common and less compounded than the measures of *time, extension, and weight*; and the Latin names, *hora, pes, libra*, are without difficulty rendered by the English names, *hour, foot, and pound*: but yet there is nothing more evident than that the ideas a Roman annexed to these Latin names were very far different from those which an Englishman expresses by those English ones.

9. The reason why I take so particular notice of this is, that we may not be mistaken about *genera* and *species*, and their *essences*, as if they were things regularly and constantly made by nature, and had a real existence in things; when they appear, upon a more wary survey, to be nothing else but an artifice of the understanding, for the easier signifying such collections of ideas as it should often have occasion to communicate by one general term; under which divers particulars, as far forth as they agreed to that abstract idea, might be comprehended.

10. The near relation that there is between *species, essences*, and their *general name*, at least in mixed modes, will further appear when we consider, that it is the name that seems to preserve those essences, and give them their lasting duration. For, the connection between the loose parts of those complex ideas being made by the mind, this union, which has no particular foundation in nature, would cease again, were there not something that did, as it were, hold it together, and keep the parts from scattering. Though therefore it be the mind that makes the collection, it is the name which is as it were the knot that ties them fast together.

12. Conformable also to what has been said concerning the essences of the species of mixed modes, that they are the creatures of the understanding rather than the works of nature, we find that their names lead our thoughts to the mind, and no further. When we speak of *justice*, or *gratitude*, we frame to ourselves no imagination of anything existing, which we would conceive; but our thoughts terminate in the abstract ideas of those virtues, and look not further; as they do when we speak of a *horse*, or *iron*, whose specific ideas we consider not as barely in the mind, but as in things themselves, which afford the original patterns of those ideas. And hence I think it is that these essences of the species of mixed modes are by a more particular name called *notions*; as, by a peculiar right, appertaining to the understanding.

14. Another thing we may observe from what has been said is, that the names of mixed modes always signify (when they have any determined signification) the *real* essences of their species. For, these abstract ideas being the workmanship of the mind, and not referred to the real existence of things, there is no supposition of anything more signified by that name, but barely that complex idea the mind itself has formed; which is all it would have expressed by it; and is that on which all the properties of the species depend, and from which alone they all flow: and so in these the real and nominal essence is the same.

15. This also may show us the reason why for the most part the names of mixed modes are got before the ideas they stand for are perfectly known. Because there being no species of these ordinarily taken notice of but what have names, and those species, or rather their essences, being abstract complex ideas, made arbitrarily by the mind, it is convenient, if not necessary, to know the names, before one endeavour to frame these complex ideas: unless a man will fill his head with a company of abstract complex ideas, which, others having no names for, he has nothing to do with but to lay by and forget again. What one of a thousand ever frames the abstract ideas of *glory* and *ambition*, before he has heard the names of them? In simple ideas and substances I grant it is otherwise; which being such ideas as have a real existence and union in nature, the ideas and names are got one before the other, as it happens

Chapter VI

OF THE NAMES OF SUBSTANCES

Common Names of Substances stand for Sorts, 1; Essence of each Sort is abstract Idea to which Name is annexed, 2; Nominal and real Essence different, 3; Nothing essential to Individual, 4-6; Nominal Essence bounds Species for us, 7-8; Not real Essence, or texture of parts which we know not, 9; Our Idea of God an Example, 11; Probably numberless Species of finite Spirits in continuous Gradation, 12; Corporal Examples, 13; Difficulties in the supposition of a certain number of real Essences, 14-19; Names of Substances stand for a collection of simple Ideas, 21; Our abstract Ideas the Measures of Species, 22; Species in Animals not distinguished by Generation, 23; Variation in supposed real Essences proves they are made by men's minds, 26; Nominal Essences can vary, 27; But not so arbitrary as mixed Modes, 28; Nominal Essences combinations of a few observed qualities, 29; Imperfect, but serve for common converse, 30; This accommodated to the end of Speech, 33; Nature makes the Similitudes of Substances, 36-7; Species of artificial things less confused than natural, 40; Only Substances have proper Names, 42.

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.

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 everything 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*: e.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.

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.

4. That *essence*, in the ordinary use of the word, relates to sorts, and that it is considered in particular beings no further 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 anything 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. 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.

5. Should there be found a parcel of matter that had all the other qualities that are in iron, but wanted obedience to the load-stone, and would neither be drawn by it nor receive direction from it, would any one question whether it wanted anything essential? It would be absurd to ask, whether a thing really existing wanted anything 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 in 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 everything 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.

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 that real constitution of anything, 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 everything has within itself, without any relation to anything 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.

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. 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?

8. 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. This, as it is easy to be observed by all who have to do with natural bodies, so chemists especially are often, by sad experience, convinced of it, when they, sometimes in vain, seek for the same qualities in one parcel of sulphur, antimony, or vitriol, which they have found in others. For, though they are bodies of the same species, having the same nominal essence, under the same name, yet do they often, upon severe ways of examination, betray qualities so different one from another, as to frustrate the expectation and labour of very wary chemists. But if things were distinguished into species, according to their real essences, it would be as impossible to find different properties in any two individual substances of the same species, as it is to find different properties in two circles, or two equilateral triangles. That is properly the essence to *us*, which determines every particular to this or that *classis*; or, which is the same thing, to this or that general name: and what can that be else, but that abstract idea to which that name is annexed, and so has, in truth, a reference, not so much

to the being of particular things, as to their general denominations?

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 further 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 a countryman's idea is from the inward contrivance of that famous clock at Strasburg, whereof he only sees the outward figure and motions. A blind man may as soon sort things by their colours, and he that has lost his smell as well distinguish a lily and a rose by their odours, as by those internal constitutions which he knows not.

11. Even the most advanced notion we have of God is but attributing the same simple ideas which we have got from reflection on what we find in ourselves, and which we conceive to have more perfection in them than would be in their absence; attributing, I say, those simple ideas to him in an unlimited degree.

Thus, having got from reflecting on ourselves the idea of existence, knowledge, power, and pleasure—each of which we find it better to have than to want; and the more we have of each the better—joining all these together, with infinity to each of them, we have the complex idea of an eternal, omniscient, omnipotent, infinitely wise and happy being.

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 like 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 most inorganic parts of matter, we shall find everywhere that the several species are linked together, and differ but in almost insensible degrees. And when we consider the innate power and wisdom of the Maker, we have reason to think that it is suitable to the magnificent harmony of the universe, and the great design and infinite goodness of the Architect, that the species of creatures should also, by gentle degrees, ascend upward from us toward his infinite perfection, as we see they gradually descend from us downwards: which if it be probable, we have reason then to be persuaded that there are far more species of creatures above us than there are beneath; we being, in degrees of perfection, much more remote from the infinite being of GOD than we are from the lowest state of being, and that which approaches nearest to nothing. And yet of all those distinct species, for the reasons above said, we have no clear distinct ideas.

13. If I should ask any one whether ice and water were two distinct species of things, I doubt not but I should be answered in the affirmative: and it cannot be denied but he that says they are two distinct species is in the right. But if an Englishman bred in Jamaica, who perhaps had never seen nor heard of ice, coming into England in the winter, find the water he put in his basin at night in a great part frozen in the morning, and, not knowing any peculiar name it had, should call it hardened water; I ask whether this would be a new species to him, different from water. And I think it would be answered here: It would not be to him a new species, no more than congealed jelly, when it is cold, is a distinct species from the same jelly fluid and warm; or than liquid gold in the furnace is a distinct species from hard gold in the hands of a workman. And if this be so, it is plain that *our distinct species are nothing but distinct complex ideas, with distinct names annexed to them.*

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:

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.

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.

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 everything 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.

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.

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.

21. But since, as has been remarked, ~~we have need of general words, though we know not the real essences of things; all we can do is to collect such a number of simple ideas as, by examination, we find to be united together in things existing, and thereof to make one complex idea. Which, though it be not the real essence of any substance that exists, is yet the specific essence to which~~

our name belongs, and is convertible with it; by which we may at least try the truth of these nominal essences. For example: there be that say that the essence of body is *extension*; if it be so, we can never mistake in putting the essence of anything for the thing itself. Let us then in discourse put extension for body, and when we would say that body moves, let us say that extension moves, and see how ill it will look. He that should say that one extension by impulse moves another extension, would, by the bare expression, sufficiently show the absurdity of such a notion. The essence of anything, in respect of us, is the whole complex idea comprehended and marked by that name; and in substances, besides the several distinct simple ideas that make them up, the confused one of substance, or of an unknown support and cause of their union, is always a part: and therefore the essence of body is not bare extension, but an extended solid thing; and so to say, an extended solid thing moves or impels another, is all one, and as intelligible, as to say, *body* moves or impels.

22. There are creatures in the world that have shapes like ours, but are hairy, and want language and reason. There are naturals amongst us that have perfectly our shape, but want reason, and some of them language too. There are creatures, as it is said (*sit fides penes auctorem*, but there appears no contradiction that there should be such), that, with language and reason, and a shape in other things agreeing with ours, have hairy tails; others where the males have no beards, and others where the females have. If it be asked whether these be all *men* or no, all of human species, it is plain, the question refers only to the nominal essence: for those of them to whom the definition of the word *man*, or the complex idea signified by that name, agrees, are men, and the other not. But if the inquiry be made concerning the supposed real essence; and whether the internal constitution and frame of these several creatures be specifically different, it is wholly impossible for us to answer, no part of that going into our specific idea: only we have reason to think, that where the faculties or outward frame so much differs, the internal constitution is not exactly the same. But what difference in the real constitution makes a specific difference it is vain to inquire; whilst our measures of species be, as they are, only our abstract ideas, which we know; and not that internal constitution, which makes no part of them.

23. Nor let any one say, that the power of propagation in animals by the mixture of male and female, and in plants by

seeds, keeps the supposed *real* species distinct and entire. For, granting this to be true, it would help us in the distinction of the species of things no further than the tribes of animals and vegetables. What must we do for the rest? But in those too it is not sufficient: for if history lie not, women have conceived by drills; and what real species, by that measure, such a production will be in nature will be a new question: and we have reason to think this is not impossible, since mules and jumarts, the one from the mixture of an ass and a mare, the other from the mixture of a bull and a mare, are so frequent in the world. I once saw a creature that was the issue of a cat and a rat, and had the plain marks of both about it; wherein nature appeared to have followed the pattern of neither sort alone, but to have jumbled them both together.

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. It could not possibly be that the abstract idea to which the name *man* is given should be different in several men, if it were of nature's making; and that to one it should be *animal rationale*, and to another, *animal implume bipes latis unguibus*. He that annexes the name *man* to a complex idea, made up of sense and spontaneous motion, joined to a body of such a shape, has thereby one essence of the species *man*; and he that, upon further examination, adds rationality, has another essence of the species he calls *man*: by which means the same individual will be a true *man* to the one which is not so to the other.

27. Wherein, then, would I gladly know, consist the precise and unmovable boundaries of that species? It is plain, if we examine, there is no such thing made by nature, and established by her amongst men. The real essence of that or any other sort of substances, it is evident, we know not; and therefore are so undetermined in our nominal essences, which we make ourselves, that, if several men were to be asked concerning some

oddly-shaped *foetus*, as soon as born, whether it were a *man* or no, it is past doubt one should meet with different answers. Which could not happen, if the nominal essences, whereby we limit and distinguish the species of substances, were not made by man with some liberty; but were exactly copied from precise boundaries set by nature, whereby it distinguished all substances into certain species.

28. But though 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 ideas 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 things of life, if the ideas they stand for be not some way answering the common appearances and agreement of substances as they really exist.

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.

30. But though this serves well enough for gross and confused conceptions, and inaccurate ways of talking and thinking; yet *men are far enough from having agreed on the precise number of simple ideas or qualities belonging to any sort of things, signified by its name.* Nor is it a wonder; since it requires much time, pains, and skill, strict inquiry, and long examination to find out what, and how many, those simple ideas are, which are constantly and inseparably united in nature, and are always to be found together in the same subject. Most men, wanting either time, inclination, or industry enough for this, even to some tolerable degree, content themselves with some few obvious and outward appearances of things, thereby readily to distinguish and sort them for the common affairs of life; and so, without further examination, give them names, or take up the names already in use.

33. This is adjusted to the true end of speech, which is to be the easiest and shortest way of communicating our notions. For thus he that would discourse of things, as they agreed in the complex idea of extension and solidity, needed but use the word *body* to denote all such. He that to these would join others, signified by the words *life, sense, and spontaneous motion*, needed but use the word *animal* to signify all which partaked of those ideas, and he that had made a complex idea of a body, with life, sense, and motion, with the faculty of reasoning, and a certain shape joined to it, needed but use the short monosyllable *man*, to express all particulars that correspond to that complex idea. This is the proper business of genus and species: and this men do without any consideration of real essences, or substantial forms; which come not within the reach of our knowledge when we think of those things, nor within the signification of our words when we discourse with others.

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.

37. I do not deny but nature, in the constant production of particular beings, makes them not always new and various, but very much alike and of kin one to another: but I think it nevertheless true, that the boundaries of the species, whereby men sort them, are made by men; since the essences of the species, distinguished by different names, are, as has been proved, of man's making, and seldom adequate to the internal nature of the things they are taken from. So that we may truly say, such a manner of sorting of things is the workmanship of men.

40. From what has been before said, we may see the reason why, in the species of artificial things, there is generally less confusion and uncertainty than in natural. Because an artificial thing being a production of man, which the artificer designed, and therefore well knows the idea of, the name of it is supposed to stand for no other idea, nor to import any other essence, than what is certainly to be known, and easy enough to be apprehended. For the idea or essence of the several sorts of artificial things consisting for the most part in nothing but the determinate figure of sensible parts, and sometimes motion depending thereon, which the artificer fashions in matter, such as he finds for his turn; it is not beyond the reach of our faculties to attain a certain idea thereof; and so settle the signification of the names whereby the species of artificial things are distinguished, with less doubt, obscurity, and equivocation than we can in things natural, whose differences and operations depend upon contrivances beyond the reach of our discoveries.

42. This is further to be observed concerning substances, that they alone of all our several sorts of ideas have particular or proper names, whereby one only particular thing is signified. Because in simple ideas, modes, and relations, it seldom happens that men have occasion to mention often this or that particular when it is absent. Besides, the greatest part of mixed modes, being actions which perish in their birth, are not capable of a lasting duration, as substances which are the actors; and wherein the simple ideas that make up the complex ideas designed by the name have a lasting union.

[Chapter VII

OF PARTICLES]

Chapter VIII

OF ABSTRACT AND CONCRETE TERMS

Abstract Terms not predicable of each other, and why, 1; They show the Difference of our Ideas, 2.

1. THE ordinary words of language, and our common use of them, would have given us light into the nature of our ideas, if they had been but considered with attention. The mind, as has been shown, has a power to abstract its ideas, and so they become essences, general essences, whereby the sorts of things are distinguished. Now each abstract idea being distinct, so that of any two the one can never be the other, the mind will, by its intuitive knowledge, perceive their difference, and therefore in propositions no two whole ideas can ever be affirmed one of another. This we see in the common use of language, which permits not any two abstract words, or names of abstract ideas, to be affirmed one of another. For how certain soever it is that man is an animal, or rational, or white, yet every one at first hearing perceives the falsehood of these propositions: *humanity is animality*, or *rationality*, or *whiteness*. All our affirmations then are only in concrete, which is the affirming, not one abstract idea to be another, but one abstract idea to be joined to another; which abstract ideas, in substances, may be of any sort; in all the rest are little else but of relations; and in substances the most frequent are of powers: v.g. 'A man is white,' signifies that the thing that has the essence of a man has also in it the essence of whiteness, which is nothing but a power to produce the idea of whiteness in one whose eyes can discover ordinary objects.

2. But as to our ideas of substances, we have very few or no abstract names at all. For though the Schools have introduced *animalitas*, *humanitas*, *corporeitas*, and some others; yet they hold no proportion with that infinite number of names of substances, to which they never were ridiculous enough to attempt the coining of abstract ones: and those few that the Schools forged, and put into the mouths of their scholars, could never yet get admittance

into common use, or obtain the licence of public approbation. Which seems to me at least to intimate the confession of all mankind, that they have no ideas of the real essences of substances, since they have not names for such ideas.

Chapter IX

OF THE IMPERFECTION OF WORDS

Sort of Ideas Words stand for cause Doubt or Ambiguity of Signification, 4; Natural causes of Imperfection in those that stand for mixed Modes and Substances, 5; Because mixed Modes are so complex, 6; And have no Standards in Nature, 7; Common Use not sufficient Remedy, 8; Way of learning these names contributes to their Doubtfulness, 9; Names of Substances of doubtful Signification because the Ideas they stand for relate to the Reality of Things, 11; But real Essences cannot be known, 12; Even co-existing Qualities known imperfectly, 13; Therefore Names of Substances serve not well for philosophical Use, 15; Instance, 16; Names of simple Ideas least doubtful, 18; And, next to them, of simple Modes, 19; Why this Imperfection charged upon Words, 21.

4. THE chief end of language in communication being to be understood, words serve not well for that end when any word does not excite in the hearer the same idea which it stands for in the mind of the speaker. Now, since sounds have no natural connection with our ideas, but have all their signification from the arbitrary imposition of men, the doubtfulness and uncertainty of their signification, which is the imperfection we here are speaking of, has its cause more in the ideas they stand for than in any incapacity there is in one sound more than in another to signify any idea; for in that regard they are all equally perfect.

That then which makes doubtfulness and uncertainty in the signification of some more than other words, is the difference of ideas they stand for.

5. Words having naturally no signification, the idea which each stands for must be learned and retained by those who would exchange thoughts, and hold intelligible discourse with others, in any language. But this is the hardest to be done where,

First, The ideas they stand for are very complex, and made up of a great number of ideas put together.

Secondly, Where the ideas they stand for have no certain con-

nection in nature; and so no settled standard anywhere in nature existing, to rectify and adjust them by.

Thirdly, When the signification of the word is referred to a standard, which standard is not easy to be known.

Fourthly, Where the signification of the word and the real essence of the thing are not exactly the same.

If we examine them, we shall find that the *names of mixed modes are most liable to doubtfulness and imperfection, for the two first of these reasons; and the names of substances chiefly for the two latter.*

6. First, The names of *mixed modes* are, many of them, liable to great uncertainty and obscurity in their signification.

I. Because of that *great composition* these complex ideas are often made up of. When a word stands for a very complex idea that is compounded and decompounded, it is not easy for men to form and retain that idea so exactly, as to make the name in common use stand for the same precise idea, without any the least variation. Hence it comes to pass that men's names of very compound ideas, such as for the most part are moral words, have seldom in two different men the same precise signification; since one man's complex idea seldom agrees with another's, and often differs from his own—from that which he had yesterday, or will have to-morrow.

7. Because the names of mixed modes for the most part *want standards in nature*, whereby men may rectify and adjust their significations; therefore they are very various and doubtful. They are assemblages of ideas put together at the pleasure of the mind, pursuing its own ends of discourse, and suited to its own notions; whereby it designs not to copy anything really existing, but to denominate and rank things as they come to agree with those archetypes or forms it has made. What the word *murder*, or *sacrilege*, etc., signifies can never be known from things themselves: there be many of the parts of those complex ideas which are not visible in the action itself; the intention of the mind, or the relation of holy things, which make a part of murder or sacrilege, have no necessary connection with the outward and visible action of him that commits either: and the pulling the trigger of the gun with which the murder is committed, and is all the action that perhaps is visible, has no natural connection with those other ideas that make up the complex one named murder.

8. ~~Common use regulates the meaning of words pretty well~~

for common conversation; but nobody having an authority to establish the precise signification of words, nor determine to what ideas any one shall annex them, common use is not sufficient to adjust them to philosophical discourses; there being scarce any name of any very complex idea (to say nothing of others) which, in common use, has not a great latitude, and which, keeping within the bounds of propriety, may not be made the sign of far different ideas. Besides, the rule and measure of propriety itself being nowhere established, it is often matter of dispute, whether this or that way of using a word be propriety of speech or no.

9. If we will observe how children learn languages, we shall find that, to make them understand what the names of simple ideas or substances stand for, people ordinarily show them the thing whereof they would have them have the idea; and then repeat to them the name that stands for it; as *white, sweet, milk, sugar, cat, dog*. But as for mixed modes, especially the most material of them, *moral words*, the sounds are usually learned first; and then, to know what complex ideas they stand for, they are either beholden to the explication of others, or (which happens for the most part) are left to their own observation and industry; which being little laid out in the search of the true and precise meaning of names, these moral words are in most men's mouths little more than bare sounds; or when they have any, it is for the most part but a very loose and undertermined, and, consequently, obscure and confused signification. Which is nothing but this, that they are not agreed in the signification of those words, nor have in their minds the same complex ideas which they make them stand for, and so all the contests that follow thereupon are only about the meaning of a sound. And hence we see that, in the interpretation of laws, whether divine or human, there is no end; comments beget comments, and explications make new matter for explications; and of limiting, distinguishing, varying the signification of these moral words there is no end. These ideas of men's making are, by men still having the same power, multiplied in *infinitum*. Many a man who was pretty well satisfied of the meaning of a text of scripture, or clause in the code, at first reading, has, by consulting commentators, quite lost the sense of it, and by these elucidations given rise or increase to his doubts, and drawn obscurity upon the place. I say not this that I think commentaries needless; but to show how uncertain the names of mixed modes naturally

are, even in the mouths of those who had both the intension and the faculty of speaking as clearly as language was capable to express their thoughts.

11. If the signification of the names of mixed modes be uncertain, because there be no real standards existing in nature to which those ideas are referred, and by which they may be adjusted, the names of *substances* are of a doubtful signification for a contrary reason, viz. because the ideas they stand for are supposed conformable to the reality of things, and are referred to standards made by nature.

12. But this real constitution, or (as it is apt to be called) essence, being utterly unknown to us, any sound that is put to stand for it must be very uncertain in its application; and it will be impossible to know what things are or ought to be called a *horse*, or *antimony*, when those words are put for real essences that we have no ideas of at all.

13. The simple ideas that are *found to co-exist in substances* being that which their names immediately signify, these, as united in the several sorts of things, are the proper standards to which their names are referred, and by which their significations may be best rectified. But neither will these archetypes so well serve to this purpose as to leave these names without very various and uncertain significations. Because these simple ideas that co-exist, and are united in the same subject, being very numerous, and having all an equal right to go into the complex specific idea which the specific name is to stand for, men frame very different ideas about it. The simple qualities which make up the complex ideas, being most of them powers, in relation to changes which they are apt to make in or receive from other bodies, are almost infinite. For, though in the substance of gold one satisfies himself with colour and weight, yet another thinks solubility in *aqua regia* as necessary to be joined with that colour in his idea of gold, as any one does its fusibility; others put into it ductility or fixedness, etc. Who of all these has established the right signification of the word gold? Or who shall be the judge to determine? Each has his standard in nature, which he appeals to, and with reason thinks he has the same right to put into his complex idea signified by the word gold, those qualities, which, upon trial, he has found united; as another who has not so well examined has to leave them out; or a third, who has made other trials, has to put in others.

15. It is true, as to civil and common conversation, the general names of substances, regulated in their ordinary signification by some obvious qualities (as by the shape and figure in things of known seminal propagation, and in other substances, for the most part by colour, joined with some other sensible qualities), do well enough to design the things men would be understood to speak of: and so they usually conceive well enough the substances meant by the word gold or apple, to distinguish the one from the other. But in *philosophical* inquiries and debates, where general truths are to be established, and consequences drawn from positions laid down, there the precise signification of the names of substances will be found not only not to be well established, but also very hard to be so.

16. This is a natural and almost unavoidable imperfection in almost all the names of substances, in all languages whatsoever, which men will easily find when, once passing from confused or loose notions, they come to more strict and close inquiries. I was once in a meeting of very learned and ingenious physicians, where by chance there arose a question, whether any liquor passed through the filaments of the nerves. The debate having been managed a good while, by variety of arguments on both sides, I (who had been used to suspect, that the greatest part of disputes were more about the signification of words than a real difference in the conception of things) desired, that, before they went any further on in this dispute, they would first examine and establish amongst them, what the word *liquor* signified. They at first were a little surprised at the proposal; and had they been persons less ingenuous, they might perhaps have taken it for a very frivolous or extravagant one: since there was no one there that thought not himself to understand very perfectly what the word *liquor* stood for; which I think, too, none of the most perplexed names of substances. However, they were pleased to comply with my motion; and upon examination found that the signification of that word was not so settled or certain as they had all imagined; but that each of them made it a sign of a different complex idea. This made them perceive that the main of their dispute was about the signification of that term; and that they differed very little in their opinions concerning *some* fluid and subtle matter passing through the conduits of the nerves; though it was not so easy to agree whether it was to be called *liquor* or no, a thing, which, when considered, they thought it not worth the contending about.

18. From what has been said, it is easy to observe what has been before remarked, viz. that the *names of simple ideas* are, of all others, the least liable to mistakes, and that for these reasons First, Because the ideas they stand for, being each but one single perception, are much easier got, and more clearly retained, than the more complex ones, and therefore are not liable to the uncertainty which usually attends those compounded ones of substances and mixed modes, in which the precise number of simple ideas that make them up are not easily agreed, so readily kept in mind. And, Secondly, Because they are never referred to any other essence, but barely that perception they immediately signify: which reference is that which renders the signification of the names of substances naturally so perplexed, and gives occasion to so many disputes.

19. By the same rule, the names of *simple modes* are, next to those of simple ideas, least liable to doubt and uncertainty; especially those of figure and number, of which men have so clear and distinct ideas. Who ever that had a mind to understand them mistook the ordinary meaning of *seven*, or a *triangle*? And in general the least compounded ideas in every kind have the least dubious names.

