



University
Southern
Library

BUILDING

Ex Libris
C. K. OGDEN

Milton,
Peterborough.



THE LIBRARY
OF
THE UNIVERSITY
OF CALIFORNIA
LOS ANGELES

A N T I E N T
M E T A P H Y S I C S :

O R, T H E
S C I E N C E O F U N I V E R S A L S.

C O N T A I N I N G
A F U R T H E R E X A M I N A T I O N O F T H E P R I N C I P L E S
O F S I R I S A A C N E W T O N ' S A S T R O N O M Y.

V O L U M E S E C O N D.

L O N D O N :

P R I N T E D F O R T . C A D E L L , I N T H E S T R A N D ; A N D J . B A L F O U R A N D C O . E D I N B U R G H .
M , D C C , L X X X I I .

111
M74a
v. 2

C O N T E N T S.

B O O K I.

OF the Distinction betwixt Mind and Body, and of the Properties of each.

C H A P. I.

The Foundation of all Philosophy, that there are two Substances in the Universe— Three Opinions upon this Subject—The Patrons of two of these—The last revived of late by Dr. *Priestley*—The Consequence of this Opinion—The Philosophy of Metaphysics not to be invented by any one Man—only to be learned from ancient Books. Page 1

C H A P. II.

Mind and *Body* are each of them *Substances*— All Things *Substances* or *Accidents*—*Substances* known to us only by their Operations—Definition given of *Body* and of *Mind*— Advantages of those Definitions—*Mind* does not always *move*, nor is *Body* always *moved*—but the Definition is from the *Power*—Difficulty of defining *Mind* acknowledged by the Antients. p. 6

C H A P. III.

Properties of *Body* resulting from its Definition—1st, *Having Parts*, and *being divisible*—2d, *Occupying Space*, or *Extension*—Extension not being the Essence of Matter, supposes Matter not extended—3d, *Resistence* another Property of *Body*—4th, *Impenetrability*—5th, *Solidity*—6th, *Continuity*—Dr. *Priestley*'s Notions concerning *Body* refuted—Lastly, *Bodies* act upon one another by their Surfaces. p. 12

C H A P. IV.

Of *Mind*, and its Qualities—*Mind* only active—*Body* passive—The Nature of *Action* and *Passion*—Of the *Vis Inertiæ* of *Body*—Of *Action* and *Reaction*—*Body* does not properly *move*—The *Cohesion* of *Body* produced by *Mind*—*Mind* not extended, figured, or divisible, according to Dr. *Clarke*'s Notion—*Mind*, nevertheless, exists in *Space*, but not as *Body* does—*Infinite Space* no Attribute of the *Deity*. p. 18

C O N T E N T S.

C H A P. V.

Of *Space*—*Space* a third thing in Nature besides *Body* and *Mind*, according to some Philosophers—According to *Epicurus*, *Space* and *Body* the only two things in Nature—Strange Consequences from the Notion of *Space* being a thing existing by itself—*Space* maintained by the modern Theists not to be a Substance, but a Quality of Divinity—Strange Consequences of this Notion—If it be true, intirely a modern Discovery—If *Space* be any thing, it must be either *Substance* or *Accident*—not *Substance*—not *Accident*—not mere *Capacity*—which is nothing—*Space* such a Principle of Nature as *Aristotle's Privation*—*Space* has no Properties—Not *extended* therefore, nor, properly speaking, *measured*—*Duration*, *Time*, *Eternity*, no Properties of things, though necessary for their Existence. Page 25

C H A P. VI.

Proved that *Body* cannot move itself—Objections answered from the Intellectual Mind, which can reflect upon itself—Two Authorities quoted for this Opinion; one from *Aristotle*, and one from *Themistius*—If Matter moves itself, there must be Intelligence in Matter, as well as Self-Motion—If the *Mover* and *moved* be different, there cannot be an infinite Series of *Movers*, of Causes, and Effects—Still less, if the Movement be circular—If *Body* cannot act, it cannot think—To think, therefore, contrary to its Nature—Deficiency of *Dr. Clarke's* Argument against Matter moving itself, supplied—*Dr. Priestley's* Notion of Matter still more extraordinary than the Notion of those who say that it moves itself—Of the Hypothesis of *Body* moving *Body* by other *Bodies* interposed—If *Body* is moved by a *vis insita*, it must be intelligent—*Body* and *Mind* perfectly discriminated by the Definition given of them. p. 34

C H A P. VII.

Of the Immateriality of *Mind*—Difficulty to conceive an immaterial Substance—This to be done by the Method of *Abstraction*, as we conceive a *Point*, *Line*, &c.—*Power*, *Energy*, *Activity*, essential Qualities of *Mind*—That *Power* best seen in *Motion*—therefore *Mind* defined by the *Power of moving*—Consequences of *Mind* being an immaterial Substance—has no Parts—is indivisible, and immoveable—Another Consequence is, that *Mind* moves *Body* in a Manner quite different from that in which *Body* moves *Body*—It moves *unorganized Bodies* in the same Manner as it moves *Animals* and *Plants*—The *Deity* cannot be supposed to move *Body* in that Way—Reasoning from Analogy on that Subject—*Mind* moves *Body* in a Manner quite different from

C O N T E N T S.

from that in which *Body* moves *Body*—Consequences of that Difference—We know, therefore, in some respect, how *Mind* moves *Body*. Page 43

B O O K II.

Of the several Kinds of Mind.

C H A P. I.

As there are different *Motions*, so there are different *Minds*—Of the lowest or elemental *Mind*—*Proclus's* Notion of that *Mind*—Of Gravitation, compared with other motive Principles—*Mind* not always moving, nor *Body* always moved—Of the Reality of this motive Principle in *Body*—The several Opinions upon this Subject—Objection to the Existence of this *Mind* answered—The *Vegetable Mind* less abundant than the *Elemental*—more abundant than the *Sensitive*—The *Vegetable* more artificial than the *Elemental*—but less than the *Sensitive*—Last of all, is the *Intellectual* much more excellent than any of the other three. p. 50

C H A P. II.

Of the Difference betwixt *Man* and *Brute*—This only to be learned in antient Philosophy—likewise another Distinction, betwixt *God* and *Nature*—The Difficulty of distinguishing *Man* and *Brute* arises from the Progress of Nature, by Degrees, insensible, from lower to higher Beings—The Distinction of *Man* and *Brute* depends upon distinguishing *Ideas* and *Sensations*—These not confounded in antient Philosophy—Confounded by Mr. *Locke* and by Mr. *Hume*—The Use of the Word *Idea* in antient and modern Times—Some *Ideas* certainly not *Sensations*; such as the *Ideas* of *Being*, *Number*, *Beauty*, *Truth*;—because these cannot be apprehended by any Sense—This is the Doctrine of *Plato* in the *Theætetes*—Difficulty of applying this Distinction to particular Substances—This Difficulty solved, by recurring to the original Notion of *Idea*—It denotes the inward Form of the Thing—That inward Form *Mind*—This differently expressed by *Plato* and *Aristotle*—The *Sensations* are the outward Appearances or *Accidents* of Things—This Distinction betwixt the two, explained—General Observations concerning *Ideas*—Of *Abstract*—of *General Ideas*—*Ideas* of *Sensible Qualities*, as well as of *Substances*—The Consequences of maintaining that *Ideas* are *Sensations*—No Stability of Knowledge upon that Hypothesis—This the Doctrine of *Protagoras* and *Heraclitus*—should have been the Doctrine of Mr. *Hume*—Difference betwixt

C O N T E N T S.

betwixt the Ideas and Sensations of *particular Substances*, explained—This Distinction applied to *Animals*, *Vegetables*, and *unorganized Bodies*—Opinion of *Savage Nations* concerning the latter—Of the Distinction of *Ideas* and *Sensations*, in *Qualities*—such as the Colour, *White*—such as the Perception of *Touch*—also the Perception of a *particular Figure*—Of the Idea of *Figure* in general—of *Extension*—of *Motion*—To have an Idea, even of a particular Thing, is to perceive the *one* in the *many*—A greater *one* perceived in *general Ideas*—These must be *abstracted* in order to be perfect—The Distribution of *Things* into *Genus* and *Species* not artificial, but founded in Nature—Both *Uniformity* and *Variety* necessary for a *System*—The wonderful *Variety* and *Uniformity* in the System of *Nature*—Of our Idea of *Mind*—This Idea acquired by *Consciousness*—Of the Nature of *Consciousness*—It distinguishes us from the *Brute* more than any Thing else—is the highest Faculty belonging to the *human Mind*—is the Foundation of all *Certainty* and *Knowledge*—No Reasoning without *Consciousness*—From *Consciousness* we have the first Idea of *Mind*—Progress in that Idea from the *Mind* that only *moves*, to the *Supreme Intellectual Mind*—Of the *Final Cause*—Of the Difference of *our* Perceptions and those of the *Brute*—*Man* defined by Nature for Purposes quite different—The Progress of his *Mind* from *lesser* to *greater ones*, till he arrive at the *greatest One* in the Universe. Page 63

C H A P. II.

Objections answered—1st *Objection*, That the *Intellect* cannot operate without at least *Internal Organs*, such as the *Brain*—2^d *Objection*, That the *Brute* has *Senses*, a *Phantasia*, and *Memory*, as well as *we*—3^d *Objection*, That the *Brute* *knows* the *Objects*, that he has seen before, to be *the same*; therefore he can *review* his own *Operations*—4th *Objection*, That the *Brute* *compares* as well as *we* do, and therefore *reasons*. p. 92

C H A P. IV.

Of the *Orestic Powers* of *Man* and *Brute*—These must correspond to the *Gnostic Powers*—The *Gnostic Power* in the *Brute* only *one*, viz. *Sense*—The *Gnostic Power* in *Man* twofold, *Sense* and *Intellect*—The *Desires* arising from *Sense*, *Appetite* and *Anger*—The *Desire* of the *Intellectual Nature* is the *Desire* of *Knowledge*—This distinguishes *Man* from *Brute*. P. 99

C H A P. V.

Of the *Pleasures* belonging to the *Man* and the *Animal*—These *Pleasures* not easily distinguished in *Man*, as he is an *Animal* as well as a *Man*—Of the *Pleasures* of the *Animal*—The *Brute* has *Pleasures* of the *Mind* as well as *Pleasures* of the *Body*—*Pleasures*

C O N T E N T S.

Pleasures of the Man threefold—The *Pleasures of Truth and Science*, of the *Fine Arts*, and of *Virtue*—What distinguishes all these *Pleasures* from the *Pleasures of Sense*—The Object of the *Intellect* being *Know'edge*, the *Pleasure* of all the three must be *Knowledge*—*Knowledge* pleases, because it is *beautiful*—What *Beauty* is—It belongs to the Category of *Relation*;—is that *Relation* of Things which forms a *Whole*, or a *System*—*Beauty* of this Kind in *Propositions*, and even in *Ideas*—Different Degrees of *Beauty*, as the System is greater or less—Of the Reality and Utility of *Logic*, by which we arrange the Systems of Things—Of the Idea of *Good*, and of *Useful*.

Page 102

C H A P. VI.

Of the *Pleasure* of the *Fine Arts*—It is *Beauty* which pleases in them—Their *Beauty* is in the *Piece*; and the *Piece* must be a *System*—The best *Critic* is he that can best comprehend the *System*—Of the *Pleasure* of *Virtue*—This also arises from *Beauty*—*Virtue* considered both in *Contemplation* and *Prælice*—We *contemplate* it either in ourselves or others—In both Cases we approve of it, because it is *beautiful*—For the same Reason we *prælice* it—*Benevolence* not *Virtue*, without a certain *Fitness* or *Propriety*—*Natural Affection*, *Good Will*, and *Affection* to our Kind, or to any Individual, are not *Virtue*, without a reflex Act of the *Mind*—The several *Relations* that make *Virtue* a *System*—considered with relation to *ourselves*, to *others*, and to *God* and *Nature*—The *Virtue* of the *Philosopher* takes in the whole System of the Universe.

p. 111

C H A P. VII.

The Sense of *Beauty* is the Source of every Action and Affection that can be called *Human*—It produces the Principle of *Honour*—The Prevalence of that Principle among all Nations, *barbarous* and *civilized*—Examples of it—The Nature of *Honour* connected with the *Universal Passion*, the *Desire of Praise*—From *Honour* proceeds *Anger*—Of *Revenge*:—It operates differently upon different Characters of Men—*Love* and *Friendship* also proceed from a Sense of the *beautiful*—The Connection of *Friendship* with *Anger*—*Vanity* also from the same Source—*Vanity* of two Kinds—*Envy* necessarily connected with *Vanity*—The Sense of the *Ridiculous* is derived from the Sense of what is *Beautiful*—The same is the Source of *Ambition*—also of *Avarice*—All our other *Affections* and *Passions* belong to our *Animal Nature*, not to our *Intellectual*—*Beauty* pleases because it is *Beauty*—The *Final Cause* of that *Pleasure*—Reason why *Beauty* consists in *System*—By the Exercise of our *Intellect* upon any Subject we are preparing for the Exercise of it upon the greatest Subject, the *System of the Universe*.

p. 124

C O N T E N T S.

B O O K III.

Of the several Minds in Man, considered as distinct Substances.

C H A P. I.

The *Intellectual Mind*, a distinct Substance from the *Animal*—Only two Opinions upon the Subject—*Things*, to be distinguished by their *Properties*—*Active Beings*, by their *Operations*—The *Operations* of the *Intellect*, and of the *Animal Life*, quite different—*Man* operating by *Intellect*, not a *Sensitive Being*—The *Animal Nature*, no Improvement or Refinement of the *Vegetable*—No more is the *Intellectual* an Improvement of the *Animal*—The *Vegetable Life* exists separately from the *Animal*—therefore they are separate Substances—For the same Reason, the *Intellectual* and *Animal Natures* are separate Substances—Our little World composed of four Substances—This the *Tetartys* of the Pythagoreans—Every *Vegetable* and *Animal* compounded of three different Natures—This Doctrine, of three distinct Substances in *Man*, the Doctrine of the *Peripatetic School*, as explained by *Philoponus*—Objection to this Doctrine answered.
Page 133

C H A P. II.

The Consequence of the Doctrine of three distinct Substances in *Man*—These Substances cannot be transmuted into one another—nor will the *Destruction* of one be attended with the *Destruction* of another—Still less will they be destroyed by the *Destruction* of the *Body*—The *Intellectual Substance* cannot be so destroyed, as it operates without *Body*—Nor the *Animal* or *Vegetable Substances*, though they do not operate without *Body*—These are not perishable by their own Nature, being *Immaterial Substances*—Of the separate Existences of these *Minds*—The *Intellectual* does so exist—The *Animal* and *Vegetable Minds* do not exist separately—Of the Doctrine of *Transmigration*—How to be understood upon the Principles of this Philosophy—Into what *Bodies* the several *Minds* transmigrate—Whether the *Human Mind* transmigrates into the *Brute*—No Transmigration of the *Elemental Life*—This Philosophy establishes the separate Existence, and the *Immortality* of the *Soul*, upon the surest Foundation—The Doctrine of *Lucretius* and of *Mr. Locke* easily refuted upon the Principles of this Philosophy—Comparison of the *Human Soul* to the *Master* of a *Ship*—Of the Use of this Philosophy in *Theology*.
P. 139

C O N T E N T S.

C H A P. III.

Whether there be not two *Intellectual Substances* within us—Distinctions necessary to be made for resolving this Question—1st, Distinction betwixt *Mere Power*, or *Capacity*, and *Actuality*—2d, Distinction betwixt *Form* and *Matter*—3d, Distinction betwixt *Substance* and *Accident*—*Accidents* are perceived by the *Senses*, but *Substance* is an *Idea* formed by *Intellect*—The *Human Intellect* exists only *potentially*—not only in the *Individual*, but in the *Species*—The Progress from *Potentiality* to *Actuality* flow in the *Individuals* of *Civilized Nations*—very much slower among *Savage Nations*—Of the Nature of the *First Ideas* formed by *Savages*—The *Form* in them not separated from the *Matter*—*Practical Intelligence* in *Civilized Nations*, not much different—Great Difference, in Point of *Intelligence*, betwixt the *Savages* who subsist by *Industry*, in the Practice of certain Arts, and those who live upon the *Natural Fruits of the Earth*—The *Savage* does not *speculate*—therefore has no *Ideas of High Abstraction*—is neither *Arithmetician* nor *Geometer*—What his *Ideas of Number* and *Figure* are—Of his *Idea of Mind*—does not make the Distinction betwixt *Natural Causes* and the *Operations of Mind*—believes in *superior Minds*—*Speculative Intelligence* contrasted with *Practical*.

Page 150

C H A P. IV.

The Question stated, Whether the *Practical* and *Speculative Intellect* be the same—They are the same—This the Opinion of *Simplicius*—Objections to this Opinion—1st, That the *Objects* of the two *Intellects* are *different*—2do, The Authority of *Aristotle* on the other Side—Answer to the *first* Objection, that the *Practical Intellect* is a necessary Step in the Progress to the *Perfect Intellect*, and that the *Objects* of *Practical* and *Speculative Intellect* are not more different than the *Ideas* of *perfect* and *imperfect Intellect* must be—Distinction betwixt *Practical Ideas* and *Sensations*—Answer to the Authority of *Aristotle*—that, when he speaks of the *Intellect* operating by the *Phantasia*, he means the *Practical Intellect*—The same when he speaks of a *passive, incorruptible, Intellect*—The Interpretation of *Simplicius* of that Passage, better than of *Philosophus*—This is evident from *Aristotle's* Words—No Philosopher ever thought more highly of the *Human Soul*—He makes *Energy* its *Essence* in a separate State—Joined with the *Body* it must be sometimes *quiescent*, as is *Sensitive Life*—Difference, in this respect, betwixt the *Sensitive* and *Vegetable* Part of us—What *Aristotle* means when he says, that the *Soul*, in a separate State, does not *remember, reason, love, or hate*—Wonder that *Aristotle's* Meaning should have been mistaken—The Reason of the Mistake—Observations on the Doctrines of this Chapter—as to the *Mind's intuitive Perception* in a separate State, and as to its *constant Activity*—the *Mind's* Sympathy with the

C O N T E N T S.

Body in this State—what *Aristotle* means by the *Soul's* not *loving* or *hating* in a *separate State*. Page 160

B O O K IV.

Of the Origin of our Ideas and the several Properties of Mind.

C H A P. I.

Aristotle has said nothing of the *Origin* of our *Ideas*—Different Opinions of his Commentators upon the Subject—Mr. *Locke's* Discoveries upon this Subject—All our *Ideas*, according to him, derived from *Corporeal Objects* that are in *perpetual Change*—This *material Origin* of our *Ideas* degrades the *Human Mind*—supposes that the *Soul* had no *Existence* before it came into this *Body*—All *Ideas* not derived from *Matter*, particularly the *Ideas* of *Mind*—Our *Mind*, being after the *Image* of *God*, has some of these *underived Ideas*—All *Ideas* that are not, *originally*, *Perceptions* of *Sense*, cannot be derived from *Sense*—Examples of *original Ideas* in our *Minds*—The *Idea* of *Sensance* one of these—Mr. *Locke's* Notion of *Substance*—No *Knowledge* of any Thing without the *Idea* of *Substance*—The *Idea* of *Matter* and *Form*, another Example—also of *Cause* and *Effect*—Mr. *Hume* argued well, when he denied, upon the Principles of Mr. *Locke's* Philosophy, that there was any *Idea* of *Cause* and *Effect*—also the *Idea* of *Beauty*—Mr. *Locke's* imperfect Notion of *Beauty*—Also the *Idea* of *Good*, not derived from *Sense* or *Reflection*—Also the whole Class of *Ideas* of *Relation*—The antient Division and Classification of *Ideas*, different from Mr. *Locke's*—The new Language, that Mr. *Locke* has introduced into Philosophy, not so good as the *antient*;—obscure and complexed, compared with the *antient*—Two Reasons for insisting so much upon the Defects of Mr. *Locke's* Philosophy. p. 173

C H A P. II.

The general Proposition maintained in this Chapter, That all *Ideas* are originally in the *Mind*, is demonstrated from the *Nature* of *Ideas*, and the Distinction betwixt them and *Sensations*—All *Ideas* must originate either from *Mind* or *Body*—The *Ideas* of *External Forms* first considered—The *Sensations* which these *Forms* produce, not *Ideas*, however much generalized or abstracted they may be—Our *Sensations* not the Materials out of which *Ideas* can be made—*Ideas* resemble the *Form* of any Piece of Workmanship, which is not from the *Matter* but from the *Mind* of the Artist—Without *Sensations* we cannot have *Ideas*; but *Sensations*, therefore, are not the *Cause* of our *Ideas*—They are excited by *Sensations*—are less perfect at first—more perfect afterwards

C O N T E N T S.

wards—Some so perfect as not to exist at all in *Matter*—Of *Ideas of Reflection*—Every individual Perception of the Operation of our *Mind*, is, according to Mr. *Locke*, an *Idea*—This not true—There must be the *Knowledge* of the Nature of the Operation—This cannot be without the *Knowledge* of the *Agent*—This *Knowledge* can only be derived from *Mind*—The only Question remaining is, Whether our *Mind* creates its *Ideas*—This cannot be conceived—*Ideas* cannot be discovered in the Objects in which they are inherent, unless they be previously known—The *Soul* being a distinct *Substance*, puts this *Matter* out of doubt—No *Soul* can be without *Ideas*—If it creates *Ideas*, it creates *itself*—This impossible—All our *Ideas*, as well as our *Minds*, are from *God*—In his *Mind* the *Ideas* cannot be abstracted from *Matter*—This Origin of our *Ideas* much nobler than that assigned by Mr. *Locke*—is the Consequence of our being made *after the Image of God*—No *innate Ideas* in one Sense—A previous State of the *Human Soul*—The latent *Ideas* in us not called up by an Act of the *Mind*, like the *Ideas* we have already acquired.—That we have no Consciousness of any Thing in a State of pre-existence, no Proof that there was no such State—Mr. *Locke's* Error, in confounding *Consciousness* and *Identity*—The *Intellectual Part* of us may be dormant and quiescent for some time—This agreeable to the Analogy of Nature—Instances of such a State, both in the *Vegetable* and the *Animal*—Our *Intellectual Part* sometimes quiescent, even after we are grown up—*Ideas* even then lie dormant in our *Minds* for Years.

Page 186

C H A P. III.

Of the *Difference of Minds*—Great Errors proceed from not knowing accurately that *Difference*—The *Vegetable* differs from the *Elemental Life*, as to the *Body moved*—the *Motion*—the *Growth*—and the *Final Cause*—*Difference* betwixt the *Animals* and *Vegetable*—The *Animal* sensitive—the *Vegetable* not—Reason for this *Difference*—The *Animal* has a *Feeling of Pleasure and Pain*—the *Vegetable* not—This *Difference* betwixt the *Animal* and *Vegetable* proved by Experiment—The *Vegetable* propagated many more ways than the *Animal*—The *Vegetable Life* subservient to the *Animal*—Remarkable Instance of this in the *Construction* of the *Vegetable Part* of *Animals*—The *Vegetable* and *Animal Life* come very near one another.

p. 205

C H A P. IV.

The Importance of the Doctrine of *Causes*—*Aristotle's* Account of *Causes*, full and complete—*Plato's* Addition of two other *Causes*, not necessary—Abuse of the Term, *Cause*—Things said to be *Causes*, which are only the Removal of Impediments that hinder the real *Cause* to operate—The Power of the *Mind* without the Organs of *Sense*, evident in *Dreaming* and *Night-walking*, or when the *Body* is affected by certain

[A] 2

Diseases

C O N T E N T S.

Diseases—The *Internal Organs*, such as the *Brain*, not properly *Causes*, any more than the *External*—The *Intellectual Mind*, not immediately connected at all with the *Body* or its *Organs*—*Hot* and *Cold*, *Moist* and *Dry*, no *Causes* of Things—The considering such Things as *Causes*, leads to great Errors—The common Distinction betwixt *First* and *Second Causes*, not sufficiently attended to by our modern Philosophers, particularly the Newtonians. p. 212

C H A P. V.

The Seat of *Dreams* is the *Phantasia*—The *Phantasia* belongs to the *Animal Nature*, for the Preservation of which it is absolutely necessary—Distinction of the *Human Imaginations* into those of which we *perceive* the Delusion, and those which we *believe* to be Realities—This Distinction applied to our *waking Imaginations*—Distinction of our *Imaginations* into *Voluntary* and *Involuntary*—Of this latter Kind, the *Phantasms* that appeared to *Bonnet's* old Man—Another Instance of the same Kind—Of *waking Phantasms*, which we mistake for *Realities*—This the Case of the *Madman*—Difference betwixt *Madness* and *Folly*—Difference betwixt a *lively Imagination* and *Weakness*—Of our *sleeping Phantasms*, or *Dreams*—Difference betwixt *Dreaming* and *Night-walking*—Of the Authors who have written upon the Subject of *Dreams*—viz. *Aristotle*, *Synefius*, and *Baxter*—Facts concerning *Dreaming*—The Dreamer is *asleep*—Distinctions betwixt *sleeping* and *waking* made by *Aristotle*—Distinction betwixt *Dreams* and other *Appearances* in our Sleep—Definition of *Dreams*—Certain Positions laid down concerning *Dreaming*—Inquiry into the *Philosophy* of *Dreaming*, that is, the *Causes* of it—1st, The Opinions stated of the three Philosophers above mentioned who have written upon this Subject, beginning with *Aristotle*—His Theory of *Dreams*—They are, according to him, the *Relicks* of our *Sensations* during the Day—*Dreams* not *prophetic*, according to him, though there may be a fortuitous Concourse of the Event with the *Dream*—Objections to *Aristotle's* System of *Dreaming*—It can only account for our *Dreams* of Things *recent*—It does not define the *Phantasia* nor a *Phantasm* properly—General Observations upon his Philosophy—Of *Synefius's* System of *Dreaming*—Account of the Author—A great Believer in *Divination* by *Dreams*—kept a *Journal* of his *Dreams*—The Seat of *Dreams*, according to him, is the *Phantasia*—It contains the Forms of all *Material Things*, and is the *Organ* by which the *Mind* perceives them—In the *Phantasia*, says *Synefius*, are the *Forms* of all Things *past*, *present*, and *future*—These the *Materials* of our *Dreams*—Our *Dreams* are of two Kinds—*plain* and *direct*—or *mysterious* and *symbolical*—The latter Kind the more common—These accounted for—Of the Art of interpreting them—No common Art for interpreting all *Dreams*, but an Art peculiar to each Man, which he must learn by Experience—Objections to *Synefius's* System—Apology for *Synefius*—*Baxter's* Opinion

C O N T E N T S.