21. The great disorder that happens in our names of substances proceeding, for the most part, from our want of knowledge and inability to penetrate into their real constitutions, it may probably be wondered why I charge this as an imperfection rather upon our words than understandings. This exception has so much appearance of justice, that I think myself obliged to give a reason why I have followed this method. I must confess, then, that, when I first began this discourse of the understanding, and a good while after, I had not the least thought that any consideration of words was at all necessary to it. But when, having passed over the original and composition of our ideas, I began to examine the extent and certainty of our knowledge, I found it had so near a connection with words, that, unless their force and manner of signification were first well observed, there could be very little said clearly and pertinently concerning knowledge: which, being conversant about truth, had constantly to do with propositions. And though it terminated in things, yet it was for the most part so much by the intervention of words, that they seemed scarce separable from our general knowledge. At least they interpose themselves so much between our understandings and the truth

which it would contemplate and apprehend, that, like the medium through which visible objects pass, the obscurity and disorder do not seldom cast a mist before our eyes, and impose upon our understandings.

Chapter X

OF THE ABUSE OF WORDS

Woeful abuse of words, 1; Use without clear Ideas, 2-3; Unsteady Application of Words, 5; Affect'd Obscurity, 6; Logic and Dispute have much contributed to this, 7; Taking Words for Things, another Abuse, 14; Instance, in Matter, 15; Setting Words in the place of what they cannot signify, 17; Cause of this Abuse, 20; Assuming that Words have an obvious Signification, 22; The Ends of Language: To convey our Ideas, 23; To do it with Quickness, 24; Therewith to convey Knowledge of Things, 25; Summary, 31.

1. BESIDES the imperfection that is naturally in language, and the obscurity and confusion that is so hard to be avoided in the use of words, there are several *wilful* faults and neglects which men are guilty of in this way of communication, whereby they render these signs less clear and distinct in their signification than naturally they need to be.

2. First, In this kind the first and most palpable abuse is, the using of words without clear and distinct ideas; or, which is worse, signs without anything signified. Of these there are two sorts:

I. One may observe, in all languages, certain words that, if they be examined, will be found, in their first original and their appropriated use, not to stand for any clear and distinct ideas. These, for the most part, the several sects of philosophy and religion have introduced. For their authors or promoters, either affecting something singular, and out of the way of common apprehensions, or to support some strange opinions, or cover some weakness of their hypothesis, seldom fail to coin new words, and such as, when they come to be examined, may justly be called *insignificant terms.*

3. II. Others there be who extend this abuse yet further, who take so little care to lay by words which, in their primary notation, have scarce any clear and distinct ideas which they are annexed to, that, by an unpardonable negligence, they familiarly use words which the propriety of language *has* affixed to very important

ideas, without any distinct meaning at all. *Wisdom, glory, grace,* etc., are words frequent enough in every man's mouth; but if a great many of those who use them should be asked what they mean by them, they would be at a stand, and not know what to answer.

5. Secondly, Another great abuse of words is *inconstancy* in the use of them. Words being intended for signs of my ideas, to make them known to others, not by any natural signification, but by a voluntary imposition, it is plain cheat and abuse, when I make them stand sometimes for one thing and sometimes for another; the wilful doing whereof can be imputed to nothing but great folly, or greater dishonesty.

6. Thirdly, Another abuse of language is an *affected obscurity*; by either applying old words to new and unusual significations; or introducing new and ambiguous terms, without defining either; or else putting them so together, as may confound their ordinary meaning. That *body* and *extension*, in common use, stand for two distinct ideas, is plain to any one that will but reflect a little. For were their signification precisely the same, it would be as proper and as intelligible to say, 'the body of an extension,' as 'the extension of a body'; and yet there are those who find it necessary to confound their signification.

7. This is unavoidably to be so, where men's parts and learning are estimated by their skill in disputing. And if reputation and reward shall attend these conquests, which depend mostly on the fineness and niceties of words, it is no wonder if the wit of man so employed should perplex, involve, and subtilize the signification of sounds, so as never to want something to say in opposing or defending any question; the victory being adjudged not to him who had truth on his side, but the last word in the dispute.

14. Fourthly, Another great abuse of words is, the *taking them for things*. This, though it in some degree concerns all names in general, yet more particularly affects those of substances. To this abuse those men are most subject who most confine their thoughts to any one system, and give themselves up into a firm belief of the perfection of any received hypothesis: whereby they come to be persuaded that the terms of that sect are so suited to the nature of things, that they perfectly correspond with their real existence. Who is there that has been bred up in the Peripatetic philosophy, who does not think the Ten Names, under

which are ranked the Ten Predicaments, to be exactly conformable to the nature of things?

15. How many intricate disputes have there been about *matter*, as if there were some such thing really in nature, distinct from *body*! as it is evident the word *matter* stands for an idea distinct from the idea of *body*. For if the ideas these two terms stood for were precisely the same, they might indifferently in all places be put for one another. But we see that though it be proper to say, There is one matter of all bodies, one cannot say, There is one body of all matters. Whence comes this, then? Viz. from hence: that, though *matter* and *body* be not really distinct, but wherever there is the one there is the other; yet *matter* and *body* stand for two different conceptions, whereof the one is incomplete, and but a part of the other. We should have a great many fewer disputes in the world, if words were taken for what they are, the signs of our ideas only; and not for things themselves. For, when we argue about *matter*, or any the like term, we truly argue only about the idea we express by that sound, whether that precise idea agree to anything really existing in nature or no.

17. Fifthly, Another abuse of words is, *the setting them in the place of things which they do or can by no means signify*. We may observe that, in the general names of substances, whereof the *nominal* essences are only known to us, when we put them into propositions, and affirm or deny anything about them, we do most commonly tacitly suppose or intend they should stand for the *real* essence of a certain sort of substances. For, when a man says gold is malleable, he means and would insinuate something more than this, that what I call gold is malleable (though truly it amounts to no more), but would have this understood, viz. that gold, i.e. what has the real essence of gold, is malleable; which amounts to thus much, that malleableness depends on, and is inseparable from the real essence of gold. But a man, not knowing wherein that real essence consists, the connection in his mind of malleableness is not truly with an essence he knows not, but only with the sound *gold* he puts for it.

20. This supposition, however, that the same precise and internal constitution goes always with the same specific name, makes men forward to take those names for the representatives of those real essences; though indeed they signify nothing but the complex ideas they have in their minds when they use them,

22. Sixthly, There remains yet another more general, though perhaps less observed, abuse of words; and that is, that men having by a long and familiar use annexed to them certain ideas, they are apt to imagine *so near and necessary a connection between the names and the signification they use them in*, that they forwardly suppose one cannot but understand what their meaning is. It is hard to name a word which will not be a clear instance of this. *Life* is a term, none more familiar. Any one almost would take it for an affront to be asked what he meant by it. And yet if it comes in question, whether a plant that lies ready formed in the seed have life; whether the embryo in an egg before incubation, or a man in a swoon without sense or motion, be alive or no; it is easy to perceive that a clear, distinct, settled idea does not always accompany the use of so known a word as that of life is.

23. To conclude this consideration of the imperfection and abuse of language: The ends of language in our discourse with others being chiefly these three: First, to make known one man's thoughts or ideas to another; Secondly, to do it with as much ease and quickness as possible; and, Thirdly, thereby to convey the knowledge of things: language is either abused or deficient, when it fails of any of these three.

First, Words fail in the first of these ends, and lay not open one man's ideas to another's view: (1) When men have names in their mouths without any determinate ideas in their minds, whereof they are the signs; or, (2) When they apply the common received names of any language to ideas, to which the common use of that language does not apply them; or (3) When they apply them very unsteadily, making them stand, now for one, and by and by for another idea.

24. Secondly, Men fail of conveying their thoughts with all the quickness and ease that may be, when they have complex ideas without having any distinct names for them. This is sometimes the fault of the language itself, which has not in it a sound yet applied to such a signification; and sometimes the fault of the man, who has not yet learned the name for that idea he would show another.

25. Thirdly, There is no knowledge of things conveyed by men's words, when their ideas agree not to the reality of things. Though it be a defect that has its original in our ideas, which are not so conformable to the nature of things as attention, study, and application might make them, yet it fails not to extend itself

to our words too, when we use them as signs of real beings, which yet never had any reality or existence.

31. He that hath names without ideas, wants meaning in his words, and speaks only empty sounds. He that hath complex ideas without names for them, wants liberty and dispatch in his expressions, and is necessitated to use periphrases. He that uses his words loosely and unsteadily will either be not minded or not understood. He that applies his names to ideas different from their common use, wants propriety in his language, and speaks gibberish. And he that hath the ideas of substances disagreeing with the real existence of things, so far wants the materials of true knowledge in his understanding, and hath instead thereof chimeras.

Chapter XI

OF THE REMEDIES OF THE FOREGOING IMPERFECTIONS AND ABUSES

Remedies: To use no Word without an Idea annexed to it, 8; To have distinct, determinate Ideas annexed, 9-10; To look to common use, 11; To declare the meaning, 12; And that in three ways, 13; In simple Ideas, by synonymous terms or examples, 14; In mixed Modes, by Definition, 15; Morality capable of Demonstration, 16; In Substances, by Definition and Example, 19; Leading Qualities of Substances best got by showing, 20; Ideas of Substances must also be conformable to Things, 24; Not easy to be made so, 25; Fifth Remedy: To use the same Word constantly in the same Sense, 26.

8. To remedy the defects of speech before mentioned to some degree, and to prevent the inconveniences that follow from them, I imagine the observation of these following rules may be of use, till somebody better able shall judge it worth his while to think more maturely on this matter, and oblige the world with his thoughts on it.

First, A man shall take care to use no word without a signification, no name without an idea for which he makes it stand. This rule will not seem altogether needless to any one who shall take the pains to recollect how often he has met with such words as *instinct*, *sympathy*, and *antipathy*, etc., in the discourse of others, so made use of as he might easily conclude that those that used them had no ideas in their minds to which they applied them,

but spoke them only as sounds, which usually served instead of reasons on the like occasions. Not but that these words, and the like, have very proper significations in which they may be used; but there being no natural connection between any words and any ideas, these, and any other, may be learned by rote, and pronounced or writ by men who have no ideas in their minds to which they have annexed them, and for which they make them stand; which is necessary they should, if men would speak intelligibly even to themselves alone.

9. Secondly, It is not enough a man uses his words as signs of some ideas: these he annexes them to, if they be simple, must be clear and distinct; if complex, must be determinate, i.e. the precise collection of simple ideas settled in the mind, with that sound annexed to it, as the sign of that precise determined collection, and no other. This is very necessary in names of modes, and especially moral words; which, having no settled objects in nature from whence their ideas are taken as from their original, are apt to be very confused.

10. In the names of substances, for a right use of them, something more is required than barely *determined ideas*. In these the names must also be *conformable to things as they exist*.

11. Thirdly, it is not enough that men have ideas, determined ideas, for which they make these signs stand; but they must also take care to apply their words as near as may be to such ideas as common use has annexed them to. For words, especially of languages already framed, being no man's private possession, but the common measure of commerce and communication, it is not for any one at pleasure to change the stamp they are current in, not alter the ideas they are affixed to; or at least, when there is a necessity to do so, he is bound to give notice of it.

12. Fourthly, after the observation of the foregoing rules, it is sometimes necessary, for the ascertaining the signification of words, to *declare their meaning*; where either common use has left it uncertain and loose (as it has in most names of very complex ideas); or where the term, being very material in the discourse, and that upon which it chiefly turns, is liable to any doubtfulness or mistake.

13. As the ideas men's words stand for are of different sorts, so the way of making known the ideas they stand for, when there is occasion, is also different. For though *defining* be thought the proper way to make known the proper signification of words; yet there are some words that will not be defined, as there are others

whose precise meaning cannot be made known but by definition: and perhaps a third, which partake somewhat of both the other.

14. First, When a man makes use of the name of any simple idea, which he perceives is not understood, or is in danger to be mistaken, he is obliged, by the laws of ingenuity and the end of speech, to declare his meaning, and make known what idea he makes it stand for. This, as has been shown, cannot be done by definition: and therefore, when a synonymous word fails to do it, there is but one of these ways left: First, Sometimes the *naming* the subject wherein that simple idea is to be found, will make its name to be understood by those who are acquainted with that subject, and know it by that name. So to make a countryman understand what *feuillesmortes* colour signifies, it may suffice to tell him, it is the colour of withered leaves falling in autumn. Secondly, But the only sure way of making known the signification of the name of any simple idea, is by *presenting to his senses that subject which may produce it in his mind*, and make him actually have the idea that word stands for.

15. Secondly, Mixed modes, especially those belonging to morality, being most of them such combinations of ideas as the mind puts together of its own choice, and whereof there are not always standing patterns to be found existing, the signification of their names cannot be made known, as those of simple ideas, by any showing: but, in recompense thereof, may be perfectly and exactly defined. For they being combinations of several ideas that the mind of man has arbitrarily put together, without reference to any archetypes, men may, if they please, exactly know the ideas that go to each composition, and so both use these words in a certain and undoubted signification, and perfectly declare, when there is occasion, what they stand for. This, if well considered, would lay great blame on those who make not their discourses about *moral* things very clear and distinct. For since the precise signification of the names of mixed modes, or, which is all one, the real essence of each species, is to be known, they being not of nature's, but man's making, it is a great negligence and perverseness to discourse of moral things with uncertainty and obscurity; which is more pardonable in treating of natural substances, where doubtful terms are hardly to be avoided, for a quite contrary reason, as we shall see by and by.

16. Upon this ground it is that I am bold to think that morality is capable of demonstration, as well as mathematics: since the precise real essence of the things moral words stand for may be

perfectly known, and so the congruity and incongruity of the things themselves be certainly discovered; in which consists perfect knowledge. Nor let any one object, that the names of substances are often to be made use of in morality, as well as those of modes, from which will arise obscurity. For, as to substances, when concerned in moral discourses, their divers natures are not so much inquired into as supposed: v.g. when we say that man is subject to law, we mean nothing by man but a corporeal rational creature: what the real essence or other qualities of that creature are in this case is no way considered. The names of substances, if they be used in them as they should, can no more disturb moral than they do mathematical discourses; where, if the mathematician speaks of a cube or globe of gold, or of any other body, he has his clear, settled idea, which varies not, though it may by mistake be applied to a particular body to which it belongs not.

19. Thirdly, For the explaining the signification of the names of substances, as they stand for the ideas we have of their distinct species, both the forementioned ways, viz. of showing and defining, are requisite in many cases to be made use of. For, there being ordinarily in each sort some leading qualities, to which we suppose the other ideas which make up our complex idea of that species annexed, we forwardly give the specific name to that thing wherein that characteristic mark is found, which we take to be the most distinguishing idea of that species. These leading or characteristic (as I may call them) ideas, in the sorts of animals and vegetables, are mostly figure; and in inanimate bodies, colour; and in some, both together. Now,

20. These leading sensible qualities are those which make the chief ingredients of our specific ideas, and consequently the most observable and invariable part in the definitions of our specific names, as attributed to sorts of substances coming under our knowledge. For though the sound *man*, in its own nature, be as apt to signify a complex idea made up of animality and rationality, united in the same subject, as to signify any other combination; yet, used as a mark to stand for a sort of creatures we count of our own kind, perhaps the outward shape is as necessary to be taken into our complex idea, signified by the word *man*, as any other we find in it: and therefore, why Plato's *animal implume bipes latis unguibus* should not be a good definition of the name *man*, standing for that sort of creatures, will not be easy to show: for it is the shape, as the leading quality, that seems more to

determine that species, than a faculty of reasoning, which appears not at first, and in some never.

24. Fourthly, But, though definitions will serve to explain the names of substances as they stand for our ideas, yet they leave them not without great imperfection as they stand for things. For our names of substances being not put barely for our ideas, but being made use of ultimately to represent things, and so are put in their place, their signification must agree with the truth of things as well as with men's ideas. And therefore, in substances, we are not always to rest in the ordinary complex idea commonly received as the signification of that word, but must go a little further, and inquire into the nature and properties of the things themselves, and thereby perfect, as much as we can, our ideas of their distinct species; or else learn them from such as are used to that sort of things, and are experienced in them. For, since it is intended their names should stand for such collections of simple ideas as do really exist in things themselves, as well as for the complex idea in other men's minds, which in their ordinary acceptation they stand for, therefore, to define their names right, natural history is to be inquired into, and their properties are, with care and examination, to be found out.

25. It were therefore to be wished that men versed in physical inquiries, and acquainted with the several sorts of natural bodies, would set down those simple ideas wherein they observe the individuals of each sort constantly to agree. This would remedy a great deal of that confusion which comes from several persons applying the same name to a collection of a smaller or greater number of sensible qualities, proportionably as they have been more or less acquainted with, or accurate in examining, the qualities of any sort of things which come under one denomination. Though such a dictionary will require too much time, cost, and pains to be hoped for in this age; yet methinks it is not unreasonable to propose, that words standing for things which are known and distinguished by their outward shapes should be expressed by little draughts and prints made of them. A vocabulary made after this fashion would perhaps with more ease, and in less time, teach the true signification of many terms, especially in languages of remote countries or ages, and settle truer ideas in men's minds of several things, whereof we read the names in ancient authors, than all the large and laborious comments of learned critics.

26. Fifthly, If men will not be at the pains to declare the meaning of their words, and definitions of their terms are not to be had, yet this is the least that can be expected, that, in all discourses wherein one man pretends to instruct or convince another, he should use the same word constantly in the same sense. If this were done (which nobody can refuse without great dissingenuity), many of the books extant might be spared; many of the controversies in dispute would be at an end; several of those great volumes, swollen with ambiguous words, now used in one sense, and by and by in another, would shrink into a very narrow compass; and many of the philosophers' (to mention no other) as well as poets' works, might be contained in a nutshell.

BOOK IV

OF KNOWLEDGE, CERTAIN AND PROBABLE

Chapter I

OF KNOWLEDGE IN GENERAL

Knowledge is about our Ideas only, 1; It is the Perception of the Agreement or Disagreement of two Ideas, 2; Which may be of four sorts, 3; Of Identity or Diversity in Ideas, 4; Of abstract Relations between Ideas, 5; Of their necessary Co-existence in Substances, 6; Of real Existence agreeing to any Idea, 7; Knowledge either actual or habitual, 8; Habitual of two degrees, 9.

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.

2. *Knowledge* then seems to me to be nothing but *the perception of the connection of 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?

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:

I. *Identity, or diversity.*

II. *Relation.*

III. *Co-existence, or necessary connection.*

IV. *Real Existence.*

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*.

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.

6. Thirdly, The third sort of agreement or disagreement to be found in our ideas, 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 *aqua regia*, which make our complex idea signified by the word gold.

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.

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

I. 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.

II. 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.

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

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.

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. 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. 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. Upon this ground it is, that particular demonstrations in mathematics 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 mathematics; 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.

Chapter II

OF THE DEGREES OF OUR KNOWLEDGE

Of the Degrees of our Knowledge: I. Intuitive, 1; II. Demonstrative, 2-3; As certain, but not so easy and ready as Intuitive, 4; Conclusion doubtful before Demonstration, 5; Not so clear as Intuitive Knowledge, 6; Each step must have Intuitive Evidence, 7; Hence the Mistake, *ex praecognitis et praesuppositis*, 8; Demonstration not limited to Mathematics, 9; Why so thought, 10; Modes of Qualities not demonstrable like modes of Quantity, 11, 13; III. Sensitive Knowledge of the particular Existence of finite Beings without us, 14; Knowledge not always clear, where the Ideas that enter into it are clear, 15.

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 degree 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 will 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 sceptic, 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 connections of the intermediate ideas, without which we cannot attain knowledge and certainty.

2. The next degree of knowledge is, where the mind perceives the agreement or disagreement of any ideas, but not immediately. 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 juxtaposition 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*.

3. Those intervening ideas, which serve to show the agreement of any two others, are called *proofs*; and where the agreement and disagreement is by this means plainly and clearly perceived, it is called *demonstration*.

4. This knowledge, by intervening proofs, though it be certain,

yet the evidence of it is not altogether so clear and bright, nor the assent so ready, as in intuitive knowledge. For, though in demonstration the mind does at last perceive the agreement or disagreement of the ideas it considers; yet it is not without pains and attention: there must be more than one transient view to find it. A steady application and pursuit are required to this discovery: and there must be a progression by steps and degrees, before the mind can in this way arrive at certainty, and come to perceive the agreement or repugnancy between two ideas that need proofs and the use of reason to show it.

5. Another difference between intuitive and demonstrative knowledge is, that, though in the latter all doubt be removed when, by the intervention of the intermediate ideas, the agreement or disagreement is perceived, yet before the demonstration there was a doubt; which in intuitive knowledge cannot happen to the mind that has its faculty of perception left to a degree capable of distinct ideas; no more than it can be a doubt to the eye (that can distinctly see white and black), whether this ink and this paper be all of a colour.

6. It is true, the perception produced by demonstration is also very clear; yet it is often with a great abatement of that evident lustre and full assurance that always accompany that which I call intuitive: like a face reflected by several mirrors one to another, where, as long as it retains the similitude and agreement with the object, it produces a knowledge; but it is still, in every successive reflection, with a lessening of that perfect clearness and distinctness which is in the first; till at last, after many removes, it has a great mixture of dimness, and is not at first sight so knowable, especially to weak eyes. Thus it is with knowledge made out by a long train of proof.

7. Now, in every step reason makes in demonstrative knowledge, there is an intuitive knowledge of that agreement or disagreement it seeks with the next intermediate idea which it uses as a proof: for if it were not so, that yet would need a proof; since without the perception of such agreement or disagreement, there is no knowledge produced. So that to make anything a demonstration, it is necessary to perceive the immediate agreement of the intervening ideas, whereby the agreement or disagreement of the two ideas under examination (whereof the one is always the first, and the other the last in the account) is found. This intuitive perception of the agreement or disagreement of the intermediate ideas, in each step and progression of the demonstration,

must also be carried exactly in the mind, and a man must be sure that no part is left out: which, because in long deductions, and the use of many proofs, the memory does not always so readily and exactly retain; therefore it comes to pass, that this is more imperfect than intuitive knowledge, and men embrace often falsehood for demonstrations.

8. The necessity of this intuitive knowledge, in each step of scientific or demonstrative reasoning, gave occasion, I imagine, to that mistaken axiom, that all reasoning was *ex praeognitis et praeconcessis*: which, how far it is a mistake, I shall have occasion to show more at large, when I come to consider propositions, and particularly those propositions which are called *maxims*, and to show that it is by a mistake that they are supposed to be the foundations of all our knowledge and reasonings.

9. It has been generally taken for granted, that mathematics alone are capable of demonstrative certainty: but to have such an agreement or disagreement as may intuitively be perceived being, as I imagine, not the privilege of the ideas of number, extension, and figure alone, it may possibly be the want of due method and application in us, and not of sufficient evidence in things, that demonstration has been thought to have so little to do in other parts of knowledge, and been scarce so much as aimed at by any but mathematicians. For whatever ideas we have wherein the mind can perceive the immediate agreement or disagreement that is between them, there the mind is capable of intuitive knowledge; and where it can perceive the agreement or disagreement of any two ideas, by an intuitive perception of the agreement or disagreement they have with any intermediate ideas, there the mind is capable of demonstration: which is not limited to ideas of extension, figure, number, and their modes.

10. The reason why it has been generally sought for and supposed to be only in those, I imagine has been, not only the general usefulness of those sciences; but because, in comparing their equality or excess, the modes of numbers have every the least difference very clear and perceivable: and though in extension every the least excess is not so perceptible, yet the mind has found out ways to examine, and discover demonstratively, the just equality of two angles, or extensions, or figures: and both these, i.e. numbers and figures, can be set down by visible and lasting marks, wherein the ideas under consideration are perfectly determined; which for the most part they are not, where they are marked only by names and words.

11. But in other simple ideas, whose modes and differences are made and counted by degrees, and not quantity, we have not so nice and accurate a distinction of their differences as to perceive, or find ways to measure, their just equality, or the least differences. For those other simple ideas being appearances of sensations produced in us by the size, figure, number, and motion of minute corpuscles singly insensible their different degrees also depend upon the variation of some or of all those causes: which, since it cannot be observed by us in particles of matter whereof each is too subtle to be perceived, it is impossible for us to have any exact measures of the different degrees of these simple ideas.

13. Not knowing, therefore, what number of particles, nor what motion of them, is fit to produce any precise degree of whiteness, we cannot *demonstrate* the certain equality of any two degrees of whiteness; because we have no certain standard to measure them by, nor means to distinguish every the least real difference, the only help we have being from our senses, which in this point fail us.

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 anything more than barely that idea in our minds, whether we can thence certainly infer the existence of anything 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 worm-wood, 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. 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.

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 III

OF THE EXTENT OF HUMAN KNOWLEDGE

Knowledge extends no further than Ideas, 1; Nor than perception of their Agreement or Disagreement, 2; Intuitive Knowledge not of all relations of Ideas, 3; Nor is demonstrative Knowledge, 4; Sensitive Knowledge narrower than either, 5; All Knowledge, therefore, narrower than our Ideas, 6; How far our Knowledge reaches, 7; I. of Identity and Diversity in Ideas, it is co-extensive with the Ideas, 8; II. of the Co-existence of Ideas, it extends only a very little way, 9; For the Connection between simple Ideas in Substances is unknown, 10-14; Knowledge of Repugnancy to co-exist is larger, 15; Of Co-existence of Powers in Bodies but very little, 16; III. Of Relations between abstracted Ideas, not easy to say, 18; Demonstrability of Morality, 18-20; IV. Knowledge of three real Existences, 21; Causes of Ignorance, 22; Want of simple Ideas, 23-5; No Science of Bodies within our Reach, 26; Much less a Science of unembodied Spirits, 27; Want of discoverable Connection between Ideas we have, 28; Instances, 29; Want of tracing our Ideas, 30.

1. KNOWLEDGE, as has been said, lying in the perception of the agreement or disagreement of any of our ideas, it follows from hence, that,

First, We can have knowledge no further than we have *ideas*.

2. Secondly, That we can have no knowledge further than we can have *perception* of that agreement or disagreement. Which perception being: (1) Either by *intuition*, or the immediate comparing any two ideas; or, (2) By *reason*, examining the agreement or disagreement of two ideas, by the intervention of some others; or, (3) By *sensation*, perceiving the existence of particular things: hence it also follows:

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 juxtaposition, or an immediate comparison one with another.

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.

5. Fifthly, *Sensitive knowledge*, reaching no further than the existence of things actually present to our senses, is yet much narrower than either of the former.

6. Sixthly, 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 that 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. 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*, that 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. He that considers how hardly sensation is, in our thoughts, reconcilable to extended matter; or existence to anything that has 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.

7. The affirmations or negations we make concerning the ideas we have, may, as I have before intimated in general, be reduced to these four sorts, viz. identity, co-existence, relation, and real

existence. I shall examine how far our knowledge extends in each of these:

8. First, As to *identity* and *diversity*. In this way of agreement or disagreement of our ideas, our intuitive knowledge is as far extended as our ideas themselves: and there can be no idea in the mind, which it does not, presently, by an intuitive knowledge, perceive to be what it is, and to be different from any other.

9. Secondly, As to the second sort, which is the agreement or disagreement of our ideas in *co-existence*, in this our knowledge is very short; though in this consists the greatest and most material part of our knowledge concerning substances. For our ideas of the species of substances being, as I have showed, nothing but certain collections of simple ideas united in one subject, and so co-existing together: v.g. our idea of flame is a body hot, luminous, and moving upward; of gold, a body heavy to a certain degree, yellow, malleable, and fusible: for these, or some such complex ideas as these, in men's minds, do these two names of the different substances, flame and gold, stand for. When we would know anything further concerning these, or any other sort of substances, what do we inquire, but what *other* qualities or powers these substances have or have not? Which is nothing else but to know what *other* simple ideas do or do not co-exist with those that make up that complex idea.

10. This, how weighty and considerable a part soever of human science, is yet very narrow, and scarce any at all. The reason whereof is, that the simple ideas whereof our complex ideas of substances are made up are, for the most part, such as carry with them, in their own nature, no *visible necessary* connection or inconsistency with any other simple ideas, whose co-existence with them we would inform ourselves about.

11. The ideas that our complex ones of substances are made up of, and about which our knowledge concerning substances is most employed, are those of their secondary qualities; which depending all (as has been shown) upon the primary qualities of their minute and insensible parts; or, if not upon them, upon something yet more remote from our comprehension; it is impossible we should know which have a *necessary* union or inconsistency one with another. For, not knowing the root they spring from, not knowing what size, figure, and texture of parts they are, on which depend and from which result those qualities which make our complex idea of gold, it is impossible we should know what *other* qualities result from, or are incompatible with,

the same constitution of the insensible parts of gold; and so consequently must always co-exist with that complex idea we have of it, or else are inconsistent with it.

12, 13. Besides this ignorance of the primary qualities of the insensible parts of bodies, on which depend all their secondary qualities, there is yet another and more incurable part of ignorance, which sets us more remote from a certain knowledge of the co-existence or *inco-existence* (if I may so say) of different ideas in the same subject; and that is, that there is no discoverable connection between any secondary quality and those primary qualities which it depends on. We are so far from knowing *what* figure, size, or motion of parts produce a yellow colour, a sweet taste, or a sharp sound, that we can by no means conceive how *any* size, figure, or motion of any particles can possibly produce in us the idea of any colour, taste, or sound whatsoever: there is no conceivable connection between the one and the other.

14. In vain, therefore, shall we endeavour to discover by our ideas (the only true way of certain and universal knowledge) what other ideas are to be found constantly joined with that of *our* complex idea of any substance: since we neither know the real constitution of the minute parts on which their qualities do depend; nor, did we know them, could we discover any necessary connection between them and any of the secondary qualities; which is necessary to be done before we can certainly know their necessary co-existence. So that, let our complex idea of any species of substances be what it will, we can hardly, from the simple ideas contained in it, certainly determine the necessary co-existence of any other quality whatsoever. Our knowledge in all these inquiries reaches very little further than our experience. Indeed some few of the primary qualities have a necessary dependence and visible connection one with another, as figure necessarily supposes extension; receiving or communicating motion by impulse supposes solidity. But though these and perhaps some others of our ideas have: yet there are so few of them that have a visible connection one with another, that we can by intuition or demonstration discover the co-existence of very few of the qualities that are to be found united in substances: and we are left only to the assistance of our senses to make known to us what qualities they contain. For of all the qualities that are co-existent in any subject, without this dependence and evident connection of their ideas one with another, we cannot know

certainly any two to co-exist, any further than experience, by our senses, informs us.

15. As to the incompatibility or repugnancy to co-existence, we may know that any subject may have of each sort of primary qualities but one particular at once: v.g. each particular extension, figure, number of parts, motion, excludes all other of each kind. The like also is certain of all sensible ideas peculiar to each sense; for whatever of each kind is present in any subject, excludes all other of that sort: v.g. no one subject can have two smells or two colours at the same time. To this, perhaps will be said, Has not an opal, or the infusion of *lignum nephriticum*, two colours at the same time? To which I answer, that these bodies, to eyes differently placed, may at the same time afford different colours: but I take liberty also to say, that, to eyes differently placed, it is different parts of the object that reflect the particles of light: and therefore it is not the same part of the object, and so not the very same subject, which at the same time appears both yellow and azure. For it is as impossible that the very same particle of any body should at the same time differently modify or reflect the rays of light, as that it should have two different figures and textures at the same time.

16. But as to the powers of substances to change the sensible qualities of other bodies, which make a great part of our inquiries about them, and is no inconsiderable branch of our knowledge; I doubt as to these, whether our knowledge reaches much further than our experience; or whether we can come to the discovery of most of these powers, and be certain that they are in any subject, by the connection with any of those ideas which to us make its essence. Because the active and passive powers of bodies, and their ways of operating, consisting in a texture and motion of parts which we cannot by any means come to discover, it is but in very few cases we can be able to perceive their dependence on, or repugnance to, any of those ideas which make our complex one of that sort of things.

18. Thirdly, As to the third sort of our knowledge, viz. the agreement or disagreement of any of our ideas in any other relation; this, as it is the largest field of our knowledge, so it is hard to determine how far it may extend: because the advances that are made in this part of knowledge depending on our sagacity in finding intermediate ideas, that may show the relations and habitudes of ideas whose co-existence is not considered,

it is a hard matter to tell when we are at an end of such discoveries; and when reason has all the helps it is capable of, for the finding of proofs, or examining the agreement or disagreement of remote ideas. They that are ignorant of algebra cannot imagine the wonders in this kind are to be done by it: and what further improvements and helps advantageous to other parts of knowledge the sagacious mind of man may yet find out, it is not easy to determine.

The idea of a supreme Being, infinite in power, goodness, and wisdom, whose workmanship we are, and on whom we depend; and the idea of ourselves, as understanding, rational creatures, being such as are clear in us, would, I suppose, if duly considered and pursued, afford such foundations of our duty and rules of action as might place *morality* amongst the *sciences capable of demonstration*: wherein I doubt not but from self-evident propositions, by necessary consequences, as incontestable as those in mathematics, the measures of right and wrong might be made out, to any one that will apply himself with the same indifferency and attention to the one as he does to the other of these sciences. The *relation* of other *modes* may certainly be perceived, as well as those of number and extension: and I cannot see why they should not also be capable of demonstration, if due methods were thought on to examine or pursue their agreement or disagreement. 'Where there is no property there is no injustice,' is a proposition as certain as any demonstration in Euclid: for the idea of property being a right to anything, and the idea to which the name 'injustice' is given being the invasion or violation of that right, it is evident that these ideas being thus established, and these names annexed to them, I can as certainly know this proposition to be true, as that a triangle has three angles equal to two right ones. Again: 'No government allows absolute liberty.' The idea of government being the establishment of society upon certain rules or laws which require conformity to them; and the idea of absolute liberty being for any one to do whatever he pleases; I am as capable of being certain of the truth of this proposition as of any in the mathematics.

19. That which in this respect has given the advantage to the ideas of quantity, and made them thought more capable of certainty and demonstration, is,

First, That they can be set down and represented by sensible marks, which have a greater and nearer correspondence with them than any words or sounds whatsoever. Diagrams drawn

on paper are copies of the ideas in the mind, and not liable to the uncertainty that words carry in their signification. An angle, circle, or square, drawn in lines, lies open to the view, and cannot be mistaken: it remains unchangeable, and may at leisure be considered and examined, and the demonstration be revised, and all the parts of it may be gone over more than once, without any danger of the least change in the ideas. This cannot be thus done in moral ideas: we have no sensible marks that resemble them, whereby we can set them down; we have nothing but words to express them by; which, though when written they remain the same, yet the ideas they stand for may change in the same man; and it is very seldom that they are not different in different persons.

Secondly, Another thing that makes the greater difficulty in ethics is, that moral ideas are commonly more complex than those of the figures ordinarily considered in mathematics. From whence these two inconveniences follow: First, that their names are of more uncertain signification, the precise collection of simple ideas they stand for not being so easily agreed on; and so the sign that is used for them in communication always, and in thinking often, does not steadily carry with it the same idea. Secondly, From the complexedness of these moral ideas there follows another inconvenience, viz. that the mind cannot easily retain those precise combinations so exactly and perfectly as is necessary in the examination of the habitudes and correspondences, agreements or disagreements, of several of them one with another.

The great help against this which mathematicians find in diagrams and figures, which remain unalterable in their draughts, is very apparent, and the memory would often have great difficulty otherwise to retain them so exactly, whilst the mind went over the parts of them step by step to examine their several correspondences. The cyphers or marks help not the mind at all to perceive the agreement of any two or more numbers, their equalities or proportions; that the mind has only by intuition of its own ideas of the numbers themselves. But the numerical characters are helps to the memory, to record and retain the several ideas about which the demonstration is made, whereby a man may know how far his intuitive knowledge in surveying several of the particulars has proceeded; that so he may without confusion go on to what is yet unknown; and at last have in one view before him the result of all his perceptions and reasonings.

20. One part of these disadvantages in moral ideas which has made them be thought not capable of demonstration, may in a good measure be remedied by definitions, setting down that collection of simple ideas, which every term shall stand for; and then using the terms steadily and constantly for that precise collection. And what methods algebra, or something of that kind, may hereafter suggest, to remove the other difficulties, it is not easy to foretell. Confident I am, that if men would in the same method, and with the same indifferency, search after moral as they do mathematical truths, they would find them have a stronger connection one with another, and a more necessary consequence from our clear and distinct ideas, and to come nearer perfect demonstration, than is commonly imagined. But much of this is not to be expected, whilst the desire of esteem, riches, or power makes men espouse the well-endowed opinions in fashion, and then seek arguments either to make good their beauty, or varnish over and cover their deformity.

21. Fourthly, As to the fourth sort of our knowledge, viz. of the *real actual existence of things*, we have an intuitive knowledge of *our own existence*, and a demonstrative knowledge of the existence of a *God*: of the existence of *anything else*, we have no other but a sensitive knowledge; which extends not beyond the objects present to our senses.

22. Our knowledge being so narrow, as I have shown, it will perhaps give us some light into the present state of our minds if we look a little into the dark side, and take a view of the causes of our ignorance; which, from what has been said, I suppose will be found to be these three:

First, Want of ideas.

Secondly, Want of a discoverable connection between the ideas we have.

Thirdly, Want of tracing and examining our ideas.

23. First, There are some things, and those not a few, that we are ignorant of, for want of ideas. All the simple ideas we have are confined (as I have shown) to those we receive from corporeal objects by sensation, and from the operations of our own minds as the objects of reflection. But how much these few and narrow inlets are disproportionate to the vast whole extent of all beings, will not be hard to persuade those who are not so foolish as to think their span the measure of all things. What other simple ideas it is possible the creatures in other parts of the universe may have, by the assistance of senses and faculties more

or perfecter than we have, or different from ours, it is not for us to determine. But to say or think there are no such, because we conceive nothing of them, is no better an argument that if a blind man should be positive in it, that there was no such thing as sight and colours, because he had no manner of idea of any such thing, nor could by any means frame to himself any notions about seeing. And we may be convinced that the ideas we can attain to by our faculties are very disproportionate to things themselves, when a positive, clear, distinct one of substance itself, which is the foundation of all the rest, is concealed from us.

24. Another great cause of ignorance is the want of ideas we are capable of. As the want of ideas which our faculties are not able to give us shuts us wholly from those views of things which it is reasonable to think other beings, perfecter than we, have, of which we know nothing; so the want of ideas I now speak of keeps us in ignorance of things we conceive capable of being known to us. Bulk, figure, and motion we have ideas of. But though we are not without ideas of these primary qualities of bodies in general, yet not knowing what is the particular bulk, figure, and motion of the greatest part of the bodies of the universe, we are ignorant of the several powers, efficacies, and ways of operation, whereby the effects which we daily see are produced. These are hid from us, in some things by being too remote, and in others by being too minute. When we consider the vast distance of the known and visible parts of the world, and the reasons we have to think that what lies within our ken is but a small part of the universe, we shall then discover a huge abyss of ignorance.

25. If a great, nay, far the greatest part of the several ranks of bodies in the universe escape our notice by their remoteness, there are others that are no less concealed from us by their minuteness. These insensible corpuscles being the active parts of matter and the great instruments of nature, on which depend not only all their secondary qualities, but also most of their natural operations, our want of precise distinct ideas of their primary qualities keeps us in an incurable ignorance of what we desire to know about them. I doubt not but if we could discover the figure, size, texture, and motion of the minute constituent parts of any two bodies, we should know without trial several of their operations one upon another; as we do now the properties of a square or a triangle. Did we know the mechanical affections

of the particles of rhubarb, hemlock, opium, and a man, as a watchmaker does those of a watch, whereby it performs its operations; and of a file, which by rubbing on them will alter the figure of any of the wheels; we should be able to tell beforehand that rhubarb will purge, hemlock kill, and opium make a man sleep: as well as a watchmaker can, that a little piece of paper laid on the balance will keep the watch from going till it be removed. But whilst we are destitute of senses acute enough to discover the minute particles of bodies, and to give us ideas of their mechanical affections, we must be content to be ignorant of their properties and ways of operation; nor can we be assured about them any further than some few trials we make are able to reach. But whether they will succeed again another time, we cannot be certain. This hinders our certain knowledge of universal truths concerning natural bodies; and our reason carries us *herein very little beyond particular matter of fact.*

26. And therefore I am apt to doubt that, how far soever human industry may advance useful and experimental philosophy in physical things, *scientific* will still be out of our reach: because we want perfect and adequate ideas of those very bodies which are nearest to us, and most under our command. Those which we have ranked into classes under names, and we think ourselves best acquainted with, we have but very imperfect and incomplete ideas of. Distinct ideas of the several sorts of bodies that fall under the examination of our senses perhaps we may have: but adequate ideas, I suspect, we have not of any one amongst them. And though the former of these will serve us for common use and discourse, yet whilst we want the latter, we are not capable of scientific knowledge; nor shall ever be able to discover general, instructive, unquestionable truths concerning them. *Certainty* and *demonstration* are things we must not, in these matters, pretend to.

27. This at first sight will show us how disproportionate our knowledge is to the whole extent even of material beings; to which if we add the consideration of that infinite number of spirits that may be, and probably are, which are yet more remote from our knowledge, whereof we have no cognizance, nor can frame to ourselves any distinct ideas of their several ranks and sorts, we shall find this cause of ignorance conceal from us, in an impenetrable obscurity, almost the whole intellectual world; a greater, certainly, and more beautiful world than the material.

28. Secondly, Another cause of ignorance, of no less moment,

is a want of discoverable connection between those ideas we have. For wherever we want that, we are utterly incapable of universal and certain knowledge; and are, in the former case, left only to observation and experiment: which, how narrow and confined it is, how far from general knowledge, we need not be told. As the ideas of sensible secondary qualities which we have in our minds, can by us be no way deduced from bodily causes, nor any correspondence or connection be found between them and those primary qualities which (experience shows us) produce them in us; so, on the other side, the operation of our minds upon our bodies is as inconceivable. How any thought should produce a motion in body is as remote from the nature of our ideas, as how any body should produce any thought in the mind. That it is so, if experience did not convince us, the consideration of the things themselves would never be able in the least to discover to us.

29. In some of our ideas there are certain relations, habitudes, and connections, so visibly included in the nature of the ideas themselves, that we cannot conceive them separable from them by any power whatsoever. And in these only we are capable of certain and universal knowledge. Thus the idea of a right-lined triangle necessarily carries with it an equality of its angles to two right ones. Nor can we conceive this relation, this connection of these two ideas, to be possibly mutable, or to depend on any arbitrary power, which of choice made it thus, or could make it otherwise. But the coherence and continuity of the parts of matter; the production of sensation in us of colours and sounds, etc., by impulse and motion, nay, the original rules and communication of motion, being such wherein we can discover no natural connection with any ideas we have, we cannot but ascribe them to the arbitrary will and good pleasure of the wise Architect. Several effects come every day within the notice of our senses, of which we have so far sensitive knowledge: but the causes, manner, and certainty of their production we must be content to be very ignorant of. In these we can go no further than particular experience informs us of matter of fact, and by analogy to guess what effects the like bodies are, upon other trials, like to produce. But as to a *perfect science* of natural bodies (not to mention spiritual beings), we are, I think, so far from being capable of any such thing, that I conclude it lost labour to seek after it.

30. Thirdly, Where we have adequate ideas, and where there

is a certain and discoverable connection between them, yet we are often ignorant, for want of tracing those ideas which we have or may have; and for want of finding out those intermediate ideas, which may show us what habitude of agreement or disagreement they have one with another. And thus many are ignorant of mathematical truths, not out of any imperfection of their faculties, or uncertainty in the things themselves, but for want of application in acquiring, examining, and by due ways comparing those ideas. That which has most contributed to hinder the due tracing of our ideas, and finding out their relations, and agreements or disagreements, one with another, has been, I suppose, the ill use of words. But having spoken sufficiently of words, and the ill or careless use that is commonly made of them, I shall not say anything more of it here.

Chapter IV

OF THE REALITY OF KNOWLEDGE

Objection: 'Knowledge may be all unreal,' 1; Not so, where Ideas agree with Things, 2; What is criterion of agreement? 3; Simple Ideas are really conformed to Things, 4; Complex Ideas, except of Substances, are own Archetypes, 5; Hence the reality of mathematical Knowledge, 6; And of moral, 7; For, Existence not required, 8; Not less true or certain because moral Ideas are of our own making, 9; Misnaming irrelevant, 10; Knowledge of Substances real so far as it conforms to Archetypes without us, 12-13; Words and Species, 17; Recapitulation, 18.

1. I DOUBT not but my reader, by this time, may be apt to think that I have been all this while only building a castle in the air; and be ready to say to me:

'To what purpose all this stir? Knowledge, say you, is only the perception of the agreement or disagreement of our own ideas: but who knows what those ideas may be? Is there anything so extravagant as the imaginations of men's brains? Where is the head that has no chimeras in it? It is no matter how things are: so a man observe but the agreement of his own imaginations, and talk conformably, it is all truth, all certainty. Such castles in the air will be as strongholds of truth, as the demonstrations of Euclid. That an harpy is not a centaur is by this way as certain knowledge, and as much a truth, as that a square is not a circle.

'But of what use is all this fine knowledge of *men's own imaginations*, to a man that inquires after the reality of things? It matters not what men's fancies are, it is the knowledge of things that is only to be prized: it is this alone gives a value to our reasonings, and preference to one man's knowledge over another's, that it is of things as they really are, and not of dreams and fancies.'

2. To which I answer, that if our knowledge of our ideas terminate in them, and reach no further, where there is something further intended, our most serious thoughts will be of little more use than the reveries of a crazy brain; and the truths built thereon of no more weight than the discourses of a man who sees things clearly in a dream, and with great assurance utters them. But I hope, before I have done, to make it evident, that this way of certainty, by the knowledge of our own ideas, goes a little further than bare imagination: and I believe it will appear that all the certainty of general truths a man has lies in nothing else.

3. It is evident the mind knows not things immediately, but only by the intervention of the ideas it has of them. Our knowledge, therefore, is real only so far as there is a *conformity* between our ideas and the reality of things. But what shall be here the criterion? How shall the mind, when it perceives nothing but its own ideas, know that they agree with things themselves? *This, though it seems not to want difficulty, yet, I think, there be two sorts of ideas that we may be assured agree with things.*

4. First, The first are simple ideas, which since the mind, as has been showed, can by no means make to itself, must necessarily be the product of things operating on the mind, in a natural way, and producing therein those perceptions which by the wisdom and will of our Maker they are ordained and adapted to. From whence it follows, that simple ideas are not fictions of our fancies, but the natural and regular productions of things without us, really operating upon us; and so carry with them all the conformity which is intended; or which our state requires. Thus the idea of whiteness, or bitterness, as it is in the mind, exactly answering that power which is in any body to produce it there, has all the real conformity it can or ought to have, with things without us. And this conformity between our simple ideas and the existence of things is sufficient for real knowledge.

5. Secondly, All our complex ideas, *except those of substances*, being archetypes of the mind's own making, not intended to be the copies of anything, nor referred to the existence of anything,

as to their originals, cannot want any conformity necessary to real knowledge. For that which is not designed to represent anything but itself, can never be capable of a wrong representation, nor mislead us from the true apprehension of anything, by its dislikeness to it: and such, excepting those of substances, are all our complex ideas. In all our thoughts, reasonings, and discourses of this kind, we intend things no further than as they are conformable to our ideas. So that in these we cannot miss of a certain and undoubted reality.

6. I doubt not but it will be easily granted, that the knowledge we have of mathematical truths is not only certain, but real knowledge; and not the bare empty vision of vain, insignificant chimeras of the brain: and yet, if we will consider, we shall find that it is only of our own ideas. The mathematician considers the truth and properties belonging to a rectangle or circle only as they are in idea in his own mind. For it is possible he never found either of them existing mathematically, i.e. precisely true, in his life. But yet the knowledge he has of any truths or properties belonging to a circle, or any other mathematical figure, are nevertheless true and certain, even of real things existing: because real things are no further concerned, nor intended to be meant by any such propositions, than as things really agree to those archetypes in his mind. Is it true of the *idea* of a triangle, that its three angles are equal to two right ones? It is true also of a triangle, wherever it really exists. Whatever other figure exists, that it is not exactly answerable to that idea of a triangle in his mind, is not at all concerned in that proposition. And therefore he is certain all his knowledge concerning such ideas is real knowledge; because, intending things no further than they agree with those his ideas, he is sure what he knows concerning those figures, when they have barely an *ideal existence* in his mind, will hold true of them also when they have a *real existence* in matter: his consideration being barely of those figures, which are the same wherever or however they exist.

7. And hence it follows that moral knowledge is as capable of real certainty as mathematics. Our moral ideas, as well as mathematical, being archetypes themselves, and so adequate and complete ideas, all the agreement or disagreement which we shall find in them will produce real knowledge, as well as in the mathematical figures.

8. For the attaining of knowledge and certainty, it is requisite that we have determined ideas: and, to make our knowledge real,

it is requisite that the ideas answer their archetypes. Nor let it be wondered, that I place the certainty of our knowledge in the consideration of our ideas, with so little care and regard (as it may seem) to the real existence of things: since most of those discourses which take up the thoughts and engage the disputes of those who pretend to make it their business to inquire after truth and certainty, will, I presume, upon examination, be found to be general propositions, and notions in which existence is not at all concerned. All the discourses of the mathematicians about the squaring of a circle, conic sections, or any other part of mathematics, concern not the existence of any of those figures: but their demonstrations, which depend on their ideas, are the same, whether there be any square or circle existing in the world or no. In the same manner, the truth and certainty of moral discourses abstracts from the lives of men, and the existence of those virtues in the world whereof they treat: nor are Tully's *Offices* less true, because there is nobody in the world that exactly practises his rules, and lives up to that pattern of a virtuous man which he has given us, and which existed nowhere when he writ but in idea. If it be true in speculation, i.e. in idea, that murder deserves death, it will also be true in reality of any action that exists conformable to that idea of murder.. As for other actions, the truth of that proposition concerns them not. And thus it is of all other species of things, which have no other essences but those ideas which are in the minds of men.

9. But it will here be said, that if moral knowledge be placed in the contemplation of our own moral ideas, and those, as other modes, be of our own making, what strange notions will there be of justice and temperance? What confusion of virtues and vices, if every one may make what ideas of them he pleases? No confusion or disorder in the things themselves, nor the reasonings about them; no more than (in mathematics) there would be a disturbance in the demonstration, or a change in the properties of figures and their relations one to another, if a man should make a triangle with four corners, or a trapezium with four right angles: that is, in plain English, change the names of the figures, and call that by one name, which mathematicians call ordinarily by another. The change of the name, by the impropriety of speech, will at first disturb him who knows not what idea it stands for: but as soon as the figure is drawn, the consequences and demonstrations are plain and clear. Just the same is it in moral knowledge: let a man have the idea of taking

from others, without their consent, what their honest industry has possessed them of, and call this *justice* if he please. He that takes the name here without the idea put to it will be mistaken, by joining another idea of his own to that name: but strip the idea of that name, or take it such as it is in the speaker's mind, and the same things will agree to it, as if you called it *injustice*.