Opinion concerning *Dreams*—The Author's System upon the Subject—An Account of the *Phantasia*, which is divided into *retentive* and *active*—distinguished from *Body*—from the *Vegetable*—from the *Intellectual Life*—belonging therefore to the *Animal Nature*—That *Nature* not to be divided into *three* Parts, but *one* Nature operating differently—Necessity of these different Operations—Progress of the *Animal Nature* in *Man*—The *Phantasia* exceedingly imperfect at first—Definition of the *Phantasia*—The same with the *Common Sense* of *Aristotle*—It has a Power of perceiving *Likenesses* and *Differences* in *Objects of Sense*—This comparative Faculty is what is called the *Reason* of *Brutes*—Of the *Human Phantasia*—And, 1st, Of our *Phantasia*, when waking—The Images in it exceed the Reality of Nature—Much influenced by the Habit of the *Body*—By the Love of Beauty it is distinguished from the *Phantasia* of the *Animal*—The Perception of Beauty in the *Intellect*—The *Phantasia* subservient to *Intellect*, as the *higher Power*—Difference betwixt *Genius* and *Taste*—The Influence of the *Ridiculous* upon the *Imagination*—Of other Dispositions of *Mind*—The Influence of the Studies and the Pursuits of Life upon the *Imagination*—Our waking *Phantasia* under the Controul of our governing *Power*—but that *Power* not *absolute* or *unlimited*—Of our *Sleeping Phantasms*, as distinguished from the Operations of our *Intellect* in *Sleep*—These likewise under the Influence of the *Habit* of the *Body*—Of the *Phantasms* in our *Sleep* considered as distinct from our *Reasonings* at that Time—Such *Phantasms* must necessarily *exist*—Consequences of our *Dreams* being the *Operation* of our *Phantasia*, and not our *Intellect*—The *World* in our *Phantasia* very much finer than the *Natural World*—Of the *Dreams* of *Poets*—of *Philosophers*—Of the *Dreams* of the *wicked*—These a great Addition to their *Misery*—The *Dreams* of the Generality of Men, betwixt these two, neither *happy* nor *miserable*—No Order or Regularity in the *Phantasms* of a vulgar Man, *sleeping* or *waking*—Otherwise in the *Erute* and the *perfect Man*—*Exeter's* Account of the *Origin* of *Dreams* refuted—Of *Prophetic Dreams*—Objections to *Synesius's* System concerning them—All *Prophetic Dreams* plain and direct, and proceeding from *Minds* superior to ours—Such *Minds* may communicate with ours, though embodied—The Revelation by *Dreams* in one of two Ways—Facts concerning *Dreams*—Particular Account of the *Dreams* of *Aristides* during 13 Years—Cured of a Disease, that lasted so long, by Advice that he got in *Dreams*—Delivered from other Dangers in that Way—Nothing incredible in the Narrative of *Aristides*—Reasons for believing it to be true—Objections answered, to the Testimony of *Aristides*—The Authority of *Synesius* in favour of *Dreams*—His whole Life conducted by them—Of the *Final Causes* of *Dreams*—The Philosophy of *Human Nature* very imperfect without the Knowledge of that Cause—That Cause the *Happiness* of *Sensitive Intelligent Beings* during their whole Lives—The virtuous *happy* in that Way, as the vicious are *miserable*—Another End of *Dreaming*, to convince us that

C O N T E N T S.

we are to exist in a *Future State*—The Final Cause of Supernatural and Prophetic *Dreams* is the Direction of *Human Life*, which otherwise cannot be properly directed.

Page 229

C H A P. VI.

Of *Instinct*, and the *Nature* of it—different from every other *Power* of *Mind* hitherto mentioned—It is shown chiefly in the *Generation* and the *Education* of the *Young*—Shown in *Incubation*—in the *Flights* of *Birds of Passage*—*Instinct* stronger in the *Natural State* of the *Animal*, but wonderful Examples of it even in the *Tame State*—This *Instinct* of *Animals*, superior to *Human Intelligence*—What *Instinct* Man had in his *Natural State*—Not so much necessary to him as to other *Animals* in that State—His present State is directed by *Intelligence*, instead of *Instinct*—That not sufficient to make Men *happy*, without the Assistance of *Superior Powers*—This the *Origin* of *Religion*.

p. 294

C H A P. VII.

A wonderful *Quality* of *Mind* not hitherto mentioned—It exists in no particular *Time* or *Place*—is not in the *Body*, as in a *Vessel* which contains it—It is, however, *somewhere*, and in *some Time*—It is in *Space* and *Time*, but not as *Body* is—is conversant with *Objects* distant in *Time* and *Place*—therefore must exist in those distant *Times* and *Places*—Difference betwixt *us* and the *Brutes* in this respect—In what Sense the *Mind* is confined to the *Body*—Answer to the Objection of our seeing Things at great Distances—Difference betwixt our *Mind* and the *Divine* in this respect—The *Study* of our own *Minds* may give us some Conception even of the *Ubiquity* of the *Deity*—Of the Knowledge of the *Future*—not so different from the Knowledge of the *Past* as is commonly imagined—The *Brutes* have it in their *natural State* as far as is necessary for the Oeconomy of their Lives—they have it even in the *domesticated State*—A Fact concerning the *Hanoverian Boy*—Alteration made, as to the *Divining Power* of the *Human Mind*, by *Society* and *Civilization*—That Alteration still greater in the *degenerate State* of Society—Of the Difference betwixt the *Minds* of *Savages* and of *Civilized Nations*—Difference betwixt the *Animal* and *Intellectual Minds* and the *Vegetable*—Necessity that the *Vegetable Part* of the *Animal* should be always *active*, and never *abroad*—These *Minds* have no Situation in any Part of the *Body*.

p. 303

C O N T E N T S.

B O O K V.

Of the Principles of Sir Isaac Newton's Astronomy.

C H A P. I.

Of *Astronomy*, and the Difference betwixt it and *Philosophy*—*Sir Isaac Newton's Principia* a Work of *Astronomy*, not *Philosophy*—*Sir Isaac*, however, has philosophised concerning the *Beginning and Continuation of Motion*—If he is in an Error in this Philosophy, it belongs to this Work to take Notice of it—Short Account of *Sir Isaac's System*—The *Motion* of the Planets composed of *Projection* and *Gravitation*—both these Powers acting in *Right Lines*—Their *Elliptical Motion*, therefore, to be analysed into a Polygon of an infinite Number of Sides—*Sir Isaac* thought that both the *Motions* were produced by *Bodily Impulse*—Reasons for asserting this to be his Opinion—*Sir Isaac*, when he wrote his *Principia*, did not think of *Mind* as a *Moving Power*;—two Reasons for that—Therefore made a *Machine* of the Heavens—Has laid it down that *Body* is indifferent to a State of *Motion* or *Rest*—This subversive of the antient Philosophy of the Distinction betwixt *Mind* and *Body*—Dangerous also to the System of *Theism*, by denying the *Providence of God* over the Works of Nature—The *Mechanical System* cannot be confined to the *Heavens*, but must descend to the *Earth*—must go even the Length of *Dr. Priestley's* Philosophy—But *Sir Isaac's Machine* of the *Heavens*, not a *perfect Machine*—liable to two Defects, which even Human Machinery may be free of.

P. 316

C H A P. II.

Comparison betwixt the antient and modern Materialists—*Sir Isaac's First Law of Motion*, the Foundation of all the *Mechanical Philosophy* of modern Times—Ought therefore to be most carefully examined—That this Axiom should not be known to the Antients, extraordinary—To judge of the Truth of it, belongs to the *First Philosophy*—Of the Nature of *Motion*;—a Thing of constant *Change and Succession*—*Rest*, the opposite of *Motion*—Improper, to apply the same Terms, and draw the same Conclusions, concerning *Opposites*—Other Improprieties of Expression by which *moving* and *being moved* are confounded, and *Vis Inertiæ* applied to *Body* in a State of *Rest* and in *Motion*—Of the several Ways in which the *Motion* can be supposed to be carried on after the Impulse has ceased—These are four—It is generally understood by the *Newtonians* to go on by virtue of *one* of these, viz. *Impulse*—If so, *Sir Isaac's*

Term

C O N T E N T S.

Term of *His Infinite* unnecessary and improper;—not to be understood of *Mind*—The *First Law of Motion* not a general Proposition, because not applicable to *Motion* begun by *Mind*—only to *Motion* begun by *Body*—nor to all *Motion* of that Kind—only to *Pulsion*—Distinction betwixt *Pulsion* and *Trusfon*—Two Kinds of *Trusfon* also to be distinguished—Similarity betwixt *Motion* by *Mind*, and *Motion* by *Trusfon*—Objection, that there can be no *Motion* by *Trusfon* in *Vacuo*, answered. Page 333

C H A P. III.

The simple State of the Question—The strange Consequences of this Axiom—It cannot be proved by Experiment—must necessarily be proved, *a priori*, by *Metaphysical Reasoning*—The Falseness of it proved from three Principles, that cannot be controverted—*Motion* not *one*, but *many*, as many as there are *Changes of Place*—It is only *Continuity* that makes *one* of *many* *Motions*—Of *Communication of Motion*—The Newtonians have erred in this Matter from not considering two Things, *viz.* the *Nature of Motion*, and the Doctrine of *First* and *Second Causes*—The Newtonians ought not to be angry that the *Metaphysical Principle*, upon which Sir *Isaac* has built his *Astronomy*, has been so freely examined—Authorities in Support of the Author's Opinion—Antient Authorities—Authority of *Aristotle*—Modern Authorities—*Leibnitz*—*Dr. Clarke*—*Dr. Horsley*—Sir *Isaac* himself—True Account of the Continuation of the Motion of a Body impelled is by *Mind*—This according to the Analogy of *Nature*, as *Nature* is defined by *Aristotle*—Other *Motions* of the same Kind in *Nature*, such as the *Motions* of *Animals*, *Vegetables*, and the *Loadstone* and *Iron*—The *Impulse* not the *Cause* properly of the *Motion*, but the *Occasion*—Of the Duration of the Motion by *Impulse*—It decays by Degrees—This likewise agreeable to the Analogy of *Nature*. P. 347

C H A P. IV.

An Inquiry concerning the *Principle of Motion* of the *Celestial Bodies*, not concerning the *Latus* of their *Motions*—The Question stated concerning the *Eternity* of the *World*—We can only judge of the *Motions* in the *Heavens* by those on *Earth*—Those can only be produced in one or other of *three Ways*—The *first* is by the *Body moving itself*—This Hypothesis examined—shown that it confounds all Distinction between *Mind* and *Body*, and has a Tendency to downright *Atheism*—2^d Hypothesis, That *Bodies* here are moved by other *Bodies*—This Movement either by *Trusfon* or *Impulse*—*Gravitation* not to be accounted for in either of these Ways—Of *Attraction*, and the Abuse of that Word—Of the *Motion* of the *Tides*—not to be accounted for by *Projection* and *Gravitation*, not otherwise, except by *Mind*—Of the *third Motive Power*

C O N T E N T S.

on Earth, *viz.* *Mind*—All *Animal Motion* of this Kind *mediately* or *immediately*—The Manner of *Mind* moving *Body*—The *Motions* of *Bodies* towards one another mutual.

Page 367

C H A P. V.

A *Conformity* betwixt the *Motions* on *Earth* and the *Motions* in the *Celestial Regions*—That *Conformity* will go no farther than the Nature of Things requires—The *Celestial Bodies* not moved by *Impulse* of other *Bodies*, as the *Bodies* on *Earth* are—nor by *Trysion*—The Suppositions of all such *Bodies*, only set *Mind* at a greater Distance—No *Motion* of *Body* by *Body* in the *Heavens*—The Reason of the Difference, in this respect, betwixt *Heaven* and *Earth*—So far as the *Motions* on *Earth* are by *Mind*, there must be a *Conformity* betwixt *them* and the *Motions* of the *Heavens*—Some general Things in which these *Motions* agree.—The Question concerning the *Composition* of the *Motion* of the *Celestial Bodies*—This Question connected with the other Question, concerning the *First Law* of *Motion*—If that *Law* be true, the *Motion* of our *Bodies* is necessarily *compounded*: But, if it be not true, no *Necessity* for any such *Composition*—Proved from *Consciousness*, that *Mind* may move *Body* in a *Curve Line*, without any *Composition* of the *Motion*—This demonstrated likewise *a priori*, from the Nature of *Motion* by *Mind*—The Question examined, Whether the *Motion* of the *Planets*, though produced by *Mind*, may not be *compounded*—General Positions concerning *Simple* and *Compounded Motion*—*Simple Motion* defined—Three Kinds of *Compounded Motion*—*First*, When the *Composition* is by the *Action* of different *Bodies* upon the *Body* in *Motion*—*Secundo*, By the *Action* both of *Body* and *Mind* upon it—*Tertio*, By the *Action* of two or more *Minds* upon it, in different *Directions*—The two first Kinds of *Composition* cannot apply to the *Planets*—The last, therefore, only can be applied—If the *Planets* be so moved, it is a *Motion* without Example—All the *Motions*, we know, by *Mind*, are *simple* and *compounded*—Objection, that the *Circular* or *Elliptical Motion* is necessarily *compounded*—Answer to this Objection—The Argument for the *Composition* of the *Motion* of the *Planets* from the supposed *Composition* of the *Motion* of *Projectiles*, answered—One Difference betwixt the two *Motions* is, that the *Motion* of the *Projectiles* is begun by *Impulse*—not so the *Motion* of the *Planets*—Another is, that the *Planets* have not the same Tendency to their *Centre* that *Projectiles* have to the *Centre* of the *Earth*—That the *Planets* have such a Tendency, not proved by any just Argument from *Analogy*, nor from *Final Causes*—But even the *Motion* of the *Projectile* not *compounded*—This proved from the Nature of the *Motion*—Objection answered, that the *Projectile Motion* may be divided—If the *Projectile Motion* be not *compounded*, neither is the *Motion* of the *Planets*; but it is a *simple Motion* by *Mind*.

p. 381

[B]

C H A P.

C O N T E N T S.

C H A P. VI.

Proved in the preceding Chapters, that *Mind* is the only Cause of *Motion* in the Heavens—*Mind* very properly typified by *Fire*—Proved also that the *Motion* of the Celestial Bodies is not compounded but *simple*—The Purpose of this Chapter to show that Sir *Izaak*'s System of Astronomy can be supported without *arbitrary* or *impossible Suppositions*—Prejudice removed that may arise from the Author's not being learned in Geometry or Mechanics—No inferior Science demonstrates its own Principles—These to be found only in *Metaphysics*, or the *First Philosophy*—*Euclid's* Geometry an Example of this—The same is true of Sir *Izaak Newton's* Astronomy—The *Laws* of the Planetary Motion discovered by Sir *Izaak Newton*—Before him Astronomy no *Science*, but only a Collection of *Facts*—A curious Fact discovered by *Kepler*, concerning the Proportions betwixt the *Periods* and *Distances* of the *Planets*—This he knew only as a *Fact*; but Sir *Izaak* has made a *Science* of it—No *Science* of any Thing, if an essential Property be not known, from which all its other Properties can be deduced—The Nature and Essence of every Motion consists of two Things, the *Motive Force* and the *Direction*—The *Direction* of the Planetary Motion is a Fact that is known—Nothing can be discovered of the Planetary Motion, or of any Thing in Nature, except from *Facts*—The Business of Astronomy is not to *inquire* into the *Cause* of the *Planetary Motion*, but to *calculate* that *Motion*, and to *discover* its *Laws*—This the Notion which Sir *Izaak* himself had of this Science—Distinction betwixt *Metaphysics*, *Physics*, and *Astronomy*—*Forces* or *Powers* are latent Things, to be discovered only by their *Effects*—The Effect of a Moving Force is *Velocity*—That not absolute, but relative to two Things, *Time* and *Space*—If the Motion be equable in a *Straight Line*, and the *Time* of it be known, the *Law* of the *Motion* is obvious—But if the Motion be in a *Curve* and not equable, though the *Time* be known, the *Law* of the *Motion* not easy to be discovered—The *Force* must be estimated by a *Motion* in a *Straight Line*, one or more—But how apply *Motion* in a *Straight Line* to a *Curve*?—This impossible to be done, if no *Straight Line* could be discovered necessarily resulting from the *Nature* of the *Motion*—But such a *Straight Line* has been observed in the Descent of the Planet from its *Tangent*—This *Line* observed with respect to the Moon's Descent from her *Tangent*—The Length of this *Line* known—The same as if the Moon had descended directly from the *Tangential Point*—The *Law* of this Motion of Descent would be known, if the Motion was equable—but the Motion is *unequable*—For discovering the *Law* of this *unequable* Motion, recourse must be had to a similar Motion on Earth, the Motion of the *Projectile*—The *Law* of the Descent of the Projected Body ascertained, first by *Galileo's* Discoveries, and then by Sir *Izaak's*—Sir *Izaak* first discovered that the Descent of falling Bodies was both begun and accelerated in the Ratio of the Distance from the Centre inversely—This could not have been discovered by *Fact* and *Observation*

C O N T E N T S.

Observation here on Earth, but it was inferred from the *Descent* of the *Moon*—The Theory of Gravitation in this Way generalized by Sir *Iaac*, and its Law discovered—How the Theory of Gravitation, thus made general, is to be applied to the *Planets*—The Motion of the *Planets* supposed by Sir *Iaac* to be compounded, as he supposed that of *Projectiles* to be—The two Motions are, the one in the Line of *Projection*, the other in the Line of *Gravitation*—The Motion of the *Planets* not actually combined, but only supposed to be so for the Sake of Demonstration—A simple uncompounded Motion of the *Planets* is, by its Nature, possible—If so, all the Properties of the Motion are from thence deducible, though we may not be able to make the Deduction—Better to acknowledge our Ignorance, than make strange and improbable Suppositions—Our Ignorance must be acknowledged in many other Things, of which we can make no System—But Sir *Iaac* has made a System of Astronomy—This System to be supported without the actual Composition of the Planetary Motion—The Hypothesis of such a Composition sufficient—This Hypothesis most natural—It is according to the Method of Science, and particularly according to *Euclid's* Method—If the Hypothesis of a *Centripetal Force* be admitted, the Hypothesis of a *Projectile Force* in the Line of the Tangent absolutely necessary—The necessary *Connection* betwixt these two Motions, and their *Dependency* upon one another—The one being given, therefore the other is given—The *Moving Force* in the Line of Projection is shewn to have a Relation to the Distance from the Centre, as well as the *Centripetal* Motion—What that Relation is—The Deduction from any Hypothesis, if that Hypothesis be granted, as certain from the Reality—Example of the like Deduction from an Hypothesis not so obvious and natural, in the Case of the *Composition of Motion*—From that Example the Argument of the Newtonians answered, that the same *Effect* must be always produced by the same *Cause*.

Page 405

C H A P. VII.

The Advantage of thus simplifying the *Astronomy* of Sir *Iaac Newton*—*First*, It disincumbers the System of the Hypothesis of the *Planets* being moved by *Bodily Impulse*—The Consequences of such an Hypothesis—*2do*, Of the Notion of a *Perpetuity of Motion* begun by *Bodily Impulse*—*3tio*, Of *Body* attracting or impelling *Body* at a Distance—*4to*, Of the *Composition* of the *Planetary Motion*—Such a Composition irreconcilable with the *Simplicity of Nature*—*5to*, Of the Hypothesis of the *Planets* all falling into their *Centres*, if their *Motions* were to be stopped—*Lastly*, Of a *Centrifugal Force* supposed in the *Planetary Motion*—The Consequence of this Hypothesis downright *Materialism*—Inapplicable to the *Motion* of the *Planets*, whether that *Motion* be by *Mind* or *Body*—The *Centrifugal Force* of the *Stone* and *Sling* explained—The Origin of the Notion of a *Centrifugal Force*.

p. 428

C H A P.

C O N T E N T S.

C H A P. VIII.

Distinction betwixt *Philosophy* and *Astronomy*—Much Injustice done to Sir *Izaak Newton*, in supposing that he philosophised concerning the Cause of the Motion of the *Celestial Bodies*, and had discovered that Cause to be *Attraction*—Absurd Ways of Thinking and Speaking thence arising—Every Motion made to be produced by *Attraction*—The Motion of a Stone falling to the Ground—Of the Moon—of the Tides—of the Magnet, &c.—This System of *Attraction* may be more simplified than it is—*Attraction* carried through the whole Universe; and different Systems made to attract one another—*Attraction* said to be essential to Matter—Dr. *Priestley's* Notion of *Attraction*—Two Sources of this Error concerning *Attraction*—The Notion of the Planets being moved by Impulse of other Bodies, may be an Hypothesis likewise—Reasons for such Hypothesis, and for other Hypotheses made by Sir *Izaak*—The Discoveries of Sir *Izaak*, now they are made, appear so natural and obvious, that it seems wonderful they were not sooner made—The Resemblance betwixt the Planetary Motion and the Motion of *Projectiles*, has led the *Newtonians* into Errors; 1mo, To suppose that the Planetary Motion was begun by Impulse, as well as that by *Projectiles*;—2do, That it was compounded, as they supposed that of *Projectiles* to be; 3tio, That the Planet, if not carried on in the *Ellipse*, would fall down to the Centre like a *Projectile*—The Errors not only shown, but the Causes of those Errors—This ought to give perfect Satisfaction—The Conclusions of the *Newtonian Astronomy* may be true, and yet the Principles false—The only Consequence of which is, that the *Newtonians* teach their System in an improper Way—Instance of a true Conclusion from false Premises—This applied to the *Newtonians*.

Page 435

C H A P. IX.

Recapitulation of the Contents of the preceding Chapters—The Distinction betwixt *Mind* and *Body*, and the different Natures of each, the Foundation both of *Theology* and *Natural Philosophy*—the one active, the other passive—This the most ancient Philosophy known in the World—The Foundation of *Materialism*, that *Body* is both active and passive—*Materialism*, the Philosophy of the Senses—*Aristodemus's* Conversation with *Socrates*—The *Materialist*, if he reason consequentially, will not admit that his own *Body* is moved by his *Mind*—Dr. *Priestley*, in denying this, reasons consequentially—He a perfect *Materialist*; others but *Demi-Materialists*—Of the difficulty in conceiving *Invisible Powers*—All Powers invisible—Mr. *Locke's* Philosophy, of the Possibility of *Matter thinking*, has laid the Foundation of all our *Materialism*—The great Progress of *Materialism* of late Years—This owing to *Experiments* without

C O N T E N T S.

Philosophy—The first Experimenters in Europe not *Materialists*, because they were *Philosophers*—The Propensity of our Philosophy to Mechanism, accounts for the favourable Reception both of *Des Cartes's* System and *Sir Isaac Newton's*—The latter can stand its Ground without the Assistance of the *Mechanical Philosophy*—All the Opinions enumerated, that can possibly be concerning the *Motion* of the *Celestial Bodies*—*First* Opinion, that *Body* moves itself—This the *Doctrine* of the *Antient Materialists* and *Atheists*—The most simple of all the Hypotheses concerning the *Motion* of the *Celestial Bodies*, irreconcilable with the Composition of their *Motion* supposed by the *Newtonians*—*Second* Hypothesis, that the *Planets* are moved by *Mind* only—This Hypothesis as simple as the Nature of Things will permit—It admits, however, of some Variety—*Third* Hypothesis, that *Body* is the only Moving Power—admits of great Variety—*1st*, It may be supposed that the *Body* in the Centre is the Cause of the *Motion* of the *Planet*:—This, if true, a great Discovery of modern Times—*2^{do}*, It may be supposed that the *Planet* is moved by *Pulsion*, both in the *Projectile* and *Centripetal Line*—This Supposition has some Simplicity and Uniformity in it—*3^{dly}*, It may be supposed that the *Planet* is moved by *Pulsion* in the one Line, and *Trusion* in the other—This Supposition not so simple as the preceding—The fourth Hypothesis, that the *Planet* is moved both by *Body* and *Mind*—This, too, admits of considerable Variety—These are all the Opinions possible concerning the *Planetary Motion*—Of these the Reader may choose what he likes best.—Conclusion of the Book—Summary of what the Author thinks he has proved concerning *Mind* and *Body*—*Sir Isaac Newton's Principia*, though not a Philosophical Work, furnishes ample matter to the Philosopher.

P R E F A C E.

I Present here to the Public the Second Part of this great ancient System of Philosophy—great at least in its professions, pretending to embrace the Universe, to explain the nature and operations of that grand Principle, which, under various denominations, and various appearances, pervades all nature, informs and animates every thing in the material world; I mean Mind,—and to ascend to a higher principle still, and through nature and man to lead us up to the *first mind*, the great Author and Preserver of the Universe.

This Philosophy I am desirous to revive in Britain; for there it was, as well as in other parts of Europe, and particularly in England, where it continued down to the days of Dr. Cudworth, before French learning was in fashion, or the Philosophy of Mr. David Hume known.

There are many I know who think a Philosophy of this kind chimerical, or at least useless, and desire a Philosophy of *Works*, as they call it, which will add to our power by sea and land, promote our trade and manufactures, and increase both our national and private wealth. Whether Wealth and Power, and the arts which procure them, have contributed to the happiness of mankind in general, or how much we in particular have profited by them, I do not at present inquire; but I ask, Is there nothing of any value among men except wealth and power? Are not knowledge and understanding necessary to direct men to the proper use of them? and may
a they

they not be the source of the greatest misery in the possession of the ignorant and foolish? But further: I desire to know, whether knowledge in itself, abstracted from all profit or advantage by it, is not the highest enjoyment of the rational nature? Whether it be not the only enjoyment of man, considered as an intellectual creature? These are questions that, I think, must be answered in the affirmative, in an age that pretends to be learned. In an age which, by many, is reckoned a barbarous age, I mean the age of the Trojan war, we are told by Homer, that Ulysses, the wisest of all the Heroes who fought at Troy (for Nestor did not fight there, but only assisted with his Counsels), was invincible by pleasure, as well as by toils and dangers, and could not be kept from his country, his family, and his friends, by the charms of two Goddesses, and by all the pleasures of a gay and luxurious Court; but the same hero it was necessary to bind with ropes upon ropes in order to restrain him from going to the Syrens. And what did these Enchantresses promise him? Nothing but Knowledge*. And if Knowledge makes the happiness of man, must not that Knowledge, of which the object is the highest and most excellent, make his chief happiness. Now what is so high and excellent as God, and Nature, and the Universe?

But I say further; that as Religion is necessary for the well-being, I think for the very being of Society, it is of the greatest consequence to a nation, that the Philosophy in it should be of the religious kind. In a country where Letters are cultivated, there will of necessity be a spirit of curiosity and inquiry, which will lead men to philosophise right or

* Whoever comes to us they say, Τεξίλαμενος νεῖται, καὶ πλείονα εἶδως. Ὀδυσ. μ.

wrong ; for it is impossible that a man of genius, and whose mind is but a little elevated above the vulgar, should see all the various motions in the Heavens, or on this our Earth, and not inquire into the causes of them. A man, for example, who can see a stone fall to the ground, and only measures and computes its motion in falling, as Galileo did, without thinking of the cause of its motion, such a man may be a very good Geometer or Mechanic, but whatever he may think of himself, he has not the philosophical Genius in him. In such a country, therefore, there must necessarily be an enquiry into the causes and principles of things, unless we could suppose no genius at all in the people ; that is to say, there must be Metaphysics of one kind or another. Now it is of the greatest importance, that these Metaphysics should not be adverse to the Religion of the country. For the opinions of Philosophers will sooner or later become the opinions of the people, especially in matters of popular concern ; such as Religion : and accordingly Polybius tells us, that the Epicurean Philosophy became the prevalent Philosophy in Greece, the consequence of which was, a general corruption of manners *.

Whether the Metaphysics that have prevailed in Britain, from Mr. Locke down to Mr. David Hume and Dr. Priestly, are a-kin to this Philosophy of Epicurus, which destroyed the religion, and corrupted the morals of Greece, the Reader will judge from what is said in this and the preceding Volume ; but this I will venture to affirm, that a Philosophy which maintains, that Mind is not only the author of all the motion in the Universe, but that which carries it on,

* See what I have said further upon this Subject, page 301.

and that the business of Nature, as well as the affairs of men, is under the immediate direction and inspection of the Supreme Being; in short, that there is a present Deity every where in Heaven and in earth, is a religious Philosophy, and a foundation upon which the established religion of a country may securely stand. On the other hand, a Philosophy which teaches that all the Motions in the Universe, if they be not begun, are carried on by matter and mechanism, and that our affairs are governed by the same laws of material necessity which govern the natural world, must be acknowledged to resemble at least that Philosophy which placed the Gods in extramundane spaces, taking no concern in the business of Nature, and

Sejuncti a rebus nostris semotique longè.

Such a Philosophy makes prayers and supplications vain, and indeed puts an end to all Religion, by taking away that fear of God, and that sense of a present Deity, which I hold to be essential to Religion. But it is a Philosophy befitting a Philosopher who, in his last words and dying speech, has let the people of Britain into his grand secret, that the less Religion there is in a nation, the more flourishing that nation is*.

It is objected, I know, to this Philosophy of mine, that it does not explain or account for any of the phenomena of Nature. To this I answer, that the business of the Science I profess to teach, is to explain the general Principles and Causes of Things, and particularly to give an Account of the Origin and Continuation of Motion, not to ascertain the Laws

* See page 301.

of the feveral Motions in the Univerſe, by which only particular phænomena can be ſolved. Further; it is the Study of the Metaphyſician to diſcover, as far as poſſible, the final Cauſes of Things, and to ſhew, from what we know of Nature, that there muſt be a System in the Univerſe worthy of its great Author. This, with the explication of ſome univerſals of high abſtraction, ſuch as Motion, Time, and Place, is all that can be expected of the Metaphyſician, till he comes to treat of what is higheſt in his Science, and in all human Knowledge, I mean God. Theſe are all the Subjects of Metaphyſics; and a candid Judge will conſider whether I have properly treated them ſo far as I have gone.

I am very ſenſible that thoſe among us who imagine themſelves Philoſophers, becauſe they have ſtudied Geometry, Mechanics, and Natural Hiſtory, will be very angry with me for recommending, as the only Philoſophy, what they neither do nor can underſtand, not being ſcholars. But though I would not willingly give offence to theſe Gentlemen, I cannot perſuade myſelf that our anceſtors, who I believe were at leaſt as wiſe men as we, were ſo much miſtaken, as they ſeem to think, when they founded at ſo great an expence Schools, Colleges, and Univerſities, and obliged our youth to ſpend ſo many of the moſt precious years of their life in learning the language of the ancients, in order to be qualified to learn their arts and ſciences, and particularly their Philoſophy, the profeſſion of which is the moſt honourable in all ſuch ſeminaries; and with good reaſon, as Philoſophy not only explains the Cauſes of natural things,
but

but alſo lays down the Principles of the Arts invented by men, as is evident from what Aristotle has written upon the popular Arts of Poetry and Rhetoric. They proceeded undoubtedly upon the ſuppoſition that the antients were wiſer and more learned than we; and the longer I live, and the more I ſtudy their writings, the more I am convinced that our anceſtors were in the right. I would therefore have thoſe Gentlemen be contented with their Mathematics, which no doubt are a valuable ſcience, and may be very uſeful to the Philoſopher, and with Natural Hiſtory, which furniſhes materials to Philoſophy; and if they deſire the reputation of being learned, they have the French learning, which I can aſſure them, from my own experience, is much eaſier to be come at than the Greek or Latin, and it will enable them to write, if they be ſo minded, in a very fashionable ſtile, ſuch as will gain them great reputation as well as profit; but I would ſeriously adviſe them not to philoſophiſe without the aſſiſtance of the ancients, which has been moſt unſucceſsfully attempted by ſo many moderns, from Des Cartes down to Dr. Priſtly.

As to Mathematics, I am ſenſible that, in the courſe of this Work, and particularly in what I have written upon Sir Iſaac's Aſtronomy, I have given many arguments as ſtrict demonſtrations, which thoſe who are Mathematicians, and Mathematicians only, will not underſtand. For I have obſerved, that the men whoſe ſtudies are ſo confined, underſtand no demonſtration except by lines and figures, or numbers; al-

though,

though, as I have observed *, even the Principles of their own Science cannot be demonstrated by lines and figures. This is to be learned by a man who is like Dr. Horsely, not only a Geometer, but a Philosopher and a Scholar, from a valuable Work of an antient Philosopher, upon the First Book of Euclid's Elements †, as indeed all Works must be, that are written by a man who is both Geometer and Philosopher.

The most exceptionable part of this Work, and which to some I am afraid will give much offence, is the last Book upon Sir Isaac's Astronomy. But, *1mo*, In a Work such as this, which treats of the Principles of all things in the Universe, it was impossible I could avoid enquiring into the Principle of *Motion*, the grand Agent in all natural operations, and without which it is impossible to conceive a material world; and my Work would have been exceedingly defective, if I had said nothing of that Principle in the grandest and noblest part of the visible Creation; I mean the Celestial Bodies. But, *2do*, It is not the Astronomy of Sir Isaac that I find fault with, but the manner of teaching it. The *Principia* is entirely a Work of Geometry and Astronomy, in which the Principles of Geometry and Mechanics are wonderfully well applied to the motions of the Planets. Now in a Work of this kind, the only purpose of which was

* Page

† The Author is Proclus, an eminent Platonic Philosopher of later times, and who appears to have been as studious of Geometry as his master Plato. The book is not translated, and the printed copy of it very incorrect, so that it is not to be understood but by a very good scholar. See some Observations that I have taken from it, Vol. I. pages 449, 450; also pages 443, 444.

to investigate the laws of the Planetary Motion, and from them to deduce the phenomena, what occasion was there to inquire into the Cause of the Motion, whether Body or Mind, or both? Or whether it had a beginning, or was from all eternity? and whether it is to continue through all eternity, or to have an end? for it is evident, that whatever way these questions are determined, the Motion, the Laws of the Motion, and the consequences deducible from them, will all be the same. Now, if Sir Isaac or his followers, leaving their Geometry and Mechanics, their Mensurations and Computations, have intrenched upon the province of the Philosopher, and run their Science up to Metaphysics, and I say bad Metaphysics, maintaining Propositions which, at the same time that they are of no use to them, are dangerous to the Religion of Nature, am I to blame, if, without going out of my way, I have refuted those Propositions; or am I not rather to be commended for endeavouring to place upon true Principles so valuable a Science, and which does so much honour to this nation, and, I think, to modern times.

After concluding the first Volume of this Work, I proposed, as I have said in the Preface to it, to proceed to the noblest Work of God, here below—*Man*. But the Philosophy of Mind, though it be truly the only Philosophy*, is so little understood in this age, that without explaining it more, I perceived, that what I was to say of man could not be understood; much less what would be necessary to be said, if I should live to carry on the Work to God and Nature. I have therefore added this Volume to my first Part, in which I hope I have ex-

* Page 457.

plained so clearly the nature, and distinguished so accurately the several specieses of it, that what I shall say in the after Parts of this Work, will appear no more than Corollaries, or Consequences of the Principles here laid down.

I cannot conclude this Preface, without acknowledging my obligations to those who have assisted me in this Work: That I should need assistance in a Work of such variety and extent, which takes in the Intellectual, the Animal, and Vegetable Life, and even the moving principle in bodies, said to be inanimate (though there be nothing in nature, that is not informed by Mind of one kind or another), the Reader will easily conceive. My first Thanks are due to Dr. Horsely, without whose encouragement I should not, as I have said elsewhere*, written a second Volume of Metaphysics. I have been particularly obliged to him for his assistance in what I have written upon Sir Isaac Newton's Astronomy; and, indeed, without the help of such a man as the Doctor, who is not only a Geometer and Astronomer, but a Scholar and Philosopher, I should never have been able to have adjusted my Philosophy of mind to the Principles of that Astronomy.

My next thanks are due to Mr. Stuart, Professor of Mathematics in the University of Edinburgh, and most eminent in that profession, who has helped me likewise where I was most deficient, I mean in the Mathematical Part. But that I may not father my errors (if they be errors) upon others, I think it is a piece of justice I owe Mr. Stuart, to let the Pub-

* Page 357.

lic know, that he does not agree with me in thinking the common way of teaching Sir Ifaac's Astronomy improper, and adheres to the reality of Projection and Gravitation; and believes, that Motion begun by impulse, in an unresisting medium, is eternal either by a *vis infinita* in the body, or by virtue of the impulse.

There is another Gentleman, Dr. Hope, Professor of Botany in the same University, which he has enriched with one of the best Botanical gardens in Europe, to whom I am much obliged for information concerning the Vegetable Life; and I have profited also by Conversation with Dr. Black, Professor of Chemistry in the same University, well known for his eminence in that Art; and accordingly the Reader will observe, that I have argued much both from the motions of the vegetable, and from the motions of the small particles of matter with which Chemistry is conversant, to the great motions in the universe, believing that there is an Analogy of some kind or another betwixt all the motions of this universe.

A N T I E N T
M E T A P H Y S I C S.



B O O K I.

Of the Distinction betwixt Mind and Body, and of the Properties of each.

C H A P. I.

The Foundation of all Philosophy, that there are two Substances in the Universe—Three Opinions upon this Subject—The Patrons of two of these—The last revised of late by Dr Priestley—The consequence of this Opinion—The Philosophy of Metaphysics not to be invented by any one Man—only to be learned from antient Books.

THE foundation of Metaphysics, of Theology, of Natural Philosophy, and, indeed, as it appears to me, of all Philosophy, is this proposition, That there are in the universe two substances altogether different and distinct from one another, however closely they may be joined and connected together—Mind and Body. Besides this, there can be only two other opinions upon the subject,

VOL. II.

A

namely,

namely, That all is Mind, and that the material world has no existence ; or that all is Body.

If the first of these opinions be the truth, we must renounce the evidence of sense, believe its perceptions to be all delusion, and that our whole life is nothing but a dream. An opinion, so contrary to common sense, and the feelings and experience of every one, has had very few patrons in antient or modern times ; nor do I believe that it was ever really believed by any, the maintainers of it being generally sceptics, who, from a vain ostentation of the superiority of their parts, disputed against every thing that was held to be most certain, in order to subvert the principles of all science and certainty, with which, as will appear in the sequel, the evidence of sense is intimately connected.

The latter opinion has been maintained by many philosophers, antient and modern, and particularly by our Scotch philosopher, Mr David Hume. I was in hopes that it might be buried in his grave, notwithstanding his endeavours to make it survive him, by the valuable legacy, as he no doubt thought it, of his posthumous works, left to the public, but which have not been received with the approbation he expected, nor added at all to his reputation as an author, which he vainly imagined was to increase after his death. But it is revived by a living author of some reputation, Dr Priestley, so far, at least, as concerns our *microcosm*. This author has maintained, with a boldness which is really astonishing, and very much exceeds that of any freethinker of this or former times, ‘ That man is
‘ but one substance, viz. Body—that we have no soul, that our
‘ thoughts, sentiments, resolutions, and actions, are nothing but mere
‘ matter and mechanism, resulting from a certain organization and
‘ arrangement of the parts of our body, which being dissolved
‘ by death, there is an end of all our thoughts and intelligence, and
‘ the

‘ the whole man, Body and Mind, is buried in the same grave, to be
 ‘ restored again,’ as he says, ‘ at the great day, when all the several
 ‘ particles, which compose this body of ours, shall be put together a-
 ‘ gain, organized, and arranged, in the same manner, so as again to
 ‘ produce thought and intelligence.’

This is the substance of the opinion of our Christian materialist, a designation that he has given himself, but which has hitherto been unknown in the learned world. Of this opinion I shall say no more at present, but that, if I really believed, as Dr Priestley seems to do, that, in this little world of mine within my clothes, there was no thought or intelligence but what was produced by Matter and Mechanism, in short, that I was no better than a clock or a watch, which being taken down, or the pieces of which it is composed disarranged, there is an end of all its motion, I should also believe that there was but one substance in the whole universe, and that all the intelligence which appears in it is nothing else but various modifications of matter.

I would not, however, be understood to say, that Dr Priestley is of this opinion, as he professes not only to believe in God, but to be a Christian, and even a reformer of the Christian system, which he says he has discharged of many enormous errors*, one of which he reckons the distinction, that hitherto has been made by all Christians, betwixt soul and body; and from what I have heard of the man, (for I know him not personally), I have no reason to doubt of his sincerity. But I think it is unlucky that he should hold the same opinion concerning Man that Mr Hume maintains, and, before him, Mr Hobbes †. He has written a great deal upon various

A 2

subjects,

* See his correspondence with Dr Price, p. 60.

† Leviathan, cap. 34 and 38. Vindication of Leviathan, p. 90 and 91. where Mr
 Hobbes

ſubjects, and has been very ſucceſſful in the experimental philoſophy, as it is called, particularly upon the ſubject of air ; and it is to me a proof of his being a man of genius, that, not contented with experiments, facts of natural hiſtory, and mathematics, he has aſpired to the knowledge of the cauſes and the principles of things ; for, though I hold phyſics to be the ground-work of all good metaphyſics, and mathematics an excellent handmaid to philoſophy of every kind, I have always thought him a man of low genius, and of little elevation of mind above the vulgar, who reſted ſatisfied with the inferior ſciences, amongſt which I reckon even geometry and aſtronomy, and could not raiſe his mind to the *fiſt philoſophy*, which explains the principles of them all, and inquires concerning the univerſe, and the fiſt cauſes of things.—But, by how much this philoſophy is higher than any other, ſo much I hold it to be more difficult ; and, however great the genius of Dr Prieſtley may be, I think it is abſolutely impoſſible that he could invent it. It was the labour of ages, not only in Greece and Italy, but in Egypt, to bring it to the perfection in which we find it in the writings of Plato and Ariſtotle. It is only by the diligent ſtudy of theſe authors that we can hope to be good metaphyſicians ; for, though I think it is poſſible, even in theſe latter days, that we may make diſcoveries, not only in natural hiſtory, but in philoſophy, of things unknown to the antients, we muſt begin with the ſtudy of their works, and take what aſſiſtance we can get from them : For, if we would ſee further than the antients, we muſt get upon their ſhoulders ; and, in that way, as it is commonly ſaid, a dwarf may ſee farther than a giant. It is evident, I think, from the writings of Dr Prieſtley, that he has not learned his metaphyſics in the ſchool of Plato or Ariſtotle. And he acknowledges

no

Hobbes maintains the ſame doctrine as Dr Prieſtley, and with the ſame ſalvo, of our renovation at the reſurrection.

no maſter except Dr Hartley, whom I never ſo much as heard of, till I dipped into the writings of Dr Prieſtley : From whom *he* learned his philoſophy, Dr Prieſtley does not ſay ; but, ſuppoſe he had been taught in the beſt ſchool, Dr Prieſtley had much better have gone to that ſchool, than have taken it at ſecond hand from Dr Hartley.

C H A P.

C H A P. II.

Mind and Body are each of them Substances.—All Things Substances or Accidents.—Substances known to us only by their Operations—Definition given of Body and of Mind.—Advantages of those Definitions.—Mind does not always move,—nor is Body always moved—but the Definition is from the Power.—Difficulty of defining Mind acknowledged by the Antients.

HOLDING, therefore, that there are two Substances in the universe, one Mind, the other Body, the next thing to be inquired into, is, What these Substances are? That they are Substances I hold to be certain; for, as every thing in nature is either Substance or Accident, they must be either one or other. Now, they are not Accidents, (for of what are they Accidents?); they must, therefore, be Substances.

Those who have not learned logic will be disposed to say, that this is a mere logical distinction, without any foundation in the nature of things; but those who have learned their logic know that all logical distinctions are taken from the nature of things; for from what other source can they be taken?—and that every Quality or Accident, of every kind, must belong to some subject, and be inherent in something that is called *Substance*. And those who have studied the nature of truth and evidence, know very certainly, that we have not the knowledge of the existence of any thing, not even of ourselves, but by its operations; for we do not know that any thing without us exists, except by its operations upon the organs

gans of our senses : nor do we know that even our own Mind exists, except by its actions and energies ; for Des Cartes argued well when he said, ‘ *I think, therefore I am.*’ Neither are these two propositions identic, as some believe, but different : And the argument is a fair conclusion from this general *topic*, That whatever acts, or energizes, exists. Now, if there be actions and operations, there must of necessity be something that acts or operates ; and this *something* is what I call *Substance*. This is the definition of Substance in general ; but, as to particular Substances, they can only be known by their particular operations, and qualities, of one kind or another.

In this way Mind and Body are to be defined ; and, as Mind and Body compose the whole of things, and are so connected and related to one another, that, without them, the material world could not exist, I have chosen to give a definition of them, or description, as the mathematician and accurate logician would rather choose to call it, by which I have expressed that necessary connection and relation ; for I say that Mind is that which *moves*, Body that which *is moved*, it being absolutely necessary, that, when a thing *is moved*, there should be something that *moves* it ; or, *vice versa*, that, when a thing *moves*, there should be something that *is moved*. This definition has another advantage, that it is taken from a quality of each of the two things, as evident as any thing can be to us in this state of our existence ; the evidence of them being immediately derived from the two sources of all human knowledge, viz. the perceptions of sense and consciousness : For, that Body *is moved*, is a perception of sense ; and, that there is something within us which *moves* our bodies, we know from consciousness. Now, that principle of motion is what I call *Mind*.

When I say that Mind *moves*, and Body *is moved*, I would not be understood to mean that Mind always *moves*, or that Body *is* always

ways *moved* ; but I mean that Mind has the *power* to *move*, and Body the *power* or *capacity* of *being moved* ; for it is by *power* or *capacity*, not by their *energies* or *operations*, that things are properly defined, those being the cause of these ; for, though we know no cause but by its effects, nor, consequently, any power but by its operations, it is fit that every thing should be defined by its cause, rather than by the effects of that cause ; for, in that way, we better express the internal nature and essence of the thing. Thus, we define man, by his powers and faculties, to be a rational animal, capable of intellect and science, not by the energies or operations of these faculties.

Moreover, it is to be observed, that Mind, though it be the author of all motion, does not always move Body immediately. This is obvious to common observation ; for, even our own bodies are not moved by our Mind, without the intervention of bones, muscles, and sinews : Mind, therefore, moves Body, either mediately or immediately ; and, when it moves mediately, it moves by the intervention, either of other Bodies, or of other Minds. It is in this last way that our intellectual Mind does, in my opinion, move its own Body ; for it is, as I conceive, by the ministry of the animal life that our Intellect moves our Bodies, and, by their intervention, other bodies : And it is in this way that, I think, we ought to conceive that the Deity moves the whole universe.

That Mind, therefore, moves Body, mediately or immediately, and that Body cannot move itself, is a fundamental proposition of this philosophy and of the religion of Nature ; for, whoever believes that Body can move itself, is, whether he knows it or not, an Atheist. And, as the power of moving is a common property of all Minds, of the lowest, as well as of the highest, as the power of *being moved* is of all Bodies, I thought I could not give better definitions
of

of them, than those by which they are perfectly distinguished the one from the other, and, at the same time, their necessary connection with one another expressed*.

VOL. II.

B

There

* That the Peripatetics were much puzzled to give a definition of Mind, which applied to all the several kinds of Mind, is evident from what Alexander *Aphrodisiensis*, the oldest commentator upon Aristotle we have, says, in a treatise he wrote, *περι ψυχης*. The passage is in the first book of this treatise, in the chapter entitled, *ἑστὶ δὲ ἀπὸ τῶν αἰ τῆς ψυχῆς διακρίσεις*. There he says, That the kinds of Mind are so different, some lower, some higher, some first, some last, that it is very difficult to give a definition that will apply to them all; for, says he, what will apply to the lowest, or the *first* Mind, as he calls the vegetable, (being the foundation of all the other Minds that are incorporated with Body), will not apply to the *last*, or most perfect, viz. the Intellectual Mind. And Aristotle himself, in the beginning of his second book *περι ψυχῆς*, where he gives a general definition of *ψυχή*, introduces it in a way which shows that he had some difficulty to find any thing that was common to all Minds; for, says he, *ὡς δὲ τι κοινόν, ἐπι πάσης ψυχῆς δεῖ λεγέσθαι*. Then he gives the definition, which is, *ἡ πρώτη ἰστέλλουσα σώματος φυσικῆ, ὀργανικῆ*: *The first perfection of organized body*; meaning, by the *first perfection*, that perfection which consists *δουλαμίας*, not *ἐνεργείας*; that is, in the *power*, not in the *action*, or *operation*, resulting from that *power*; And so far the definition, as I have observed above, is proper: And it is also proper, in another respect, that it applies to the Mind of every organized Body; for, certainly, the Mind is so much the perfection of such a Body, that we cannot conceive an organized Body to exist without Mind. And it agrees with my definition in this respect, that such a Body must necessarily be moved by some internal principle, and in such a manner as is suitable to its nature. But my objection to it is, *1st*, That it is too general, and therefore obscure; and, *2dly*, That it is not comprehensive enough, as it does not take in the Mind which moves unorganized Body: For this last, an apology may be made in behalf of Aristotle, that this treatise of his is entirely confined to the vegetable and the animal Mind, and to the intellectual considered as united with Body; so that he does not speak at all here of the *ψυχή*, or *ἄσπερ ψυχή*, which is in all natural Bodies, but of which he had spoken in the preceding books, *De Physica Auscultatione*; so that it appeared to him unnecessary to say any thing more of it in this treatise *περι ψυχῆς*. And, indeed, the Greek word *ψυχή*, neither in common use, nor in the language even of philosophy, has a signification so comprehensive as to take in this kind of Mind. And, accordingly,

There are, I know, who cannot conceive a Mind, that does only move, and nothing else ; because their own Mind, and the Minds of other animals, which move their Bodies, have thought and reflection, or, at least, sensations, appetites, and desires : But this proceeds from having too narrow a notion of Mind, and not being able to distinguish things, which, though they exist together, are different in their nature. It is true, indeed, that the power of moving is joined with thought and reflection, sensation and appetite ; but it is very different from all these ; and we are sure that motion can be produced without any of them ; for Body, that has none of them, moves Body ; and, as all motion must, of necessity, be produced either by Body or Mind, if Body can produce motion without sensation or volition, Why not Mind ?—The fact truly is, that the Mind, the most powerful thing in nature, has many powers and faculties, some higher, some lower, of which the power of moving is the lowest : And this sometimes exists by itself, as in Bodies unorganized, at other times joined with higher powers, as in bodies organized, such as vegetables, animals, and intellectual creatures.

Another advantage of this definition is, that it takes in Motion, the grand Agent in all natural operations, by which the whole business of the material world is carried on, the knowledge of which is, according to Aristotle, so essential to the philosophy of Nature, that, without knowing it, we cannot know what Nature is *.

And,

I observe, that the Aphrodisian, in his treatise above quoted, never so much as mentions it, but speaks always of the vegetable Mind as the lowest of Minds.

* Διὰ μὴ λαμβάνειν τί ἐστὶ κίνησις ἀπαικταὶ γὰρ ἀγνοούμεναι αὐτῆς, ἀγνοιοῦσθαι καὶ τῆς φύσεως. This is what I wish our modern philosophers of Nature would attend to, who are very busy in calculating the motions of natural bodies, without knowing what motion is.

And, *lastly*, from the quality that I have made to be characteristic of Body, will be found to flow, if I am not mistaken, all the other qualities of Body, and from my definition of Mind all the qualities of Mind, so far forth, at least, as it operates by moving Body. This I will endeavour to show in the following chapter.

B 2

C H A P.

C H A P. III.

Properties of Body resulting from its Definition—1st, Having Parts, and being divisible—2d, Occupying Space, or Extension.—*Extension not being the Effence of Matter, supposes Matter not extended.*—3d, Resistance another Property of Body.—4th, Impenetrability.—5th, Solidity.—6th, Continuity.—*Dr Priestley's Notions concerning Body, refuted.*—Lastly, *Bodies act upon one another by their Surfaces.*

I WILL begin with Body, being that with which all human knowledge begins, and from which even our knowledge of Mind may be said to be derived in this state of our existence; for it is from the operations of our Minds upon the perceptions of sense that we first get the notion of Mind.

In the *first* place, as every Motion, of whatever kind, must be a change of place, either of the whole Body, or of its parts, it is of necessity that every Body in motion must have its parts successively in different places; for, suppose that it only turns round its centre, so that the whole Body does not change its place, still, of necessity, the parts must change their place, otherwise there could be no motion at all.

The consequence of this is, that every Body that is moved, or capable of being moved, must have parts; so that here is a quality of Body that is plainly deducible from its property of being moved, or moveable. Having parts, therefore, it must be divisible, and infinitely divisible too, but only potentially, or in capacity: For, what-
ever

ever may be said of that incomprehensible thing Matter, or the First Matter, as it is called by some modern philosophers, the Bodies, which are made of this Matter, are not actually so divided. But Nature has fixed some Bounds to the dividing or *breaking* of things, as Lucretius has expressed it*.

Another essential quality of Body, and which also results from its property of being moved, or moveable, is, that it must needs occupy space; for it is impossible to conceive a Body in motion, without occupying space, and different parts of space at different times. This quality of Body, by which it occupies and extends over so much space, is called *extension*, and is such a necessary quality of Body, that Des Cartes has made it the essence of Body, and said, that Body and Extension are the same thing. But this is not the opinion of the British philosophers, who hold that Extension is only a quality of Body, and that there is *something* besides, which is extended: And this opinion I hold to be right. But what is this *something* that is extended? The answer is, That it can be nothing else but the matter, or *first matter*, as it is commonly called, without form, dimensions, or qualities of any kind. This notion, therefore, of the first matter, however incomprehensible it may seem, and however much it hath been ridiculed by our modern philosophers, as much as another antient notion, that of *substantial forms*, is a necessary consequence of their maintaining that Extension is not Body: And it shows, at the same time, that, if we will speak accurately, and not in the confused and unphilosophical manner, in which the moderns express themselves, we must distinguish betwixt *Body*, which undoubtedly is extended and has several other qualities, and *Matter*, which

* Lucret. lib. 1. v. 562.

At nunc nimirum frangendi reddita finis

Certa manet.—

which is not extended, nor has any quality of any kind, but is fufceptible of all qualities. And, indeed, the antients thought this diftinction was fo real, that they made it the foundation of their natural philofophy ; for they faid all Bodies, and the whole material world, were compofed of *matter* and *form*. This diftinction is fo important, that it appears to me to be the foundation of the whole philofophy of Mind, and all the doctrine of ideas ; for an idea is nothing elfe but the form of the thing feparated from the matter*.—That part of Space, which Body occupies, is called its *place*.

Another confequence of Body being *moved*, or *moveable*, is, that, when it is *moved*, it muft neceffarily impel any other Body that may be in its way, and which, therefore, obftructs it in that change of place which is effential to Motion. And, accordingly, it is a matter of daily obfervation, that Bodies in motion either difplace other Bodies, or their motion is ftopped by them. From thence results another neceffary property of Body, viz, *refiftance* ; for it is impoffible that Body can either impel, or be impelled, without Refiftance.

With refiftance is neceffarily joined what is called *impenetrability*, by which it is impoffible that one Body can occupy the fame portion of fpace with another. Without this quality there could be no refiftance in body, nothing ἀντιτυτος, to ufe the expreffion of Greek philofophy, but every Body would pafs through another, as it does through empty fpace.

Solidity is commonly enumerated among the qualities of Body, as diftinct from Refiftance: I hold it, however, to be the fame in philofophical language ; but, in common language, a Body is faid to be folid, which refifts more than fome other Bodies do, and has a ftronger and
firmer

* See what I have further faid upon the fubjeft of Matter, Vol. I. p. 47.

firmer cohesion of its parts : And in this sense *solidity* and *fluidity* are opposed.

Continuity is also esteemed one of the properties of Body : And, for that reason, Body is said to be *quantity continuous*, whereas Number is said to be *quantity discrete* ; for, though Matter be divisible, as I have said, and infinitely divisible, at least potentially, yet, in the state of Body, we consider the parts as having a coherence and continuity, by which they are joined together, so as to have one common boundary. The parts, however, even in the most solid Bodies, are not so joined together as to touch one another in every point ; and therefore there is no Body hitherto discovered so solid as not to be contracted by cold.

Dr Priestley maintains a doctrine that appears very extraordinary for a material philosopher, ‘ That Body, or Matter,’ which is the same thing in his language, ‘ has neither resistance nor solidity ;’ which appears to me to be the same thing as if he maintained, ‘ That Matter was not Matter.’ The only qualities that he ascribes to Matter are Attraction and Repulsion. But there must necessarily be something that attracts or repels ; for it is impossible to conceive that *nothing* should attract or repel, or operate any way : And it is as inconceivable that a thing, which must be admitted to be *something*, should have no quality at all, and be really *nothing*, if the Bodies round it were taken away, so that it could not attract or repel. Now, this *something*, which, of necessity, must exist, has, I say, the qualities of resistance and solidity. Dr Priestley, indeed, says, that this can never be proved by fact and observation, because Bodies never come into contact with one another ; but to this I answer, *first*, That, suppose it could not be proved by experiment that matter did actually resist, or was solid, yet it must be supposed that, being Matter, it has at least the capacity of Resistance. And, *2dly*, I say that, though

though there be, no doubt, what is commonly called *Attraction* and *Repulſion* among Bodies, yet there is alſo *Contact* and *Impulſe*. Sir Iſaac Newton has, indeed, ſhewn, that the rays of light are reflected from the ſurfaces of Bodies before they touch them : And there may be other inſtances where Bodies ſeem to touch, but do not really touch. But it will not from thence follow, that, contrary to common ſenſe and obſervation, Bodies do never come into contact, and, in that way, impel one another. Further, I ſay, that thoſe qualities, which, the Doctör ſays, only belong to matter, are ſuch qualities as cannot be the qualities of Matter ; for it is impoſſible that either Matter or Mind can act *where* it is not, any more than *when* it is not ; which, however, muſt be the caſe, if Body either attracts or repels Body without being in contact. It is therefore evident that Attraction and Repulſion are only names for the facts of Bodies approaching to, or receding from one another, which are effects of a cauſe that muſt be different from Body : And that cauſe is no other than Mind, which moves Bodies *to* and *from* one another.