10. One thing more we are to take notice of, that where God, or any other law-maker, hath defined any moral names, there they have made the essence of that species to which that name belongs; and there it is not safe to apply or use them otherwise: but in other cases it is bare impropriety of speech to apply them contrary to the common usage of the country. But yet even this too disturbs not the certainty of that knowledge, which is still to be had by a due contemplation and comparing of those even nicknamed ideas.

12. Thirdly, Our ideas of substances, being supposed copies, and referred to archetypes without us, must be taken from something that does or has existed: they must not consist of ideas put together at the pleasure of our thoughts, without any real pattern they were taken from, though we can perceive no inconsistency in such a combination. The reason whereof is, because we knowing not what real constitution it is of substances whereon our simple ideas depend, and which really is the cause of the strict union of some of them one with another, and the exclusion of others; there are very few of them that we can be sure are or are not inconsistent in nature, any further than experience and sensible observation reach. Herein, therefore, is founded the reality of our knowledge concerning substances, that all our complex ideas of them must be such, and such only, as are made up of such simple ones as have been discovered to co-exist in nature. And our ideas being thus true, though not perhaps very exact copies, are yet the subjects of real knowledge of them. Which will not be found to reach very far: but so far as it does, it will still be real knowledge. Whatever simple ideas have been found to co-exist in any substance, these we may with confidence join together again, and so make abstract ideas of substances. For whatever have once had an union in nature, may be united again.

13. This if we rightly consider, and confine not our thoughts and abstract ideas to names, as if there were or could be no other *sorts* of things than what known names had already determined,

and, as it were, set out, we should think of things with greater freedom and less confusion than perhaps we do. It would possibly be thought a bold paradox, if not a very dangerous falsehood, if I should say that some *changelings*, who have lived forty years together without any appearance of reason, are something between a man and a beast: which prejudice is founded upon nothing else but a false supposition, that these two names, man and beast, stand for distinct species so set out by real essences, that there can come no other species between them.

17. I have mentioned this here, because I think we cannot be too cautious that words and species, in the ordinary notions which we have been used to of them, impose not on us. Would we accustom ourselves to separate our contemplations and reasonings from words, we might in a great measure remedy this inconvenience within our own thoughts: but yet it would still disturb us in our discourse with others, as long as we retained the opinion, that *species* and their *essences* were anything else but our abstract ideas (such as they are) with names annexed to them, to be the signs of them.

18. Wherever we perceive the agreement or disagreement of any of our ideas, there is certain knowledge: and wherever we are sure those ideas agree with the reality of things, there is certain real knowledge. Of which agreement of our ideas with the reality of things having here given the marks, I think I have shown *wherein it is that certainty, real certainty, consists.*

Chapter V

OF TRUTH IN GENERAL

Truth is the right joining or separating of signs, i.e., either Ideas or Words, 2-3; Mental Propositions hard to treat, 4; Contrasted with verbal Propositions, 5; Mental Truth and Truth of Words, 6; Verbal Truth may be chimerical, 7; But real Truth is about Ideas agreeing to Things, 8; Truth and Falschood in general, 9.

2. Truth seems to me, in the proper import of the word, to signify but *the joining or separating of signs, as the things signified by them do agree or disagree one with another.* The joining or separating of signs here meant, is what by another name we call

proposition. So that truth properly belongs only to propositions: whereof there are two sorts, viz. mental and verbal; as there are two sorts of signs commonly made use of, viz. ideas and words.

3. To form a clear notion of truth, it is very necessary to consider truth of thought, and truth of words, distinctly one from another: but yet it is very difficult to treat of them asunder. Because it is unavoidable, in treating of mental propositions, to make use of words: and then the instances given of mental propositions cease immediately to be barely mental, and become verbal. For a *mental proposition* being nothing but a bare consideration of the ideas, as they are in our minds, stripped of names, they lose the nature of purely mental propositions as soon as they are put into words.

4. And that which makes it yet harder to treat of mental and verbal propositions separately is, that most men, if not all, in their thinking and reasonings within themselves, make use of words instead of ideas; at least when the subject of their meditation contains in it complex ideas. When we make any propositions within our own thoughts about *white* or *black*, *sweet* or *bitter*, a *triangle* or a *circle*, we can and often do frame in our minds the ideas themselves, without reflecting on the names. But when we would consider or make propositions about the more complex ideas, as of a *man*, *vitriol*, *fortitude*, *glory*, we usually put the name for the idea: because the ideas these names stand for being for the most part imperfect, confused, and undetermined, we reflect on the names themselves, because they are more clear, certain, and distinct, and readier occur to our thoughts than the pure ideas: and so we make use of these words instead of the ideas themselves, even when we would meditate and reason within ourselves, and make tacit mental propositions.

5. But to return to the consideration of truth: we must, I say, observe two sorts of propositions that we are capable of making:

First, *Mental*, wherein the ideas in our understandings are without the use of words, put together or separated by the mind perceiving or judging of their agreement or disagreement.

Secondly, *Verbal* propositions, which are words, the signs of our ideas, put together or separated in affirmative or negative sentences. By which way of affirming or denying, these signs, made by sounds, are, as it were, put together or separated one from another. So that proposition consists in joining or separating signs; and truth consists in the putting together or separating

those signs, according as the things which they stand for agree or disagree.

6. Every one's experience will satisfy him, that the mind, either by perceiving, or supposing, the agreement or disagreement of any of its ideas, does tacitly within itself put them into a kind of proposition affirmative or negative; which I have endeavoured to express by the terms putting together and separating. When ideas are so put together or separated in the mind, as they or the things they stand for do agree or not, that is, as I may call it, *mental truth*. But *truth of words* is something more; and that is the affirming or denying of words one of another, as the ideas they stand for agree or disagree: and this again is twofold: either purely verbal and trifling, or real and instructive.

7. But here again will be apt to occur the same doubt about truth, that did about knowledge: and it will be objected, that if truth be nothing but the joining and separating of words in propositions, as the ideas they stand for agree or disagree in men's minds, the knowledge of truth is not so valuable a thing as it is taken to be, nor worth the pains and time men employ in the search of it: since by this account it amounts to no more than the conformity of words to the chimeras of men's brains. But of what use is all such truth to us?

8. Though our words signify nothing but our ideas, yet being designed by them to signify things, the truth they contain when put into propositions will be only verbal, when they stand for ideas in the mind that have not an agreement with the reality of things. And therefore truth as well as knowledge may well come under the distinction of verbal and real; that being only verbal truth, wherein terms are joined according to the agreement or disagreement of the ideas they stand for; without regarding whether our ideas are such as really have, or are capable of having, an existence in nature. But then it is they contain *real truth*, when these signs are joined, as our ideas agree; and when our ideas are such as we know are capable of having an existence in nature: which in substances we cannot know, but by knowing that such have existed.

9. Truth is the marking down in words the agreement or disagreement of ideas as it is. Falsehood is the marking down in words the agreement or disagreement of ideas otherwise than it is. And so far as these ideas, thus marked by sounds, agree to their archetypes, so far only is the truth real. The knowledge

of this truth consists in knowing what ideas the words stand for, and the perception of the agreement or disagreement of those ideas, according as it is marked by those words.

Chapter VI

OF UNIVERSAL PROPOSITIONS, THEIR TRUTH AND CERTAINTY

Treating of Words necessary to Knowledge, 1; Certainty twofold, of Truth and of Knowledge, 3; Real Essence of each Species mentioned must be known for certain Knowledge, 4; Particularly in Substances, 5; Truth of few universal Propositions concerning Substances is to be known, 6; For necessary Co-existence of simple Ideas often unknown, 7-10; They depend mostly on external, remote, and unperceived Causes, 11; Nominal essences of Substances furnish few certain universal propositions about them, 12; Also complex Ideas of Substances, 15; Where lies the general Certainty of Propositions, 16.

1. **THOUGH** the examining and judging of ideas by themselves, their names being quite laid aside, be the best and surest way to clear and distinct knowledge; yet, through the prevailing custom of using sounds for ideas, I think it is very seldom practised. Every one may observe how common it is for names to be made use of, instead of the ideas themselves, even when men think and reason within their own breasts; especially if the ideas be very complex, and made up of a great collection of simple ones. This makes the consideration of *words* and *propositions* so necessary a part of the treatise of knowledge, that it is very hard to speak intelligibly of the one without explaining the other.

3. That we may not be misled by that which is the danger everywhere, I mean by the doubtfulness of terms, it is fit to observe that certainty is twofold: *certainty of truth* and *certainty of knowledge*. Certainty of truth is, when words are so put together in propositions as exactly to express the agreement or disagreement of the ideas they stand for, as really it is. Certainty of knowledge is to perceive the agreement or disagreement of ideas, as expressed in any proposition. This we usually call knowing, or being certain of the truth of any proposition.

4. Now, because we cannot be certain of the truth of any general proposition, unless we know the precise bounds and extent of the species its terms stand for, it is necessary we

should know the essence of each species, which is that which constitutes and bounds it.

This, in all simple ideas and modes, is not hard to do. For in these the real and nominal essence being the same, there can be no doubt how far the species extends, or what things are comprehended under each term; which, it is evident, are all that have an exact conformity with the idea it stands for, and no other.

But in substances, wherein a real essence, distinct from the nominal, is supposed to constitute, determine, and bound the species, the extent of the general word is very uncertain; because, not knowing this real essence, we cannot know what is, or what is not of that species; and, consequently, what may or may not with certainty be affirmed of it. But where the nominal essence is kept to, as the boundary of each species, and men extend the application of any general term no further than to the particular things in which the complex idea it stands for is to be found, there they are in no danger to mistake the bounds of each species, nor can be in doubt, on this account, whether any proposition be true or not. I have chosen to explain this uncertainty of propositions in this scholastic way, and have made use of the terms of *essences*, and *species*, on purpose to show the absurdity and inconvenience there is to think of them as of any other sort of realities, than barely abstract ideas with names to them.

5. The names of substances, then, whenever made to stand for species which are supposed to be constituted by real essences which we know not, are not capable to convey certainty to the understanding. Of the truth of general propositions made up of such terms we cannot be sure. The reason whereof is plain: for how can we be sure that this or that quality is in gold, when we know not what is or is not gold? Since in this way of speaking, nothing is gold but what partakes of an essence, which we, not knowing, cannot know where it is or is not, and so cannot be sure that any parcel of matter in the world is or is not in this sense gold; being incurably ignorant whether it has or has not that which makes anything to be called gold; i.e. that real essence of gold whereof we have no idea at all. This being as impossible for us to know as it is for a blind man to tell in what flower the colour of a pansy is or is not to be found, whilst he has no idea of the colour of a pansy at all.

6. On the other side, the names of substances, when made use of as they should be, for the ideas men have in their minds, though they carry a clear and determinate signification with them,

will not yet serve us to make many universal propositions of whose truth we can be certain. Not because in this use of them we are uncertain what things are signified by them, but because the complex ideas they stand for are such combinations of simple ones as carry not with them any discoverable connection or repugnancy but with a very few other ideas.

7. The complex ideas that our names of the species of substances properly stand for, are collections of such qualities as have been observed to co-exist in an unknown substratum, which we call substance; but what other qualities necessarily co-exist with such combinations, we cannot certainly know, unless we can discover their natural dependence; which, in their primary qualities, we can go but a very little way in; and in all their secondary qualities we can discover no connection at all. And therefore there are very few general propositions to be made concerning substances, which can carry with them undoubted certainty.

8. 'All gold is fixed,' is a proposition whose truth we cannot be certain of, how universally soever it be believed. Fixedness having no necessary connection that we can discover with the colour, weight, or any other simple idea of our complex one, or with the whole combination together; it is impossible that we should certainly know the truth of this proposition.

9. It will, no doubt, be presently objected, Is not this an universal proposition, *All gold is malleable*? To which I answer: It is a very certain proposition, if malleableness be a part of the complex idea the word gold stands for. But then here is nothing affirmed of gold, but that that sound stands for an idea in which malleableness is contained: and such a sort of truth and certainty as this it is, to say a centaur is four-footed. But if malleableness make not a part of the specific essence the name of gold stands for, it is plain, *All gold is malleable*, is not a certain proposition.

10. The more, indeed, of these co-existing qualities we unite into one complex idea, under one name, the more precise and determinate we make the signification of that word: but never yet make it thereby more capable of universal certainty, *in respect of other qualities not contained in our complex idea*: since we perceive not their connection or dependence on one another; being ignorant both of that real constitution in which they are all founded, and also how they flow from it. For the chief part of our knowledge concerning substances is not, as in other things, barely of the relation of two ideas that may exist separately;

but is of the necessary connection and co-existence of several distinct ideas in the same subject, or of their repugnancy to co-exist.

II. Had we such ideas of substances as to know what real constitutions produce those sensible qualities we find in them, and how those qualities flowed from thence, we could, by the specific ideas of their real essences in our own minds, more certainly find out their properties, and discover what qualities they had or had not, than we can now by our senses: and to know the properties of gold, it would be no more necessary that gold should exist, and that we should make experiments upon it, than it is necessary for the knowing the properties of a triangle, that a triangle should exist in any matter: the idea in our minds would serve for the one as well as the other. But we are so far from being admitted into the secrets of nature, that we scarce so much as ever approach the first entrance towards them. For we are wont to consider the substances we meet with, each of them, as an entire thing by itself, having all its qualities in itself, and independent of other things; overlooking, for the most part, the operations of those invisible fluids they are encompassed with, and upon whose motions and operations depend the greatest part of those qualities which are taken notice of in them, and are made by us the inherent marks of distinction whereby we know and denominate them. Put a piece of gold anywhere by itself, separated from the reach and influence of all other bodies, it will immediately lose all its colour and weight, and perhaps malleableness too; which, for aught I know, would be changed into a perfect friability. How much the being and operation of particular substances in this our globe depends on causes utterly beyond our view, is impossible for us to determine. We see and perceive some of the motions and grosser operations of things here about us; but whence the streams come that keep all these curious machines in motion and repair, how conveyed and modified, is beyond our notice and apprehension: and the great parts and wheels, as I may so say, of this stupendous structure of the universe, may, for aught we know, have such a connection and dependence in their influences and operations one upon another, that perhaps things in this our mansion would put on quite another face, and cease to be what they are, if some one of the stars or great bodies incomprehensibly remote from us, should cease to be or move as it does. This is certain: things, however absolute and entire they seem in themselves, are but retainers to

other parts of nature, for that which they are most taken notice of by us. Their observable qualities, actions, and powers are owing to something without them; and there is not so complete and perfect a part that we know of nature, which does not owe the being it has, and the excellences of it, to its neighbours; and we must not confine our thoughts within the surface of any body, but look a great deal further, to comprehend perfectly those qualities that are in it.

12. If this be so, it is not to be wondered that we have very imperfect ideas of substances, and that the real essences, on which depend their properties and operations, are unknown to us. We cannot discover so much as that size, figure, and texture of their minute and active parts, which is really in them; much less the different motions and impulses made in and upon them by bodies from without, upon which depends, and by which is formed, the greatest and most remarkable part of those qualities we observe in them, and of which our complex ideas of them are made up.

15. For example, let the ideas to which we give the name *man* be, as it commonly is, a body of the ordinary shape, with sense, voluntary motion, and reason joined to it. This being the abstract idea, and consequently the essence of *our* species, man, we can make but very few general certain propositions concerning man, standing for such an idea. Because, not knowing the real constitution on which sensation, power of motion, and reasoning, with that peculiar shape, depend, and whereby they are united together in the same subject, there are very few other qualities with which we can perceive them to have a necessary connection: and therefore we cannot with certainty affirm, that all men sleep by intervals, that no man can be nourished by wood or stones, that all men will be poisoned by hemlock; because these ideas have no connection nor repugnancy with this our nominal essence of man, with this abstract idea that name stands for. We must, in these and the like, appeal to trial in particular subjects, which can reach but a little way. We must content ourselves with probability in the rest; but can have no general certainty, whilst our specific idea of man contains not that real constitution which is the root wherein all his inseparable qualities are united, and from whence they flow. Those few ideas only which have a discernible connection with our nominal essence, or any part of it, can afford us such propositions. But these are so few, and of

so little moment, that we may justly look on our certain general knowledge of substances as almost none at all.

16. To conclude: general propositions, of what kind soever, are then only capable of certainty, when the terms used in them stand for such ideas, whose agreement or disagreement, as there expressed, is capable to be discovered by us. And we are then certain of their truth or falsehood, when we perceive the ideas the terms stand for to agree or not agree, according as they are affirmed or denied one of another. Whence we may take notice, that general certainty is never to be found but in our ideas. Whenever we go to seek it elsewhere, in experiment or observations without us, our knowledge goes not beyond particulars. It is the contemplation of our own abstract ideas that alone is able to afford us general knowledge.

Chapter VII

OF MAXIMS

Self-evident Propositions, 1; Self-evidence not peculiar to received Axioms, 3; As to Identity and Diversity, all Propositions equally self-evident, 4; In Co-existence, few self-evident Propositions, 5; In other Relations, many, 6; Concerning real Existence, none, 7; These Axioms do not much influence other Knowledge, 8; Because Axioms not first known Truths, 9; Because no dependence of other Knowledge on them, 10; What use Axioms have, 11; Dangers in their use, 12, 13, 15, 16; Of little use in Proofs where we have clear and distinct Ideas, 19; Also dangerous where our Ideas are not determined, 20.

1. THERE are a sort of propositions, which, under the name of *maxims* and *axioms*, have passed for principles of science: and because they are *self-evident*, have been supposed innate, without that anybody (that I know) ever went about to show the reason and foundation of their clearness or cogency.

3. Let us consider whether this self-evidence be peculiar only to those propositions which commonly pass under the name of maxims, and have the dignity of axioms allowed them. And here it is plain, that several other truths, not allowed to be axioms, partake equally with them in this self-evidence. This we shall see, if we go over these several sorts of agreement or disagreement of ideas which I have above mentioned, viz. identity, relation, co-existence, and real existence.

4. I. For, First, The immediate perception of the agreement

or disagreement of *identity* being founded in the mind's having distinct ideas, this affords us as many self-evident propositions as we have distinct ideas. Every one that has any knowledge at all, has, as the foundation of it, various and distinct ideas: and it is the first act of the mind (without which it can never be capable of any knowledge) to know every one of its ideas by itself, and distinguish it from others. Every one finds in himself, that he knows the ideas he has; he can never be in doubt when any idea is in his mind, that it is there, and is that idea it is; and that two distinct ideas, when they are in his mind, are there, and are not one and the same idea. So that all such affirmations and negations are made without any possibility of doubt, uncertainty, or hesitation, and must necessarily be assented to as soon as understood; that is, as soon as we have in our minds determined ideas, which the terms in the proposition stand for. So that, in respect of identity, our intuitive knowledge reaches as far as our ideas. And we are capable of making as many self-evident propositions, as we have names for distinct ideas. And I appeal to every one's own mind, whether this proposition, 'A circle is a circle,' be not as self-evident a proposition as that consisting of more general terms, 'Whatsoever is, is'; and again, whether this proposition, 'Blue is not red,' be not a proposition that the mind can no more doubt of, as soon as it understands the words, than it does of that axiom, 'It is impossible for the same thing to be and not to be?' And so of all the like.

5. II. Secondly, As to *co-existence*, or such a necessary connection between two ideas that, in the subject where one of them is supposed, there the other must necessarily be also: of such agreement or disagreement as this, the mind has an immediate perception but in very few of them. And therefore in this sort we have but very little intuitive knowledge: nor are there to be found very many propositions that are self-evident, though some there are: v.g. the idea of filling a place equal to the contents of its superficies, being annexed to our idea of body, I think it is a self-evident proposition, that two bodies cannot be in the same place.

6. III. Thirdly, As to the *relations of modes*, mathematicians have framed many axioms concerning that one relation of equality. As, 'Equals taken from equals, the remainder will be equal'; which, with the rest of that kind, however they are received for maxims by the mathematicians, and are unquestionable truths, yet, I think, that any one who considers them will not find that

they have a clearer self-evidence than these—that 'One and one are equal to two'; that 'If you take from the five fingers of one hand two, and from the five fingers of the other hand two, the remaining numbers will be equal.'

7. IV. Fourthly, As to *real existence*, since that has no connection with any other of our ideas but that of ourselves and of a First Being, we have, in that concerning the real existence of all other beings, not so much as demonstrative, much less a self-evident knowledge: and, therefore, concerning those there are no maxims.

8. In the next place let us consider what influence these received maxims have upon the other parts of our knowledge.

9. First, That they are not the truths first known to the mind is evident to experience, as we have shown in another place. *Particular ideas* are first received and distinguished, and so knowledge got about them; and next to them, the less general or specific, which are next to particular. 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.

10. Secondly, From what has been said it plainly follows, that these magnified maxims are not the principles and foundations of all our other knowledge. For if there be a great many other truths, which have as much self-evidence as they, and a great many that we know before them, it is impossible they should be the principles from which we deduce all other truths. Is it impossible to know that one and two are equal to three, but by virtue of this, or some such axiom, viz. 'The whole is equal to all its parts taken together'? Many a one knows that one and two are equal to three, without having heard, or thought on, that or any other axiom by which it might be proved; and knows it as certainly as any other man knows that 'The whole is equal to all its parts,' or any other maxim; and all from the same reason of self-evidence: the equality of those ideas being as visible and certain to him without that or any other axiom as with it, it

needing no proof to make it perceived. Which being known without any proof, do evince that either all knowledge does not depend on certain *praecognita* or general maxims, called principles; or else that these are principles: and if these are to be counted principles, a great part of numeration will be so. To which, if we add all the self-evident propositions which may be made about all our distinct ideas, principles will be almost infinite, at least innumerable, which men arrive to the knowledge of, at different ages; and a great many of these innate principles they never come to know all their lives. The evidence and certainty of all such propositions is in this, that a man sees the same idea to be the same idea, and infallibly perceives two different ideas to be different ideas. For when a man has in his understanding the ideas of one and of two, the idea of yellow, and the idea of blue, he cannot but certainly know that the idea of one is the idea of one, and not the idea of two; and that the idea of yellow is the idea of yellow, and not the idea of blue.

11. What shall we then say? Are these general maxims of no use? By no means; though perhaps their use is not that which it is commonly taken to be. But, since doubting in the least of what hath been by some men ascribed to these maxims may be apt to be cried out against, as overturning the foundations of all the sciences; it may be worth while to consider them with respect to other parts of our knowledge, and examine more particularly to what purposes they serve, and to what not.

(1) It is evident from what has been already said, that they are of no use to prove or confirm less general self-evident propositions.

(2) It is as plain that they are not, nor have been, the foundations whereon any science hath been built. There is, I know, a great deal of talk, propagated from scholastic men, of sciences and the maxims on which they are built: but it has been my ill-luck never to meet with any such sciences; much less any one built upon these two maxims, *What is, is*; and *It is impossible for the same thing to be and not to be*. And I would be glad to be shown where any such science, erected upon these or any other general axioms, is to be found. I ask, whether these general maxims have not the same use in the study of divinity, and in theological questions, that they have in other sciences. They serve here, too, to silence wranglers, and put an end to dispute.

But I think that nobody will therefore say, that the Christian religion is built upon these maxims, or that the knowledge we have of it is derived from these principles. It is from revelation we have received it, and without revelation these maxims had never been able to help us to it.

(3) They are not of use to help men forward in the advancement of sciences, or new discoveries of yet unknown truths. Mr. Newton, in his never-enough-to-be-admired book, has demonstrated several propositions, which are so many new truths, before unknown to the world, and are further advances in mathematical knowledge: but, for the discovery of these, it was not the general maxims, 'What is, is'; or, 'The whole is bigger than a part,' or the like, that helped him. Would those who have this traditional admiration of these propositions, that they think no step can be made in knowledge without the support of an axiom, no stone laid in the building of the sciences without a general maxim, but distinguish between the method of raising any science, and that of teaching it to others, as far as it is advanced—they would see that those general maxims were not the foundations on which the first discoverers raised their admirable structures, nor the keys that unlocked and opened those secrets of knowledge. Though afterwards, when schools were erected, and sciences had their professors to teach what others had found out, they often made use of maxims, i.e. laid down certain propositions which were self-evident, or to be received for true; which being settled in the minds of their scholars as unquestionable verities, they on occasion made use of, to convince them of truths in particular instances, that were not so familiar to their minds as those general axioms which had before been inculcated to them, and carefully settled in their minds. Though these particular instances, when well reflected on, are no less self-evident to the understanding than the general maxims brought to confirm them: and it was in those particular instances that the first discoverer found the truth, without the help of the general maxims: and so may any one else do, who with attention considers them.

To come, therefore, to the use that is made of maxims.

(1) They are of use, as has been observed, in the ordinary methods of teaching sciences as far as they are advanced.

(2) They are of use in disputes, for the silencing of obstinate wranglers, and bringing those contests to some conclusion. Whether a need of them to that end came not in the manner

following, I crave leave to inquire. The Schools, having made disputation the touchstone of men's abilities, and the criterion of knowledge, adjudged victory to him that kept the field; and he that had the last word was concluded to have the better of the argument, if not of the cause. But because by this means there was like to be no decision between skilful combatants, whilst one never failed of a *medius terminus* to prove any proposition, and the other could as constantly, without or with a distinction, deny the major or minor; to prevent, as much as could be, running out of disputes into an endless train of syllogisms, certain general propositions—most of them, indeed, self-evident—were introduced into the Schools: which being such as all men allowed and agreed in, were looked on as general measures of truth, and served instead of principles (where the disputants had not laid down any other between them) beyond which there was no going, and which must not be receded from by either side. And thus these maxims, getting the name of principles, beyond which men in dispute could not retreat, were by mistake taken to be the originals and sources from whence all knowledge began, and the foundations whereon the sciences were built. General maxims are, as I have said, not of much use to the discovery of unknown truths, or to help the mind forwards in its search after knowledge. For in particulars our knowledge begins, and so spreads itself, by degrees, to generals. Though afterwards the mind takes the quite contrary course, and having drawn its knowledge into as general propositions as it can, makes those familiar to its thoughts, and accustoms itself to have recourse to them, as to the standards of truth and falsehood. By which familiar use of them, as rules to measure the truth of other propositions, it comes in time to be thought that more particular propositions have their truth and evidence from their conformity to these more general ones, which, in discourse and argumentation, are so frequently urged and constantly admitted. And this I think to be the reason why, amongst so many self-evident propositions, the most general only have had the title of *maxims*.

12. One thing further, I think, it may not be amiss to observe concerning these general maxims, that they are so far from improving or establishing our minds in true knowledge, that if our notions be wrong, loose, or unsteady, and we resign up our thoughts to the sound of words, rather than fix them on settled, determined ideas of things; I say these general maxims will serve

to confirm us in mistakes; and in such a way of use of words, which is most common, will serve to prove contradictions: v.g. he that with Descartes shall frame in his mind an idea of what he calls body to be nothing but extension, may easily demonstrate that there is no vacuum, i.e. no space void of body, by this maxim, *What is, is*. For the idea to which he annexes the name body, being bare extension, his knowledge that space cannot be without body, is certain.

13, 15. But if another should come and make to himself another idea, different from Descartes's, of the thing, which yet with Descartes he calls by the name body, and make his idea, which he expresses by the word body, to be of a thing that hath both extension and solidity together; he will as easily demonstrate, that there may be a vacuum or space without a body, as Descartes demonstrated the contrary. So that whilst men take words for things, as usually they do, these maxims may and do commonly serve to prove contradictory propositions; as shall yet be further made manifest.

16. For instance: let *man* be that concerning which you would by these first principles demonstrate anything, and we shall see, that so far as demonstration is by these principles, it is only verbal, and gives us no certain, universal, true proposition, or knowledge, of any being existing without us. First, a child having framed the idea of a man, it is probable that his idea is just like that picture which the painter makes of the visible appearances joined together; and such a complication of ideas together in his understanding makes up the single complex idea which he calls *man*, whereof white or flesh-colour in England being one, the child can demonstrate to you that a negro is not a man, because white colour was one of the constant simple ideas of the complex idea he calls *man*; and therefore he can demonstrate, by the principle, *It is impossible for the same thing to be and not to be*, that a negro is *not* a man; the foundation of his certainty being not that universal proposition, which perhaps he never heard nor thought of, but the clear, distinct perception he hath of his own simple ideas of black and white, which he cannot be persuaded to take, nor can ever mistake one for another, whether he knows that maxim or no. And to this child, or any one who hath such an idea, which he calls *man*, can you never demonstrate that a man hath a soul, because his idea of *man* includes no such notion or idea in it. And therefore, to him, the principle of *What is, is*, proves not this matter; but it depends

upon collection and observation, by which he is to make his complex idea called man.

19. So that, if rightly considered, I think we may say, that where our ideas are determined in our minds, and have annexed to them by us known and steady names under those settled determinations, there is little need or no use at all of these maxims, to prove the agreement or disagreement of any of them. He that cannot discern the truth or falsehood of such propositions, without the help of these and the like maxims, will not be helped by these maxims to do it: since he cannot be supposed to know the truth of these maxims themselves without proof, if he cannot know the truth of others without proof, which are as self-evident as these. Upon this ground it is that intuitive knowledge neither requires nor admits any proof, one part of it more than another. He that will suppose it does, takes away the foundation of all knowledge and certainty; and he that needs any proof to make him certain, and give his assent to this proposition, that two are equal to two, will also have need of a proof to make him admit that what is, is. He that needs a probation to convince him that two are not three, that white is not black, that a triangle is not a circle, etc., or any other two determined distinct ideas are not one and the same, will need also a demonstration to convince him that *It is impossible for the same thing to be and not to be.*

20. And as these maxims are of little use where we have determined ideas, so they are, as I have showed, of dangerous use where our ideas are not determined; and where we use words that are not annexed to determined ideas, but such as are of a loose and wandering signification, sometimes standing for one, and sometimes for another idea.

Chapter VIII

OF TRIFLING PROPOSITIONS

Some Propositions bring no Increase to Knowledge, 1; As, First, identical Propositions, 2-3; Secondly, Propositions in which a part of any complex Idea is predicated of the Whole, 4; As part of the Definition of the Term defined, 5-6, 8; General Propositions concerning Substances are often trifling, 9; Marks of verbal Propositions: First, Predication in Abstract, 12; Secondly, a part of the Definition predicated of any Term, 13.

1. WHETHER the maxims treated of in the foregoing chapter be of that use to real knowledge as is generally supposed, I leave to be considered. This, I think, may confidently be affirmed, that there *are* universal propositions, which, though they be certainly true, yet they add no light to our understanding, bring no increase to our knowledge. Such are:

2. First, All purely *identical propositions*. These obviously and at first blush appear to contain no instruction in them; for when we affirm the said term of itself, whether it be barely verbal, or whether it contains any clear and real idea, it shows us nothing but what we must certainly know before.

3. Any very ignorant person, who can but make a proposition, and knows what he means when he says ay or no, may make a million of propositions of whose truth he may be infallibly certain, and yet not know one thing in the world thereby; v.g. 'What is a soul, is a soul'; or, 'A soul is a soul'; 'A spirit is a spirit'; 'A fetiche is a fetiche,' etc. These all being equivalent to this proposition, viz. *What is, is*; i.e. What hath existence, hath existence; or, Who hath a soul, hath a soul. What is this more than trifling with words? It is but like a monkey shifting his oyster from one hand to the other: and had he but words, might no doubt have said, 'Oyster in right hand is subject, and oyster in left hand is predicate': and so might have made a self-evident proposition of oyster, i.e. oyster is oyster; and yet, with all this, not have been one whit the wiser or more knowing: and that way of handling the matter would much at one have satisfied the monkey's hunger, or a man's understanding, and they would have improved in knowledge and bulk together.

4. Secondly, Another sort of trifling propositions is, *when a part of the complex idea is predicated of the name of the whole*; a part of the definition of the word defined. Such are all propositions wherein the genus is predicated of the species, or more comprehensive of less comprehensive terms. For what information, what

knowledge, carries this proposition in it, viz. 'Lead is a metal' to a man who knows the complex idea the name lead stands for? all the simple ideas that go to the complex one signified by the term metal, being nothing but what he before comprehended and signified by the name lead. Indeed, to a man that knows the signification of the word metal, and not of the word lead, it is a shorter way to explain the signification of the word lead, by saying it is a metal, which at once expresses several of its simple ideas, than to enumerate them one by one, telling him it is a body very heavy, fusible, and malleable.

5. Alike trifling it is to predicate any other part of the definition of the term defined, or to affirm any one of the simple ideas of a complex one of the name of the whole complex idea; as, 'All gold is fusible.' For fusibility being one of the simple ideas that goes to the making up the complex one the sound gold stands for, what can it be but playing with sounds, to affirm that of the name gold, which is comprehended in its received signification?

6. 'Every man is an animal, or living body,' is as certain a proposition as can be; but no more conducing to the knowledge of things than to say, a palfrey is an ambling horse, or a neighing, ambling animal, both being only about the signification of words, and make me know but this, that body, sense, and motion, or power of sensation and moving, are three of those ideas that I always comprehend and signify by the word man: and where they are not to be found together, the name man belongs not to that thing: and so of the other, that body, sense, and a certain way of going, with a certain kind of voice, are some of those ideas which I always comprehend and signify by the word palfrey; and when they are not to be found together, the name palfrey belongs not to that thing. But he that shall tell me, that in whatever thing sense, motion, reason, and laughter, were united, that thing had actually a notion of God, or would be cast into a sleep by opium, made indeed an instructive proposition: because neither having the notion of God, nor being cast into sleep by opium, being contained in the idea signified by the word man, we are by such propositions taught something more than barely what the word man stands for: and therefore the knowledge contained in it is more than verbal.

8. We can know then the truth of two sorts of propositions with perfect certainty. The one is, of those trifling propositions

which have a certainty in them, but it is only a verbal certainty, but not instructive. And, secondly, we can know the truth, and so may be certain in propositions which affirm something of another, which is a necessary consequence of its precise complex idea, but not contained in it: as that the external angle of all triangles is bigger than either of the opposite internal angles. Which relation of the outward angle to either of the opposite internal angles, making no part of the complex idea signified by the name triangle, this is a real truth, and conveys with it instructive real knowledge.

9. We having little or no knowledge of what combinations there be of simple ideas existing together in substances, but by our senses, we cannot make any universal certain propositions concerning them, any further than our nominal essences lead us. Which being to a very few and inconsiderable truths, in respect of those which depend on their real constitutions, the general propositions that are made about substances, if they are certain, are for the most part but trifling; and if they are instructive, are uncertain, and such as we can have no knowledge of their real truth, how much soever constant observation and analogy may assist our judgment in guessing. Hence it comes to pass, that one may often meet with very clear and coherent discourses, that amount yet to nothing. For it is plain that names of substantial beings, as well as others, as far as they have relative significations affixed to them, may, with great truth, be joined negatively and affirmatively in propositions, as their relative definitions make them fit to be so joined; and propositions consisting of such terms may, with the same clearness, be deduced one from another, as those that convey the most real truths: and all this without any knowledge of the nature or reality of things existing without us. By this method one may make demonstrations and undoubted propositions in words, and yet thereby advance not one jot in the knowledge of the truth of things: v.g. he that having learnt these following words, with their ordinary mutual relative acceptations annexed to them, v.g. *substance, man, animal, form, soul, vegetative, sensitive, rational*, may make several undoubted propositions about the soul, without knowing at all what the soul really is: and of this sort, a man may find an infinite number of propositions, reasonings, and conclusions, in books of metaphysics, school-divinity, and some sort of natural philosophy; and, after all, know as little of God, spirits, or bodies, as he did before he set out.

12. To conclude. Barely verbal propositions may be known by these following marks:

First, All propositions wherein two abstract terms are affirmed one of another, are barely about the signification of sounds. For since no abstract idea can be the same with any other but itself, when its abstract name is affirmed of any other term, it can signify no more but this, that it may or ought to be called by that name; or that these two names signify the same idea. Thus, should any one say that parsimony is frugality, that gratitude is justice, that this or that action is or is not temperate: however specious these and the like propositions may at first sight seem, yet when we come to press them, and examine nicely what they contain, we shall find that it all amounts to nothing but the signification of those terms.

13. Secondly, All propositions wherein a part of the complex idea which any term stands for it predicated of that term, are only verbal: v.g. to say that gold is a metal, or heavy. And thus all propositions wherein more comprehensive words, called genera, are affirmed of subordinate or less comprehensive, called species or individuals, are barely verbal.

Chapter IX

OF OUR KNOWLEDGE OF EXISTENCE

General Propositions that are certain concern not Existence, 1; A three-fold Knowledge of Existence, 2; Our Knowledge of our own Existence is intuitive, 3.

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 further, 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.

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.

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 X

OF THE KNOWLEDGE OF THE EXISTENCE OF A GOD

We are capable of knowing certainly that there is a God, 1; For Man knows that he himself exists, 2; He also knows that Nothing cannot produce a Being; therefore Something must have existed from Eternity, 3; That eternal Being must be most powerful, 4; And most Knowing, 5; And therefore God, 6; Our idea of a most perfect Being, not the sole Proof of a God, 7; Two sorts of Beings, cogitative and incogitative, 8-9; Incogitative Being cannot produce a cogitative Being, 10; Therefore there is an eternal cogitative Being, 11; God's Attributes, 12; The Immateriality of God, 13-16; Matter not co-eternal with an Eternal Mind, 18; Objection: Creation out of nothing, 19.

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. 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 further than *ourselves*, and that undoubted knowledge we have of our own existence.

2. This, 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*. 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.

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 nonentity, 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 nonentity 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.

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*.

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

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.

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.

8. 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.

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

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

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.

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 anything? 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. 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.

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.

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 further, we will see what doubts can be raised against it.

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. 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.

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

15. 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. 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 anything else to one above another.

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; 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 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.

18. Secondly, 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?

19. But you will say, Is it not impossible to admit of the making anything out of nothing, since we cannot possibly conceive it? I answer, No. 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. 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.

Chapter XI

OF THE KNOWLEDGE OF THE EXISTENCE OF OTHER THINGS

Knowledge of the existence of other finite Beings is to be had only by actual Sensation, 1-2; This Knowledge not so certain as Demonstration, 3; Reasons: First, We have Ideas of Sensation only through the Senses, 4; Secondly, An Idea from actual Sensation is very different from one from Memory, 5; Thirdly, Pleasure or Pain does not necessarily accompany Ideas from Memory, 6; Fourthly, Our Senses assist one another and enable us to predict, 7; Certainty as great as our Condition needs, 8; But reaches no further than actual Sensation, 9; Folly to expect Demonstration in everything, 10; Past Existence of other Things known by Memory, 11; Knowledge of Existence of finite Spirits rests on Faith, 12; Only particular Propositions concerning concrete Existences are knowable, 13; All general Propositions known to be true concern abstract Ideas, 14.

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.

The knowledge of the existence of *any other thing* we can have only by *sensation*: for there being no necessary connection 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 anything 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.

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.

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 anything 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 anything 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.

We are further confirmed in this assurance by other concurrent reasons:

4. I. 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. The organs themselves 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 pineapple, till he goes to the Indies, where it is, and tastes it.

5. II. 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 recall 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.

6. III. 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 them: and we remember the pains of hunger, thirst, or the headache, 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.

7. IV. 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 anything 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.

Thus I see, whilst I write this, I can change the appearance of the paper; and by designing the letters, tell *beforehand* 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.

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, 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 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.

9. But this knowledge extends as far as the present testimony of our senses, employed about particular objects that do then affect them, and no further. 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 connection 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, 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.

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.

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 further 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.

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. 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.

13. By which it appears that there are two sorts of propositions: (1) There is one sort of propositions concerning the *existence* of anything 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 anything without us, but only of God, can certainly be known further 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.

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 *aeternas 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 anywhere 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*.

Chapter XII

OF THE IMPROVEMENT OF OUR KNOWLEDGE

Knowledge not got from Maxims, 1-2; Dangerous to build on precarious Principles, 4-5; Way to Truth is to compare clear, complete Ideas, under steady Names, 6; By considering our abstract Ideas, 7; By which Morality also may be made clearer, 8; Our Knowledge of Substances improved only by Experience, 9; Experience may procure us Convenience, not Science, 10; We are fitted for moral Science, but only for probable interpretations of external Nature, 11; In the Study of Nature, beware of Hypotheses and wrong Principles, 12; True use of Hypotheses, 13; Clear and distinct Ideas, the Agreement and Disagreement of Ideas, true Ways to Knowledge, 14; Mathematics an instance, 15.

1. IT having been the common received opinion amongst men of letters, that *maxims* were the foundation of all knowledge; and that the sciences were each of them built upon certain *præcognita*, from whence the understanding was to take its rise, and by which it was to conduct itself in its inquiries into the matters belonging to that science, the beaten road of the Schools has been, to lay down in the beginning one or more general propositions, as foundations whereon to build the knowledge that was to be had of that subject. These doctrines, thus laid down for foundations

of any science, were called *principles*, as the beginnings from which we must set out, and look no further backwards in our inquiries, as we have already observed.

2. One thing which might probably give an occasion to this way of proceeding in other sciences, was (as I suppose) the good success it seemed to have in *mathematics*, wherein men, being observed to attain a great certainty of knowledge, these sciences came by pre-eminence to be called *μαθήματα*, and *μάθησις*, learning, or things learned, thoroughly learned, as having of all others the greatest certainty, clearness, and evidence in them.

4. But be it in the mathematics as it will, whether it be clearer, that, taking an inch from a black line of two inches, and an inch from a red line of two inches, the remaining parts of the two lines will be equal, or that if you take equals from equals, the remainder will be equals: which, I say, of these two is the clearer and first known, I leave to any one to determine, it not being material to my present occasion. That which I have here to do, is to inquire whether, if it be the readiest way to knowledge to begin with general maxims and build upon them, it be yet a safe way to take the *principles* which are laid down in any other science as unquestionable truths; and so receive them without examination, and adhere to them, without suffering them to be doubted of, because mathematicians have been so happy, or so fair, to use none but self-evident and undeniable. If this be so, I know not what may not pass for truth in morality, what may not be introduced and proved in natural philosophy.

Nothing can be so dangerous as *principles taken up without questioning or examination*; especially if they be such as concern morality, which influence men's lives, and give a bias to all their actions. Who might not justly expect another kind of life in Aristippus, who placed happiness in bodily pleasure; and in Antisthenes, who made virtue sufficient to felicity? He that, with Archelaus, shall lay it down as a principle, that right and wrong, honest and dishonest, are defined only by laws, and not by nature, will have other measures of moral rectitude and pravity than those who take it for granted that we are under obligations antecedent to all human constitutions.

5. If, therefore, those that pass for *principles* are not certain (which we must have some way to know, that we may be able to distinguish them from those that are doubtful), but are only

made so to us by our blind assent, we are liable to be misled by them; and instead of being guided into truth, we shall, by principles, be only confirmed in mistake and error.

6. But since the knowledge of the certainty of principles, as well as of all other truths, depends only upon the perception we have of the agreement or disagreement of our ideas, the way to improve our knowledge is not, I am sure, blindly, and with an implicit faith, to receive and swallow principles.

7. We must, if we will proceed as reason advises, adapt our methods of inquiry to *the nature of the ideas we examine*, and the truth we search after. General and certain truths are only founded in the habitudes and relations of *abstract ideas*. A sagacious and methodical application of our thoughts, for the finding out these relations, is the only way to discover all that can be put with truth and certainty concerning them into general propositions. By what steps we are to proceed in these, is to be learned in the schools of the mathematicians, who, from very plain and easy beginnings, by gentle degrees, and a continued chain of reasonings, proceed to the discovery and demonstration of truths that appear at first sight beyond human capacity. The art of finding proofs, and the admirable methods they have invented for the singling out and laying in order those intermediate ideas that demonstratively show the equality or inequality of unapplicable quantities, is that which has carried them so far, and produced such wonderful and unexpected discoveries: but whether something like this, in respect of other ideas, as well as those of magnitude, may not in time be found out, I will not determine. This, I think, I may say, that if other ideas, that are the real as well as nominal essences of their species, were pursued in the way familiar to mathematicians, they would carry our thoughts further, and with greater evidence and clearness, than possibly we are apt to imagine.

8. This gave me the confidence to advance that conjecture which I suggest (chap. iii), viz. that *morality* is capable of demonstration as well as mathematics. For the ideas that ethics are conversant about, being all real essences, and such as I imagine have a discoverable connection and agreement one with another; so far as we can find their habitudes and relations, so far we shall be possessed of certain, real, and general truths; and I doubt not but, if a right method were taken, a great part of morality might be made out with that clearness, that could leave, to a considering man, no more reason to doubt, than he could have

to doubt of the truth of propositions in mathematics, which have been demonstrated to him.

9, 10. In our search after the knowledge of *substances*, our want of ideas that are suitable to such a way of proceeding obliges us to a quite different method. We advance not here, as in the other (where our abstract ideas are real as well as nominal essences), by contemplating our ideas, and considering their relations and correspondences; that helps us very little, for the reasons that in another place we have at large set down. By which I think it is evident, that substances afford matter of very little *general* knowledge; and the bare contemplation of their abstract ideas will carry us but a very little way in the search of truth and certainty. What, then, are we to do for the improvement of our knowledge in substantial beings? Here we are to take a quite contrary course: the want of ideas of their real essences sends us from our own thoughts to the things themselves as they exist. *Experience here must teach me what reason cannot*: and it is by *trying* alone that I can *certainly know* what other qualities co-exist with those of my complex idea, v.g. whether that yellow, heavy, fusible body I call *gold* be malleable or no; which experience makes me not certain that it is so in all, or any other yellow, heavy, fusible bodies, but that which I have tried. This way of *getting and improving our knowledge in substances only by experience and history*, which is all that the weakness of our faculties in this state of mediocrity which we are in in this world can attain to, makes me suspect that *natural philosophy is not capable of being made a science*. We are able, I imagine, to reach very little general knowledge concerning the species of bodies and their several properties. Experiments and historical observations we may have, from which we may draw advantages of ease and health, and thereby increase our stock of conveniences for this life; but beyond this I fear our talents reach not, nor are our faculties, as I guess, able to advance.

11. From whence it is obvious to conclude, that, since our faculties are not fitted to penetrate into the internal fabric and real essences of bodies; but yet plainly discover to us the being of a God, and the knowledge of ourselves, enough to lead us into a full and clear discovery of our duty and great concernment; it will become us, as rational creatures, to employ those faculties we have about what they are most adapted to, and follow the direction of nature, where it seems to point us out the way. For it is rational to conclude that our proper employment lies in those

inquiries, and in that sort of knowledge which is most suited to our natural capacities, and carries in it our greatest interest, i.e. the condition of our eternal estate. Hence I think I may conclude, that *morality is the proper science and business of mankind in general* (who are both concerned and fitted to search out their *summum bonum*); as several arts, conversant about several parts of nature, are the lot and private talent of particular men, for the common use of human life, and their own particular subsistence in this world. Of what consequence the discovery of one natural body and its properties may be to human life, the whole great continent of America is a convincing instance: whose ignorance in useful arts, and want of the greatest part of the conveniences of life, in a country that abounded with all sorts of natural plenty, I think may be attributed to their ignorance of what was to be found in a very ordinary, despicable stone, I mean the mineral of *iron*. And whatever we think of our parts or improvements in this part of the world, where knowledge and plenty seem to vie with each other; yet to any one that will seriously reflect on it, I suppose it will appear past doubt, that, were the use of iron lost among us, we should in a few ages be unavoidably reduced to the wants and ignorance of the ancient savage Americans, whose natural endowments and provisions come no way short of those of the most flourishing and polite nations. So that he who first made known the use of that contemptible mineral, may be truly styled the father of arts, and author of plenty.

12. I would not, therefore, be thought to disesteem or dissuade the study of *nature*. I readily agree the contemplation of his works gives us occasion to admire, revere, and glorify their Author: and if, rightly directed, may be of greater benefit to mankind than the monuments of exemplary charity that have at so great charge been raised by the founders of hospitals and almshouses. He that first invented printing, discovered the use of the compass, or made public the virtue and right use of quinine, did more for the propagation of knowledge, for the supply and increase of useful commodities, and saved more from the grave, than those who built colleges, workhouses, and hospitals. All that I would say is, that we should not be too forwardly possessed with the opinion or expectation of knowledge where it is not to be had, or by ways that will not attain to it: that we should not take doubtful systems for complete sciences; nor unintelligible notions for scientific demonstrations. In the knowledge of bodies, we must content to glean what we can

from particular experiments: since we cannot, from a discovery of their real essences, grasp at a time whole sheaves, and in bundles comprehend the nature and properties of whole species together.

13. Not that we may not, to explain any phenomena of nature, make use of any probable hypothesis whatsoever: hypotheses, if they are well made, are at least great helps to the memory, and often direct us to new discoveries. But my meaning is, that we should not take up any one too hastily (which the mind, that would always penetrate into the causes of things, and have principles to rest on, is very apt to do), till we have very well examined particulars, and made several experiments, in that thing which we would explain by our hypothesis, and see whether it will agree to them all; whether our principles will carry us quite through, and not be as inconsistent with one phenomenon of nature, as they seem to accommodate and explain another. And at least that we take care that the name of *principles* deceive us not, nor impose on us, by making us receive that for an unquestionable truth, which is really at best but a very doubtful conjecture; such as are most (I had almost said all) of the hypotheses in natural philosophy.

14. But whether natural philosophy be capable of certainty or no, the ways to enlarge our knowledge, as far as we are capable, seems to me, in short, to be these two:

First, The first is to get and settle in our minds determined ideas of those things whereof we have general or specific names; at least, so many of them as we would consider and improve our knowledge in, or reason about. And if they be specific ideas of substances, we should endeavour also to make them as complete as we can, whereby I mean, that we should put together as many simple ideas as, being constantly observed to co-exist, may perfectly determine the species; and each of those simple ideas which are the ingredients of our complex ones, should be clear and distinct in our minds. For it being evident that our knowledge cannot exceed our ideas; as far as they are either imperfect, confused, or obscure, we cannot expect to have certain, perfect, or clear knowledge.

Secondly, The other is the art of finding out those intermediate ideas, which may show us the agreement or repugnancy of other ideas, which cannot be immediately compared.

15. That these two (and not the relying on maxims, and drawing consequences from some general propositions) are the right

methods of improving our knowledge in the ideas of other modes besides those of quantity, the consideration of mathematical knowledge will easily inform us. Where first we shall find that he that has not a perfect and clear idea of those angles or figures of which he desires to know anything, is utterly thereby incapable of any knowledge about them. Further, it is evident that it was not the influence of those maxims which are taken for principles in *mathematics*, that hath led the masters of that science into those wonderful discoveries they have made. Let a man of good parts know all the maxims generally made use of in *mathematics* ever so perfectly, and contemplate their extent and consequences as much as he pleases, he will, by their assistance, I suppose, scarce ever come to know that the square of the hypotenuse in a right-angled triangle is equal to the squares of the two other sides. The mind had other objects, other views before it, far different from those maxims, when it first got the knowledge of such truths in *mathematics*, which men, well enough acquainted with those received axioms, but ignorant of their method who first made these demonstrations, can never sufficiently admire.

Chapter XIII

SOME OTHER CONSIDERATIONS CONCERNING OUR KNOWLEDGE

Our Knowledge partly necessary, partly voluntary, 1; The Application of our *Faculties* voluntary; but, they being employed, we know as Things are, not as we please, 2; Instances in Numbers, and in natural Religion, 3.