Solidity, therefore, and Reſiſtance, are qualities of Body, by which it is eſſentially diſtinguiſhed from Mind. And the qualities, which Dr Prieſtley makes eſſential to Body, are no qualities of Body at all.

From what has been ſaid, another property of Body is evident, viz. that Body can only act upon Body by its ſurface : For, as Bodies cannot act upon one another except when they act in contact ; and, as the inmoſt particles of two Bodies cannot touch one another—it is of neceſſary conſequence that they can only act upon one another by their ſurfaces, which alone can be in contact. Where, therefore, Bodies impel, or are impelled, or exert in any way that quality which I have ſhown to be eſſential to Body, viz. *Reſiſtance*, it muſt be by their ſurfaces ; ſo that, when Bodies are ſaid to attract or repel one another, without being in contact, it is ſpeaking unphiloſophically,

phically, because it is, by the nature of things, impossible that Bodies at a distance should act upon one another. There must, therefore, be another agent in the case, namely, Mind; and if it were true, what Dr Priestley says, that Bodies never touch one another, the consequence only would be, that Body never moves Body, and that Mind is not only the original cause, but the direct and immediate cause, of all motion in the universe.

And so much at present for the qualities of Body.

C H A P. IV.

Of Mind, and its Qualities.—Mind only active.—Body passive.—The Nature of Action and Passion.—Of the Vis Inertiae of Body.—Of Action and Reaction.—Body does not properly move.—The Cohesion of Body produced by Mind.—Mind not extended, figured, or divisible, according to Dr Clarke's Notion.—Mind, nevertheless, exists in Space, but not as Body does.—Infinite Space no Attribute of the Deity.

I BEGIN with a quality of Mind which will make the difference betwixt it and Body still more evident, and, at the same time, will show the necessary connection and relation betwixt them. It is this, that Mind *acts*, whereas Body *is acted upon*, or, in one word, *is passive*. And this distinction goes through the whole of Nature; for every thing in Nature is in a perpetual round of generation and corruption, which cannot be without something *acting*, and something *suffering*. It is therefore true, what is said in the most antient book of philosophy extant, ‘*Ocellus Lucanus* *,’ that the Universe is composed of what *acts* and *suffers*.

And here it is to be observed, that, by *Action*, I mean that energy of the *agent*, by which some change is produced in the other thing, which I call *the patient*; so that, of necessity, there must be two things, viz. an Agent and a Patient; and, wherever there is an Agent, there must of necessity be a Patient; and *vice versa* †.

According

* See the passage from this Author quoted and explained in a note upon p. 31. of Vol. I.

† See this more fully explained in the First Vol. p. 29. and following.

According to this definition of Action and Passion, Mind, that *moves*, must necessarily *act*, Body, that *is moved*, must as necessarily *suffer*, or *be passive*. And, as every thing in the universe either acts or suffers, here, again, we may see that it is true what I said above, that there is nothing in the universe but Mind and Body.

Passivity is as essential a quality of Body as Activity is of Mind. It is improperly expressed, as I have observed elsewhere, by the Newtonians, when they call it *vis inertiae*, because the term *vis* expresses a *power*, and even a power exerted, which does not belong to Matter. Nor do I approve of their language, when they speak of the Reaction of a Body, when it is impelled by another Body; for that also implies a principle of Activity in Body; and I would rather call it by the well known name of *Resistance*, which, as I have shown, is an essential quality of Matter; for the Body that is impelled does not act, but is acted upon, and is only passive, as all Body, by its nature, is. And, as to the Resistance, which the Body impelled makes, it is the necessary consequence of its Passivity; for, whatever is passive, must, in some degree, resist. It may be objected, that Space is passive of Body, and yet makes no Resistance. But I say it is speaking improperly to say, that Space is passive, or that it has any quality at all, being, as I have shown in my First Volume, and shall show more clearly afterwards, a thing which has no existence by itself, and is *nothing*, except in relation to Body.

The meaning, therefore, of that law of Nature of the Newtonians, That the Action and Reaction of Bodies are equal, when properly explained, comes just to this, that, as *acting* and *suffering* are Relatives, as much as the agent acts, so much must the patient suffer; from whence it follows, that any Body, which receives motion from another, destroys just as much in that which gives it *. And though,

in

* See what I have said upon this Newtonian axiom Vol. I. p. 29. and p. 183.

And

in this way, it produces a change upon another Body; yet, as it does not produce this change, except when it is acted upon, it must be considered as still passive, and not active; for nothing is truly active that does not act of itself without being acted upon. And, therefore, even when Body moves Body, it does not, properly speaking, act, but is only acted upon; and the Motion of the other Body is only the consequence of the first Body being acted upon; so that, if the motion begun by Mind were to be propagated through never so many Bodies, all these Bodies would only be acted upon, but could not be said to act, and would be no more than instruments which the Mind employs to move, not movers themselves. Mind, therefore, is truly the only active principle in the Universe; and Body acts no more than the lever that moves the stone, or the tool used by the artist.

And, to show still more plainly the perfect passivity of Matter, it is to be observed, that even the cohesion of Matter, by which it is quantity continuous, not discrete, and to which it owes its quality of Resistance, is the operation of Mind; so that, though no doubt it be a substance by itself, yet it cannot be said to have any qualities but what it derives from Mind.

Nothing, therefore, is more true than what Proclus has said in the Second Book of his Commentary upon the *Timæus*, ‘That every thing that acts is incorporeal; for, though it be Body which acts, it is by incorporeal powers that it acts*.’

Before

And I am very happy to be able to say, that Dr Horsley perfectly agrees with me in the sense that I have given to this axiom.

* I have quoted the words in a note upon p. 73. Vol. I.

Before I conclude this chapter, I must observe, that there is a quality ascribed to Mind by Dr Clarke *, which, I hold, does not belong to it, but is, as I have said, essential to Matter. The quality I mean is *Extension*. For if Mind be extended, it must necessarily be divisible; and it must also be figured, if it be not infinite. So that here we have Mind both figured and divisible, two properties that I hold to be essential to Body, and belonging to Body only. This so strange a notion of Mind extended, if it be carried to Deity, which I think it must be, becomes a most impious, as well as most absurd notion; for, though the Mind of the Deity, being infinitely extended, as those philosophers suppose, cannot be figured or discernible, yet it must be divisible by lines, like any thing else that is extended; so that we can say here is one part of it, and there is another. But, as to the human Mind, it must not only be divisible and figured, but also discernible. This last Dr Clarke will not allow, and maintains, that it is not discernible any more than Space. But I say it must be discernible, unless the Doctor will maintain that it is nothing but Space; for, if it be not Space, but something that is in Space, and is extended, it must necessarily be both divisible and discernible. Now, what a strange kind of Mind is this, that has length, breadth, and depth, and may be cut and carved like a piece of meat?

And here I cannot help observing, that I think it is impossible that Dr Clarke could have fallen into this strange error of making extension a property of Spirit, if he had studied the antient metaphysics as he ought to have done, particularly the metaphysics of Aristotle; for there he would have learned what quantity continuous, or Extension, as we call it, is. And Aristotle would have first informed him what the genus of this species is, viz. Quantity; for we can never understand what any species of things is, unless we know the
genus

* See his correspondence of letters with the Gloucestershire gentleman.

genus to which it belongs. Now Aristotle tells us, in the beginning of his *third* book of metaphysics, that Quantity is that which is divisible into parts, each of which is *one*, and *something* by itself; and he divides it into quantity discrete, and quantity continuous. The former of these has its parts separated and disjoined one from another, and is what we call *Multitude*, or, if limited and defined, *Number*; the latter is that which has its parts contiguous, and joined together by one common boundary. Now, is it possible that any man, who had read this chapter of Aristotle, could have maintained that the Deity, or even the human Mind, was quantity divisible into parts, each of which was one thing, and which parts lay together contiguous, and having one common boundary?

This so gross error of Dr Clarke shows us, that a very pious man may unwittingly maintain opinions that lead to very impious consequences. The Doctor is a man to whom I think both natural and revealed religion owe a great deal; and yet his opinion of an extended Spirit, and a Deity that has length, breadth, and thickness, is as absurd and as impious a doctrine as can well be imagined. But this error of the Doctor's, and, I have the charity to believe, the errors also of Dr Priestley, and, in general, of all our modern metaphysicians, proceed from their pretending to speculate upon these very abstruse subjects, without the assistance of the antients, who ought to be our guides in all philosophy, and particularly in the *first* and *bighest*.

It is, however, true, that our Minds must exist *somewhere*, as the Divine Mind exists *everywhere*; but it does not from thence follow, that they must exist in the same manner that Body does, that is, with the three dimensions; but, on the contrary, as Mind is a substance of a nature quite different from Body, it follows of necessary consequence that it must exist in a manner altogether different.

This

This *manner*, indeed, we cannot explain ; but we ought to be contented to know as much of Mind as we do of Body, with which we are so much conversant. Now, extension is but a property of Body, an essential property indeed, but not Body itself, as the Cartesians would make it. There is *something*, therefore, which is extended ; for extension is not a mere ideal abstraction, such as length from breadth, but Body is really *something* without its dimensions or bounds : So that we are obliged, whether we will or not, to come back to the antient notion of a *υαν*, or *first matter*, which has been attempted to be so much ridiculed. Now, if any man can tell me how he can conceive that this First Matter can exist without dimensions, I will tell him how I can conceive that Mind exists, and exists in *Space*, without having either length, breadth, or depth. The fact truly is, that we know nothing, either of Mind or Body, but by their operations ; and we know that both Mind and Body operate in Space, and therefore exist in Space : But, as to their manner of existence, we can say nothing with any certainty, except that Body cannot exist in Body, that is, two Bodies cannot occupy the same space ; whereas, we know that Mind can exist in Body, and occupy the same space that Body occupies ; for that is the case when Mind animates Body. Now this appears to me to show evidently that Mind cannot be extended, nor occupy space in the manner that Body does.

I have been the fuller upon this subject, of the extension of Mind, that I think it is an unwary concession which Dr Clarke has made to the Materialists, and of which, accordingly, I observe that Dr Priestley hath availed himself in his dispute with Dr Price *, where he shows very clearly all the difficulties that those semi-materialists, as he very properly call them, run themselves into. And, indeed, I must

OWN

* Page 268. et seq.

own that the Doctor's system of pure materialism is more consistent with itself than their system.

Upon the notion of the Deity being extended over infinite space, Dr Clarke has raised another notion, which appears to me also very strange, that infinite Space is an attribute of the Divinity. If so, it is a part of the Divine Nature, that was utterly unknown to all the philosophers and theologians of antiquity : But, concerning Space, I am to inquire further in the next chapter.

C H A P.

C H A P. V.

Of Space—Space a third thing in Nature besides Body and Mind, according to some Philosophers.—According to Epicurus, Space and Body the only two things in Nature.—Strange Consequences from the Notion of Space being a thing existing by itself.—Space maintained by the modern Theists not to be a Substance, but a Quality of Divinity.—Strange Consequences of this Notion.—If it be true, intirely a modern Discovery.—If Space be any thing, it must be either Substance or Accident—not Substance—not Accident—not mere Capacity, which is nothing—Space such a Principle of Nature as Aristotle's Privation.—Space has no Properties.—Not extended therefore, nor, properly speaking, measured.—Duration, Time, Eternity, no properties of things, though necessary for their Existence.

IT is a principle of this philosophy, which I have often inculcated, that there is nothing in the universe, except Body and Mind, and their Properties. But many philosophers, antient as well as modern, have maintained that there is a third being in Nature, namely *Space*. This was the philosophy of Epicurus, and, before him, of Democritus, who maintained, that there were only two things in Nature which were the causes of all things, viz. Body, and the *vacuum* or *inane*, so they called *Space*. For they held, as I do, that there were only two principles in Nature; but, instead of *Mind*, they said one of them was *Space*, which they said was the only immaterial or incorporeal thing in Nature; and, besides these

two, they said there was no third nature in the universe *. The modern philosophers, who are materialists, must, I think, maintain the doctrine of Epicurus. But even such of them as are Theists give a being to Space, and assert the existence of three things in Nature, Mind, Body, and Space: The consequence of which necessarily is, that Space is eternal, infinite, and immutable, as well as God, and, like Him too, has an existence necessary and independent. And, as Sir Isaac Newton has expressed himself, one should think he believed that Deity had an existence dependent upon Space; for he says that infinite Space is a kind of *Sensorium* or *Organum* to the Deity. It is, therefore, of great consequence to philosophy and theology, to examine well this Notion of the Being of Space, from which such strange consequences result: And though I have said a good deal upon the subject in my First Volume †, to which I beg leave to refer, where I have endeavoured to show, that Space has no existence by itself, but only in relation to Body; yet, as the subject is of such importance, I will say something more of it here.

Upon the supposition that Space is something, and has a real existence with the attributes above mentioned, it is no wonder that the Atheists have set it up as a rival to Deity, and have rejected all the arguments used to prove that God is the only Eternal, self-existent, necessarily existent, independent, indivisible, and immovable Being. On the other hand, it was as natural that Dr Clarke, and other theists, supposing it likewise to be a Being, should contend that it is

a

* Omnis ut est igitur per se Natura, duabus
 Consistit rebus; nam corpora sunt, et inane. *Lucret. lib. 1. v. 410.*
 Præterea nihil est, quod possis dicere ab omni
 Corpore se junctum, secretumque esse ab inani;
 Quo quasi tertia sit rerum Natura reperta. *Ibid. v. 431.*

† Book 4. chap. 2.

a quality or property of the Supreme Being, that it is an *Accident*, of which the *Substance*, God, is the *Substratum*: So Dr Clarke has expressed himself in his answer to the third letter of the Gloucestershire gentleman. But I think it was by no means necessary, even supposing it to have a real existence, that Sir Isaac should make it so essential an attribute of the Divinity, as to serve him, by way of *sensorium*; so that one should be apt to imagine, though, I am persuaded, it was not the case, that Sir Isaac thought the Deity could have no perception or intelligence without Space, any more than we could have without our *sensorium*.

There is one consequence of Space being a property of the Divine nature, and which, I see, is observed by the Gloucestershire gentleman, that, if *infinite* Space be a property of the Divinity, *finite* Space must be a property of inferior Minds, such as ours. The Doctor's answer to this, in his *third* letter to that gentleman, is to me altogether unintelligible. I must therefore take it for granted, till I am better informed, that the Gloucestershire gentleman is in the right, and, consequently, that there are certain portions of Space that are common property betwixt the Deity and inferior Minds. And Body must also be a sharer in this property, so far as it occupies Space; for, if Space be a property of Mind, I think it is impossible but that it must be likewise a property of Body, which we are sure it occupies in a manner we very well understand; whereas Mind occupies it in a manner we cannot at all explain.

These are strange notions; and, if they be well founded, they may be set down among the other great discoveries that we moderns are supposed to have made in philosophy. The antients disputed very much, whether such a thing existed as a *vacuum*, which we mean by the word *Space*. And, in Aristotle's *Fourth* Book of Physics, there is a very long and subtle disputation upon the subject.

But none of them appear to have had the least notion that Space was either a substance by itself, or the quality of any other substance. And Theophrastus, the successor of Aristotle, has said expressly, that *Place*, (which is nothing else than *Space* filled with Body), was no Being of itself, but only relative to the order and position of Bodies *. It is, therefore, I think, a matter of great curiosity, and also of great importance to the doctrine of Theism, to inquire whether the antients or the moderns are in the right in this matter.

The moderns, both Theists and Atheists, agree in this, that Space is a Being; whereas I agree with the antients, and say, that it is no Being itself, however necessary it may be for the existence of other Beings.

And, in the *first* place, I say, that, if it be a Being, it must be either Substance or Accident; for no man can conceive a Being that is not either the one or the other. Now, it is certainly not Substance; for, if it were Substance, it must be either Body or Mind, that is, material or immaterial; because, betwixt these two, it is impossible there can be any third Substance. No man will say that it is Body; for it is Space without Body: And no philosopher, that ever I heard of, maintained that it was Mind. The Atheists, therefore, are certainly mistaken when they make a substance of it.

The only question, then, is, Whether it be an Accident? Now, the Accidents are reduced to nine classes, as they are arranged by Aristotle, in his Book of Categories, which I hold to be the foundation

* This quotation from Theophrastus is preserved to us by Simplicius, to whom we are indebted for many passages of authors now lost, in his commentary upon the 4th book of Aristotle's Physics, fol. 149.

tion of Metaphysics, and the science of Generals, and is, I believe, as antient a piece of philosophy as any in the world, being taken by Aristotle from the School of Pythagoras, and brought by Pythagoras, as I believe, from Egypt. Now, I would desire to know, to which of these nine classes Space belongs? Is it quantity? Dr Clarke, as he makes it an attribute of the Deity, will certainly say that it is not.—Is it quality? If it be, I desire to know what quality it is, whether colour, figure, hardness, softness, &c.—Is it doing or suffering? I need not go through them all: And I shall only mention one more, which may seem to include space, and that is the category of *where*: But it denotes *place*, and signifies the relation that any portion of space has to the body which occupies it; so that it falls under one of the three relative significations which I have assigned to space.

But there is one argument which to me is demonstration, that it is neither substance nor accident; and it is this, that it has no place; for every thing existing, whether Substance or Accident, must exist in some place, the Substance primarily occupying the place, and the Accident secondarily, as being in the Substance. In short, every thing existing must exist somewhere. Now, I desire to know, Where, or in what place, does space exist? And I say it has no place itself, though it be the place of every thing else; for it is impossible there can be a *place* of a Place, because that would go on *in infinitum*; from whence I conclude, that Space having no place, is no real Being; because every Being, whether Mind or Body, or the Accidents of Mind or Body, must be somewhere.

To make this matter still clearer, if possible, let us suppose that *nothing* existed, neither Mind nor Body, I should desire to know, What Space would be upon that supposition? or, Whether it would be any thing? And, Whether it would not be strictly true, what every man would say, who has not confounded his head with modern

dern metaphysics, that *nothing* existed? for, if any thing has a real existence by itself, it would exist if nothing else in the universe existed.

I know it may be said, that there would be, in the case I suppose, a capacity of containing Body, and that this may be considered as something: But I deny that this capacity merely will make Space a Being; for there is no Being existing, nor, indeed, can we conceive such a Being, which is only *Capacity*, and nothing else; for, though Beings have many properties in *Capacity* only, or *δυναμῆς*, not *ἰσχυρῶς*, as Aristotle expresses it, they are always *something* besides mere *Capacity*: And I deny that we have any conception of a being that exists only *δυναμῆς*, and not at all *ἰσχυρῶς*.

It is, however, true, that nothing could have existed without Space; and it was for that reason that Democritus, and, after him, Epicurus, made Space, or a *vacuum*, one of the principles of Nature: For the same reason, Aristotle has made *Privation* one of his three principles of Natural things; *Matter* and *Form* being the other *τῶν*. But, though privation of one form be, no doubt, necessary, before Matter can receive another, as a piece of wax or clay cannot receive the form of a globe before it loses the form of a square, or any other form it might have had before; yet Aristotle never dreamed that the privation of the square was any property of the globe, or that *privation* was to be reckoned a Being: On the contrary, both he, and his commentator Simplicius, tell us that it is *a no Being*, or *τὸ μὴ εἶναι*, and is not the *presence* of any thing, but the *absence*, though that *absence* be absolutely necessary for the existence of any particular thing*. In this way, we may, if we please, consider Space, and say it is the *privation of fullness*, or of Body, which it certainly

is

* See Aristotle's *Physics*, cap. ult.

is with respect to Body, that cannot exist where another Body is. As to Mind, we cannot exactly tell how it exists, only we are sure that it exists in Space, and even in the same Space where Body is ; for that is the case of Mind animating Body.

It may be said that, as I admit that nothing can exist without *Space*, I make it a Property, and a necessary Property too, of every thing. But those who make this objection do not distinguish betwixt a part or property of a thing, and what is only an adjunct or concomitant. An adjunct of a thing may be absolutely necessary for its existence, and yet be no part or property of it. Thus, nothing can exist that is not *possible* to exist ; therefore a *possibility* of existence is a necessary adjunct or concomitant of every Being that exists ; yet it is no part or property of any Being, nor is it a Being itself. Now, Space is a thing of that kind ; for it is a *Capacity* or *Possibility* of receiving Being ; yet it is no part or property of any Being ; nor is it any Being itself.

If Space be nothing, the consequence necessarily is, that not only it is no property of any thing, but it has no property itself ; and therefore I say it is not extended, though I know the contrary is commonly believed. But I hold extension to be a property of Body only ; and, if I believed that Space was extended, I should also believe, as the Cartesians do, that Space and Body were the same. But, as I hold that Matter is a Substance, of which Extension is no more than a Quality or Accident, if I believed that Extension was likewise a quality of Space, I must believe that Space was a Substance, as well as Matter ; for there can be no Quality or Accident without a Substance in which it is inherent. Even those, who say that Space is only a quality, should not maintain that it is extended ; for that

is saying that Extension is a quality of a quality. Now, though there be different specieses of qualities, yet there is no *Quality*, or *Accident*, of a *Quality*, but only of a *Substance*.

What leads men to believe that Space is extended, is, that it is measured; but the fact truly is, that the Space is not measured, but some Body, which is in it, or supposed to be in it; though it be natural enough that, in common language, we should apply to Space that extension and measure, which can be properly predicated only of the Body that is in it.

And thus, I think, I have proved to be true, what indeed I have always supposed to be true, that there is nothing in the universe but Mind and Body and their properties; and that Space is neither a substance by itself, nor a property of either Mind or Body.

Duration also is by some made a property of things; and Dr Clarke, if I am not mistaken, makes *Infinite Duration* a property of the Supreme Being: But, if *Infinite Duration* be a property of the Supreme Being, *Duration limited*, that is, *Time*, must be a property of Inferior Beings; so that here we have more common property: But the fact truly is, that *when*, as well as *where*, are circumstances without which no being can exist, but which are not properties of any being. We ought, therefore, to say of things, that they have endured so long, and will endure so much longer: And, of the Supreme Being, we should say, that he has always endured, and will endure for ever. But we cannot predicate, with any propriety, Time or Eternity, or Duration, of any thing

thing as a quality of that thing, any more than we can predicate Space*.

VOL. II.

E

C H A P.

* See what I have further said upon this subject in vol. 1. p. 347. I will only add here, that Lucretius appears to me to have understood very well the philosophy of Time, when he says,

Tempus item per se non est : Sed rebus ab ipsis
 Consequitur sensus, tranfactum quid fit in aevo :
 Tum quae res infet ; quid porro deinde sequatur.
 Nec per se quemquam tempus sentire, fatendum est,
 Semotum ab rerum motu, placidaque quiete. LIB. 1. v. 463.

Where the Nature of Time, as only an adjunct and concomitant of things, not any part of them, is very well explained ; and what is true of Time, is true also of Duration ; for Time is nothing but Duration bounded and measured by Motion. And what is true of Duration and Time, is also true of Space ; for it is no more than an adjunct or concomitant, not a part or property, of any thing.

C H A P. VI.

Proved that Body cannot move itself.—Objections answered from the Intellectual Mind, which can reflect upon itself.—Two Authorities quoted for this Opinion, one from Aristotle, and one from Themistius.—If Matter moves itself, there must be Intelligence in Matter, as well as Self-Motion.—If the Mover and moved be different, there cannot be an infinite Series of Movers, of Causes, and Effects.—Still less, if the Movement be circular.—If Body cannot act, it cannot think.—To think, therefore, contrary to its Nature.—Deficiency of Dr Clarke's Argument against Matter moving itself, supplied.—Dr Priestley's Notion of Matter still more extraordinary than the Notion of those who say that it moves itself.—Of the Hypothesis of Body moving Body by other Bodies interposed.—If Body is moved by a vis infinita, it must be Intelligent—Body and Mind perfectly discriminated by the Definition given of them.

IN the course of this reasoning, I have taken for granted that Body does not move itself, but that there is something that moves it, which I call *Mind*. Whoever has taken the trouble to read the third chapter of the second book of the first volume, will not, I hope, think that, in laying down this as a certain proposition, I have assumed too much. And, indeed, if it be admitted, as I think it must be, that, to *move* is to *act*, to *be moved* is to *suffer*; it is impossible to conceive how Body should act upon itself, and be, at the same time, and in the same respect, both Agent and Patient. The intellectual Mind, it is true, can make itself its own Object. But Mind is essentially different from Body in this respect, that it cannot

not be moved, as I have shown in the preceding volume *; whereas, the capacity of being moved is of the nature and essence of Body: So that it is impossible that, when two things are so different, any argument can proceed from the one or the other. *2do*, It is by its power of reflection that intellect is able to make itself its own object. Now, by this power, it is distinguished, not only from Body, but from every other Mind. But he who says, that Body can reflect, turn upon itself, and make itself its own object, speaks without ideas, or without understanding what he says, and deserves no other answer.

A proposition so clear does not stand in need of any authority to support it; but there is one that has occurred to me, since publishing the First Volume, which I will here give the reader. It is from Aristotle, in his *Physics*, where he says, that *moving*, and *being moved*, are Relatives, belonging to the Categories of *doing* and *suffering*; and therefore, what *moves*, *moves* what *is moved*, and what *is moved*, *is moved* by that which *moves*. I have quoted below the words in the original *, where the learned reader will observe, that there is a clearness and emphasis, as well as conciseness, in the expression, which cannot be preferred in any English translation.

E 2

If

* P. 72.

† Ταὶ δὲ πρὸς τι, τὸ μὲν καθ' ὑπεροχὴν καὶ ἐλεῖψιν λήγεται, τὸ δὲ κατὰ τὸ ποιητικόν, καὶ παθητικόν, καὶ ἕως κινήτων τε καὶ κινήτων· τὸ γὰρ κινήτικόν κινήτικόν τοῦ κινήτου, καὶ τὸ κινήτον ὑπὸ τοῦ κινήτου. It is needless to quote more passages, as indeed the sum of his Physiology and Theology is, that, in the universe, there is something that is moved, and something that moves; καὶ τὸ κινουμένον ὑπὸ τινος κινεῖται, as Simplicius expresses it in his Commentary upon the first book of the *Physics*, p. 56. The one he calls the ἕλη, or Material Cause of things, and the other the Efficient, which he paraphrases, by calling it the ἰδίον ἢ ἀρχὴ κινήσεως. I cannot, however, help quoting one passage more of the *Metaphysics*, lib. 1. cap. 3. where, giving a history of the opinions of the antients concerning the first causes of things, he tells us, that, af-

ter

If it be proved that Matter cannot move itself, then there is an end of the whole philosophy of Materialism or Atheism, which can be

ter they had discovered, as they thought, the subject matter, or Material Cause, of the Universe, out of which every thing was made, and into which every thing is resolved, they were naturally led to inquire what produced these changes in this subject; for, says he, the subject cannot change itself;—*Ου γαρ δε τοις ὑποκειμένοις αὐτο ποιεῖ μεταβάλλειν ἑαυτο. λεγῶ δὲ εἶον, ὅτι το ξυλοὶ ὅτι ὁ χαλκὸς αἴτιον τῶν μεταβάλλειν ἰκατεροι αὐτῶν· οὐδὲ ποιεῖ το μιν ξυλον κλιση, ὁ δὲ χαλκὸς ἀδραντα· ἀλλ' ἴτερον τι τῆς μεταβολῆς αἴτιον. τα δὲ τουτο ζητεῖν, ἰσῆι το την ἴτεραν ἀρχην ζητεῖν, ὡς ἀρ ἡμεῖς φαίμεν, ὅθεν ἡ ἀρχη τῆς κινήσεως.*

There is another authority which has occurred to me while I was writing this: It is from Themistius, who lived in the time of the Emperor Theodosius the elder, a Peripatetic philosopher, who writes a treatise *περὶ ψυχῆς*, explaining what Aristotle has said upon this subject; and, as he was a Sophist, (so rhetoricians were called in that age), as well as a philosopher, he writes both with great elegance and great perspicuity; on which account I would recommend his writings to the student of Greek philosophy; and, for another reason,—because they are better printed than those of any other commentator upon Aristotle, Ammonius Hermeias's commentary upon the Categories only excepted. He proves, that no Body can be *ἄντοκινήτων*, or self-moved, in this manner: Either, says he, one part of the body must move the other, or the whole must move the whole. If one part move the other, then it is not self-moved; at least, not the whole of it, any more than an animal is self-moved, whose mind moves its body. On the other hand, if it be said that the whole moves the whole, so that at the same time, and in the same respect, it moves and is moved, is both agent and patient; that is, a thing absolutely inconceivable—*περὶ ψυχῆς*; lib. 1. fol. 67. This is pretty much the same argument as that I have used; but I was glad to have it confirmed by the authority of so good a philosopher and writer. He gives us in the same place another argument, taken from the nature of *being moved* and *moving*, one of which is *ενεργεια*, and the other *δυναμις* merely: It is subtle, but I think solid and well worth the reading—The case truly is, that nothing can move itself, not Mind any more than Body; for Mind cannot, by its nature, be moved; therefore it cannot move itself. In this way Aristotle has argued in the first book *De Anima*, cap. 5. *in fine*.—*Ὅτι μιν ἐν ἑαυτοῖς τι κινεῖσθαι τὴν ψυχὴν φάσκειν ἐκ τούτων. ἢ τε ὅλως μὴ κινεῖται, ὁλοῦ ὡς οὐδ' ἐφ' αὐτῆς.* And in this way he has refuted (cap. 3. of the same book), Plato's notion of Mind, that it was *ἄντοκινήτων*.—See what I have said further upon this subject, vol. 1. p. 78.

be defended upon no other hypothesis, but that Matter moves itself. On the other hand, if we maintain that Matter, by a *vis infinita*, or power belonging to its nature and essence, moves itself, we cannot stop there, but must likewise maintain that it has a principle of intelligence in it, as well as of motion; since it is evident that all the motions of Nature are for some end or purpose, as evident as that the motions exist. Now, to propose an end, and to use means for accomplishing that end, is the very definition of intelligence in practice. This is a consequence which I believe all those who maintain this notion are not aware of, but it appears to me to be unavoidable.

If the Materialist should admit that Matter cannot *move* itself, but that there must be a *mover*, as well as a *thing moved*, then that *mover* must be either Mind or Body. If he admits it to be Mind, he gives up his cause: If he says that it is Body which moves Body, then he is reduced to the necessity of maintaining the most absurd of all hypotheses—an infinite series of Bodies, all impelling and impelled; for it is evident that Body cannot move Body, unless it be itself first moved. Now, if the *first* Body be moved by the *second*, I ask, What moves the *second*? If it be said that it is the *third*, I ask again, What moves the *third*? The same answer is given, and the same question repeated; and so on *in infinitum*: And thus we have an infinite number of motions without one original mover; which, in other words, is saying that there may be an infinite number of effects without a cause.

Let us suppose a chain hung down from heaven, and from a height invisible—If it were asked, What supports this chain? Would it be an answer sufficient to say, that the *first* or *lowest* link is supported by the *second*, or that next above it, the *second* by the *third*, the *third* by the *fourth*, and so on; and, in this way, a chain of infinite length might be maintained to be supported by nothing at all, than which
nothing

nothing can be conceived more abfurd. And yet it is precifely the cafe of a feries of Bodies moving one another, without an original mover; and, indeed, of any feries of caufes and effects, without a *firft caufe* *.

If this argument proves, that Motion in a ftraight line cannot be produced by a feries of Bodies moving and moved, without fome Firft Mover that is not Body, it proves, *a fortiori*, that the circular motion, of which kind all the great motions in the univerfe are, cannot be produced in that way; for the circular motion produced by Body cannot be produced but by a double impulfe, one in a ftraight line from the center, commonly called the *line of projection*, and the other towards the centre; fo that here there muft be two infinite feriefes of bodies impelled and impelling, without one original caufe of either of the Motions.

If Body cannot move itfelf, it cannot be conceived to act at all, and far lefs to be capable of that action which belongs only to fuperior Minds, I mean *thinking*. It is therefore moft unphilofophical, and, indeed, abfurd and contradictory, to fuppofe that the Deity might have fuperadded to the other qualities of Matter the faculty of thinking; for that is to fuppofe that the Deity might make *Matter* to be *Mind*—to make that which, by its nature and effence, cannot *move*, but only *be moved*, to *move*—In fhort, it is to fuppofe that the Deity can alter the nature of things, make a fquare a circle, negation affirmation, and the fame thing to be and not to be.

And

* This illuftration, by the example of a chain, is taken from an excellent Book, entitled, ‘The Religion of Nature delineated,’ fect. 5 p. 6. A book, in which, with a great deal of good argument, there is more learning than in any which has fallen into my hands of a great while. And in this paffage he very properly mentions the chain in Homer, faffened to the throne of Jove, or *περὶ τοῦ Ὀυλύμπευος*, as Homer expreffes it; for good philofophy informs us, that every chain of caufes and effects, how long foever it may be, hangs from one great Firft Caufe: which fupports it.

And thus it appears, that, if Body cannot move itself, there is an end of the system of Materialism and Atheism; and every man who admits this must be a Theist, whether he will or not.

If I am successful in this argument, it will supply a defect which I observe in Dr Clarke's Demonstration of the Being and Attributes of God, Sect. 3. where he endeavours to refute Toland's position, that Motion is essential to all Matter; or, in other words, that matter can move itself. His refutation is by the following dilemma: 'If Motion, or a tendency to Motion, (which is the same thing in this argument), be essential to Matter, it must have a tendency to move some one determinate way at once, or to move every way at once. Now, that it cannot have the last tendency is evident.' But how does he prove that it has not the first? 'A tendency,' says he, 'to move some one determined way, cannot be essential to any particle of Matter, but must arise from some external cause, because there is nothing in the pretended necessary nature of any particle to determine its motion, necessarily and essentially, one way rather than another.' But this is plainly begging the question; for those who maintain that Motion is essential to Matter, maintain, that there is not only a tendency in the Matter to move one particular way, (and indeed it is impossible to conceive a tendency to Motion, which is not in some one direction or another), but they further say, that different Bodies have essentially and necessarily different tendencies to motion in different directions. And some of them go so far as to allow that the Motion is intended for some end, and, consequently, that it is guided by Intelligence which is in the Matter, together with a principle of Motion, both being, as they say, essential to Matter. And, indeed, as I have observed, they cannot be separated. The true answer, therefore, to Toland's argument, is what I think I have proved, that Matter cannot move itself; and, if it cannot move itself, it will follow of necessity.

confequence, that it cannot move itfelf with Intelligence, or for a certain end.

Dr Priefley's fyftem appears to me to be ftill more extraordinary than the fyftem of thofe who maintain that Body moves itfelf; for his fyftem is, that a Body does not move itfelf, but moves other Bodies round it by Attraçion and Repulfion, which he makes to be effential qualities of Matter. And I have heard fome Newtonians explain in this way what Sir Ifaac has faid of Attraçion, though Sir Ifaac himfelf has been at great pains to obviate any fuch mifapprehenfion, by faying, that he means nothing more by Attraçion than a tendency of Bodiestowards one another: And, for the fame reafon, he certainly means by Repulfion nothing more than the tendency of Bodies from one another. I therefore think it hard that thefe gentlemen fhould charge Sir Ifaac with an opinion fo absurd, and which is entirely their own; for no philofopher before them ever thought of Matter operating upon Matter, otherwife than in contaçt, and by impulfe, for a very plain reafon, that nothing can aët where it is not, neither Mind nor Body: And, indeed, I can no more conceive a thing to aët *where* it is not, than *when* it is not. But the philofophers of this kind have fuch a rooted averfion to Mind, fuch a *πνιςμαατοφοβια*, as Cudworth calls it, that they will fuppoze any thing, and will adopt the moft improbable, nay, an impoffible hypothezis, rather than admit the agency of Mind in explaining the phaenomena of Nature. That thofe who deny the exiftence of Mind fhould do fo, is not furprifing; but I own I think it very furprifing, that the Newtonians, who profefs to believe in Mind, as their Mafter certainly did, fhould have recourfe to fuch ftrange hypothezis, rather than make ufe of Mind in folving the phaenomena of Nature.

The hypothezis, that there are other Bodies interjeçted betwixt the diftant Bodies, by which they aët upon one another, cannot be faid

to

to be an abſurd hypotheſis, as we know that Bodies act upon one another by ſuch an interpoſition. Nor is it a new hypotheſis; for the phaenomena of the loadſtone and the iron has been attempted to be accounted for in that way; but it is no more than an hypotheſis; and, if aethers and fluids, and ſubtile ſpirits, the exiſtence of which never can be proved, are to be ſuppoſed, all the phaenomena of Nature may be ſolved by ſuch arbitrary ſuppoſitions. This would be contrary to that fundamental maxim of the Newtonian philoſophy, by which we are enjoined not to *feign hypotheſes*, and to build only upon fact and obſervation. But, what is ſtill worſe, if the exiſtence of theſe aethers were admitted, it could not be ſhown, from any laws of mechanics known, that they would produce the effects aſcribed to them: So that they reſemble, in every reſpect, the vortices of Des Cartes, which are now ſo generally exploded.

Thus, I think, I have proved, that Body cannot move itſelf, and that, if it could, we muſt aſcribe to it not only a *moving*, but an *intelligent* Mind; which, if we could ſuppoſe, there is an end of the ſyſtem of Theiſm, unleſs we reckon Spinoſa a Theiſt, who indeed profeſſed to be ſuch; but his God was *matter intelligent*, or, in other words, the Material World itſelf. His ſyſtem of Atheiſm is much the ſame with the ſyſtem of Strato, the Peripatetic, which I have explained in vol. 1. p. 240. And indeed, it appears to me to be the only ſyſtem of Atheiſm that is not manifeſtly abſurd, or ridiculouslly defective. Of this kind is the ſyſtem of Epicurus, who accounts for every thing from *motion*, but gives no account of Motion itſelf, how it began, or how it is carried on: And, further, he ſuppoſes, that Motion alone, without Intelligence, can produce all thoſe wonderful works of Intelligence that we ſee in the univerſe; than which I can imagine no greater abſurdity. Dr Prieſtley, in the ſyſtem he has given us of our Microcoſm, (for he has not yet given us a ſyſtem of the Great World), has avoided the defect of Epicu-

rus's ſystem, in not accounting for the origin of Motion ; for he ſuppoſes, that our machine was not only framed by Almighty power, but was likewiſe ſet agoing by that Power : But he maintains, that this Motion and Mechanifm does produce Intelligence, and 'not only Intelligence, but Conſciouſneſs ; for he cannot deny the fact, that this machine of ours does not only go on in the ordinary operations of Intelligence, propoſing ends, and deviſing means for accompliſhing thoſe ends, but does alſo *reflect*, and makes itſelf its own object. And he likewiſe maintains, if I rightly underſtand his ſystem, that though there be Intelligence in the Univerſe, there is but one Supreme Intelligence, but no Inferior Intelligences ; ſo that Men, Animals, and Plants, are but mere Machines, and the names of *Intellectual*, *animal*, and *Vegetable* life, are nothing but ſounds. What we are to think of this ſystem, I leave the reader to judge. It is better than the ſystem of Epicurus, in as much as it accounts for the Origin of Motion ; but, in every other reſpect, it is perfect Epicuriſm ; and I think it is more abſurd than the ſystem of Strato and Spinoza, in this reſpect, that it ſuppoſes mere Matter to produce the works of Intelligence which we ſee man produces, without Intelligence in itſelf. But ſuch ſystems we are to expect from men who will ſpeculate on theſe high ſubjects, without the aſſiſtance of the Antients.

I will conclude this chapter with obſerving, that, if I have ſucceeded in proving that Body cannot move itſelf, it muſt be acknowledged that my definition of Mind and Body diſcriminate the two as much as is poſſible ; for, if Body cannot move, and if Mind cannot be moved, it is evident they never can be confounded, according to the definitions I have given of them, which are perfectly diſtinct, and, indeed, oppoſite, as oppoſite as affirmation and negation ; for Mind, I ſay, *moves*, Body *does not move* ; Mind is not *moved*, as ſhall be demonſtrated in the next chapter, Body *is moved* : And from theſe definitions is demonſtrated an eſſential quality of Mind, of which I am to treat in the next chapter, viz. its *immateriality*.

C H A P.

C H A P. VII.

Of the Immateriality of Mind—Difficulty to conceive an immaterial Substance.—This to be done by the method of Abstraction, as we conceive a Point, Line, &c.—Power, Energy, Activity, essential Qualities of Mind.—That Power best seen in Motion—therefore Mind defined by the Power of moving.—Consequences of Mind being an immaterial Substance—has no Parts—is indivisible, and immoveable.—Another consequence is, that Mind moves Body in a Manner quite different from that in which Body moves Body.—It moves unorganized Bodies in the same manner as it moves Animals and Plants.—The Deity cannot be supposed to move Body in that way.—Reasoning from Analogy on that Subject.—Mind moves Body in a manner quite different from that in which Body moves Body.—Consequences of that Difference.—We know, therefore, in some respect, how Mind moves Body.

UPON this subject, of the immateriality of Mind, one great difficulty, and perhaps the greatest of all, is to give an idea of an immaterial Substance, and to make it conceivable that such a Substance should exist: This I have endeavoured to do in the 13th Chapter of the 2d Book of my First Volume. I am sensible I have lost my labour with those who believe that we have no ideas, but perceive things only by our senses and imagination; for it is certain that an immaterial Substance can neither be apprehended by Sense, nor figured by the Imagination. But, with respect to those who admit the existence of Ideas, and who are accustomed to the abstrac-

tions that science requires, the matter will not be so difficult. A geometer, for example, must abstract from Body a point, a line, and a surface. He must not, therefore, say, that he cannot conceive length without breadth, or both without depth; and, in general, he must admit that he can conceive the dimensions of Body without the Body; nay, he must admit that he can conceive what has no dimensions at all, neither length, breadth, nor thickness, namely a Point; for otherwise geometry would be no science. In the same manner, the natural philosopher must have the idea of form without matter, and matter without form, otherwise he never can explain properly the principles of physics. Now, if, instead of abstracting Form or Dimension from Matter, I abstract that Power by which it is moved, I have the idea of Mind, which, I say, is as clear and distinct an idea, as the idea of Form, or of a Point, Line, or Surface. It may be said, I know, that Power or Energy is no more than a Quality of Matter; but I hope I have proved, to the satisfaction of the reader, that it is no Quality of Matter: It therefore must be a Quality of some other Substance. What that Substance is, I cannot tell, any more than I can tell what the Substance of Matter is, of which Extension, Resistance, and Solidity, are qualities; but I know most certainly that there is a Substance of Mind as well as of Matter. The experimental men, indeed, or such a philosopher as Mr David Hume, who tell us that we have no knowledge but by our Senses, will say that we do not see or feel Mind; therefore we cannot conceive that it exists. But I say the same of a point or a line. No man can say that he sees or feels what has no parts, or what has only length, but not breadth. But shall we therefore deny that a point or line exists? If we do, we deny at the same time that geometry is a science. It is true, they do not exist in Matter, nor are not material, any more than Mind is; but they have not, for that, a less real existence, but rather a more fixed and permanent one; because, whatever is material is in a constant flux and change; nor is any thing fixed and stable except Mind, and its ideas.

Power,

Power, therefore, enegy, or activity, (for by all these words it may be expressed), is an essential quality of that substance I call *Mind*. And as this power or energy is most obvious to the senses in *motion*, I have defined Mind by the power of *moving*, and also because every thing in the material world is in Motion, by which the whole frame of Nature is sustained and preserved. There is, likewise, another reason, viz. That, without this power of Mind, Body could not exist, though Matter might, according to the distinction made by the antients betwixt Body and Matter; for it is this moving power of Mind that makes the particles of Matter run together, cohere, and form Body*.

The question, then, is, What the nature of the substance is of which this power is a quality? And I say the Substance must be immaterial; for, as the power is not a quality of Matter, and yet is a quality, it must be a quality of something which is not Matter, or, in other words, immaterial; for *immaterial* is nothing but the negation of Matter. And this I think is evidence sufficient for the immateriality of Mind. But, whoever desires more, may consult the fourteenth chapter of the second book of Volume First, where he will find it proved, *a priori*, from the nature of Motion, of Body, and of Mind; and in the following chapter there is a proof of it likewise *a posteriori*; both which, joined together, make, if I am not much deceived, the clearest proof of the immateriality of Mind that has hitherto been produced: And it is a proof which goes to every principle of motion in Body; and for that reason I have called the motive principle, even in Bodies unorganized, *Mind*, because every thing immaterial, or, in other words, what is not Body, must of necessity be Mind. Aristotle, as I have observed, says, that the motive principle in those Bodies is like Mind;

* It is well observed by Proclus, that whatever keeps together *æris*, and whatever acts is incorporeal, or Mind. I have quoted the passage, in a note, upon p. 86. of the First Volume, which see. See also p. 177.

Mind ; and, in another paſſage, he ſays expreſſly, that it is a ſpecies of life to phyſical Bodies ; which is juſt what I ſay it is *.

If Mind be not material, it cannot have parts ; for that is an eſſential quality of Matter, which cannot belong to any thing that is not material. And here we may obſerve the analogy I before took notice of, betwixt geometrical abſtractions and thoſe by which we come to the idea of Mind ; for it appears that the Mind may not be improperly defined, as Euclid has defined a *point*, viz. that which has no parts.

If Mind has not parts, it follows, of neceſſary conſequence, that it cannot be moved, or moveable : For what is moved muſt neceſſarily have its parts in different parts of Space at different times. Nor can it occupy Space, or be extended ; for Space, as I have ſaid, only relates to Body, not to Mind ; otherwiſe Mind would have figure, as well as extenſion. Mind, however, may be ſaid, in a certain ſenſe, to be ſomewhere ; but in what ſenſe I ſhall, in the ſequel, more fully explain. Mind, having no parts, muſt alſo be indiviſible ; ſo that, as it is the moſt excellent, ſo it is the pureſt and ſimpleſt of all Subſtances.

Another

* Ζωη τις εſτα εν ταις φυſη ſυνεſτωſι παρι. *Lib. 8. De Naturali Auſcultatione, cap. 5. in initio* This kind of life Ariſtotele calls *Nature*, under which he comprehends the principle of Motion, not only in unorganized Bodies, but in Animals and Vegetables. This is evident from what he ſays in *Lib. 2. cap. 1. in initio, De Naturali Auſcultatione*. And accordingly he is ſo underſtood by his Commentator Simplicius, in his commentary upon the Second Book of the *Phyſics*, p. 86. where he ſays, Ὁ Αριſτοτελιſ φυſη καλη και τηſ ψυχηſ παρι το περι ſωμα καταγινομενοι. Nature, therefore, in Ariſtotele's language, is Mind not Intelligent, operating in Body ; for, if the Mind have intelligence, it does not belong to Nature ; and, therefore, in Ariſtotele's philoſophy, man, as well as God, is diſtinguiſhed from Nature.

And here we may obſerve the true diſtinction betwixt *Phyſics* and *Metaphyſics*. *Phyſics* treat of Mind operating in Body and through Body ; whereas *Metaphyſics* treat of Mind ſeparated from Body, and operating without Body. Betwixt theſe two lies the Subject of what Ariſtotele calls the *human philoſophy*. This Subject is human intellect, which is not ſeparated from Body, but, though joined with it, can act without it.

Another important consequence, and which deserves particular attention, of the Mind's being immaterial, is, that it cannot move Body in the manner that Body moves Body, by the surface of the moving Body impelling the surface of the Body moved ; for it is impossible that Mind, not being material, and therefore having no surface, can move Body in that way.

The question, then, is, In what manner does Mind move Body ? And I say it is by acting upon every particle of it, even the inmost particles. And, accordingly, it is in this way that gravitation moves Bodies, not in proportion to their surface, but in proportion to their masses *. In the same way Mind moves vegetables and animals, which kind of motion in them is called *Animation*. And it may be so called, also, with respect to unorganized Bodies, as it moves them in the same manner. Of this I shall say a great deal more afterwards.

Another very remarkable difference betwixt the operations of Mind upon Body, and of Body upon Body, is, that, when Body impels Body, the motion continues some time after the impulse ; whereas Mind not moving Body by impulse, but by incessant energies, the motion continues no longer than the energy, but ceases when the energy ceases. This we know with the greatest certainty, from consciousness, the source of all our knowledge of the operations of the Mind, and particularly its operations upon Body ; for, without

* In this way Sir Isaac Newton, in his *Scholium Generale*, speaks of gravitation, ' Oritur utique haec vis a causa aliqua, quae penetrat ad usque centra solis et planetarum, sine virtutis diminutione ; quaeque agit, non pro quantitate superficialium particularum in quas agit, (ut solent causae mechanicae), sed pro quantitate materiae solidae ;' where Sir Isaac seems to acknowledge that Bodies so moved are not moved mechanically ; and, if they are not moved mechanically, they must be moved by Mind ; for, betwixt these two, there is no medium.

out confcioufnefs, we fhould not have known at all that Mind moves Body.

The confequence of Mind moving Body in this way, is not only that the Motion ceafes when the energy ceafes, but that it moves Body in all direCTIONS with the fame facility, not only in a ftraight line, but in a curve, of which the direCTION is continually changing: And this, as fimplly and uniformly, as in a ftraight line; for, as the motion is, by the inceffant exertion of the moving power, repeated every inftant of the motion, it may change its direCTION every moment, without any other motive force being applied to the Body. On the other hand, as Body moves Body by impulf, which motion continues fome time after the impulf, and as it is a law of Nature, that a Body fo moved muft go on in a ftraight line, it is evident that it cannot be deflected from the ftraight line, fo as to be moved in a curve, without fome other force applied to it. The curvilinear motion, therefore, produced in this manner, muft neceffarily be a combined motion, not fimple and uniform.

However extraordinary, therefore, this kind of motion by Mind may appear to thofe who have not attended to the operations of Mind, but only to thofe of Body, I fay we neither have, nor can have any other idea of it, becaufe our own motion, from which alone we derive the idea of the motion of Mind, is of that kind.

Of what ufe this theory is, in explaining the motions of the celeftial Bodies, may appear from what I have already faid upon this fubject in the Appendix to the Firft Volume, and will, I hope, appear ftill more evidently from what I fhall further fay.

In the mean time, it is to be obferved, that it is not true what is commonly faid, that we know nothing of the way in which Mind
moves

moves Body ; for I think I have shown, that we not only know negatively that it does not move Body, as Body moves Body, but positively in what manner it moves it. It is true, indeed, that, as we do not know the Substance of either, we cannot tell exactly how, by their nature and essence, they are so connected, that the one must be always active, and the other always passive : Nor can we account how Substances, so totally different in their natures, should affect one another as we know they do. But,

*Est quodam prodire tenus, si non datur ultra ** ;

And we must give over altogether the pursuit of knowledge, if we insist to know the very essence of things, and their most hidden principles : All that we should endeavour, is to know well what is given us to know, and to live in hopes that our knowledge shall be more perfect in a more perfect state.

VOL. II.

G

B O O K

* Horat. lib. i. ep. i. v. 32.

B O O K II.

Of the several Kinds of Mind.

C H A P. I.

As there are different Motions, so there are different Minds.—Of the lowest or elemental Mind.—Proclus's notion of that Mind.—Of Gravitation, compared with other motive Principles—Mind not always moving, nor Body always moved.—Of the reality of this motive Principle in Body.—The several Opinions upon this Subject.—Objection to the Existence of this Mind answered.—The Vegetable Mind less abundant than the Elemental—more abundant than the Sensitive.—The Vegetable more artificial than the Elemental—but less than the Sensitive.—Last of all, is the Intellectual, much more excellent than any of the other three.

IN this chapter, I propose to give an account of the several species of this great genus *Mind*; for, as there are several different kinds of Motion in this universe, there must be different Minds; and, as all the Motions in it are directed by Intelligence, there must be Minds in it that have intelligence, as well as a moving power.

I will begin with the Mind which only moves, and this in the simplest manner. The Mind I mean, is that which, according to the

the philosophy of Aristotle, is in all physical Bodies, and may be called the *Elemental Mind*; first, because it is in the elements, and makes them cohere together, so as to form Bodies of some size, which, being composed of these elements, have all this Mind in them; and, secondly, because it is the foundation and ground-work of all the other Minds incorporated with Matter; for the vegetable, the animal, and the intellectual life in Man, are but superstructures upon this elemental life, which pervades the whole material world, and may be said to be the basis of every thing in it*.

As this Mind animates and actuates simple and elemental Bodies,

G 2

or,

* This principle, as I have observed before, Aristotle says is ἡ ὡς περ ψυχῆ, and ἐστὶ ζῶν ἐν τοῖς φύσει καθέστῳσι. But the Platonic philosophers of later times, particularly Proclus furnished his successor, speak much more fully of this principle of life and activity, which they say pervades all Nature, brute matter, as well as Bodies commonly called animate. Proclus, in his commentary upon the *Timæus*, p. 4. calls it ζῶν ἀχωριστὸς τῶν διοικουμένων, and he describes it thus, φοῖτα διὰ πάντων ἀκλυτῶς, καὶ πάντα ἴμπει, δι' ἣν τὰ ἀψύχιστα ψυχῆς μετέχει τινός, καὶ τὰ φθέρουμενα κενεῖ ἀνωτίως ἐν τῷ κόσμῳ, ταῖς ἐν αὐτῇ τῶν ἰδῶν ἀιτικαῖς συνεχομένην. And this principle, which is in itself eternal, as well as immaterial, and preserves the species of things, though the matter of them be corrupted, is, in the language of these later Platonists, as well as of Aristotle, called φύσις. The first principle, according to Proclus, is altogether out of Nature, being ἐξρημιμένος, and perfectly separated from all matter; but this φύσις, he says, is that alone which proceeds and goes forth into Body. Ἡ δὲ φύσις, προσλήψα μοῖον, διὸ καὶ ὄργανον λαμβάνει τῶν θῶν, δὲκ ἄζῳν, οὐ δὲ ἀλλοκινητικός, ἀλλ' ἔχουσα πῶς τὸ αυτοκίνητος, τῶν ἀφ' ἑαυτῆς ἐνεργεῖν. And he defines Nature, according to the doctrine of Plato, in this way, Οὐσία ἀσωμάτος, ἀχωριστὸς σωματων, λόγους ἔχουσα αὐτῶν, ἵς ἐαυτῇ ὄραν οὐ δυναμένη. Proclus, in *Timæum*, p. 4. Nature, therefore, according to him, is precisely what I make it, an immaterial principle of motion in Bodies, acting according to intelligence, but without consciousness, or being able to recognize itself. And in a passage which I have quoted from the same author, (Volume First, p. 208.) he blames Aristotle, and, I think, very justly, for speaking so much of the Mind which governs the Motions of the celestial Bodies, and saying so little of this Elemental Mind, which is the grand agent of Nature here on earth.

or, if compounded, not of such artificial frame and texture as Bodies organized; so the motions it produces here on earth are of the simplest kind, being all in straight lines: But, like other Minds, it moves by incessant energies, and these not constant or uniform, but increasing or decreasing, according to the distance of the objects to which, or from which the Bodies in motion are moved. In the most remarkable motion of this kind, I mean the motion of Bodies falling towards the centre of the earth, the *ratio* of increase or decrease, at the different distances, has been exactly fixed. But, in the motion of other Bodies, such as electrical, magnetical, and chymical, the various force of the moving power has not been so exactly calculated, though we are sure it is governed by fixed and stated laws, as well as every other thing in Nature.

This motion of gravitation is likewise more constant than any other motion of Bodies upon earth; for in all heavy Bodies here there is a tendency towards the centre; whereas the motions of magnetism and electricity are only occasional, when the Bodies are within a certain distance of one another. And there is another occasional motion, which our modern philosophers account for, not from any reason or principle, but by a mere word or sound, I mean the word *Attraction*; and that is the motion of the waters of the sea upward, when the moon is in a certain position with respect to them.

And here we may observe in passing, that, though Mind have the power of moving, and be the only active principle in the universe; yet it is not necessary that it should be always moving, but it may be sometimes quiescent, and then it moves only potentially, or in capacity: And the same may be true of Matter, with respect to its quality of *being moved*. And, accordingly, Aristotle maintained, that the different kinds of Bodies had destinations to different places, to which, when they were arrived, they rested. Thus, according
to

to him, a stone, if it were at the centre of the earth, would be at rest; and therefore he has said, that Nature is a principle of *rest* as well as of *motion*. It is, however, true, that we know no Body that is not actually in motion, or has not a tendency to motion. In this state are all Bodies here on earth; the whole solar system is all in motion, and it is likely every other system in the universe.