1. OUR knowledge, as in other things, so in this, has so great a conformity with our sight, that it is neither wholly necessary, nor wholly voluntary. If our knowledge were altogether necessary, all men's knowledge would not only be alike, but every man would know all that is knowable; and if it were wholly voluntary, some men so little regard or value it, that they would have extreme little, or none at all. Men that have senses cannot choose but receive some ideas by them; and if they have memory, they cannot but retain some of them; and if they have any distinguishing faculty, cannot but perceive the agreement or disagreement of some of them one with another; as he that has eyes, if he will open them by day, cannot but see some objects, and

perceive a difference in them. But though a man with his eyes open in the light cannot but see, yet there be certain objects which he may choose whether he will turn his eyes to; there may be in his reach a book containing pictures and discourses, capable to delight or instruct him, which yet he may never have the will to open, never take the pains to look into.

2. There is also another thing in a man's power, and that is, though he turns his eyes sometimes towards an object, yet he may choose whether he will curiously survey it, and with an intent application endeavour to observe accurately all that is visible in it. But yet, what he does see, he cannot see otherwise than he does. The earth will not appear painted with flowers, nor the fields covered with verdure, whenever he has a mind to it: in the cold winter, he cannot help seeing it white and hoary, if he will look abroad. Just thus is it with our understanding: all that is voluntary in our knowledge is, the employing or withholding any of our *faculties* from this or that sort of objects, and a more or less accurate survey of them: but, *they being employed, our will hath no power to determine the knowledge of the mind one way or another*; that is done only by the objects themselves, as far as they are clearly discovered. And therefore, as far as men's senses are conversant about external objects, the mind cannot but receive those ideas which are presented by them, and be informed of the existence of things without: and so far as men's thoughts converse with their own determined ideas, they cannot but in some measure observe the agreement or disagreement that is to be found amongst some of them, which is so far knowledge: and if they have names for those ideas which they have thus considered, they must needs be assured of the truth of those propositions which express that agreement or disagreement they perceive in them, and be undoubtedly convinced of those truths. For what a man sees, he cannot but see; and what he perceives, he cannot but know that he perceives.

3. Thus he that has got the ideas of numbers, and hath taken the pains to compare one, two, and three, to six, cannot choose but know that they are equal: he that hath got the idea of a triangle, and found the ways to measure its angles and their magnitudes, is certain that its three angles are equal to two right ones; and can as little doubt of that, as of this truth, that it is impossible for the same thing to be, and not to be.

He also that hath the idea of an intelligent, but frail and weak being, made by and depending on another, who is eternal,

omnipotent, perfectly wise and good, will as certainly know that man is to honour, fear, and obey God, as that the sun shines when he sees it. For if he hath but the ideas of two such beings in his mind, and will turn his thoughts that way, and consider them, he will as certainly find that the inferior, finite, and dependent is under an obligation to obey the supreme and infinite, as he is certain to find that three, four, and seven are less than fifteen; yet these truths, being ever certain, ever so clear, he may be ignorant of either or all of them, who will never take the pains to employ his faculties, as he should, to inform himself about them.

Chapter XIV

OF JUDGMENT

Our Knowledge being short, we want something else, 1; What Use to be made of this twilight State, 2; Judgment, or Assent to Probability, supplies our want of Knowledge, 3; Judgment is the presuming Things to be so, without perceiving it, 4.

1. THE understanding faculties being given to man, not barely for speculation, but also for the conduct of his life, man would be at a great loss if he had nothing to direct him but what has the certainty of true *knowledge*. For that being very short and scanty, as we have seen, he would be often utterly in the dark, and in most of the actions of his life perfectly at a stand, had he nothing to guide him in the absence of clear and certain knowledge. He that will not eat till he has demonstration that it will nourish him; he that will not stir till he infallibly knows the business he goes about will succeed, will have little else to do but to sit still and perish.

2. Therefore, as God has set some things in broad daylight; as he has given us some certain knowledge, though limited to a few things in comparison, probably as a taste of what intellectual creatures are capable of, to excite in us a desire and endeavour after a better state: so, in the greatest part of our concerns, he has afforded us only the twilight, as I may so say, of probability; suitable, I presume, to that state of mediocrity and probationership he has been pleased to place us in here.

3. The faculty which God has given man to supply the want

of clear and certain knowledge, in cases where that cannot be had, is *judgment*: whereby the mind takes its ideas to agree or disagree; or, which is the same, any proposition to be true or false, without perceiving a demonstrative evidence in the proofs. The mind sometimes exercises this judgment out of necessity, where demonstrative proofs and certain knowledge are not to be had; and sometimes out of laziness, unskilfulness, or haste, even where demonstrative and certain proofs are to be had.

4. Thus the mind has two faculties conversant about truth and falsehood:

First, *KNOWLEDGE*, whereby it certainly *perceives*, and is undoubtedly satisfied of the agreement or disagreement of any ideas.

Secondly, *JUDGMENT*, which is the putting ideas together, or separating them from one another in the mind, when their certain agreement or disagreement is not perceived, but *presumed* to be so; which is, as the word imports, taken to be so before it certainly appears. And if it so unites or separates them as in reality things are, it is right judgment.

Chapter XV

OF PROBABILITY

Probability is the appearance of Agreement upon fallible Proofs, 1; It is that which makes us presume Things to be true, before we know them to be so, 3; Grounds are: Conformity with our own Experience or the Testimony of others, 4; Pro and con Arguments should be examined, 5; Probable Arguments of great Variety, 6.

1. As *demonstration* is the showing the agreement or disagreement of two ideas, by the intervention of one or more proofs, which have a constant, immutable, and visible connection one with another; so *probability* is nothing but the appearance of such an agreement or disagreement, by the intervention of proofs, whose connection is not constant and immutable, or at least is not perceived to be so, but is, or appears for the most part to be so, and is enough to induce the mind to judge the proposition to be true or false, rather than the contrary. For example: In the demonstration of it a man perceives the certain, immutable con-

nection there is of equality between the three angles of a triangle, and those intermediate ones which are made use of to show their equality to two right ones; and so, by an intuitive knowledge of the agreement or disagreement of the intermediate ideas, he has certain knowledge that it is so. But another man, who never took the pains to observe the demonstration, hearing a mathematician, a man of credit, affirm the three angles of a triangle to be equal to two right ones, assents to it, i.e. receives it for true: in which case the foundation of his assent is the probability of the thing: the man on whose testimony he receives it not being wont to affirm anything contrary to or besides his knowledge, especially in matters of this kind: so that that which causes his assent to this proposition, that the three angles of a triangle are equal to two right ones, that which makes him take these ideas to agree, without knowing them to do so, is the wonted veracity of the speaker in other cases, or his supposed veracity in this.

3. Probability is likeliness to be true, the very notation of the word signifying such a proposition, for which there be arguments or proofs to make it pass, or be received, for true. The entertainment the mind gives this sort of propositions is called *belief*, *assent*, or *opinion*, which is the admitting or receiving any proposition for true, upon arguments or proofs that are found to persuade us to receive it as true, without certain knowledge that it is so. And herein lies the difference between *probability* and *certainty*, *faith* and *knowledge*, that in all the parts of knowledge there is intuition; each immediate idea, each step has its visible and certain connection: in belief, not so. That which makes me believe, is something extraneous to the thing I believe; something not evidently joined on both sides to, and so not manifestly showing the agreement or disagreement of, those ideas that are under consideration.

4. Probability, then, being to supply the defect of our knowledge, and to guide us where that fails, is always conversant about propositions whereof we have no certainty, but only some inducements to receive them for true. The grounds of it are, in short, these two following:

First, The conformity of anything with our own knowledge, observation, and experience.

Secondly, The testimony of others, vouching their observation and experience. In the testimony of others, is to be considered: (1) The number. (2) The integrity. (3) The skill of

the witnesses. (4) The design of the author, where it is a testimony out of a book cited. (5) The consistency of the parts, and circumstances of the relation. (6) Contrary testimonies.

5. Probability wanting that intuitive evidence which infallibly determines the understanding and produces certain knowledge, the mind, if it *will proceed rationally*, ought to examine all the grounds of probability, and see how they make more or less for or against any proposition, before it assents to or dissents from it; and, upon a due balancing the whole, reject or receive it, with a more or less firm assent, proportionably to the preponderancy of the greater grounds of probability on one side or the other.

6. There is another, I confess, which, though by itself it be no true ground of probability, yet is often made use of for one, by which men most commonly regulate their assent, and upon which they pin their faith more than anything else, and that is, *the opinion of others*; though there cannot be a more dangerous thing to rely on, nor more likely to mislead one; since there is much more falsehood and error among men than truth and knowledge. And if the opinions and persuasions of others, whom we know and think well of, be a ground of assent, men have reason to be Heathens in Japan, Mahometans in Turkey, Papists in Spain, Protestants in England, and Lutherans in Sweden.

Chapter XVI

OF THE DEGREES OF ASSENT

Assent should be regulated by Grounds of Probability, 1, 3; Foundation of mutual Charity and Forbearance in a necessary Diversity of Opinions, 4; Probability is either of sensible Matter of Fact or of what is beyond the Evidence of our Senses, 5; Concurrent Experience of all Men produces Assurance, 6; Unquestionable Testimony a Ground of Assent, 7; Fair Testimony, and the Nature of the Thing indifferent, produce unavoidable Assent, 8; Experience and Testimonies clashing, infinitely vary the Degrees of Probability, 9; Traditional Testimonies, the further removed the less their Proof, 10; Yet History is of great Use, 11; In Things which Sense cannot discover, Analogy is the great Rule of Probability, 12.

1. THE grounds of probability we have laid down in the foregoing chapter: as they are the foundations on which our *assent* is built, so are they also the measure whereby its several degrees are or ought to be regulated.

3. What we once *know*, we are certain is so: and we may be secure that there are no latent proofs undiscovered which may overturn our knowledge, or bring it in doubt. But, in matters of *probability*, it is not in every case we can be sure that we have all the particulars before us, that any way concern the question; and that there is no evidence behind, and yet unseen, which may cast the probability on the other side, and outweigh all that at present seems to preponderate with us. Who almost is there that hath the leisure, patience, and means to collect together all the proofs concerning most of the opinions he has, so as safely to conclude that he hath a clear and full view; and that there is no more to be alleged for his better information? And yet we are forced to determine ourselves on the one side or other. The conduct of our lives, and the management of our great concerns, will not bear delay: for those depend, for the most part, on the determination of our judgment in points wherein we are not capable of certain and demonstrative knowledge, and wherein it is necessary for us to embrace the one side or the other.

4. Since, therefore, it is unavoidable to the greatest part of men, if not all, to have several *opinions*, without certain and indubitable proofs of their truth; and it carries too great an imputation of ignorance, lightness, or folly for men to quit and renounce their former tenets presently upon the offer of an argument which they cannot immediately answer, and show the insufficiency of: it would, methinks, become all men to maintain peace, and the common offices of humanity, and friendship, in the diversity of opinions; since we cannot reasonably expect that any one should readily and obsequiously quit his own opinion, and embrace ours, with a blind resignation to an authority which the understanding of man acknowledges not.

We should do well to commiserate our mutual ignorance, and endeavour to remove it in all the gentle and fair ways of information; and not instantly treat others ill, as obstinate and perverse, because they will not renounce their own, and receive our opinions, or at least those we would force upon them, when it is more than probable that we are no less obstinate in not embracing some of theirs. For where is the man that has incontestable evidence of the truth of all that he holds, or of the falsehood of all he condemns; or can say that he has examined to the bottom all his own or other men's opinions?

5. But, to return to the grounds of assent, and the several degrees of it, we are to take notice, that the propositions we

receive upon inducements of *probability* are of *two sorts*: either concerning some particular existence, or, as it is usually termed, matter of fact, which, falling under observation, is capable of human testimony; or else concerning things which, being beyond the discovery of our senses, are not capable of any such testimony.

6. Concerning the *first* of these, viz. *particular matter of fact*.

Where any particular thing, consonant to the constant observation of ourselves and others in the like case, comes attested by the concurrent reports of all that mention it, we receive it as easily, and build as firmly upon it, as if it were certain knowledge; and we reason and act thereupon with as little doubt as if it were perfect demonstration. The first, therefore, and *highest degree of probability* is, when the general consent of all men in all ages, as far as it can be known, concurs with a man's constant and never-failing experience in like cases, to confirm the truth of any particular matter of fact attested by fair witnesses: such are all the stated constitutions and properties of bodies, and the regular proceedings of causes and effects in the ordinary course of nature. This we call an argument from the nature of things themselves. For what our own and other men's *constant observation* has found always to be after the same manner, that we with reason conclude to be the effect of steady and regular causes; though they come not within the reach of our knowledge. Thus, that fire warmed a man, made lead fluid, and changed the colour or consistency in wood or charcoal, being agreeable to our constant experience, and not so much as controverted by anybody, we are put past doubt that a relation affirming any such thing to have been, or any predication that it will happen again in the same manner, is very true. These *probabilities* rise so near to *certainty*, that they govern our thoughts as absolutely, and influence all our actions as fully, as the most evident demonstration; and in what concerns us we make little or no difference between them and certain knowledge. Our belief, thus grounded, rises to *assurance*.

7. The *next degree of probability* is, when I find by my own experience, and the agreement of all others that mention it, a thing to be for the most part so, and that the particular instance of it is attested by many and undoubted witnesses: v.g. history giving us such an account of men in all ages, and my own experience, as far as I had an opportunity to observe, confirming it, that most men prefer their private advantage to the public: if all historians that write of Tiberius say that Tiberius

did so, it is extremely probable. And in this case, our assent has a sufficient foundation to raise itself to a degree which we may call *confidence*.

8. In things that happen indifferently, as that a bird should fly this or that way; that it should thunder on a man's right or left hand, etc., when any particular matter of fact is vouched by the concurrent testimony of unsuspected witnesses, there our assent is also *unavoidable*. Thus: that there is such a city in Italy as Rome; that about one thousand seven hundred years ago, there lived in it a man, called Julius Caesar; that he was a general, and that he won a battle against another, called Pompey. This, though in the nature of the thing there be nothing for nor against it, yet being related by historians of credit, and contradicted by no one writer, a man cannot avoid believing it, and can as little doubt of it as he does of the being and actions of his own acquaintance, whereof he himself is a witness.

9. Thus far the matter goes easy enough. Probability upon such grounds carries so much evidence with it, that it naturally determines the judgment, and leaves us as little liberty to believe or disbelieve, as a demonstration does, whether we will know or be ignorant. The difficulty is, when testimonies contradict common experience, and the reports of history and witnesses clash with the ordinary course of nature, or with one another; there it is, where diligence, attention, and exactness are required, to form a right judgment, and to proportion the assent to the different evidence and probability of the thing: which rises and falls, according as those two foundations of credibility, viz. *common observation in like cases*, and *particular testimonies in that particular instance*, favour or contradict it. These are liable to so great variety of contrary observations, circumstances, reports, different qualifications, tempers, designs, oversights, etc., of the reporters, that it is impossible to reduce to precise rules the various degrees wherein men give their assent.

10. This is what concerns assent in matters wherein testimony is made use of: concerning which, I think, it may not be amiss to take notice of a rule observed in the law of England; which is, that though the attested copy of a record be good proof, yet the copy of a copy, ever so well attested, and by ever so credible witnesses, will not be admitted as a proof in judicature. This practice, if it be allowable in the decisions of right and wrong, carries this observation along with it, viz. that any testimony, the further off it is from the original truth, the less force and

proof it has. The being and existence of the thing itself, is what I call the original truth.

11. I would not be thought here to lessen the credit and use of *history*: it is all the light we have in many cases, and we receive from it a great part of the useful truths we have, with a convincing evidence. But this truth itself forces me to say, that no probability can rise higher than its first original. What has no other evidence than the single testimony of one only witness must stand or fall by his only testimony, whether good, bad, or indifferent; and though cited afterwards by hundreds of others, one after another, is so far from receiving any strength thereby, that it is only the weaker. Passion, interest, inadvertency, mistake of his meaning, and a thousand odd reasons or capriccios men's minds are acted by (impossible to be discovered), may make one man quote another man's words or meaning wrong.

12. The probabilities we have hitherto mentioned are only such as concern matter of fact, and such things as are capable of observation and testimony. There remains that other sort, concerning which men entertain opinions with variety of assent, though *the things be such, that falling not under the reach of our senses, they are not capable of testimony*. Such are (1) The existence, nature, and operations of finite immaterial beings without us; as spirits, angels, devils, etc. Or the existence of material beings which, either for their smallness in themselves or remoteness from us, our senses cannot take notice of—as, whether there be any plants, animals, and intelligent inhabitants in the planets and other mansions of the vast universe. (2) Concerning the manner of operation in most parts of the works of nature: wherein, though we see the sensible effects, yet their causes are unknown, and we perceive not the ways and manner how they are produced. We see animals are generated, nourished, and move; the loadstone draws iron; and the parts of a candle, successively melting, turn into flame, and give us both light and heat. These and the like effects we see and know: but the causes that operate, and the manner they are produced in, we can only guess and probably conjecture. *Analogy* in these matters is the only help we have, and it is from that alone we draw all our grounds of probability. Thus, observing that the bare rubbing of two bodies violently one upon another produces heat, and very often fire itself, we have reason to think, that what we call *heat* and *fire* consists in a violent agitation of the imper-

ceptible minute parts of the burning matter. Observing likewise that the different refractions of pellucid bodies produce in our eyes the different appearances of several colours; and also, that the different ranging and laying the superficial parts of several bodies, as of velvet, watered silk, etc., does the like, we think it probable that the colour and shining of bodies is in them nothing but the different arrangement and refraction of their minute and insensible parts. Thus, finding in all parts of the creation, that fall under human observation, that there is a gradual connection of one with another, without any great or discernible gaps between, in all that great variety of things we see in the world, which are so closely linked together, that, in the several ranks of beings, it is not easy to discover the bounds betwixt them; we have reason to be persuaded that, by such gentle steps, things ascend upwards in degrees of perfection. This sort of probability, which is the best conduct of rational experiments, and the rise of hypothesis, has also its use and influence; and a wary reasoning from analogy leads us often into the discovery of truths and useful productions, which would otherwise lie concealed.

Chapter XVII

OF REASON

Various Significations of the word Reason, 1; Wherein Reasoning consists, 2; Reason in its four Degrees, 3; Is the Syllogism the great Instrument of Reason? 4; The Syllogism serves not to increase our Knowledge, but to fence with the Knowledge we suppose we have, 6; We can reason about Particulars, 8; Our Reason falls us: I. When we have no Ideas, 9; II. When our Ideas are imperfect and obscure, 10; III. When we perceive not intermediate Ideas, 11; IV. When we proceed upon wrong Principles, 12; Intuition and Reasoning compared, 14-16; Intuition, Demonstration, Judgment, 17; Four sorts of Arguments: I. *Argumentum ad Verecundiam*, 19; II. *Argumentum ad Ignorantiam*, 20; III. *Argumentum ad Hominem*, 21; IV. *Argumentum ad Judicium*, which alone advances Knowledge, 22; Above, contrary, and according to Reason, 23.

1. THE word *reason* in the English language has different significations: sometimes it is taken for true and clear principles: sometimes for clear and fair deductions from those principles: and sometimes for the cause, and particularly the final cause. But the consideration I shall have of it here is in a signification different from all these; and that is, as it stands for a faculty in

man, that faculty whereby man is supposed to be distinguished from beasts, and wherein it is evident he much surpasses them.

2. If general knowledge, as has been shown, consists in a perception of the agreement or disagreement of our own ideas, and the knowledge of the existence of all things without us (except only of a God, whose existence every man may certainly know and demonstrate to himself from his own existence) be had only by our senses, what room is there for the exercise of any other faculty but *outward sense* and *inward perception*? What need is there of *reason*? Very much: both for the enlargement of our knowledge, and regulating our assent. For it hath to do both in knowledge and opinion, and is necessary and assisting to all our other intellectual faculties, and indeed contains two of them, viz. *sagacity* and *illation*. By the one, it finds out; and by the other, it so orders the intermediate ideas as to discover what connection there is in each link of the chain, whereby the extremes are held together. Sense and intuition reach but a very little way. The greatest part of our knowledge depends upon deductions and intermediate ideas: and in those cases where we are fain to substitute assent instead of knowledge, and take propositions for true, without being certain they are so, we have need to find out, examine, and compare the grounds of their probability. In both these cases, the faculty which finds out the means, and rightly applies them, to discover certainty in the one, and probability in the other, is that which we call *reason*.

3. We may in *reason* consider these *four degrees*: the first and highest is the discovering and finding out of truths; the second, the laying them in a clear and fit order, to make their connection and force be plainly and easily perceived; the third is the perceiving their connection; and the fourth, a making a right conclusion.

4. There is one thing more which I shall desire to be considered concerning *reason*; and that is, whether *sylogism*, as is generally thought, be the proper instrument of it, and the usefulest way of exercising this faculty. The causes I have to doubt are these:

First, Because *sylogism* serves our reason but in one only of the forementioned parts of it; and that is, to show the *connection of the proofs* in any one instance, and no more; but in this it is of no great use, since the mind can perceive such connection, where it really is, as easily, nay, perhaps better, without it.

If we will observe the actings of our own minds, we shall find that we reason best and clearest, when we only observe the connection of the proof, without reducing our thoughts to any rule of syllogism. And therefore we may take notice, that there are many men that reason exceeding clear and rightly, who know not how to make a syllogism. He that will look into many parts of Asia and America, will find men reason there perhaps as acutely as himself, who yet never heard of a syllogism, nor can reduce any one argument to those forms: and I believe scarce any one makes syllogisms in reasoning within himself. God has not been so sparing to men to make them barely two-legged creatures, and left it to Aristotle to make them rational. He has given them a mind that can reason, without being instructed in methods of syllogizing: the understanding is not taught to reason by these rules; it has a native faculty to perceive the coherence or incoherence of its ideas, and can range them right, without any such perplexing repetitions. I say not this any way to lessen Aristotle, whom I look on as one of the greatest men amongst the ancients; whose large views, acuteness, and penetration of thought and strength of judgment, few have equalled; and who, in this very invention of forms of argumentation, wherein the conclusion may be shown to be rightly inferred, did great service against those who were not ashamed to deny anything. And I readily own, that all right reasoning may be reduced to his forms of syllogism. But yet I think, without any diminution to him, I may truly say, that they are not the only nor the best way of reasoning, for the leading of those into truth who are willing to find it, and desire to make the best use they may of their reason, for the attainment of knowledge. For they very often confound connection; and, I think, every one will perceive in mathematical demonstrations, that the knowledge gained thereby comes shortest and clearest without syllogism.

To infer, is nothing but by virtue of one proposition laid down as true, to *draw in* another as true, i.e. to see or suppose such a connection of the two ideas of the inferred proposition. [Thus] the *natural* order of connecting ideas must direct the order of syllogisms, and a man must see the connection of each intermediate idea with those that it connects, before he can with reason make use of it in a syllogism. And when syllogisms are made, neither those that are nor those that are not logicians will see the force of the argumentation, i.e. the connection of the extremes, one jot the better. What connection the intermediate

has with either of the extremes in the syllogism, that no syllogism does or can show. That the mind only doth or can perceive as they stand there in that juxtaposition only by its own view, to which the syllogistical form it happens to be in gives no help or light at all: it only shows that *if* the intermediate idea agrees with those it is on both sides immediately applied to, then those two remote ones, or, as they are called, *extremes*, do certainly agree; and therefore the immediate connection of each idea to that which it is applied to on each side, on which the force of the reasoning depends, is as well seen before as after the syllogism is made, or else he that makes the syllogism could never see it at all. This, as has been already observed, is seen only by the eye, or the perceptive faculty, of the mind, taking a view of them laid together, in a juxtaposition; which view of any two it has equally, whenever they are laid together in any proposition, whether that proposition be placed as a *major* or a *minor*, in a *syllogism* or no.

Of what use, then, are syllogisms? I answer, their chief and main use is in the Schools, where men are allowed without shame to deny the agreement of ideas that do manifestly agree; or out of the Schools, to those who from thence have learned without shame to deny the connection of ideas, which even to themselves is visible. But to an ingenuous searcher after truth, who has no other aim but to find *it*, there is no need of any such form to force the allowing of the inference: the truth and reasonableness of it is better seen in ranging of the ideas in a simple and plain order: and hence it is that men, in their own inquiries after truth, never use syllogisms to convince themselves or in teaching others to instruct willing learners. Because, before they can put them into a syllogism, they must see the connection that is between the intermediate idea and the two other ideas it is set between and applied to, to show their agreement; and when they see that, they see whether the inference be good or no; and so *syllogism* comes too late to settle it.

Another reason that makes me doubt whether syllogism be the only proper instrument of reason, in the discovery of truth, is, that of whatever use *mode* and *figure* is pretended to be in the lying open of fallacy (which has been above considered), *those scholastic forms of discourse are not less liable to fallacies than the plainer ways of argumentation*; and for this I appeal to common observation, which has always found these artificial methods of reasoning more adapted to catch and entangle the mind, than to

instruct and inform the understanding. And hence it is that men, even when they are baffled and silenced in this scholastic way, are seldom or never convinced, and so brought over to the conquering side: they perhaps acknowledge their adversary to be the more skilful disputant, but rest nevertheless persuaded of the truth on their side, and go away, worsted as they are, with the same opinion they brought with them: which they could not do if this way of argumentation carried light and conviction with it, and made men see where the truth lay; and therefore syllogism has been thought more proper for the attaining victory in dispute, than for the discovery or confirmation of truth in fair inquiries. And if it be certain, that fallacies can be couched in syllogism, as it cannot be denied; it must be something else, and not syllogism, that must discover them.