Neither is it necessary that every kind of Mind in the universe should immediately, and directly, move Body. And I am persuaded, that the intellectual Mind is not the immediate Cause of Motion, but only the remote, moving Bodies by the agency and ministry of inferior Minds, such as the Animal and Vegetable, and this lowest Mind, of which I am now treating; but we must never forget, that it is a fundamental maxim of this philosophy, that Mind is the author of all Motion, either mediately or immediately.

That this elemental Mind, or principle of Motion, does really exist in the universe, I hope I have proved to the satisfaction of my reader in the first part of this work. I will, however, add something more upon this subject, as I know it is that part of my system which stumbles the most of my readers, more than any other.

There can be, I think, but four opinions upon this subject; for, either Body moves itself, or it is moved by impulse of other Body, or it is moved by Mind. And this last opinion divides into two; for, either the Mind is Deity moving directly and immediately those Bodies, or it is a particular Mind in them, which is the cause of their Motion: So that the whole opinions of this subject are four; and, besides these, there can be none other.

As to the *first* of these opinions: Whoever believes that Body moves itself, is an Atheist, whether he knows it or not; for, as it is
un-

undoubtedly moved by Intelligence, that is, for a certain purpose, he must also believe, that Body has, by its nature and essence, Intelligence, as well as a Moving Power *.

To the *second* hypothesis the objection is obvious; That it gives no account of the Origin, or Principle, of Motion, but supposes an infinite series of bodies all impelling and impelled; a supposition, as I have shown †, altogether absurd and unintelligible: And, besides it supposes Bodies, of the existence of which there is not the least evidence, and which we cannot believe to exist, without renouncing our senses, and making absurd and incredible Fictions, instead of Systems of philosophy; for, who can believe that there is any external impulse upon a stone when it falls to the ground? or, who can believe, that, when the magnet comes near to the iron, there should be then a Body which impels the iron, but which did not exist before:—If so, we must also create bodies to account for all the motions exhibited by the chymists, which, like the Magnetical Motions, are only occasional. I will only say farther of this strange hypothesis, that it can only be adopted by those who have raised themselves so little above sense, as to have no idea of any other Motion, but that which falls under the notice of sense, namely, that which is produced by the impulse of one Body upon another, and have so little use of Intellect, as not to be conscious of their own operations, by which they might know, with the greatest certainty, that it is their Mind which moves their own bodies.

As to the hypothesis of Body attracting Body, or of any thing, whether Body or Mind, operating where it is not, it is too absurd to be seriously refuted ‡. It has arisen from the term Attraction, which

* See what I have said further upon this subject, p. 37.

† P. 37.

‡ See p. 16.

which is of univerfal ufe in our philofophy of Nature : And it fhows us how dangerous the ufe of improper words is in all fciences ; for, though Sir Ifaac has exprefsly warned his readers againft fuch an abufe of the word, yet I believe, of thofe who ufe it, there are few who do not affix to it the notion of fome force inherent in the Body, by which it attracts other bodies to it ; and, indeed, the word, in its grammatical and etymological fignification, can have no other meaning.

The *third* opinion is the opinion of Mr Baxter, who maintains, that the Deity is the immediate and direét Cause of Gravitation, and all the great movements in the univerfe. But this opinion, however pious it may appear, cannot be admitted, unlefs we likewise admit, that the Deity does himfelf animate the feveral bodies ; that being the only way, as, I think, I have proved*, that Mind can move Body. Now, it would be highly derogatory to the Divine Nature, and it would be truly making of the Deity an *anima mundi*, not entirely feperated from Matter, as we ought to believe of Deity, but immerfed in it, and intimately connected with it, as our Minds are, to fuppofe that he animated every particle of Matter, and, in that way, immediately produced all the motions of Unorganized Bodies. It is certainly a much more probable hypothefis, and more worthy of the Divine Majefty, to fuppofe that he moves all thofe Bodies by inferior Minds ; and I fhall prefently fhew, that it is much more agreeable to the General Analogy of Nature, and to our original idea of the Moving Power of Mind.

There are, I know, fome who fpeak of Bodies being moved by a force originally impreffed upon them by the Deity. This ftrange notion,

* P. 47.

notion, I imagine, is derived from Sir Ifaac Newton's Firft Law of Motion, which asserts, that Bodies once fet in Motion continue always in Motion, by what he calls the *vis inertia*. But, in the *first* place, I think I have shown clearly, and shall further show in the sequel, that this Law of Motion, though laid down as an axiom, is not true; and that no Body can either begin or continue Motion by any power essential to Matter, but only by a power altogether different, namely Mind. But, *2dly*, if it were true, it could not apply to this case, being only applicable to Motion begun by bodily impulse, which, as I have shown, cannot account for all the Motions of the universe. And, *lastly*, though it might be conceived, that one original impression upon the Body, whether given by Mind or Body, might continue to make it move without ceasing, it is impossible to conceive that the same impression only once given, should make it move for some time, and, after it has ceased to move, move again, as in the case of the magnet and the iron,—of what they call the elective attraction, which the chymists exhibit in their solutions of metals,—and of the common phaenomenon of a stone falling to the ground as often as it is taken up from it.

All these false opinions, therefore, being rejected, there remains only the true opinion, that each Body is moved by a Mind belonging to itself. And this opinion I hold to be perfectly agreeable to the general analogy of Nature, and to our original idea of the moving power in Bodies; for the moving power of any Body is not a sensation, but an idea. The Motion of the Body is a fact that falls under the senses: But it is by intelligence that we apprehend the cause of that movement: And, in general, it is only by intelligence that we have any notion of cause or effect. Now, how do we get the idea of Mind moving Body? And I say it is by Conscientiousness; for it is by reflecting on what passes in our own little world, that we know that our Bodies are moved internally, not by
any

any external force ; for every Body must be moved, either externally or internally : And, as our Bodies are not moved externally, they must be moved by some internal principle ; and that principle I call *Mind* : And it is in this way, and this way only, that we form, or can form, the idea of Mind moving Body. And by applying this idea to the several motions of the universe, we shall discover, with as great certainty as the nature of the thing is capable of, that unorganized Bodies are moved by the same internal principle. And I proceed thus,

In the *first* place, I know, by the most certain of all knowledge, I mean Consciousness, that my Body is moved by this internal principle. From myself I proceed to other men ; and by analogy I conclude, that their bodies are moved in the same manner. By the same analogy I discover that the bodies of other animals are moved likewise in that way : And from thence I proceed to the vegetable, whose motions can no more be accounted for from external impulse than those of the animal : I therefore conclude that they are also produced by an internal principle. Nor can I stop at the vegetable ; but the same analogical reasoning must make me conclude, that unorganized bodies are moved also by an internal principle, since their motions cannot be accounted for, any more than those of the vegetable, from external impulse.

Thus, far, therefore, I think it is proved, by a clear analogy, that unorganized Bodies are moved by Mind ; and, as Mind can move only internally, not externally, or by application of surface to surface, as Body moves Body, it is also proved, that those Bodies are moved by Mind internally. And a like analogy further proves, what I have before endeavoured to establish, that it is not the Universal Mind that moves these Bodies, but a particular Mind ; for it will be allowed by every Body, that it is a particular Mind that

moves our Bodies : For the same reason, it cannot be denied, at least, it is not denied by any philosopher among us, that it is a particular Mind which moves the Brute. From the Brute, in the same analogical way of reasoning, I proceed to the Vegetable, and from the Vegetable to the unorganized Body ; making this general conclusion, that all those several Bodies, being moved in the same manner, are not only moved by Mind internal, but each by a particular Mind *.

The analogical method of reasoning which hath been used here, is very much practised by Plato, in all his speculations concerning Nature. And, indeed, it appears to me, that if, in natural philosophy, we do not reason by analogy, from what we see and know, to what we do not see and know, we can make very little progress in natural knowledge ; nor do I think it is possible that we can otherwise make a science of it at all. And, accordingly, not only Plato, but our modern
na-

* In this analogical way, Dr Priestley argues, (p. 258. of his Illustrations of the Disquisitions), where he says, That, if we suppose that it is an immaterial substance in Man, and not the mere organization of his Body, that feels and thinks, we must, for the same reason, suppose, that it is not the material magnet that attracts iron, but a peculiar immaterial substance within it ; and he adds, ‘ For the same reason, we may ‘ imagine *distinct immaterial substances* for every operation in Nature, the proximate ‘ cause of which we are not able to perceive.’ And I think the Doctor argues well ; for, if there be an immaterial substance in Man, and in other animals, by which they are moved, there must also necessarily be an immaterial substance in unorganized bodies, by which they are moved. The Doctor, therefore, and I reason in the same manner : Only we set out from principles quite different ; the Doctor maintaining, that there is no immaterial principle in man, and, therefore, there is none in the loadstone, and other unorganized bodies ; I, on the other hand, maintaining, that there is an immaterial principle in Man, and that, therefore, there is one in Bodies unorganized as well as organized. This shows me, that the Doctor is naturally an acute man, and can see consequences and connections of things ; and I have no doubt but that, if he had studied the antient philosophy, he would have drawn the same conclusions from the principles of it that I do.

naturalists, reason in that way, when they collect a great many particular facts of natural history, under general heads, proceeding upon the supposition, that all facts of the same kind are produced by the same cause. In like manner, I suppose that all these several Bodies, being moved in the same manner, are all moved by the same cause. If, indeed, another cause could be assigned, as the same effect may be produced by different causes, I should admit that the argument was not conclusive. But, as no other cause is pretended, except Ethers, and Fluids, invisible and intangible, which, if they could be supposed to exist, (for, as to any proof of their existence, it is not so much as pretended), would not, by any laws of mechanics known, account for the several motions of Bodies, I think I may say that this argument, from analogy, is as conclusive as any argument of the kind can be.

The great objection to this part of my system arises from the confined sense which many people give to the word *Mind*, as if it denoted only that which thinks and reflects, but did not comprehend that principle which only moves. But here again I would argue in the analogical way, and ask those objectors, whether they do not give the name of *Mind* to that principle in the Brute, which, though without thought or reflection, moves him? This principle, it is true, has sensation, appetite, and desires; but what will they say of the motive principle in the Vegetable, which has none of these? And where is the difference betwixt the motive principle in the Vegetable and the unorganized Body, except that, in the former, it is more complicated and artificial? If any one says, that he cannot conceive how there should be any motive principle without thought or reflection, appetites or desires, I would have him consider, that one Body moves another, and yet the Body moving has neither thought nor reflection, appetites nor desires: And, if Body can move Body without any of these, why should not Mind do it like-

wife? If, this notwithstanding, any one should think that there cannot be a moving power without appetite and desire, I say that there is in Bodies unorganized something, at least, very like to appetite; for, in what the chymists call *elective attractions*, we observe certain Bodies, not only showing the greatest inclination to other Bodies, and running, as it were, into their embraces, but, after they have incorporated with them, forsaking them, and, in preference to them, uniting themselves with others*.

This motive principle, whether simply moving, or having other powers, I denote by the general name of Mind; because I think I have proved, that it is not Matter: And, if it be not Matter, it must be Mind; as I hold there is nothing in the universe but Matter and Mind. But, if any man is disposed to call it by another name, such as *Life, Vitality, or a Principle of Motion*, I have no objections, provided he allow that it is not a Material Principle: For I have always held it to be frivolous and inept, to dispute about *words*, when people are agreed about *things*. At the same time, I think, it is better to give such names to these things as may serve to keep in view the governing power in Nature, and never let us forget that Mind is the author of all Motion.

I only further add concerning this species of Mind, that, as it is predominant in the system of the Material world, and makes a part of all Vegetables and Animals, it is necessary that it should abound more than any other; and, accordingly, it animates every particle of Matter, Mineral, Vegetable, or Animal. Nor is it any objection to my system, that I thus make the number of Minds infinite: For, though Matter be, in theory, infinitely divisible, yet, as I have shown

else-

* See what I have further said concerning *Appetite*, both in vegetables, and in unorganized Bodies, Vol. I. p. 237. and 238.

elsewhere *, it is not, in fact, so divided ; and it appears now to be the general opinion of philosophers, that all Bodies consist of a certain number of particles, which are perfectly solid, and, therefore, incapable of division. Now, as all Nature consists of Body and Mind, there is no absurdity in supposing that there is as much Mind in the universe as Body, and, consequently, that every particle of Matter is animated by a Mind ; not, indeed, a mind intellectual, for that is an absurd, Atheistical, system, but a Mind of the lowest kind ;—that which only moves in one uniform way.

The next in degree, as well as abundance, is the Vegetable Life, which, as it is of a higher kind, so it is more artificial, and has movements much more various, by which the plant grows, is nourished, and propagates its kind : And, as it is less abundant than the elemental life, so it is more abundant than the Animal, because it makes part of the Animal.

And here we rise to what is much more mixed and compounded, and consequently much more artificial. The Elemental Life is nothing but a principle of Motion, and a Motion always in a certain direction : The Vegetable is more compounded ; for it is a principle, joined with the matter of the Vegetable, by the various movements of which principle, Growth, Nutrition, and Propagation are performed : But the Animal is of a structure very much more artificial ; for there is superadded to the Vegetable, a Mind that perceives objects without it, or, in other words, has Sensations, feels Pleasure and Pain, has Appetites and desires, and, by that power, which is called Instinct, provides for the gratification of these appetites, and, by consequence, for the preservation of the individual, and the continuation of the kind.

But

* Vol. I. p. 243.

But the variety of Nature does not end even here ; for, however more excellent the Animal Life may be than the Vegetable, there is, even in this our earth, a Nature, by many degrees superior to the Animal—a Mind, which not only perceives external objects, but perceives that it perceives them,—which apprehends not particulars only, but generals,—recognises its own, as well as other natures,—and, at last, rises to the contemplation of the Great Universe, and its Greater Author : This Nature is *Man*. The Almighty crowned his works here below with the addition of Intellect to the Animal Nature : Then indeed, *he rested, and saw that all was good.*

C H A P.

C H A P. II.

Of the Difference betwixt Man and Brute.—This only to be learned in antient Philosophy,—likewise another Distinction, betwixt God and Nature.—The Difficulty of distinguishing Man and Brute arises from the Progress of Nature, by degrees, insensible, from lower to higher Beings.—The Distinction of Man and Brute depends upon distinguishing Ideas and Sensations.—These not confounded in antient Philosophy.—Confounded by Mr Locke and by Mr Hume.—The Use of the Word Idea in antient and Modern Times.—Some Ideas certainly not Sensations, such as the Ideas of Being, Number, Beauty, Truth;—because these cannot be apprehended by any Sense.—This is the Doctrine of Plato in the Theaetetes.—Difficulty of applying this Distinction to particular Substances.—This Difficulty solved, by recurring to the original Notion of Idea.—It denotes the inward Form of the Thing.—That inward Form Mind.—This differently expressed by Plato and Aristotle.—The Sensations are the outward Appearances or Accidents of Things.—This Distinction betwixt the two, explained.—General Observations concerning Ideas.—Of Abstract,—of General Ideas.—Ideas of Sensible Qualities, as well as of Substances.—The Consequences of maintaining that Ideas are Sensations.—No Stability of Knowledge upon that Hypothesis.—This the Doctrine of Protagoras and Heraclitus—should have been the Doctrine of Mr Hume.—Difference betwixt the Ideas and Sensations of particular Substances, explained.—This Distinction applied to Animals, Vegetables, and Unorganized Bodies.—Opinion of Savage Nations concerning the latter.—Of the Distinction of Ideas and Sensations, in Qualities—such as the Colour, White.

White—*such as the Perception of Touch—also the Perception of a particular Figure.—Of the Idea of Figure in general—of Extension—of Motion.—To have an Idea, even of a particular Thing, is to perceive the one in the many.—A greater one perceived in general Ideas.—These must be abstracted in order to be perfect.—The Distribution of Things into Genus and Species not artificial, but founded in Nature.—Both Uniformity and Variety, necessary for a System.—The wonderful Variety and Uniformity in the System of Nature.—Of our Idea of Mind.—This Idea acquired by Conscioufness.—Of the Nature of Conscioufness.—It distinguishes us from the Brute more than any thing else—is the highest Faculty belonging to the human Mind—is the Foundation of all Certainty and Knowledge.—No Reasoning without Conscioufness.—From Conscioufness we have the first Idea of Mind.—Progress in that Idea from the Mind that only moves, to the Supreme Intellectual Mind.—Of the Final Cause.—Of the Difference of our Perceptions and those of the Brute. Man defined by Nature for Purposes quite different.—The Progress of his Mind from lesser to greater ones, till he arrive at the greatest One in the Universe.*

I HAVE said a great deal, in the First Volume, upon the difference betwixt Man and Brute : But so little is the philosophy of Mind, which alone can enable us to make that distinction, studied at present, that many believe Man to be no more than a better sort of Brute, and that the difference is only in degree, not in kind. I will once more, therefore, endeavour to make this matter clear, which I am persuaded can only be done by the help of antient philosophy: If so, I would have those consider, who philosophise without that help, how poor a philosopher a man must be, who cannot distinguish himself from a Brute. There is also another distinction, which the antient philosophy will enable us to make, a distinction of still higher im-

importance in philosophy; I mean the distinction betwixt God and Nature. This is not made, or, at least, not properly made, by any modern philosopher I know, though there is nothing we value ourselves more upon than our knowledge of natural philosophy; yet it is difficult to conceive how a man can be called a natural philosopher, who cannot so much as define the subject of his science, nor tell us in what respect it differs from the subject of theology. This distinction I have also endeavoured to explain in the preceding Volume *, and shall say something more of it in this: In the mean time, I will endeavour to explain, accurately and scientifically, the difference betwixt *Man* and *Brute*.

What makes it difficult to draw the line exactly betwixt these two, is the progress, that we observe in Nature, from inferior to higher Beings by degrees not easily to be seen and apprehended by such intelligence as ours: For in this chain of Nature, which, as Homer tells us, reaches from heaven to earth, there is not any the smallest link wanting; and every thing holds of every thing, without the least gap or interval betwixt. In this progress of *Being*, Nature ascends from unorganized Body, to Body least of all organized, I mean the plant; or, in other words, she proceeds from the mere Elementary Life to the Vegetable. From thence if she had proceeded directly to the Intellectual Mind, there would have been a prodigious gap: But this she has filled up with the Animal, so wonderfully framed, that it would seem that nothing more could be made of mere Matter. Her next step, therefore, was necessarily to the Intellectual Being: And, accordingly, as she had before joined the Sensitive Life to the Vegetable, now she joins the Intellectual to the Sensitive, by superadding Intellect to Sensation; and she has joined these three together so wonderfully, that all operate together in the same Man, with a mutual connection and dependence upon one another. And thus Man, being both an animal and an intellectual

VOL. II. I creature,

* P. 217. 218. 223.

creature, muſt of conſequence aſt, ſometimes as a mere animal, and ſometimes as an intellectual Being. And as it is only by their actions and operations that things are diſtinguiſhed, it is no wonder that Man and Brute ſhould be confounded by thoſe who cannot think juſtly, and diſcriminate accurately.

In the preceding Volume, I have endeavoured to ſhow, that it is by Ideas that the Intellectual Nature operates, whereas the Sensitive operates only by Senſation ; ſo that, if we cannot rightly diſtinguiſh betwixt Senſations and Ideas, we can never properly make the diſtinction betwixt *Man* and *Brute*.

I do not know that theſe two were confounded by any antient philoſopher ; I am ſure, at leaſt, they are not in the philoſophy of Plato and Ariſtotle. The word *Idea* comes from the moſt antient ſchool of philoſophy in Europe, I mean the Pythagorean, and, if we ſuppoſe it, as I do, to be the ſame with the Egyptian School, the moſt antient in the world ; for it is uſed by Timæus the Locrian, in that moſt valuable work of his, ſtill preſerved to us, *De Anima Mundi*. The ſenſe in which it is uſed by that author is the true etymological ſenſe of the word, denoting the *form* of the thing, not that form which is ſeen by the corporeal eye, but what is ſeen by a much purer and nobler eye, the eye of the Mind. In this ſenſe it is uſed by all the philoſophers of the Schools of Plato and of Ariſtotle ; and it has been ſo uſed by me throughout this whole work, and in my other work upon the *Origin and Progreſs of Language*. The more antient Engliſh writers, even as late down as Biſhop Wilkins, who writes that grand philoſophical work upon Language, do not uſe the term at all, but, in place of it, the word *notion*. Mr Locke was the firſt author in England, as far as I know, that made uſe of it ; but, not being a ſcholar, and altogether unlearned in antient philoſophy, he has uſed it moſt abſurdly, to denote the perceptions of Senſe,
which

which are common to us with the Brute : And in this manner he has confounded the *Brute* with *Man*, in the very beginning of his work upon the human Mind ; nor does he appear to me ever to have rightly distinguished them, or formed a just notion of what an idea was, though it be mentioned in every page of his book. Since his time, ideas and sensations have been confounded in all our philosophical writings ; and the strange language, of *ideas of sensation*, has been introduced into philosophy ;—a confusion of terms which the French have avoided ; for they distinguish betwixt *les idées* and *les sensations*.

Mr Hume, following the footsteps of Mr Locke, (and, indeed, I cannot help saying that Mr Locke has laid the foundation, though, I believe, without intending it, of all the Atheistical philosophy that has been broached since his time), has told us that ideas are but weaker sensations. If so, there will be no difference betwixt Man and Brute, except in favour of the Brute, who has commonly acuter sensations than we have.

One consequence, which Mr Hume has drawn from this doctrine *, is, that, as our Mind can only operate by the organs of the Body, it must perish with the Body. And, indeed, admitting the premises, it is not easy to deny the conclusion, or to prove philosophically that the Mind, never acting but in conjunction with the Body, can have a separate existence. And there is another consequence, which, perhaps, Mr Hume did not foresee, or, if he did, I believe he would not have been much alarmed, that, as there must be Ideas in the Divine Mind, if Ideas be Sensations, then Matter, from which they are derived, must be at least coeval with the Deity ;

I 2

and

* In one of the valuable legacies he has left to the public, which I have seen printed, but I believe it is not yet published.

and Deity muſt be ſo far dependent upon it, as to derive from it all his knowledge.

It is, therefore, of the greateſt importance in Theology, and the religion of Nature, as well as in the philoſophy of Mind, to be able to diſtinguiſh accurately betwixt Ideas and Senſations.

There are ſome ideas, which, I think, it muſt be evident to every Body, are not Senſations, ſuch as the Ideas of *being* or *exiſtence*, of *the ſame*, or *different*, of *like* or *unlike*, of *number*, that is, *multitude* defined, of *beauty*, *goodneſs*, *truth*, and *ſcience*; for by what ſenſe can any of theſe be apprehended? Is it by the ſight, the hearing, the touch, the taſte, or the ſmell? Is it by any, or all of theſe? No body, I think, will ſay that it is; for, though we perceive, by the ſenſe, objects that exiſt,—that are like or unlike to other objects,—that are beautiful,—that are number, &c. yet we certainly do not perceive by the ſenſe the ideas of Exiſtence, Likeneſs, Beauty, Number, &c. And, if they are not perceptions of the ſenſe, or ſenſations, they muſt be Ideas; for every thing we perceive is neceſſarily the one or the other.

It is by theſe examples, that Plato, in the Theaetetes, has ſhown the difference betwixt Senſations and Ideas. The former, ſays he, the Mind perceives by the Body, and its organs; the other it perceives by itſelf, without any aſſiſtance from the Body*. He might have

* Plato Theaetet. p. 84. editio Serrani. The Greek ſcholar will obſerve in this paſſage of Plato a diſtinction, which is ſomewhat nice, betwixt δ the Relative in the dative caſe, and δ *iv*, the genitive with the prepoſition δ *ia*; the former ſignifying the Agent, or the Percipient, in this caſe, the other the Inſtrument by which the percipient perceives. Thus we perceive all the objects of ſenſe, ſuch as colours, ſmells, taſtes, $\tau\eta$ *ψυχῆς*, or *by the Mind*; but we perceive each of them *by*

have said the same of all the most general Ideas, such as those contained in the Categories, as Substance, Quantity, Quality, Relation, &c. But, though this be no doubt an essential difference betwixt Ideas

the means of, or, as we may express it in English in one word, *through* the several senses, the sight, the hearing, or the taste, that is, in Greek, δι' ὀφθαλμοῦ, δι' ἀκοῆς, δια γυναικῶς; or, as Plato has likewise expressed it, δι' ἐφθαλμοῦ, δι' ὠτων, &c. that is, by the means of the organs of these senses. This shows how much the Greek philosophy contributes to the perfect understanding of the Greek language.

I cannot help here observing, that this Dialogue of Plato is one of the finest philosophical dramas that ever was written: Though there be but three personages in it who act any considerable part, and the subject perfectly one, viz. An Inquiry what science is; yet Plato has contrived to give it a wonderful variety, with incidents, turns, and *peripateias*, as they may be called, which are most pleasing and surprising: And the ironical character of Socrates, pretending to know nothing himself, and to be only the midwife of other peoples knowledge, is no where better kept up. I would, therefore, recommend this Dialogue, together with the Protagoras and the Gorgias, as perfect models, for those who, not contented with the plain Didactic and Aristotelian method, as it may be called, of delivering philosophy, would join with it the ornaments of fine writing. If they think to do this by treating it in a rhetorical or poetical stile, they are very wide of the mark, and fall into the common error of those, who think that it is ornamented diction only that makes poetry; whereas it is *fable, characters, and manners*, that constitute the essence of poetry, the language of which may be perfectly plain and simple, and ought to be so, if the nature of the subject requires it.

I have elsewhere observed, vol. 1. p. 401. that the principal question in this dialogue is not resolved. This was reserved, as it would appear, for Aristotle to do in his books of Analytics, which, I have no doubt, were written with a design to explain what Plato, in this Dialogue, has so much puzzled and perplexed; for what the schoolmen say of these two philosophers, that *disputat Plato, docet Aristoteles*, will apply, if in any case, in this. But, though the principal question be not determined, it is decided very positively by the reasoning above mentioned, that Sensation is not Science; for, says he, as there can be no science without those ideas I have mentioned, and as those ideas are not perceptions of sense, therefore Science is not Sensation. And I doubt this was all the length that Plato could go, consistently with the character of Socrates, to determine negatively what science was not.

Ideas and Sensations, and which, accordingly, I have made much use of in the course of this work, yet it is sometimes difficult to apply it, particularly to Ideas that are special and particular to certain things, such as a particular substance, an Animal, for example, or Vegetable, or a quality or accident of any of these, such as Colour or Figure ; for, as we have Sensations as well as Ideas of such things, it becomes a matter of pretty nice discrimination to distinguish accurately the one from the other. Thus, when I see a man, I perceive his colour, his shape, and certain other things that fall under my senses ; at the same time I have the Idea of the Man : But, how am I to distinguish what I thus perceive by my Senses, from what I perceive by the Mind alone without the Senses, or, in other words, the Idea ?

In order to explain this matter, we must recur to the original, and etymological signification, above mentioned, of the word *Idea*, which, by a metaphor taken from the outward appearance of the thing, denotes that *inward form* by which every thing is what it is, and nothing else * : And this form I must be able to distinguish from the matter,

* This *form*, in the language of the Pythagorean School, as I before observed, is called *ιδια*, (from whence our English word *idea*), a word much used by Plato, but seldom by Aristotle, except when he disputes against the Ideas of Plato. The word generally used by Aristotle, and very frequently by Plato, is *ειδος*, which Aristotle very often paraphrases, by calling it the *το τι ηι ειναι* of the thing, or simply the *το ειναι* construed with the dative of the thing, as *το ειναι ανθρωπου, οτ το ειναι ειναι* : And sometimes he calls it the *λογος* of the thing. The *matter* he gave the same name to, that other philosophers did, calling it *υλη*. The composite, that is, the Matter and Form joined together, he held only to have a real existence ; therefore he called it the *το ον*, or the *τοδι τι*, and gave it a name, such as, *ανθρωπος*, or *ιππος*, and then he distinguished betwixt *ανθρωπος* and *το ειναι ανθρωπου*, and betwixt *ουδου* and *το ειναι ουδου*. See Aristotle *De Anima*, lib. 3. cap. 5. On the other hand, Plato, holding that the Form or Idea had an existence, not only out of Matter, but out of the Mind of any intelligence, said that the idea

matter, otherwise I can have no idea of the thing. In the works of art, this distinction between the Matter and the Form is obvious to common observation. And no philosopher will deny that there is the same distinction in the works of Nature, if he believes that the material world is the work of Intelligence; for, if that be the case, the Form of every thing in Nature must be, like the Form of artificial things, the Idea in the Mind of the artist who produces them. But, it will be asked, How are we to discover this Idea in the works of Nature? And it must be acknowledged, that it is more difficult to discover it in the works of Nature than in those of Man, for this plain reason, that the former being the work of most perfect Intelligence, cannot be so easily comprehended by us as the works of Intelligence, such as our own. But it is to be discovered, even by us, at least in a certain degree; and there is one difference betwixt the works of Nature and of Art, which helps us very much to that discovery. The works of Art are, in themselves, all lifeless and inactive; whereas the works of Nature have, like the images which Dedalus is said to have made, life and motion in themselves; and it is this principle of life and motion, which I call Mind, that makes the Form of every Natural Thing, producing all its motions and energies, and its every other quality. That there is such a Mind,

was the *τα ος*, or the *τα οςτας ος*, or, as we would say in English, *the thing*, or, *the thing itself*: And this was his meaning when he spoke of *αυτο αυθωπος. αυτο-ιππος*. As to the composite, or form incorporated, he said it was in constant change, and could not be said to exist, *ουκ εστι, αλλα γινεται*; and therefore it could not be the subject of science. But both philosophers agreed in this, that the Form of any thing was an Idea in the Divine Mind, which, being impressed, as it were, upon Matter, produced all these *corporeal forms* we see in the universe. Thus much I thought proper to say, for the information of those who would apply themselves to the study of ancient philosophy, where, though they understand the Greek language, they will find terms of art that they do not understand, being altogether different from those used in modern philosophy; and which, therefore, without some such explanation as I have given them, may discourage them very much in the study of the two great authors of that philosophy, Plato and Aristotle.

Mind, or ψυχή, in all animals and vegetables, which makes their *είδος*, or *form*, Aristotle has told us *; and he says also, that there is something like it in all natural Bodies, unorganized as well as organized.

And this shows us of what importance it is in philosophy to establish, as I have endeavoured to do, that there is a Mind, or Motive principle, in all Bodies; for, if so, it is evident that, as Mind is predominant in every thing, that Mind must be principal in every Body, and must constitute its *form* and its *essence*, from which all its qualities are to be derived. Every thing here below, therefore, is a system; for, as Nature itself is a great system, so every part of it, animal, vegetable, or mineral, is a lesser system; and, if so, it is evident that, in every one of these lesser systems, as in the greater, there must be something principal and predominant, and, by consequence, some things subordinate and dependent. And these are the things which are apprehended by the Sense; whereas, what is principal in the thing, and makes its nature and essence, is apprehended only by the Intellect.

That there is in every thing something principal, distinct from its material and sensible qualities, and which makes the thing what it is, and denominates it to be of such and such a species of things, is evident from this, that the matter of every thing is continually changing. In animal or vegetable bodies, there is not one particle of them that is not changed in a few years, and their sensible qualities also are very much altered; and in mineral bodies also there are continual changes going on, at least with respect to size and figure:

Yet

* Lib. 2. *De Anima*, cap. 1. where, in giving a definition of ψυχή, or Mind, after he has made a distinction betwixt the ὕλη or matter, and the μορφή or είδος, that is, the *form* or *idea*, he adds, ἀναγκαῖον ἔχει τὴν ψυχὴν οὐσίαν εἶναι, ὡς εἶδος σώματος φυσικοῦ, ὅντιν ἔχει ζῶν ἔχοντος.

Yet all those substances continue still the same. And not only does the species still remain ; but even the individual, though every particle of it be changed, is still the same. Now, what is it that preserves this wonderful identity, amid such variety of changes ? It is, I say, this internal principle, this *Mind*, as I call it, which is apprehended only by the Intellect ; whereas the Senses perceive no more than the *matter* of the Thing, and those material qualities which are continually changing. However imaginary this notion of identity may appear, as, I know, to some every thing will appear so that they cannot see with their eyes or lay hold of with their hands, yet it is truly the principle, without which there would be no stability or permanency of existence in this lower world, but every thing would be in a perpetual flux, like the stream of a river, according to the philosophy of Heraclitus and Protagoras, whom Aristotle refutes * by making the distinction I make betwixt the Idea or Form of the thing which is permanent, and its material and sensible qualities which are fleeting and constantly changing.

I will further add upon this subject, that whoever believes there is no such internal principle, or Mind, as I call it, in Bodies, which makes them cohere, moves them, and produces all their several qualities and accidents, but that it is a certain arrangement and configuration of the parts which produces all these effects, and constitutes the nature and essence of the thing, is a materialist. If this be his opinion concerning Man or any other animal, he is acknowledged by every body to be such ; and it will scarcely be denied, if he has the same opinion with respect to the vegetable : And if he thinks so concerning animals and vegetables, he will, *a fortiori*, be of opinion, that unorganized Bodies are of the same kind, deriving all their qualities from the matter of which they are composed, variously arranged. It was in this way that the Materialists of old reasoned, particularly Epicurus, who made the nature and properties of every thing, organized and unorganized, vegetables and animals, and, a-

* Metaph. lib. 4. cap. 5. p. 878. Ed. Du Val.

mong other things, the human soul, to depend upon the position, order, arrangement, and figure, of the atoms or particles that compose them ; all which Lucretius has expressed in one line,

Concurfus, motus, positura, ordo, figura.

This was the necessary consequence of those philosophers excluding Mind altogether from the system of the universe, and maintaining that there was nothing in Nature besides Body and Space : And it must be allowed that their system was at least consistent with itself. On the other hand, the Theists, who maintain that Mind is the principal thing in Nature, and that which constitutes the essence of every animal and vegetable, if they stop short there, and admit that Minerals, and other unorganized Bodies, derive their nature and essence, their motions and their other qualities, from the order and arrangement of their parts, betray their own cause, are inconsistent with themselves and but half Theists. This was not the case of the Peripatetics, who did not derive the qualities of Bodies from such arrangement, but from what they called their Substantial Form, meaning that *inward Form*, or *Mind*, as I call it, which made them to be substances of such and such a character *. And here the reader may observe how well my system, whether true or false, hangs together. The principle of Movement in Bodies, when they are not moved by any external impulse, I make to be an internal principle, which, being immaterial, I call Mind. Now, as substances, unorganized as well as organized, are distinguished one from another by the different arrangement and configuration of their parts ; and as all these different arrangements and configurations must be produced by Motion, there is nothing more natural, and, indeed, I may say necessary, than that the same moving principle should constitute the very nature and essence of every Substance. We therefore know so much of the essence of Substances, that we know, in general, that it is Mind, the Great Principle and Author of every thing in the universe : But we do not know particularly what kind of Mind it is that

* See what I have further said concerning substantial forms, Vol. 1. p. 58.

that informs each particular substance, though we know, in general, that, as the Substances are different, so the Mind, which informs them and constitutes their essence, must also be different. It is, therefore, true, in one sense, that we do not know the essence of any Substance. But then we know essential qualities of different Substances ; and by these we discriminate one Substance from another. These when we can distinguish from accidental qualities, which may exist in the thing, or not exist, and yet the thing continue the same, we are said to have the *Idea* of that thing.

This distinction betwixt the internal *form*, or the *nature* and *essence* of the thing, and its *material* and *accidental* qualities, is the foundation of the distinction betwixt Ideas and Sensations, laid down by the two commentators upon Aristotle, Simplicius and Philoponus, which I hold to be perfectly just. The Nature or Essence of the thing, say they, is perceived by the Mind, and by the Mind only, operating without the Body ; and therefore is the subject of our Ideas : Whereas the Accidents of any thing, which flow from its nature and essence, being perceived by the Senses, are the subject of our Sensations.

With this distinction, the difference betwixt Ideas and Sensations may, I think, be made very clear, even with respect to subjects of which we have both ideas and sensations, such as the subjects above mentioned. But, before I come to apply it to particular examples, I will make some observations upon Ideas as they are considered by our modern philosophers. And, in the first place, Ideas and Abstract Ideas, are, in the language of that philosophy, considered as the same thing, as if there could be no Idea that was not abstracted from the matter with which it is incorporated. If that were the case, savage nations would have no ideas at all, and very few of the vulgar among us. But the truth is, that we must necessarily see the *Form* or *Idea* in the Matter, before we can abstract it ; for, how can we abstract from Matter what we do not know ? And the fact is, that, in the practice of life, and even in practical Sciences, such as

natural philoſophy, mechanics, and aſtronomy, we do not abſtract the Form from the Matter, but conſider them both together. In pure mathematics, indeed, we do abſtract and conſider the Forms by themſelves without the Matter; and it is only with reſpect to this ſcience, that the antient philoſophers ſpeak of Ideas of Abſtraction *. It is therefore true, that Ideas are conſidered *in* the Matter, as well as *without* the Matter; and therefore Ideas, and abſtract Ideas, are not ſynonymous terms. It is true, however, that the Mind muſt have ſome notion of the Form as diſtinct from the Matter, though not conſidered as actually ſeparated from it; and it is this that diſtinguiſhes eſſentially the Ideas of the Man from the Senſations of the Brute, who has no notion, either of the Form or of the Matter, and, conſequently, is incapable of diſtinguiſhing them.

2do, Ideas are not general only, as is commonly believed, but alſo particular; that is to ſay, they are not only perceived in many particulars, but in one particular, ſuch as an animal or a vegetable. If, therefore, there were but one thing of the kind, as ſome of the antients ſuppoſed the ſun to be, which, therefore, they ſaid was *monadic*, ſtill we ſhould have an idea of it, though there were neither genus nor ſpecies to which we could refer it; for, to generalize, is no more than to make that reference, the Mind having perceived a like-*neſs* betwixt particular things, and in that way forming the Idea of a genus or ſpecies. Nor is there any thing to hinder a ſenſation being generalized by the Mind's perceiving that the ſame ſenſation ariſes from many different things: But it will not therefore become an Idea, unleſs the Mind perceive ſomething of the nature and eſſence of the ſenſation which diſtinguiſhes it from every other ſenſation.

Thus, it appears, that, though generalizing be, no doubt, an operation of the Intellect, which is given to Man but denied to the

Brute,

* Plato, nowhere, as I remember, ſpeaks of ſuch Ideas; but Aristotle and his commentators ſometimes mention them, and ſay that they are *δι' ἀφαιρέσεως*; but they only apply the term to mathematical entities, ſuch as lines, figures, and numbers

Brute, yet it is not essential to an Idea, but may belong also to a Sensation. That philosophical language, therefore, among us, which makes Generals and Ideas to be the same thing, and speaks of Ideas, Abstract Ideas, and General Ideas, as all synonymous terms, is not accurate.

There is a *third* general observation concerning our Ideas, which I hinted at in the preceding observation, but which it is proper to explain more fully. It is this, That not only Substances, or things existing by themselves, such as Animals, Vegetables, or Bodies unorganized, have their nature and essence which may be the subject of Ideas; but also the qualities of such Bodies, such as hot and cold, moist and dry, hard and soft, &c. have a certain nature and essence, which makes them operate in such and such a way upon the organs of our sense, and produce such and such Sensations. And, when we perceive that, then we have an Idea of that Sensation.

There is another general observation, I will make, which concerns both our Ideas and Sensations, as it relates to the manner in which we acquire our Sensations, compared with the manner of our acquiring our Ideas. Our Sensations are produced by the impression which external objects make upon the organs of our Sense. It is by Motion, therefore, that we have our perceptions of Sense; and this Motion must be different, and consequently produce different perceptions, according to the disposition of the object, of the organ, or of the medium through which the object operates. On the other hand, the Idea is not produced by the impulse of any material objects upon the organs of Sense: It has, therefore, nothing to do with Motion, but is something fixed and permanent, not fleeting and transitory like the perceptions of Sense. This being the case, it is not to be wondered, that those philosophers of antiquity, mentioned by Plato in the Theaetetes, such as Protagoras and Heraclitus, who maintained that all our knowledge was nothing but Sensations, maintained at the same time that we had no knowledge that

was fixed or permanent, but that, as all thoſe things which affected our Senſes were in conſtant motion and continually paſſing away, our knowledge was of the ſame kind. Further, they maintained that the Senſations of different men being very different, and of the ſame man at different times, varying, as I have ſaid, according to the diſpoſition of the organ, the object, or the medium, what was truth or knowledge to one man, was not ſo to another, nor to the ſame man at different times; and, therefore, that every man was, at every time, a ſtandard to himſelf of Truth and Knowledge. On the other hand, the philoſophers, who maintained a difference betwixt Ideas and Senſations, affirmed that all our knowledge conſiſted of Ideas, which, as they all proceeded from the Divine Mind, where were the original *forms* of all things, the archetypes of all the forms to be ſeen here below, were as permanent as the Divinity himſelf. If Mr David Hume had been learned enough to have underſtood the doctrine of Protagoras and Heraclitus as explained by Plato and Aristotle, he would certainly have embraced it as a neceſſary conſequence of his doctrine of Ideas being nothing but Senſations; and, upon that foundation, would have raiſed a much better ſyſtem of Scepticiſm and Infidelity than any he has produced.

Having premiſed theſe obſervations, I come now to apply this diſtinction, that I have made betwixt Ideas and Senſations, to particular caſes; and I will begin with the Ideas of Subſtances, ſuch as the Idea of any particular man: The outward form or material part of this object makes an impreſſion upon ſeveral of our ſenſes: By the Sight, we perceive a coloured ſuperficies; by the ſame ſenſe, we perceive the object in different places at different times, that is, in motion; by our Hearing, we perceive the ſounds that it utters; and, by the Touch, we feel that it is ſolid and reſiſting. But not one of theſe perceptions, nor all put together, make the Idea of a man; for it is a miſtake to imagine, that the Idea of any thing is nothing but a collection of the ſeveral ſenſations which it produces. From theſe, indeed, the Idea may ariſe, but they are not the Idea itſelf,

itself, which, as I have said, is the inward form of the thing, or *substantial form*, as the Peripatetics call it, producing all those external qualities that affect our Senses.

Is it then necessary, it will be said, that we should be able to define a Man as Aristotle has done, in order to have the Idea of a Man? and I say it is, in order to have a perfect Idea. But Ideas are more or less perfect; and there is a very great difference betwixt the Idea of a vulgar Man, and the Idea of a Man of Science or a Philosopher: But still the vulgar have Ideas. And I say, that every Man who has the use of Intellect, upon contemplating any object, such as a Man, perceives that there is one nature in him, which makes him what he is, and distinguishes him from every thing else: And this one nature is the Internal Principle, or Mind, which the greatest savage, if he be a man at all, will apprehend, from observing the actions of the animal; for it is from energies and operations chiefly that we know the nature of any substance.

And here we may see very clearly the difference betwixt the Man and the Brute; for the Brute has no notion of that *one* nature, but perceives only the several external qualities of the thing which affect his senses.

It is in this way that we form our Ideas of all animals, which, as Aristotle has observed, are better distinguished by their Mind, or Inward Principle, than by their Outward Form. The same observation I extend to Vegetables; for, if there be a Vegetable Life, which, I think, no philosopher can deny, the difference of that Life, or Mind, as I call it, must distinguish one vegetable from another. Nor do I stop at the Vegetable; but, as there is, according to my philosophy, a motive principle, which I likewise call Mind, in every Body, unorganized as well as organized, I say, that Mind makes a distinction betwixt unorganized Bodies, as well as betwixt Animals and Vegetables: And, accordingly, we see, that, according to the
difference

difference of this principle, those Bodies have different motions, being sometimes moved upwards, sometimes downwards, sometimes to one another, sometimes from one another; and, from the same principle, I say, come, not only their Motions, but all their other qualities. The notion, therefore, of this principle, is what I call the Idea of such Substances; and it is an Idea, which even the savage nations have, who, in that respect, are, I think, much better philosophers than our Materialists; for those nations believe that there is a spirit in all those Bodies, which makes them operate in the manner they do*. And so much for the Idea of Substances.

I am now to speak of our notions of Accidents or Qualities: These, though they be perceived by the Sense, and these perceptions retained by the Phantasia, and likewise generalized by the Intellect, so that we conceive them to be produced by many different objects, yet, if we know nothing more of them, we have no Idea of them, because we know nothing of their nature and essence; for that every quality of any material object has a certain Nature by which it acts upon one Sense, and not upon another, and produces one kind of Sensation, and not another, must be evident to every one. Now, unless we can distinguish the different Senses upon which these different qualities operate, and have some notion, however obscure and imperfect, of the manner in which they operate upon different Senses, we cannot be said to have any Idea of them.

I

* This is a fact well attested by an author, from whom we have the best account of the natives of North America, and the earliest, before they were infected with our vices and opinions. The author, I mean, is Gabriel Sagarde, a religious of the order of St Francois, who was for several years a missionary among the Hurons, about the middle of the last century, and is, I believe, the first who has published any thing concerning them. He is an author that I have made much use of in my work upon the Origin and Progress of Language; and from him, and from another missionary among another tribe of those savages, the Albinquois, who, I believe, is yet alive, and with whom I conversed much, (his name is Roubaud), I have learned more concerning those nations than from any other authors or living persons.

I will give some examples of this distinction betwixt Sensations and Ideas in qualities; and my first example shall be of a Colour, such as *white*: For, as it is by Colour that the face of Nature appears to us, I think it is not improper to begin with an example taken from it.

Those, who know no more of philosophy than what is to be learned from the works of Mr Locke, will think it strange that I should speak of the Idea of a Colour; for Mr Locke tells us, that all such perceptions of Sense are simple Ideas, (so he calls Sensations), which therefore cannot be defined; and, if so, it is clear, that they cannot be Ideas, in my sense of the word. The admirers, therefore, of Mr Locke, will be disposed to ridicule me as much, as he has endeavoured to ridicule Aristotle for his definition of Motion. But it is Mr Locke that has made himself ridiculous, not Aristotle, by pretending to philosophise, without being able to distinguish betwixt a Sensation and the Idea of a Sensation. The Sensation itself certainly cannot be defined, because it is a Sensation, and not an Idea: But the Idea of a Sensation may be explained by definition, as well as every other Idea, being the operation of Intellect; and it is to be defined in the manner I have just now mentioned, by which all Sensations are to be defined. The Sensation of *White* is nothing but the perception by the Sense of Sight of a patch of light upon any superficies, more or less bright, as the Colour is more or less pure. This Sensation, though preserved in the Phantasia, and conceived to exist in many different objects, is not the Idea of this Colour: What makes a perfect and scientific Idea of it is well known to the optician; for he knows that it is the reflection of all the rays of light, without separation or discrimination, which, being collected and refracted in the pupil of the eye, and forming an image upon the retina, gives a perception of this Colour. But the vulgar have the Idea of *White* as well as the philosopher, though not near

fo perfect. What then is their Idea? It is certainly something more than the fimple perception of Senfe; for they know, in the *firft* place, of what Senfe it is the perception; that it is of the Senfe of Sight, and of none other: *2dly*, That it is perceived at a certain diftance, not too near, nor too far off: *3dly*, That it cannot be perceived without light, and therefore not in the dark. The brute knows none of thefe things, and therefore he has no Idea of the Colour *White*; and this is the cafe of a very young child, before he has got the ufe of Intellect.

I will give the example of another Senfation, of a kind quite different, which is not perceived at a diftance like Colour, nor is not confined to one organ of Perception, but is diffufed all over the body, and is perceived in the dark as well as in the light. This is Touch, of which every animal has the Perception, though he may want every other Senfation. But he has not, therefore, the Idea of it, unlefs he can diftinguifh it from the Senfe of Sight, and the other fenfes, by its different manner of operating: And the fame is to be faid of the Perceptions of the other Senfes, of Tasting, Smelling, and Hearing. In fhort, unlefs the Mind can diftinguifh the Perceptions of one Senfe from thofe of another, even from thofe that appear to refemble it the moft, as Tasting refembles Touching more than the Perception of any other Senfe, and is able to give fome account of the difference, it is no more than a fimple Perception of Senfe, fuch as a Zoophite has, not an object of Intellect.

I will give one example more in the Perception of any particular Figure, which enters by two Senfes, the Touch and the Sight. All that I perceive by the Touch is a certain fubftance, which refifts my Touch: But this is no more than a Senfation, though I perceive that this refiftance is not every where, but in a certain fpot. Again,
when

when I perceive Figure by my eye, I have no Perception but of Colour confined to a certain spot: But it will be said, what is this other than the Idea of Figure, which is nothing more than extension, bounded and limited? And here appears the difficulty mentioned above, of distinguishing betwixt the Sensation and the Idea relative to the same object. A man who has already formed the Idea of particular figures, such as a Square, a Triangle, and a Circle, does instantly apply that Idea to any Figure, the moment he has the perception of it by the Sense; and, therefore, he confounds the Sensation with the Idea. But we must suppose ourselves in the case of a Man who has no Idea of any Figure whatsoever; and such undoubtedly is the case of the Brute. Now, what will that man perceive but a patch of Colour, not every where, indeed, as far as the sight reaches, but confined to a certain spot. But, in order to have the Idea of the Figure of this patch, he must know something of the lines that bound it; he must be able to distinguish a Straight Line from a Curve; and, if it be a Rectilineal Figure, or mixed of Straight and Curve Lines, he must be able to number the sides of it. Now, that cannot be without the Idea of Number, which every Man, at least every Philosopher, will readily acknowledge, is not a Perception of Sense; for the Brute, who has perceptions of Sense as well as we, though he perceives Multitude, and can distinguish it from one single thing, has no perception of Multitude Limited, that is, Number;—much less does he know the procession of Number in regular order from Unity upwards.

As to the general idea of figure, if I have proved that the Idea of any particular figure, such as a triangle or a square, is not a perception of sense, it will follow, *a fortiori*, that neither is the idea of Figure in general such a perception, that being still further removed from the Sense, and more an operation of Intellect, than the idea of any particular figure. Accordingly, I am persuaded that sa-

vage nations, even such of them as have made some progress in arts and civility, have neither a notion of it, nor a name for it, any more than for other general ideas, such as substance, quantity, quality, and the like.

The same may be said of the Idea of Extension, which is still more general than that of Figure; for Figure is Extension bounded. There are, however, qualities or accidents of extended subjects, as well as of figured, which are perceived by the Sense, such as hard or soft, rough or smooth, hot or cold, light or colour, which, however much we may abstract or generalize them, will never make the Idea of Extension. What the philosopher's Idea of Extension is, I have elsewhere explained*: And the Idea of it, among our vulgar, if they could solve and explain it, would, I believe, appear to be pretty much the same; for they would tell you, that it was something which they felt or saw, and which had parts, without any interval betwixt these parts; and that is nothing else, in philosophical language, but Quantity Continuous.

Motion is one of Mr Locke's simple Ideas of Sensation: But here he falls into the same error as with respect to colour; he has confounded the sensations belonging to Objects in Motion, with the Idea of Motion. The Sense perceives hardness or softness, light or colour, in the object moved; but these surely do not make the Idea of Motion. It perceives also the object moved to be in a certain place. But neither is Place the Idea of Motion; for the Idea of Place implies something fixed for some time, however short; whereas Motion necessarily implies a change or a progress from one state to another, which it is impossible that the Sense can apprehend; for Sense can only be affected by the present state of the thing, however

* p. 21.

ever momentary that state may be. The change, therefore, from one state to another, never can be perceived by Sense.—It may be said, I know, that the Sense perceives the thing in one place, and then, some time after, in another; and that this makes the Idea of Motion. But I deny that Time is a perception of the Sense; for Time is a Perception of the interval betwixt the changes of any thing measured by Motion, or, as Aristotle has defined it, it is the perception of what is *first* and *last* in Motion, or, as he has given it, in two words, it is the Number of Motion*. Now, I say it is impossible that the Sense can have any perception of an interval,—of *first* and *last* in Motion, or in any thing else; because Number, as I have said, Order and Succession, is no object of Sense, but of Intellect.

This account I have given of the Ideas of particular things agrees with Plato's description of an Idea,—that it is the perception of the *one* in the *many*; for we must perceive the *one* principal thing in any object, upon which all its qualities and accidents depend, otherwise we cannot be said to have an Idea of it. But the intellect perceives a greater *one*, and which, therefore, forms what is truly called a General Idea. Of this kind are the Ideas of Genus and Species, the first of these denoting an Idea more general than the other, and to which the other is subordinate: And there is the Idea of Difference, likewise a general Idea, by which the several specieses of the same genus are distinguished from one another. In all these Ideas, the Mind must perceive *one* nature common to *many* things, and which is called, in the language of Greek philosophy, the *το καθολου*, opposed to the *τα καθ'εαυτα*, that is, the same Nature perceived only in individuals.

This

* *Αριθμος της κινήσεως.*

This generalization of Ideas is an arrangement or distribution of Things, but which we are not to imagine is artificial, and devised by Man, to facilitate his comprehension of them. It is the work of Nature, or, rather, of the great Author of Nature, who has so contrived this wonderful frame of the universe, that all things in it are both like and unlike : Nor, indeed, could it otherwise have been a system ; for there can be no system, where every thing is the same, or every thing different. There must therefore be a *concordia discordans* in all systems, which is so conspicuous in this system of the universe, that, with the greatest uniformity it is possible to conceive, there is such an amazing variety, that no two individuals of any species of things are perfectly alike, not two leaves of the same tree.

If these general Ideas are perfect, the Mind only considers the common Nature, without regard to the particular Things in which it is found ; so that there is abstraction as well as generalization. Such is the Idea of the Philosopher, but which is hardly to be found among the vulgar, except in one subject, that is Number, with respect to which, even the vulgar appear to me to generalize and abstract as perfectly as the Philosopher. But, in geometry, even our mathematicians do not sufficiently abstract ; the reason of which I take to be, that they accustom themselves too much to the use of diagrams, which are sensible representations of the Ideas. As to Brutes, I think no Body can believe that they see this *one* common Nature in the *many*, or that they have general Ideas ; though a man, that has learned no better philosophy than Mr Locke's, may confound their Sensations with the Ideas of particular things, which has obliged me to take so much pains to distinguish them. This, I hope, I have done, by showing that they are different, both as to the Subject of them, that of the one being the Nature and Essence of the thing,

thing, while the subject of the other is nothing but accidents or qualities of the thing ; and likewise, as to the manner of the Mind's operating, when it forms Ideas, and when it has only perceptions of sense ; in the one case, operating by itself, without the assistance of the Body, or its organs, in the other, with the assistance of the Body.

Before I have done with Ideas, I must take particular notice of one, the subject of which is of the highest dignity and excellence in Nature. The subject I mean is Mind, the perception of which distinguishes Man from the Brute, more than any thing I have mentioned. This perception even Mr Locke does not confound with Sensation : Nor, indeed, is it possible to conceive how Mind should be perceived by any of the Senses ; for it is allowed by all to be a power invisible, whose operations we may perceive by the Senses, but we can never, in that way, perceive itself.

The way, too, in which we acquire the Idea of Mind, deserves our particular attention. Mr Locke has told us it is by reflection ; and so far he is right : But he has not told us by what power or faculty of our Mind we are able to reflect. This faculty is Consciousness, which is peculiar to the Intellectual Mind, and distinguishes us more from the Brute than any thing I have hitherto mentioned. By other faculties of the Mind we *perceive*, but, by Consciousness, we *perceive that we perceive*, or, to express it in common language, we *reflect*, and know what we are doing : And not only do we know, in this way, what we *are* doing, but what we *have* done ; for Consciousness goes to the *past* as well as to the *present*. Now, that the Brute Mind can turn upon itself in this manner, and review its own operations, no man can really believe. Even we ourselves, when we act not as an intellectual creature, but as a mere animal, which we very often do, are not conscious, and are then very
properly

properly said to act without knowing what we are doing *. In this way the Brute always acts ; for, though he perceives objects of Sense as we do,—has appetites and desires,—feels pleasure and pain,—provides for himself, for his offspring, and often for the community of which he is a member,—and, indeed, does very wonderful things,—he does not know that he does them, any more than the purpose for which he does them.

This *consciousness* of our actions, when it is accompanied with approbation or disapprobation, assumes the name of *conscience*, and makes the chief happiness or misery of our lives. I have already said, that I think it impossible really to believe that the Brute has this faculty of Consciousness ; but I would have the Materialist consider how much more incredible it is, that mere matter should turn upon itself in this manner, make itself its own object, review its own operations, and approve or disapprove of them.