If men skilled in and used to syllogisms find them assisting to their reason in the discovery of truth, I think they ought to make use of them. All that I aim at is, that they should not ascribe more to these forms than belongs to them, and think that men have no use, or not so full an use, of their reasoning faculties without them. Some eyes want spectacles to see things clearly and distinctly; but let not those that use them therefore say nobody can see clearly without them. Reason, by its own penetration, where it is strong and exercised, usually sees quicker and clearer without syllogism. If use of those spectacles has so dimmed its sight, that it cannot without them see consequences or inconsequences in argumentation, I am not so unreasonable as to be against the using them.

6. But let it help us (as perhaps may be said) in convincing men of their errors and mistakes: yet still it fails our reason in that part, which, if not its highest perfection, is yet certainly its hardest task, and that which we most need its help in; and that is *the finding out of proofs, and making new discoveries*. The rules of syllogism serve not to furnish the mind with those intermediate ideas that may show the connection of remote ones. This way of reasoning discovers no new proofs, but is the art of marshalling and ranging the old ones we have already. The forty-seventh proposition of the first book of Euclid is very true; but the discovery of it, I think, not owing to any rules of common logic. A man knows first, and then he is able to prove syllogistically. So that syllogism comes after knowledge, and then a man has little or no need of it. I am apt to think, that he who

shall employ all the force of his reason only in brandishing of syllogisms, will discover very little of that mass of knowledge which lies yet concealed in the secret recesses of nature; and which, I am apt to think, native rustic reason (as it formerly has done) is likelier to open a way to, and add to the common stock of mankind, rather than any scholastic proceeding by the strict rules of *modes* and *figures*.

8. It is fit, before I leave this subject, to take notice of one manifest mistake in the rule of syllogism: viz. that no syllogistical reasoning can be right and conclusive, but what has at least one *general* proposition in it. As if we could not reason and have knowledge about particulars: whereas, in truth, the matter rightly considered, the immediate object of all our reasoning and knowledge is nothing but particulars. Every man's reasoning and knowledge is only about the ideas existing in his own mind; which are truly, every one of them, particular existences: and our knowledge and reason about other things is only as they correspond with those our particular ideas. So that the perception of the agreement or disagreement of our particular ideas, is the whole and utmost of all our knowledge. Universality is but accidental to it, and consists only in this, that the particular ideas about which it is are such as more than one particular thing can correspond with and be represented by.

9. *Reason*, though it penetrates into the depths of the sea and earth, elevates our thoughts as high as the stars, and leads us through the vast spaces and large rooms of this mighty fabric, yet it comes far short of the real extent of even corporeal being, And there are many instances wherein it fails us: as,

I. It perfectly fails us, where our ideas fail. It neither does nor can extend itself further than they do. And therefore, wherever we have no ideas, our reasoning stops.

10. II. Our reason is often puzzled and at a loss, because of the obscurity, confusion, or imperfection of the ideas it is employed about; and there we are involved in difficulties and contradictions. Thus, not having any perfect idea of the *least extension of matter*, nor of *infinity*, we are at a loss about the divisibility of matter; but having perfect, clear, and distinct ideas of *number*, our reason meets with none of those inextricable difficulties in numbers, nor finds itself involved in any contradictions about them.

11. III. Our reason is often at a stand, because it perceives

not those ideas, which could serve to show the certain or probable agreement or disagreement of any other two ideas: and in this some men's faculties far outgo others. Till algebra, that great instrument and instance of human sagacity, was discovered, men with amazement looked on several of the demonstrations of ancient mathematicians, and could scarce forbear to think the finding several of those proofs to be something more than human.

12. IV. The mind, by proceeding upon false principles, is often engaged in absurdities and difficulties, brought into straits and contradictions, without knowing how to free itself: and in that case it is in vain to implore the help of reason, unless it be to discover the falsehood and reject the influence of those wrong principles. Reason is so far from clearing the difficulties which the building upon false foundations brings a man into, that if he will pursue it, it entangles him the more, and engages him deeper in perplexities.

14. Some of the ideas that are in the mind, are so there, that they can be by themselves immediately compared one with another: and in these the mind is able to perceive that they agree or disagree as clearly as that it has them. Thus the mind perceives that an arc of a circle is less than the whole circle, as clearly as it does the idea of a circle: and this, therefore, as has been said, I call *intuitive knowledge*; which is certain beyond all doubt, and needs no probation, nor can have any; this being the highest of all human certainty. In this consists the evidence of all those *maxims* which nobody has any doubt about, but every man (does not, as is said, only assent to, but) *knows* to be true, as soon as ever they are proposed to his understanding. In the discovery of and assent to these truths there is no use of the discursive faculty, *no need of reasoning*, but they are known by a superior and higher degree of evidence. And such, if I may guess at things unknown, I am apt to think that angels have now, and the spirits of just men made perfect shall have, in a future state, of thousands of things which now either wholly escape our apprehensions, or which our short-sighted reason having got some faint glimpse of, we, in the dark, grope after.

15, 16. But though we have, here and there, a little of this clear light, some sparks of bright knowledge, yet the greatest part of our ideas are such, that we *cannot* discern their agreement or

disagreement by an immediate comparing them. And in all these we have *need of reasoning*, and must, by discourse and inference, make our discoveries. There are other ideas, whose agreement or disagreement can no otherwise be judged of but by the intervention of others which have not a certain agreement with the extremes, but an *usual* or *likely* one: and in these it is that the *judgment* is properly exercised; which is the acquiescing of the mind, that any ideas do agree, by comparing them with such probable mediums.

17. *Intuitive knowledge* is the perception of the *certain* agreement or disagreement of two ideas immediately compared together.

Rational knowledge is the perception of the *certain* agreement or disagreement of any two ideas, by the intervention of one or more other ideas.

Judgment is the thinking or taking two ideas to agree or disagree, by the intervention of one or more ideas, whose certain agreement or disagreement with them it does not perceive, but hath observed to be *frequent* and *usual*.

19. Before we quit this subject, it may be worth our while a little to reflect on *four sorts of arguments*, that men, in their reasonings with others, do ordinarily make use of to prevail on their assent; or at least so to awe them as to silence their opposition.

I. The first is, to allege the opinions of men, whose parts, learning, eminency, power, or some other cause has gained a name, and settled their reputation in the common esteem with some kind of authority. Whoever backs his tenets with such authorities, thinks he ought thereby to carry the cause, and is ready to style it impudence in any one who shall stand out against them. This I think may be called *argumentum ad verecundiam*.

20. II. Secondly, Another way that men ordinarily use to drive others, and force them to submit their judgments, and receive the opinion in debate, is to require the adversary to admit what they allege as a proof, or to assign a better. And this I call *argumentum ad ignorantiam*.

21. III. Thirdly, A third way is to press a man with consequences drawn from his own principles or concessions. This is already known under the name of *argumentum ad hominem*.

22. IV. The fourth is the using of proofs drawn from any of the foundations of knowledge or probability. This I call

argumentum ad judicium. This alone, of all the four, brings true instruction with it, and advances us in our way to knowledge. 23. By what has been before said of reason, we may be able to make some guess at the distinction of things, into those that are according to, above, and contrary to reason. (1) *According to reason* are such propositions whose truth we can discover by examining and tracing those ideas we have from sensation and reflection; and by natural deduction find to be true or probable. (2) *Above reason* are such propositions whose truth or probability we cannot by reason derive from those principles. (3) *Contrary to reason* are such propositions as are inconsistent with or irreconcilable to our clear and distinct ideas. Thus the existence of one God is according to reason; the existence of more than one God, contrary to reason; the resurrection of the dead, above reason. *Above reason* also may be taken in a double sense, viz. either as signifying above probability, or above certainty: and in that large sense also, *contrary to reason*, is, I suppose, sometimes taken.

Chapter XVIII

OF FAITH AND REASON, AND THEIR DISTINCT PROVINCES

Necessary to know their Boundaries, 1; Faith and Reason contradistinguished, 2; No new simple Idea can be conveyed by traditional Revelation, 3; Traditional Revelation may make us know Propositions knowable also by Reason, but not with the same Certainty, 4; Even original Revelation cannot be admitted against the clear Evidence of Reason, 5; Traditional Revelation much less, 6; Things above Reason are, when revealed, the proper matter of Faith, 7; Or Things not contrary to Reason, 8; Where Reason cannot judge, or but probably, Revelation ought to be hearkened to, 9; When Reason can afford certain Knowledge, it is to be hearkened to, 10; Dangers of not setting Boundaries, 11.

1. It has been above shown: (1) That we are of necessity ignorant, and want knowledge of all sorts, where we want ideas. (2) That we are ignorant, and want rational knowledge, where we want proofs. (3) That we want certain knowledge and certainty, as far as we want clear and determined specific ideas. (4) That we want probability to direct our assent in matters where we have neither knowledge of our own nor testimony of other men to bottom our reason upon.

From these things thus premised, I think we may come to lay down *the measures and boundaries between faith and reason*: the want whereof may possibly have been the cause, if not of great disorders, yet at least of great disputes, and perhaps mistakes, in the world. For till it be resolved how far we are to be guided by reason, and how far by faith, we shall in vain dispute and endeavour to convince one another in matters of religion.

2. I find every sect, as far as reason will help them, make use of it gladly; and where it fails them, they cry out, It is matter of faith, and above reason. And I do not see how they can argue with any one, or ever convince a gainsayer who makes use of the same plea, without setting down strict boundaries between faith and reason; which ought to be the first point established in all questions where faith has anything to do.

Reason, therefore, here, as contradistinguished to *faith*, I take to be the discovery of the certainty or probability of such propositions or truths, which the mind arrives at by deduction made from such ideas, which it has got by the use of its natural faculties; viz. by sensation or reflection.

Faith, on the other side, is the assent to any proposition, not thus made out by the deductions of reason, but upon the credit of the proposer, as coming from God, in some extraordinary way of communication. This way of discovering truths to men we call *revelation*.

3. First, then, I say, that *no man inspired by God can by any revelation communicate to others any new simple ideas which they had not before from sensation or reflection*. For, whatsoever impressions he himself may have from the immediate hand of God, this revelation, if it be of new simple ideas, cannot be conveyed to another, either by words or any other signs. For words, seen or heard, recall to our thoughts those ideas only which to us they have been wont to be signs of, but cannot introduce any perfectly new and formerly unknown simple ideas.

Thus whatever things were discovered to St. Paul, when he was rapt up into the third heaven; whatever new ideas his mind there received, all the description he can make to others of that place, is only this, that there are such things, 'as eye hath not seen; nor ear heard, nor hath it entered into the heart of man to conceive.' And supposing God should discover to any one, supernaturally, a species of creatures inhabiting, for example, Jupiter or Saturn (for that it is possible there may be such; nobody can deny), which had six senses; and imprint on his mind

the ideas conveyed to theirs by that sixth sense: he could no more, by words, produce in the minds of other men those ideas imprinted by that sixth sense, than one of us could convey the idea of any colour, by the sound of words, into a man who, having the other four senses perfect, had always totally wanted the fifth, of seeing. For our simple ideas, then, which are the foundation and sole matter of all our notions and knowledge, we must depend wholly on our reason, I mean our natural faculties; and can by no means receive them, or any of them, from traditional revelation. I say, *traditional revelation*, in distinction to *original revelation*. By the one, I mean that first impression which is made immediately by God on the mind of any man, to which we cannot set any bounds; and by the other, those impressions delivered over to others in words, and the ordinary ways of conveying our conceptions one to another.

4. Secondly, I say that *the same truths may be discovered and conveyed down from revelation, which are discoverable to us by reason, and by those ideas we naturally may have*. So God might, by revelation, discover the truth of any proposition in Euclid; as well as men, by the natural use of their faculties, come to make the discovery themselves. In all things of this kind there is little need or use of revelation, God having furnished us with natural and surer means to arrive at the knowledge of them. For whatsoever truth we come to the clear discovery of, from the knowledge and contemplation of our own ideas, will always be certainer to us than those which are conveyed to us by *traditional revelation*. For the knowledge we have that this revelation came at first from God, can never be so sure as the knowledge we have from the clear and distinct perception of the agreement or disagreement of our own ideas: v.g. if it were revealed some ages since, that the three angles of a triangle were equal to two right ones, I might assent to the truth of that proposition, upon the credit of the tradition that it was revealed: but that would never amount to so great a certainty as the knowledge of it upon the comparing and measuring my own ideas of two right angles, and the three angles of a triangle. The like holds in matter of fact knowable by our senses; v.g. the history of the deluge is conveyed to us by writings which had their original from revelation: and yet nobody, I think, will say he has as certain and clear a knowledge of the flood as Noah, that saw it; or that he himself would have had, had he then been alive and seen it. For he has no greater an assurance than that of his senses, that it is writ in

the book supposed writ by Moses inspired: but he has not so great an assurance that Moses wrote that book as if he had seen Moses write it. So that the assurance of its being a revelation is less still than the assurance of his senses.

5. In propositions, then, whose certainty is built upon the clear perception of the agreement or disagreement of our ideas, attained either by immediate intuition, as in self-evident propositions, or by evident deductions of reason in demonstrations, we need not the assistance of revelation, as necessary to gain our assent, and introduce them into our minds. Because the natural ways of knowledge could settle them there, or had done it already; which is the greatest assurance we can possibly have of anything, unless where God immediately reveals it to us: and there too our assurance can be no greater than our knowledge is, that it is a revelation from God.

Since no evidence of our faculties, by which we receive revelations, can exceed, if equal, the certainty of our intuitive knowledge, we can never receive for a truth anything that is directly contrary to our clear and distinct knowledge; v.g. the ideas of one body and one place do so clearly agree, and the mind has so evident a perception of their agreement, that we can never assent to a proposition that affirms the same body to be in two distant places at once, however it should pretend to the authority of a divine revelation: since the evidence, first, that we deceive not ourselves in ascribing it to God; secondly, that we understand it right; can never be so great as the evidence of our own intuitive knowledge, whereby we discern it impossible for the same body to be in two places at once. And therefore *no proposition can be received for divine revelation, or obtain the assent due to all such, if it be contradictory to our clear intuitive knowledge.* Because this would be to subvert the principles and foundations of all knowledge, evidence, and assent whatsoever: and there would be left no difference between truth and falsehood, no measures of credible and incredible in the world, if doubtful propositions shall take place before self-evident; and what we certainly know give way to what we may possibly be mistaken in. Faith can never convince us of anything that contradicts our knowledge. Because, though faith be founded on the testimony of God (who cannot lie) revealing any proposition to us: yet we cannot have an assurance of the truth of its being a divine revelation greater than our own knowledge; since the whole strength of the certainty depends upon our knowledge that God revealed it; which, in this

case, where the proposition supposed revealed contradicts our knowledge or reason, will always have this objection hanging to it, viz. that we cannot tell how to conceive that to come from God, the bountiful Author of our being, which, if received for true, must overturn all the principles and foundations of knowledge he has given us; render all our faculties useless; wholly destroy the most excellent part of his workmanship, our understandings; and put a man in a condition wherein he will have less light, less conduct than the beast that perisheth.

6. Thus far a man has use of reason, and ought to hearken to it, even in immediate and original revelation, where it is supposed to be made to himself. But to all those who pretend not to immediate revelation, but are required to pay obedience, and to receive the truths revealed to others, which, by the tradition of writings, or word of mouth, are conveyed down to them, reason has a great deal more to do, and is that only which can induce us to receive them. For matter of faith, being only divine revelation, has to do with no propositions but those which are supposed to be divinely revealed. So that I do not see how those who make revelation alone the sole object of faith can say that it is a matter of faith, and not of reason, to believe that such or such a proposition, to be found in such or such a book, is of divine inspiration; unless it be revealed that that proposition, or all in that book, was communicated by divine inspiration. Without such a revelation, the believing, or not believing, that proposition, or book, to be of divine authority, can never be matter of faith, but matter of reason. In all things, therefore, where we have clear evidence from our ideas, and those principles of knowledge I have above mentioned, reason is the proper judge; and revelation, though it may, in consenting with it, confirm its dictates, yet cannot in such cases invalidate its decrees.

7. But, Thirdly, There being many things wherein we have very imperfect notions, or none at all; and other things, of whose past, present, or future existence, by the natural use of our faculties, we can have no knowledge at all; these, as being beyond the discovery of our natural faculties, and *above reason*, are, when revealed, *the proper matter of faith*. Thus, that part of the angels rebelled against God, and thereby lost their first happy state: and that the dead shall rise, and live again: these and the like, being beyond the discovery of reason, are purely matters of faith, with which reason has directly nothing to do.

8. But since God, in giving us the light of reason, has not

thereby tied up his own hands from affording us, when he thinks fit, the light of revelation in any of those matters wherein our natural faculties are able to give a probable determination; *revelation*, where God has been pleased to give it, *must carry it against the probable conjectures of reason*. Because the mind, not being certain of the truth of that it does not evidently know, but only yielding to the probability that appears in it, is bound to give up its assent to such a testimony which, it is satisfied, comes from one who cannot err, and will not deceive. But yet, it still belongs to reason to judge of the truth of its being revelation, and of the signification of the words wherein it is delivered. Indeed, if anything shall be thought revelation which is contrary to the plain principles of reason, and the evident knowledge the mind has of its own clear and distinct ideas; there reason must be hearkened to, as to a matter within its province.

9. First, Whatever proposition is revealed, of whose truth our mind, by its natural faculties and notions, cannot judge, that is purely matter of faith, and above reason.

Secondly, All propositions whereof the mind, by the use of its natural faculties, can come to determine and judge, from naturally acquired ideas, are matter of reason; with this difference still, that, in those concerning which it has but an uncertain evidence, and so is persuaded of their truth only upon probable grounds, which still admit a possibility of the contrary to be true, without doing violence to the certain evidence of its own knowledge, and overturning the principles of all reason; in such probable propositions, I say, an evident revelation ought to determine our assent, even against probability.

10. Whatever God hath revealed is certainly true; no doubt can be made of it. This is the proper object of faith: but whether it be a *divine* revelation or no, reason must judge; which can never permit the mind to reject a greater evidence to embrace what is less evident, nor allow it to entertain probability in opposition to knowledge and certainty. There can be no evidence that any traditional revelation is of divine original, in the words we receive it, and in the sense we understand it, so clear and so certain as that of the principles of reason: and therefore *Nothing that is contrary to, and inconsistent with, the clear and self-evident dictates of reason, has a right to be urged or assented to as a matter of faith, wherein reason hath nothing to do*. Whatsoever is divine revelation, ought to overrule all our opinions, prejudices, and interest, and hath a right to be received with full assent. Such a sub-

mission as this, of our reason to faith, takes not away the landmarks of knowledge: this shakes not the foundations of reason, but leave us that use of our faculties for which they were given us. 11. If the provinces of faith and reason are not kept distinct by these boundaries, there will, in matters of religion, be no room for reason at all; and those extravagant opinions and ceremonies that are to be found in the several religions of the world will not deserve to be blamed. For, to this crying up of faith in *opposition* to reason, we may, I think, in good measure ascribe those absurdities that fill almost all the religions which possess and divide mankind.

Chapter XIX

OF ENTHUSIASM

Love of Truth necessary, 1; The Source of our Forwardness to dictate to another's Beliefs, 2; Force of Enthusiasm, in which Reason is taken away, 3; Reason is natural Revelation, 4; Rise of Enthusiasm, 5-7; Enthusiasm accepts its supposed Illumination without search and proof, 8; The supposed internal Light examined, 9-10; Enthusiasm fails of Evidence, that the Proposition is from God, 11; What is the Light in the Mind? 13; Revelation must be judged of by Reason, 14.

1. HE that would seriously set upon the search of truth, ought in the first place to prepare his mind with a love of it. For he that loves it not will not take much pains to get it; nor be much concerned when he misses it. There is nobody in the commonwealth of learning who does not profess himself a lover of truth; and there is not a rational creature that would not take it amiss to be thought otherwise of. And yet, for all this, one may truly say, that there are very few lovers of truth, for truth's sake, even amongst those who persuade themselves that they are so. How a man may know whether he be so in earnest, is worth inquiry: and I think there is one unerring mark of it, viz. the not entertaining any proposition with greater assurance than the proofs it is built upon will warrant. Whatsoever credit or authority we give to any proposition more than it receives from the principles and proofs it supports itself upon, is owing to our inclinations that way, and is so far a derogation from the love of truth as such; which, as it can receive no evidence from our passions or interests, so it should receive no tincture from them.

2. The assuming an authority of dictating to others, and a forwardness to prescribe to their opinions, is a constant concomitant of this bias and corruption of our judgments. For how almost can it be otherwise, but that he should be ready to impose on another's belief, who has already imposed on his own? Who can reasonably expect arguments and conviction from him in dealing with others, whose understanding is not accustomed to them in his dealing with himself? Who does violence to his own faculties, tyrannizes over his own mind, and usurps the prerogative that belongs to truth alone, which is to command assent by only its own authority, i.e. by and in proportion to that evidence which it carries with it.

3. Upon this occasion I shall take the liberty to consider a *third ground of assent*, which with some men has the same authority, and is as confidently relied on, as either faith or reason; I mean *enthusiasm*: which, laying by reason, would set up revelation without it. Whereby in effect it takes away both reason and revelation, and substitutes in the room of them the ungrounded fancies of a man's own brain, and assumes them for a foundation both of opinion and conduct.

4. *Reason is natural revelation*, whereby the eternal Father of light and fountain of all knowledge communicates to mankind that portion of truth which he has laid within the reach of their natural faculties; *revelation is natural reason enlarged* by a new set of discoveries communicated by God immediately; which reason vouches the truth of, by the testimony and proofs it gives that they come from God. So that he that takes away reason to make way for revelation, puts out the light of both, and does muchwhat the same as if he would persuade a man to put out his eyes, the better to receive the remote light of an invisible star by a telescope.

5. Immediate revelation being a much easier way for men to establish their opinions and regulate their conduct, than the tedious and not always successful labour of strict reasoning, it is no wonder that some have been very apt to pretend to revelation, and to persuade themselves that they are under the peculiar guidance of heaven in their actions and opinions, especially in those of them which they cannot account for by the ordinary methods of knowledge and principles of reason. Hence we see that, in all ages, men in whom melancholy has mixed with devotion, or whose conceit of themselves has raised them into an opinion of a greater familiarity with God, and a nearer admittance

to his favour than is afforded to others, have often flattered themselves with a persuasion of an immediate intercourse with the Deity, and frequent communications from the Divine Spirit.

6. Their minds being thus prepared, whatever groundless opinion comes to settle itself strongly upon their fancies, is an illumination from the Spirit of God, and presently of divine authority: and whatsoever odd action they find in themselves a strong inclination to do, that impulse is concluded to be a call or direction from heaven, and must be obeyed: it is a commission from above, and they cannot err in executing it.

7. This I take to be properly *enthusiasm*, which, though founded neither on reason nor divine revelation, but rising from the conceits of a warmed or overweening brain, works yet, where it once gets footing, more powerfully on the persuasions and actions of men than either of those two, or both together: men being most forwardly obedient to the impulses they receive from themselves; and the whole man is sure to act more vigorously where the whole man is carried by a natural motion. For strong conceit, like a new principle, carries all easily with it, when got above common sense, and freed from all restraint of reason and check of reflection, it is heightened into a divine authority, in concurrence with our own temper and inclination.

8. Though the odd opinions and extravagant actions enthusiasm has run men into were enough to warn them against this wrong principle, so apt to misguide them both in their belief and conduct: yet the love of something extraordinary, the ease and glory it is to be inspired, and be above the common and natural ways of knowledge, so flatters many men's laziness, ignorance, and vanity, that, when once they are got into this way of immediate revelation, of illumination without search, and of certainty without proof and without examination, it is a hard matter to get them out of it. Reason is lost upon them, they are above it: they see the light infused into their understandings, and cannot be mistaken; it is clear and visible there, like the light of bright sunshine; shows itself, and needs no other proof but its own evidence; they feel the hand of God moving them within, and the impulses of the Spirit, and cannot be mistaken in what they feel. This light from heaven is strong, clear, and pure; carries its own demonstration with it: and we may as naturally take a glow-worm to assist us to discover the sun, as to examine the celestial ray by our dim candle, reason.

9. This is the way of talking of these men: they are sure, because they are sure: and their persuasions are right, because they *are strong in them*.

10. But to examine a little soberly this internal light, and this feeling on which they build so much. These men have, they say, clear light, and they see; they have awakened sense, and they feel: this cannot, they are sure, be disputed them. For when a man says he sees or feels, nobody can deny him that he does so. But here let me ask: This seeing, is it the perception of the truth of the proposition, or of this, that it is a revelation from God? This feeling, is it a perception of an inclination or fancy to do something, or of the Spirit of God moving that inclination? These are two very different perceptions, and must be carefully distinguished, if we would not impose upon ourselves. I may perceive the truth of a proposition, and yet not perceive that it is an immediate revelation from God. I may perceive the truth of a proposition in Euclid, without its being, or my perceiving it to be, a revelation: nay, I may perceive I came not by this knowledge in a natural way, and so may conclude it revealed, without perceiving that it is a revelation of God. Because there be spirits which, without being divinely commissioned, may excite those ideas in me, and lay them in such order before my mind, that I may perceive their connection. So that the knowledge of any proposition coming into my mind, I know not how, is not a perception that it is from God. Much less is a strong persuasion that it is true, a perception that it is from God, or so much as true. But however it be called light and seeing, I suppose it is at most but belief and assurance: and the proposition taken for a revelation, is not such as they *know* to be true, but *take* to be true. For where a proposition is known to be true, revelation is needless: and it is hard to conceive how there can be revelation to any one of what he knows already. If therefore it be a proposition which they are persuaded, but do not know, to be true, whatever they may call it, it is not seeing, but believing. For these are two ways whereby truth comes into the mind, wholly distinct, so that one is not the other. What I see, I know to be so, by the evidence of the thing itself: what I believe, I take to be so upon the testimony of another. But this testimony I must know to be given, or else what ground have I of believing? I must see that it is God that reveals this to me, or else I see nothing. The question then here is: How do I know that God is the revealer of this to me; that this impression is

made upon my mind by his Holy Spirit; and that therefore I ought to obey it? If I know not this, how great soever the assurance is that I am possessed with, it is groundless; whatever light I pretend to, it is but *enthusiasm*. For, whether the proposition supposed to be revealed be in itself evidently true, or visibly probable, or, by the natural ways of knowledge, uncertain, the proposition that must be well grounded and manifested to be true, is this, that God is the revealer of it, and that what I take to be a revelation is certainly put into my mind by him, and is not an illusion dropped in by some other spirit, or raised by my own fancy. For, if I mistake not, these men receive it for true, because they presume God revealed it. Does it not, then, behove them to examine upon what grounds they presume it to be a revelation from God? or else all their confidence is mere presumption: and this light they are so dazzled with is nothing but an *ignis fatuus*, that leads them constantly round in this circle: *It is a revelation, because they firmly believe it; and they believe it, because it is a revelation.*

11. In all that is of divine revelation, there is need of no other proof but that it is an inspiration from God: for he can neither deceive nor be deceived. But how shall it be known that any proposition in our minds is a truth infused by God; a truth that is revealed to us by him, which he declares to us, and therefore we ought to believe? Here it is that *enthusiasm* fails of the evidence it pretends to. For men thus possessed boast of a light whereby they say they are enlightened, and brought into the knowledge of this or that truth. The light they speak of is but a strong, though ungrounded, persuasion of their own minds that it is a truth. For rational grounds from proofs that it is a truth, they must acknowledge to have none; for then it is not received as a revelation, but upon the ordinary grounds that other truths are received: and if they believe it to be true because it is a revelation, and have no other reason for its being a revelation, but because they are fully persuaded, without any other reason, that it is true, then they believe it to be a revelation only because they strongly believe it to be a revelation; which is a very unsafe ground to proceed on, either in our tenets or actions.

13. Light, true light, in the mind is, or can be, nothing else but the evidence of the truth of any proposition: and if it be not a self-evident proposition, all the light it has, or can have, is from

the clearness and validity of those proofs upon which it is received. To talk of any other light in the understanding is to put ourselves in the dark, or in the power of the Prince of Darkness, and, by our own consent, to give ourselves up to delusion to believe a lie.

14. He, therefore, that will not give himself up to all the extravagances of delusion and error must bring this guide of his *light within* to the trial. God when he makes the prophet does not unmake the man. He leaves all his faculties in the natural state, to enable him to judge of his inspirations, whether they be of *divine* original or no. When he illuminates the mind with supernatural light, he does not extinguish that which is natural. If he would have us assent to the truth of any proposition, he either evidences that truth by the usual methods of natural reason, or else makes it known to be a truth which he would have us assent to by his authority, and convinces us that it is from him by some marks which reason cannot be mistaken in. *Reason must be our last judge and guide in everything.* I do not mean that we must consult reason, and examine whether a proposition revealed from God can be made out by natural principles, and if it cannot, that then we may reject it: but consult it we must, and by it examine whether it be a revelation from God or no: and if reason finds it to be revealed from God, reason then declares for it as much as for any other truth, and makes it one of her dictates.

Chapter XX

OF WRONG ASSENT, OR ERROR

Causes of Error, 1; First, Want of Proofs, 2; Objection, What shall become of those who want Proofs? answered, 3; People hindered from Inquiry, 4, Second Cause of Error, Want of Skill to use Proofs, 5; Third Cause of Error, Want of Will to use Proofs, 6; Fourth Cause, Wrong Measures of Probability, 7; Which are, I. Doubtful Propositions taken for Principles, 8; Instilled in Childhood, 9-10; II. Received Hypotheses, 11; III. Predominant Passions, 12; Means of evading Probabilities, 13-14; What Probabilities naturally determine the Assent, 15; Where it is in our Power to suspend our Judgment, 16; IV. Authority, 17; Not so many men in Error as is commonly supposed, 18.

1. KNOWLEDGE being to be had only of visible and certain truth, *error* is not a fault of our knowledge, but a mistake of our judgment giving assent to that which is not true.

But if assent be grounded on likelihood, if the proper object and motive of our assent be probability, and that probability consists in what is laid down in the foregoing chapters, it will be demanded *how men come to give their assents contrary to probability*. For there is nothing more common than contrariety of opinions; nothing more obvious than that one man wholly disbelieves what another only doubts of, and a third steadfastly believes and firmly adheres to.

The reasons whereof, though they may be very various, yet, I suppose, may all be reduced to these four:

I. *Want of proofs.*

II. *Want of ability to use them.*

III. *Want of will to see them.*

IV. *Wrong measures of probability.*

2. First, By *want of proofs*, I do not mean only the want of those proofs which are nowhere extant, and so are nowhere to be had; but the want even of those proofs which are in being, or might be procured. And thus men want proofs, who have not the convenience or opportunity to make experiments and observations themselves, tending to the proof of any proposition; nor likewise the convenience to inquire into and collect the testimonies of others: and in this state are the greatest part of mankind, who are given up to labour, and enslaved to the necessity of their mean condition, whose lives are worn out only in

the provisions for living. These men's opportunities of knowledge and inquiry are commonly as narrow as their fortunes; and their understandings are but little instructed, when all their whole time and pains is laid out to still the croaking of their own bellies, or the cries of their children. It is not to be expected that a man who drudges on all his life in a laborious trade, should be more knowing in the variety of things done in the world than a pack-horse, who is driven constantly forwards and backwards in a narrow lane and dirty road, only to market, should be skilled in the geography of the country. Nor is it at all more possible, that he who wants leisure, books, and languages, and the opportunity of conversing with variety of men, should be in a condition to collect those testimonies and observations which are in being, and are necessary to make out many, nay most, of the propositions that, in the societies of men, are judged of the greatest moment; or to find out grounds of assurance so great as the belief of the points he would build on them is thought necessary. So that a great part of mankind are, by the natural and unalterable state of things in this world, and the constitution of human affairs, unavoidably given over to invincible ignorance of those proofs on which others build, and which are necessary to establish those opinions: the greatest part of men, having much to do to get the means of living, are not in a condition to look after those of learned and laborious inquiries.

3. What shall we say, then? Are the greatest part of mankind, by the necessity of their condition, subjected to unavoidable ignorance, in those things which are of greatest importance to them? (for of those it is obvious to inquire). Have the bulk of mankind no other guide but accident and blind chance to conduct them to their happiness or misery? Are the current opinions and licensed guides of every country sufficient evidence and security to every man to venture his great concerns on; nay, his everlasting happiness or misery? Or can those be the certain and infallible oracles and standards of truth, which teach one thing in Christendom and another in Turkey? How ready some men may be to say some of these things, I will not here examine; but this I am sure, that men must allow one or other of these to be true (let them choose which they please), or else grant that God has furnished men with faculties sufficient to direct them in the way they should take, if they will but seriously employ them that way, when their ordinary vocations allow them the leisure. No man is so wholly taken up with the attendance

on the means of living, as to have no spare time at all to think of his soul, and inform himself in matters of religion.

4. Besides those whose improvements and informations are straitened by the narrowness of their fortunes, there are others whose largeness of fortune would plentifully enough supply books and other requisites for clearing of doubts and discovering of truth: but they are cooped in close, by the laws of their countries, and the strict guards of those whose interest it is to keep them ignorant, lest, knowing more, they should believe the less in them. These are as far, nay further, from the liberty and opportunities of a fair inquiry, than these poor and wretched labourers we before spoke of: and however they may seem high and great, are confined to narrowness of thought, and enslaved in that which should be the freest part of man, their understandings. This is generally the case of all those who live in places where care is taken to propagate truth without knowledge; where men are forced, at a venture, to be of the religion of the country; and must therefore swallow down opinions, as silly people do empirics' pills, without knowing what they are made of, or how they will work, and having nothing to do but believe that they will do the cure: but in this are much more miserable than they, in that they are not at liberty to refuse swallowing what perhaps they had rather let alone; or to choose the physician, to whose conduct they would trust themselves.

5. Secondly, Those who *want skill to use those evidences they have of probabilities*, who cannot carry a train of consequences in their heads, nor weigh exactly the preponderancy of contrary proofs and testimonies, making every circumstance its due allowance, may be easily misled to assent to positions that are not provable. There are some men of one, some but of two syllogisms, and no more; and others that can but advance one step further. These cannot always discern that side on which the strongest proofs lie; cannot constantly follow that which in itself is the more probable opinion. There is a difference of degrees in men's understandings, apprehensions, and reasonings, to so great a latitude, that one may, without doing injury to mankind, affirm that there is a greater distance between some men and others in this respect, than between some men and some beasts. But how this comes about is a speculation, though of great consequence, yet not necessary to our present purpose.

6. Thirdly, There are another sort of people that want proofs, not because they are out of their reach, but *because they will not*

use them: who, though they have riches and leisure enough, and want neither parts nor other helps, are yet never the better for them. Their hot pursuit of pleasure, or constant drudgery in business, engages some men's thoughts elsewhere: and some out of fear that an impartial inquiry would not favour those opinions which best suit their prejudices, lives, and designs, content themselves, without examination, to take upon trust what they find convenient and in fashion. How men, whose plentiful fortunes allow them leisure to improve their understandings, can satisfy themselves with a lazy ignorance, I cannot tell: but methinks they have a low opinion of their souls, who lay out all their incomes in provisions for the body, and employ none of it to procure the means and helps of knowledge; who take great care to appear always in a neat and splendid outside, and would think themselves miserable in coarse clothes, or a patched coat, and yet contentedly suffer their minds to appear abroad in a piebald livery of coarse patches and borrowed shreds, such as it has pleased chance or their country tailor (I mean the common opinion of those they have conversed with) to clothe them in. This at least is worth the consideration of those who call themselves gentlemen, that, however they may think credit, respect, power, and authority the concomitants of their birth and fortune, yet they will find all these still carried away from them by men of lower condition, who surpass them in knowledge. They who are blind will always be led by those that see, or else fall into the ditch: and he is certainly the most subjected, the most enslaved, who is so in his understanding.

7. Fourthly, There remains yet the last sort, who, even where the real probabilities appear, and are plainly laid before them, do not admit of the conviction, nor yield unto manifest reasons, but do either *ἐπέχειν*, suspend their assent, or give it to the less probable opinion. And to this danger are those exposed who have taken up *wrong measures of probability*, which are:

- I. *Propositions that are not in themselves certain and evident, but doubtful and false, taken up for principles.*
- II. *Received hypotheses.*
- III. *Predominant passions or inclinations.*
- IV. *Authority.*

8. I. The first and firmest ground of probability is the conformity anything has to our own knowledge; especially that part of our knowledge which we have embraced, and continue to look

on as *principles*. These have so great an influence upon our opinions, that it is usually by them we judge of truth, and measure probability; to that degree, that what is inconsistent with our principles, is so far from passing for probable with us, that it will not be allowed possible. The reverence borne to these principles is so great, and their authority so paramount to all other, that the testimony not only of other men, but the evidence of our own senses, are often rejected, when they offer to vouch anything contrary to these established rules.

9, 10. There is nothing more ordinary than children's receiving into their minds propositions (especially about matters of religion) from their parents, nurses, or those about them: which, being insinuated into their unwary as well as unbiased understandings, and fastened by degrees, are at last (equally whether true or false) riveted there by long custom and education, beyond all possibility of being pulled out again. Take an intelligent Romanist that, from the first dawning of any notions in his understanding, hath had this principle constantly inculcated, viz. that he must believe as the church (i.e. those of his communion) believes, or that the pope is infallible, and this he never so much as heard questioned, till at forty or fifty years old he met with one of other principles: how is he prepared easily to swallow, not only against all probability, but even the clear evidence of his senses, the doctrine of *transubstantiation*? This principle has such an influence on his mind, that he will believe that to be flesh which he sees to be bread. And what way will you take to convince a man of any improbable opinion he holds, who, with some philosophers, hath laid down this as a foundation of reasoning, that he must believe his reason (for so men improperly call arguments drawn from their principles) against his senses?

II. II. Next to these are men whose understandings are cast into a mould, and fashioned just to the size of a received *hypothesis*. The difference between these and the former, is, that they will admit of matter of fact, and agree with dissenters in that; but differ only in assigning of reasons and explaining the manner of operation. These are not at that open defiance with their senses, with the former: they can endure to hearken to their information a little more patiently; but will by no means admit of their reports in the explanation of things; nor be prevailed on by probabilities, which would convince them that things are not brought about just after the same manner that they have decreed

within themselves that they are. Would it not be an insufferable thing for a learned professor, and that which his scarlet would blush at, to have his authority of forty years' standing, wrought out of hard rock, Greek and Latin, with no small expense of time and candle, and confirmed by general tradition and a reverend beard, in an instant overturned by an upstart novelist? Can any one expect that he should be made to confess, that what he taught his scholars thirty years ago was all error and mistake; and that he sold them hard words and ignorance at a very dear rate. What probabilities, I say, are sufficient to prevail in such a case? And who ever, by the most cogent arguments, will be prevailed with to disrobe himself at once of all his old opinions, and pretences to knowledge and learning, which with hard study he hath all this time been labouring for; and turn himself out stark naked, in quest afresh of new notions? All the arguments that be used will be as little able to prevail, as the wind did with the traveller to part with his cloak, which he held only the faster. To this of wrong hypothesis may be reduced the errors that may be occasioned by a true hypothesis, or right principles, but not rightly understood.

12. III. Probabilities which cross men's appetites and prevailing passions run the same fate. Let ever so much probability hang on one side of a covetous man's reasoning, and money on the other; it is easy to foresee which will outweigh. Earthly minds, like mud walls, resist the strongest batteries: and though, perhaps, sometimes the force of a clear argument may make some impression, yet they nevertheless stand firm, and keep out the enemy, truth, that would captivate or disturb them. Tell a man passionately in love, that he is jilted; bring a score of witnesses of the falsehood of his mistress, it is ten to one but three kind words of hers shall invalidate all their testimonies. *Quod volumus, facile credimus*; what suits our wishes is forwardly believed, is, I suppose, what every one hath more than once experimented; and though men cannot always openly gainsay or resist the force of manifest probabilities that make against them, yet yield they not to the argument. Not but that it is the nature of the understanding constantly to close with the more probable side; but yet a man hath a power to suspend and restrain its inquiries, and not permit a full and satisfactory examination, as far as the matter in question is capable, and will bear it to be made. Until that be done, there will be always these two ways left of evading the most apparent probabilities:

13. First, That the arguments being (as for the most part they are) brought in words, *there may be a fallacy latent in them*; and the consequences being, perhaps, many in train, they may be some of them incoherent. There are very few discourses so short, clear, and consistent, to which most men may not, with satisfaction to themselves, raise this doubt; and from whose conviction they may not, without reproach of disingenuity or unreasonableness, set themselves free with the old reply, *Non persuadebis, etiamsi persuaseris*; though I cannot answer, I will not yield.

14. Secondly, Manifest probabilities may be evaded, and the assent withheld, upon this suggestion, that *I know not yet all that may be said on the contrary side*. And therefore, though I be beaten, it is not necessary I should yield, not knowing what forces there are in reserve behind. This is a refuge against conviction so open and so wide, that it is hard to determine when a man is quite out of the verge of it.

15. But yet there is some end of it; and a man, having carefully inquired into all the grounds of probability and unlikeliness, done his utmost to inform himself in all particulars fairly, and cast up the sum total on both sides, may, in most cases, come to acknowledge, upon the whole matter, on which side the probability rests: wherein some proofs in matter of reason, being suppositions upon universal experience, are so cogent and clear, and some testimonies in matter of fact so universal, that he cannot refuse his assent. So that I think we may conclude, that, in propositions, where though the proofs in view are of most moment, yet there are sufficient grounds to suspect that there is either fallacy in words, or certain proofs as considerable to be produced on the contrary side; there assent, suspense, or dissent, are often voluntary actions. But where the proofs are such as make it highly probable, and there is not sufficient ground to suspect that there is either fallacy of words (which sober and serious consideration may discover) nor equally valid proofs yet undiscovered, latent on the other side (which also the nature of the thing may, in some cases, make plain to a considerate man); there, I think, a man who has weighed them can scarce refuse his assent to the side on which the greater probability appears. Whether it be probable that a promiscuous jumble of printing letters should often fall into a method and order, which should stamp on paper a coherent discourse; or that a blind fortuitous concourse of atoms, not guided by an understanding agent,

should frequently constitute the bodies of any species of animals: in these and the like cases, I think, nobody that considers them can be one jot at a stand which side to take, nor at all waver in his assent.

16. As knowledge is no more arbitrary than perception; so, I think, assent is no more in our power than knowledge. When the agreement of any two ideas appears to our minds, whether immediately or by the assistance of reason, I can no more refuse to perceive, no more avoid knowing it, than I can avoid seeing those objects which I turn my eyes to, and look on in daylight; and what upon full examination I find the most probable, I cannot deny my assent to. But, though we cannot hinder our knowledge, where the agreement is once perceived; nor our assent, where the probability manifestly appears upon due consideration of all the measures of it: yet we can hinder both *knowledge* and *assent*, by *stopping our inquiry*, and not employing our faculties in the search of any truth. If it were not so, ignorance, error, or infidelity could not in any case be a fault. Thus, in some cases we can prevent or suspend our assent: but can a man versed in modern or ancient history doubt whether there is such a place as Rome, or whether there was such a man as Julius Caesar? A man can no more avoid assenting, or taking it to be true, where he perceives the greater probability, than he can avoid knowing it to be true, where he perceives the agreement or disagreement of any two ideas.

If this be so, the foundation of error will lie in wrong measures of probability; as the foundation of vice in wrong measures of good.

17. IV. The fourth and last wrong measure of probability I shall take notice of, and which keeps in ignorance or error more people than all the other together, is that which I have mentioned in the foregoing chapter: I mean the giving up our assent to the common received opinions, either of our friends or party, neighbourhood or country. There is no error to be named, which has not had its professors: and a man shall never want crooked paths to walk in, if he thinks that he is the right way, wherever he has the footsteps of others to follow.

18. But, notwithstanding the great noise is made in the world about errors and opinions, I must do mankind that right as to say, *There are not so many men in errors and wrong opinions as is commonly supposed*. Not that I think they embrace the truth; but indeed, because concerning those doctrines they keep such a

stir about, they have no thought, no opinion at all. They are resolved to stick to a party that education or interest has engaged them in; and there, like the common soldiers of an army, show their courage and warmth as their leaders direct, without ever examining, or so much as knowing, the cause they contend for. If a man's life shows that he has no serious regard for religion; for what reason should we think that he beats his head about the opinions of his church, and troubles himself to examine the grounds of this or that doctrine? It is enough for him to obey his leaders, to have his hand and his tongue ready for the support of the common cause, and thereby approve himself to those who can give him credit, preferment, or protection in that society. Thus men become professors of, and combatants for, those opinions they were never convinced of nor proselytes to; no, nor ever had so much as floating in their heads: and though one cannot say there are fewer improbable or erroneous opinions in the world than there are, yet this is certain: there are fewer that actually assent to them, and mistake them for truths, than is imagined.

Chapter XXI

THE DIVISION OF THE SCIENCES

Three Divisions of Science, 1; First, Natural Philosophy, 2; Secondly, the Science of our own Powers and Actions, 3; Thirdly, the Doctrine of Signs, 4; This the most general Division of the Objects of our Understanding, 5.

1. ALL that can fall within the compass of human understanding, being either, First, the nature of things, as they are in themselves, their relations, and their manner of operation: or, Secondly, that which man himself ought to do, as a rational and voluntary agent, for the attainment of any end, especially happiness: or, Thirdly, the ways and means whereby the knowledge of both the one and the other of these is attained and communicated; I think science may be divided properly into these three sorts:

2. First, The knowledge of things, as they are in their own proper beings, their constitution, properties, and operations; whereby I mean not only matter and body, but spirits also,

which have their proper natures, constitutions, and operations, as well as bodies. This, in a little more enlarged sense of the word, I call *φυσική*, or *natural philosophy*. The end of this is bare speculative truth: and whatsoever can afford the mind of man any such, falls under this branch, whether it be God himself, angels, spirits, bodies; or any of their affections, as number, and figure, etc.

3. Secondly, *Πρακτική*, the skill of right applying our own powers and actions, for the attainment of things good and useful. The most considerable under this head is *ethics*, which is the seeking out those rules and measures of human actions, which lead to happiness, and the means to practise them. The end of this is not bare speculation and the knowledge of truth; but right, and a conduct suitable to it.

4. Thirdly, The third branch may be called *σημειωτική*, or *the doctrine of signs*; the most usual whereof being words, it is aptly enough termed also *λογική*, *logic*: the business whereof is to consider the nature of signs the mind makes use of for the understanding of things, or conveying its knowledge to others. For, since the things the mind contemplates are none of them, besides itself, present to the understanding, it is necessary that something else, as a sign or representation of the thing it considers, should be present to it: and these are *ideas*. And because the scene of ideas that makes one man's thoughts cannot be laid open to the immediate view of another, nor laid up anywhere but in the memory, a no very sure repository: therefore to communicate our thoughts to one another, as well as record them for our own use, signs of our ideas are also necessary: those which men have found most convenient, and therefore generally make use of, are *articulate sounds*. The consideration, then, of *ideas* and *words* as the great instruments of knowledge, makes no despicable part of their contemplation who would take a view of human knowledge in the whole extent of it. And perhaps if they were distinctly weighed, and duly considered, they would afford us another sort of logic and critic, than what we have been hitherto acquainted with.

5. This seems to me the first and most general, as well as natural, division of the objects of our understanding. For a man can employ his thoughts about nothing but either the contemplation of *things* themselves, for the discovery of truth; or about the things in his own power, which are his own *actions*, for the attainment of his own ends; or the *signs* the mind makes use of

both in the one and the other, and the right ordering of them, for its clearer information. All which three, viz. *things* as they are in themselves knowable; *actions* as they depend on us, in order to happiness; and the right use of *signs* in order to knowledge, being *toto caelo* different, they seemed to me to be the three great provinces of the intellectual world, wholly separate and distinct one from another.

EVERYMAN'S LIBRARY was founded in 1906, and for all the changes and chances in the book world during its long life the series stands strong to-day as the most comprehensive, inexpensive collection of books of classic measure. It is, indeed, still what its publisher intended it to be. J. M. Dent conceived it as a library arranged to cover the whole field of English literature, including translations of the ancient classics and outstanding foreign works; a series to make widely available those great books which appeal, as he says in his *Memoirs*, 'to every kind of reader: the worker, the student, the cultured man, the child, the man, and the woman.' The aim and scope of the series was crystallized in the title *Everyman's Library*, a title which has justified itself by the worldwide sales, totalling in 1953 some forty millions.

There were, of course, already in being in 1906 other popular series of reprints, but none on the scale proposed for *Everyman*. 155 volumes were published in three batches in the Library's first year; they comprised a balanced selection from many branches of literature and set the standard on which the Library has been built up. By early 1915 the 733rd volume had been issued; and, in spite of the interruptions of two world wars and their aftermath, the 994th volume was published in 1953. The founder-publisher aimed at a library of a thousand volumes, and that goal will surely be achieved before the jubilee of the Library in 1956.

A rough and ready pointer to the representative character of the Library is the number of volumes in each of the broad classifications into which the Library is divided—Biography has some 80 volumes; the Greek and Latin classics, about 40; Essays and Belles-lettres, 100; Fiction, 300; History, 80; Poetry and Drama, 100; Romance, 30; Science, 25; Religion and Philosophy, 60; Travel and Topography, 45; For Young People, 65. (The reference section is now being published separately as *Everyman's Reference Library*.) Most of but not all these volumes are in print now; some absent ones are works which changing taste has ruled out; but the classified sections of the Library are maintained in the original proportions, and to-day there are available in the Library the works of some five hundred authors of all times and all lands, the honoured names that stand for great literature. Moreover, many 'temporarily out of print' volumes are now being reinstated.

In March 1953 a fresh development of the Library began; new volumes and all new issues of established volumes in *Everyman's Library* are now in the larger size of crown octavo (except the volumes in the Young People's Section). The larger volumes have new title-pages, bindings, and wrappers, and the text pages have generous margins. Ninety volumes in this improved format will have been issued within one year of its inauguration.

Editorially the Library is under constant survey; all volumes are re-examined and brought up to date, with new introductions, annotations, and additional matter, wherever desirable; often a completely new translation or newly edited text is substituted when transferring an old volume to the new format, such as the new editions of *Pepys's Diary*, *Caesar's War Commentaries*, and *The Anglo-Saxon Chronicle*.

The new larger volumes are in keeping with the reader's own collection in his home, for which the Library is planned, and they are also in the suitable size for the shelves of all public, institutional, university, and school libraries. Many important works in *Everyman's Library* are unobtainable in any other edition, and they are as essential to the comprehensiveness of the Library as are the masterpieces of fiction, some of which are in one *Everyman* volume of anything up to 800 or 900 pages. The new *Everyman's Library* in crown octavo is published at two prices (except in the U.S.A.), according to the length and nature of the work; volumes in red binding and wrapper are at one price and those in blue at a slightly higher price.

This development entails no break in the continuity of the Library; there are at this date nearly 600 volumes in the original format, and they will be obtainable in the old size and at the old price until they are reissued in the new. Four times a year the Publishers issue a prospectus of the volumes to be issued in the larger format during the next three months: this will be sent free to all applicants. A descriptive catalogue of all volumes is also freely available, the annotations giving the year of birth and death of the author, the date of first publication of the work, and a brief description of, or details of the contents of, the last revised *Everyman's Library* edition.

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