As, therefore, it is by Consciousness that we attain to the knowledge of what is highest and most excellent in nature, I mean *Mind*, it is evident that it must be the highest faculty belonging to our nature. And it has this further excellence, that it is not only itself the most certain of all knowledge, in such things as are the objects of it, but it is the foundation of certainty in every thing else, and particularly in reasoning ; for it is by our retrospective consciousness of the truth of the premises that we can infer any conclusion.

As

* Mr Locke, and the French philosophers, who tell us that we have no perceptions of any kind, not even the perceptions of Sense, without consciousness, appear to me to speak without knowing what they say ; for the fact is, that we have thousands of perceptions upon which we never reflect or look back, and which do not remain with the Mind any more than images in a looking-glass. See what I have further said upon this subject, in the *Origin and Progress of Language*, vol. 1. p. 155.—So far was Mr Locke from knowing the nature of Consciousness, which, however, is certainly the source of his Ideas of Reflection.

As the knowledge of Mind is the highest of all human knowledge, it is, I think, worth the while to observe the progress of the formation of the Idea of Mind, which, as I have said, takes its rise from Consciousness. We begin, therefore, with our own Mind, which we are conscious moves our Body; and, from analogy, we conclude, that Mind moves likewise the Bodies of other Men. By reasoning in the same way, we infer, that the Bodies of other animals are likewise moved by Mind: From thence we proceed to the Vegetable; and, as the movements of it cannot be accounted for from any external cause, any more than the movements of Animals, we conclude that it also is moved by an internal Principle, that is, Mind: And, by a like argument, we discover that unorganized Bodies are moved in the same way.—And thus we discover that Mind is the active principle in the universe, which gives Life and Motion, Being and Essence, to every thing*.

There is another and higher faculty of our Mind, of which we are likewise conscious; and that is, the faculty of perceiving by our Senses, and what arises from that perception, such as Appetites and Desires, Pleasure and Pain, and every thing else belonging to the Sensitive Nature. And there is a much higher faculty still of which we are conscious, I mean Intelligence, by which we deliberate, propose ends, and devise means for accomplishing those ends, and, in short, act with Council and Design. And, being thus sure that there is Intelligence in our little Bodies, by the same analogical way of reasoning, we conclude, from observing the same marks of Council and design in other Men, that they are directed by the same Intellectual Principle that governs us: And I think, with equal certainty, we conclude, that, as there are, in the universe, infinitely greater marks of Council and Design, there is, therefore, presiding

VOL. II.

M

in

* See this analogy carried further, (p. 57.), to prove that each Body is moved by a particular Mind.

in the Universe, an Intellectual Principle, superior, by infinite degrees, to ours.—From the knowledge of ourselves, and from no other source, is derived all this knowledge, not only of what is best here on earth, but of what is most excellent in the universe. It is, therefore, not to be wondered, that the seven wise men of Greece, when they joined all their wits together, could produce no greater or better fruit of their wisdom than what they presented to the God, and inscribed in his temple at Delphi; I mean the precept, ‘ Know thyself,’—the fountain of all knowledge, human and divine*.

I will conclude this long chapter, as I think all speculations concerning Nature should be concluded, with an inquiry into the final Cause of the Author of Nature making such a difference betwixt our faculties of Perception and those of the Brute.—If we had been destined by Nature, like the Brute, only to preserve the individual and to continue the kind, and to enjoy those pleasures alone belonging to the Animal Nature, it would have been sufficient for us, as it is for the Brute, and it would have served all the purposes of the Animal Life, if we had only perceived the external appearance of Things, such as incur upon the senses; and, as Nature bestows nothing that is superfluous, she would have given us nothing more. But, as our destination is for much nobler purposes, we have got faculties by which we can investigate the Nature and Essence of Things, and can contemplate, in some degree, those original Forms, of which all the Forms here below are but as Types,—by which we can discover the *one* in every particular object we see,—from thence proceed to a greater *one* in the species, to a greater still in the genus, to yet a greater in the higher genera, and so on, proceeding from *unity* to *unity*, one still rising above another, till at last we arrive at the great *one* from whom all the rest proceed, and who, as he is the only Self-existent Being, upon whom every thing depends

* See Plato, *Protagoras*, p. 343 editio Serrani.

depends for its existence, is properly and emphatically said to be the *Existing One*, by way of eminence*.

Thus, it appears, that we have, from Nature, the faculty of discovering this wonderful union in the system of the Universe, which to know, is the perfection of Human Nature; and that we are in the constant exercise of this faculty from the time we first begin to form Ideas, to Think, and to Reason.

M 2

CHAP.

* *Εγώ εἰμι ὁ εἶναι*,—the Septuagint translation of a passage in the 3d chapter of Exodus, where Moses having asked God his name, the answer is, as we have translated it very improperly, I think, ‘I am that I am.’ See what I have said upon this subject, and upon the inscription, EI, on the Temple of Delphos; Orig. of Lang. vol. 2. p. 84.

C H A P. III.

Objections answered.—1st Objection, *That the Intellect cannot operate without at least Internal Organs, such as the Brain.*—2^d Objection, *That the Brute has Senses, a Phantasia, and Memory, as well as we.*—3^d Objection, *That the Brute knows the Objects, that he has seen before, to be the same; therefore he can Review his own Operations.*—4th Objection, *That the Brute Compares as well as we do, and therefore Reasons.*

I Will now proceed to answer some objections that may be made to this difference, that I have endeavoured to establish, betwixt Man and Brute, and to explain some phaenomena of the Brute nature, which appear to contradict my hypothesis.

In the *first* place, it may be objected, that what I have said is not true, that our Intellectual Part operates without the Body; for, though it may be true, that it operates without the Senses, yet it cannot operate without internal organs, such as the Brain: And, accordingly, we find, that any thing which deranges the structure of the Brain puts a stop to the operations of Intellect.

My answer is, that this objection does not sufficiently distinguish betwixt the Animal and Intellectual Life. It is true, that the Animal Life cannot operate without organs, internal as well as external: But, does it follow from thence that the soul cannot otherwise operate? We are sure that it can operate without the external organs,

organs, which the Animal Life cannot ; and why not without the internal ? And, if the one belongs not to the Intellect, why should the other ? Nature, indeed, has, so connected our Intellectual with our Sensitive part, that the former cannot operate, or even exist, in this compound of Body and Mind, if the latter be destroyed, or very much disordered. But the same may be said of the Vegetable part of us : And yet, who will say, that the Intellect operates by the same power which makes us grow and nourishes us ; though it be no doubt true, that, for the support of our wonderful composition, it is necessary that we should grow and be nourished ?—Further, we know, that in part, at least, the Sensitive Nature in us may be destroyed, and yet the Intellect operate. If a nerve is cut, the member below that nerve will have no sensation ; yet we shall continue to think as before : And the same is true of the Vegetable life ; for, if an artery is stopt, and the blood ceases to circulate in any member, that member will soon be corrupted, and, though it should be cut off, our reasoning faculty will not be impaired.

The truth, therefore, appears to be, that, if our composition be wholly dissolved, by the total destruction, or great derangement, of the animal and vegetable life, the intellectual part cannot exist in the state it is here in, and therefore cannot act : But, because the preservation of its union with the Animal and Vegetable Life is necessary for its present existence, we are not from thence to infer, that it operates by them ; for air and food are necessary for its existence in this state, and yet it certainly does not operate by their means.

But, *2do*, Though I should admit that the Intellect cannot operate without the internal organs of the Body, still, it is true, that it can operate without the external ; so that this difference still remains betwixt Ideas and Sensations. And, though all the same organs were necessary for both, which is certainly not the case, that would
not

not prove them to be the same, when they are so different in other respects.

Another objection is, that Brutes have Senses, Memory, and Imagination, as well as we ; and that a great part of Human, as well as of Brute Life, is conducted by these. To this I answer, that Man being an Animal, as well as the Brute, must have the same faculties with the Brute, and must, in part at least, live the life of an Animal. That Senses are essential to the Animal,—that an Imagination also, or Phantasia, by which the objects of Sense are retained in his Mind, is absolutely necessary for his oeconomy, is evident : And it is as necessary that he should know those objects when presented to him again ; and this is what is called the *memory* of a Brute.—But by all these faculties no Ideas can be formed ; and therefore the Brute still continues a Brute.

3^{tho}, It is said that the Brute has the perception of Likenesses and Differences, by which we form our general Ideas. But to this I answer, that it is of absolute necessity for the oeconomy of his life, that the Brute should know likenesses and differences to a certain degree, otherwise he could not distinguish individuals, nor one of his own species from one of another ; but then he does not know wherein the likeness, or wherein the difference, consists. Now, it is the knowledge of that, which makes a general Idea ; for, by knowing in what any thing is like its genus, and in what it differs from other species of the same genus, that is, the specific difference, we have the Idea of the Species. And, further, we generalize ; which is absolutely necessary in forming the Ideas we speak of : This the Brute cannot do, any more than he can discern in what the likenesses and differences consist. Further, Man can separate the *form* from the *matter*, and make it a distinct object of his contemplation : Neither can the Brute do this ; but he sees all substances as they exist in Nature,
that

that is, *form* and *matter* mixed together, with all the accidental qualities belonging to the individual, and without being able to distinguish the Accidents from the Essence of the thing. And the Man, who says that a Brute can take off the Form of any of Nature's works, might as well pretend that he could take off the Form of any piece of human workmanship.

4to, It is said, also, that Brutes have Conscioufness, because they know what they have seen before; therefore they must perceive that they have perceived it, and so can review their own operations. But this does not follow: They have, it is true, a perception of the same object; but they do not perceive that they have before perceived. The case truly is, that the perception, being retained in their phantasia, is revived when the object is presented again: They have then a second perception of it, and they discern the likeness betwixt it and the image in the phantasia, just as they perceive the likeness betwixt animals of the same species; but how or when the image came there, they know not. And, as we have many things in common with the animal, so we have this too; for we sometimes see a person that we are sure we have seen before, but how, or when, or where, we cannot tell; that is to say, we perceive the likeness betwixt the Man and the Image in our phantasia, but how that Image came there we know not. Now, we cannot be said to be conscious of a perception which we have forgot; for there can be no conscioufness of what is past, without memory: And it is impossible the Mind can review an operation it knows nothing of. It is true, the Man, though he cannot recollect his former perception, has the Idea of the object being the same with that he formerly perceived. But the Idea of identity is an universal, which certainly the Brute has not: His perception, therefore, is nothing but a perception of Sense, which must be that of a known object, otherwise it could not be the perception in his phantasia revived.

Those

Those, who would make the Brute conscious of his former perceptions, are not, I believe, aware that they give to him the power of reflecting, or reviewing the operations of his own Mind—a faculty, which even Mr Locke, though he confounds Sensations and Ideas, does not allow to the Brute ; and yet it is the necessary consequence (so inconsistent is his philosophy of Mind) of his maintaining, that every perception of the Brute, as well as of the Man, is attended with Consciousness. And, indeed, if Consciousness could not be distinguished and separated from Perception, it would be very difficult, if not impossible, to distinguish Man from Brute. But I have shown, I think, evidently, that they are very often not conjoined, even in our Minds ; and, if so, we may easily conceive that they are never conjoined in an inferior Mind. The memory, therefore, of the Brute, is no more than a second perception of the object in his phantasia ; and, as I have observed elsewhere *, is not, if we would speak properly, *memory*, but *phantasia* only.

And here it may be proper to observe, that, as we are, upon our first entrance on this stage, nothing more than an Animal, and acquire Intellect only in process of time, and by slow degrees, we perceive things at first just as the Brute perceives them, distinguishing specieses in the same confused manner that they do, without perceiving wherein the difference consists : Nor have we, in our infant state, any Consciousness or Recollection of our own operations. When, therefore, we have a second perception of any thing, though we know it to be the same with the image in our phantasia, we have no Consciousness of the first perception.

Lastly, It is said that the Brute compares, and therefore he reasons ; for, to reason, is to compare. And it is so. But, let us consider what it is the Brute compares ; and then we shall be able to distinguish the reasoning, or comparative, faculty, which, no doubt, the

* Vol. I. p. 96.

the Brute possesses in a certain degree, from the reasoning of a Man.

As all perceptions of Mind are either Ideas or Sensations, and as reasoning of every kind must be by comparison of perceptions, it is evident that this comparison can only be in one or other of the three following ways; for it must either be, comparison of Sensations with Sensations, Ideas with Ideas, or, lastly, Ideas with Sensations. Now, the Brute, having no Ideas, cannot compare in either of the two last ways. But it is in these ways only that Men reason; for, in every proposition, as well as in every syllogism, there must be at least one general Idea. It remains, therefore, that the Brute can compare only Sensations, either presently apprehended by the Senses, or preserved in his Phantasia. It is in this latter way, as I before observed, that he knows the things that he has before seen, and that he distinguishes different Specieses of Animals, and different Individuals of the same Species.

There is another reason why the Brute cannot reason as well as we do, namely, that he wants Consciousness; for no Man, as I have observed, can infer the conclusion of a syllogism, (and all reasoning is reducible to syllogism), without *reflecting* upon the assent he had given to the two first propositions, or, in other words, without being conscious of the truth of the premisses. Now, as a Brute cannot reflect or recognise his own operations, it follows, of necessary consequence, that he cannot syllogise or reason as a Man does.

What, therefore, we read in antient books, of the Brute being a *rational*, or, as it is expressed in Greek, a *logical* Animal, must be understood only of his faculty of comparing Sensations; for λογος in Greek, as I have observed elsewhere *, properly speaking, signifies

VOL. II.

N

fies

* P. 98. 113. 114. of vol. I.

fies Comparifon, which may be of Senfations as well as Ideas ; but it is only the No^w or Intelle^{ct}, which the Brute has not, that can apprehend or compare Ideas.

Thus, I think, I have fhown, that Man has knowledge much fuperior to that of the Brute, not only in degree but in kind. What has led men to think otherwife, is, firft, the confufion of Senfations and Ideas, which Mr Locke firft introduced, and Mr David Hume has much improved upon ; and, fecondly, the wonderful operations of the Brute, by which he preferves the individual, and continues his race. But, if, becaufe the operations of the Brute are fo artificial, we will therefore afcribe Intelle^{ct} to him, we muft alfo give it to the Vegetable, whofe operations can certainly not be accounted for by Matter and Mechanifm, any more than thofe of the Animal Nature. And what fhall we fay of thofe moft furprifing chryftalizations and configurations of falts which the microfcope exhibits to us, fo various, and yet fo conftant and regular ? Muft we fay the particles of falt have Intelle^{ct}, becaufe their operations are fo various, and, at the fame time, fo conftant and regular ? Or, if no Body believes this, Why fhould we think that the Motions of the Brute, not more various and furprifing, not more conftant or regular, than the motions of the falts, fhould be the effect of Intelle^{ct} in the Brute ?

The truth, therefore, is, that, though all the operations of the Animal, Vegetable, and Mineral Kingdoms, are directed by Intelligence, it is not Intelligence refiding in them, but that Supreme Intelligence which governs and directs every thing in the Univerfe : Nor is there any thing refiding in them, but a Motive Principle, moving them in different ways, and for different purpofes.

C H A P. IV.

Of the Orectic Powers of Man and Brute.—These must correspond to the Gnostic Powers.—The Gnostic Power in the Brute only one, viz. Sense.—The Gnostic Power in Man twofold, Sense and Intellect.—The Desires arising from Sense, Appetite and Anger.—The Desire of the Intellectual Nature is the Desire of Knowledge.—This distinguishes Man from Brute.

IN the preceding Chapter, I have treated of the Gnostic Faculties of the Man and Brute : In this Chapter I propose to treat of the Orectic Powers of each ; and I hope to show, that Man differs as much from Brute in these as in the others. And, indeed, if Man had no other appetites and desires, and, consequently, no other enjoyments, but what the Brute has, he could hardly be esteemed a different animal.

And here I must entreat the reader, if he thinks it worth his while to accompany me any further in these Metaphysical inquiries, to cast his eye back to the Seventh Chapter of the Second Book of the First Volume, page 110. and subsequent pages, where he will find the doctrine of the Gnostic and Orectic Powers of the Human Mind laid down in a more full and accurate manner, if I do not deceive myself very much, than in any other book, antient or modern, that I have seen. The sum of what is there said is, that there are two Gnostic Powers belonging to Man, viz. Sense, under which I comprehend the Imagination or Phantasia, it being, as I hold it, a kind of

Secondary Sense, supplying the absence of the First,—and Intellect. One of these is common to us with the Brute, and the object of it is the Accidental and Sensible qualities of particular and individual Things; but Intellect is peculiar to Man, and its object is Ideas*.

Correspondent to the Gnostic Powers of every animal must be his Orectic; for no animal can Desire what he does not know; and, as all animals are made for some kind of action or another, and, as the motive of action is Desire, what he knows he must desire. Correspondent, therefore, to the Gnostic Power of the Sense, there must be certain Desires, which are common to Man and Brute, like the Sense from which they arise; and, corresponding to the Intellect, there must be Desires peculiar to Man, as Intellect is.

The Desires arising from Sense, and which belong to the Animal Nature, are of various kinds; but they may be all comprehended under two general heads, *Appetite* and *Anger*, in Greek, *Επιθυμία* and *Θυμός*, according to the explanation I have given of them in the Ninth Chapter of the Second Book of the First Volume. But all the Desires, belonging to the Intellectual Nature, may be reduced to one head, the Desire of Knowledge; for, as it is by Intellect we know, having no knowledge of any thing, except by ideas, which are the objects of intellect alone,—and as every Nature must desire what is suitable to it, it is of necessity that the Intellectual Nature should desire knowledge; for we cannot conceive Intellect existing, or at least operating, without *knowing*. Whatever use, therefore, may be made of the knowledge, whether it be only speculative, or practical as well as speculative, the Intellect can desire nothing else, primarily, but Knowledge.

If it be asked, What it is that Intellect desires to know? My answer is, an infinite variety of things; but they may be all comprehended

* See the distinction betwixt Sensations and Ideas, not only in Generals, but in Particular Things, fully explained, p. 74. 75.

hended under one head,—The Form or the Nature of the thing it contemplates, which we must be able to distinguish from the Matter and those material qualities that affect the senses.

Thus, it appears, that, as Man has one *gnostic* power more than the Brute, so he has, correspondent to it, likewise one *orectic* power more; and, therefore, he is, in both ways, essentially distinguished from the Brute.

This desire of knowledge belongs, as Aristotle has observed, not only to the philosopher, but to all men more or less*; and the reason is plain, that it is essential to Intellect: So, if there be any thing of the human form entirely void of curiosity or desire of knowledge, we need not hesitate to pronounce that animal no Man, but a Brute, who, having no intellect, has no desire of knowledge; all his desires being such as belong to the Animal Nature, and tend only to the preservation of the individual or continuation of the race.

* *Lib. De Poetica, cap. 4.*—See also *Metaph. lib. 1. cap. 1.*

C H A P. V.

Of the Pleasures belonging to the Man and the Animal.—These Pleasures not easily distinguished in Man, as he is an Animal as well as a Man.—Of the Pleasures of the Animal.—The Brute has Pleasures of the Mind as well as Pleasures of the Body.—Pleasures of the Man threefold.—The Pleasures of Truth and Science, of the Fine Arts, and of Virtue.—What distinguishes all these Pleasures from the Pleasures of Sense.—The Object of the Intellect being Knowledge, the Pleasure of all the three must be Knowledge.—Knowledge pleases, because it is Beautiful.—What Beauty is.—It belongs to the Category of Relation;—is that Relation of things which forms a Whole, or a System.—Beauty of this kind in Propositions, and even in Ideas.—Different degrees of Beauty, as the System is greater or less.—Of the reality and utility of Logic, by which we arrange the systems of Things.—Of the Idea of Good, and of Useful.

HAVING, in the preceding chapter, distinguished the desires and pursuits of the Man from those of the Brute, I will, in this chapter, distinguish likewise the Pleasures of the Man from those of the mere Animal; for, as God has intended that every animal should be happy, he has been so bountiful as to annex to the exercise of all his faculties a certain degree of Pleasure, and to the highest faculties, as is natural, the highest Pleasure. And, therefore, as Intellect is undoubtedly the highest faculty of Man, the exercise of it must be attended with the greatest Pleasure.

But

But, what is the Pleasure of Intellect, and how is it to be distinguished from the Pleasure of the mere Animal? The distinction is perhaps not so easy to be made in Man, who is compounded of both the Animal and the Intellectual Nature, and, therefore, enjoys the Pleasures of both, and often so mixed together, as not easily to be distinguished. Let us, therefore, consider separately, the Animal Pleasures in the Brute, who enjoys no other; and then we shall be able readily to distinguish them from the Pleasures of the Man.

In the *first* place, it is obvious, that the Brute enjoys all the Pleasures of Sense, as well as we: Nor are these his only Pleasures; for he has Pleasures belonging to his Mind as well as his Body. To speak of the Pleasures of the Mind of the Brute, will, I know, appear extraordinary language to many: But what other name can we give to the Pleasure of Natural Affection for their offspring, which we observe in them all, and the Pleasure of Fellowship with their kind, which we observe in the herding animals; for that they have great Pleasure in both these, we are sure from the pain that they express when the offspring is taken from them, or when they are debarred from the company of their herd. The Pleasures of this sort are certainly not of the Bodily kind, and, therefore, they must be ascribed to the Mind.

On the other hand, the Pleasures of the Man, of which the Brute has no participation, are the Pleasures of Truth and Science, of the Fine Arts, and of Virtue; and we are now to inquire, In what those Pleasures differ from the Pleasures of the mere Animal?

There is one difference pretty obvious: The Pleasures of the Animal are immediately perceived and enjoyed without any previous thought or consideration; whereas, the Pleasures of the Man are
never

never without thought and confideration ; and it often happens, that what does not please the Intellect at firſt, or perhaps diſpleaſes it, is, upon further confideration, highly relifhed. And the reaſon of the difference is plain, viz. that the Pleaſures of the Man are all from Intellect, and Intellect can never act but with thought and confideration.

But what is it, that, upon thought and confideration, makes the things, that I have mentioned, Pleaſant to the Intellectual Nature ? In order to answer this queſtion, we muſt recollect what was ſaid in the preceding chapter, that the Object, and the only Object of Intellect, is Knowledge : Therefore, all the Pleaſures of the Intellect muſt proceed from Knowledge ; and Science, Virtue, and the Fine Arts, muſt all pleaſe, becauſe they are accompanied with Knowledge.

But this is not a ſufficient answer to the queſtion ; for we muſt further ſay, What there is in Knowledge that makes it Pleaſing ? And, in the *ſixth* place, I ſay, that even the ſearch after Knowledge, and the inveſtigation of the Knowledge of Things, gives us pleaſure in ſome degree ; becauſe this inveſtigation is an exerciſe of Intellect, and, as I ſaid, Nature has annexed Pleaſure to the exerciſe of every faculty.

But what is it, that makes us delight in Knowledge when it is found ? To this queſtion I think it is not a ſufficient answer, though it be commonly made, that Knowledge pleaſes for its own ſake ; for there muſt be ſomething in the Object known, which, upon reflection, pleaſes Mind. And I ſay that is Beauty ; for Truth, and Science, and Virtue, pleaſe us, becauſe they are Beautiful ; and every body will readily admit, that we delight in the Fine Arts for that reaſon.

I know it may be said, that we love Knowledge, because it is useful: But a Man that loves Knowledge merely for the utility of it will never be esteemed a philosopher by those who know what philosophy is; any more than a Man, who loves Pictures and Statues merely for the money he may make of them, will be esteemed a Virtuoso; or a Man, who does good actions merely for the utility of them either to himself or others, without any sense of the Beauty of them, will be reckoned a Virtuous Man by men of liberal and generous sentiments. Aristotle, as I shall observe afterwards, understood nothing to be *virtue*, but what was practised for the sake of the *fair* and *handsome*: And, as to the Pleasures of Science, he has told us, that the First Philosophy, or Highest Science, and which, therefore, must yield the greatest Pleasure, is altogether useless and unprofitable for the purposes of life*.

But here a new question is started, of more difficulty than any hitherto proposed;—What is Beauty? Aristotle has given us two definitions of it, as I have observed elsewhere †: But they are both of the popular kind, and intended only for the use of the Popular Art he was teaching; I mean Rhetoric. If the treatise, which he

VOL. II.

O

wrote

* Aristotle's *Metaph.* lib. 1. cap. 2. and *Nicomacheia*, lib. 10. cap. 7.—two of the finest chapters in Aristotle, in my opinion, in which he makes a most magnificent eulogium upon the *first* Philosophy, or *σοφια*; the sum of which is, That the study of this philosophy is for its own sake, not for the sake of any thing else:—That it is the perfection of what is Divine in our natures, and may be truly called Ourself, being that which is most excellent in us; so that a Man, who lives the life of such a philosopher, may be said to live the life of a Man, and his *own*, not the life of *another*:—That, if we could suppose the Divinity to want or desire any thing, it would be Knowledge for its own sake. This philosophy, therefore, is truly Divine, and the possession of it more than falls to the lot of man; so that, if the Divinity were capable of envy, the philosophers of this kind would be the object of it.

† Vol. 1. p. 128.

wrote upon the subject by itself, had been preserved, we should have probably found there a complete Philosophical Definition of it. Plato, though he speaks of the *το καλον*, or *the Beautiful*, almost in every page, has no where given a definition of it. A great deal, indeed, has been written upon the subject in modern times, both in French and English; but, as the authors were not learned in Antient Philosophy, though they have said lively and agreeable things, they do not satisfy me. It is, therefore, in the principles of the Antient Philosophy, that we are to seek for the solution of this question.

And, in the *first* place, it is evident, that the perception of Beauty is not a perception of Sense. The Mind, no doubt, perceives Beauty in the objects of Sense: But that perception is quite different from the perception of the objects; and, accordingly, the Brutes perceive the objects as well as we, but have no perception of Beauty.

2do, There is no Beauty in one single thing, considered by itself and abstracted from every thing else.—To this it may be objected, that we perceive Beauty in a single Animal or Vegetable. But I answer, that it is the parts of that Animal or Vegetable compared together, and the harmony and proportion which we discover in these parts, that gives us the idea of Beauty.

3tio, This observation brings us near to the true notion of Beauty; for it shows us, that it must consist in Relation, which cannot be of a single thing to itself, but of two or more things to one another.

And here we may observe the connection betwixt Truth and Beauty; for Truth cannot be of a single thing, any more than Beauty.

So

So far, therefore, we are advanced in our inquiry, as to have discovered to which of the categories Beauty belongs, viz. to Relation; for every philosopher, that has been taught in the school of antiquity, will endeavour to arrange under some one of the categories every thing, the nature of which he investigates. By this means he knows the most general properties of the thing; and from thence he will endeavour to deduce the more particular, till he come at last to a complete definition of the thing in question: As in this case, there being many different Relations of things, he must inquire, What Relation it is that makes what we call Beauty? And I say it is that Relation of things which forms a System; so that wherever the Mind perceives a System in things, it has the Idea of Beauty.

But, what is a System? It is the Relation of two or more things, so connected together, as to be one whole, which when the Mind perceives, it has the Idea of a System, and consequently of Beauty.

And here again we may perceive a further connection betwixt Truth and Beauty; for they are, each of them, the perception of the *one in the many*: And, from hence we may see, that our definition of Beauty is so far a true definition, that it applies to Truth and Science, one of the three things, which, I said, gave pleasure to the Intellect; for no body will deny, that Truth and Science are Beautiful.

But, is it true what Plato says, that, in every Idea, the Mind perceives the One in the Many? And it is undoubtedly true; for we cannot have an Idea of any one individual thing, and much less of a Species, or a Genus, without perceiving the *one in the many*: For, even in an individual thing, unless we perceive what is chief or principal in it, and upon which all its other qualities are dependent, we have not an Idea of it; and when we form an Idea of a Species

or Genus, it is plain that we make *one*, of several individuals, as in the other case, we make *one*, of the several qualities of the same individual *. Every Idea, therefore, is a System by itself; and, according to my definition of Beauty, is Beautiful: And, if a single Idea be Beautiful, because it is a System, the most simple proposition, which only joins two Ideas together, must be beautiful likewise, because it presents to us two Ideas, making a System; for all affirmative propositions aver, that the predicate is either the genus or accident of the subject †: And, as to negative propositions, though they have no Beauty or System in themselves, they may tend to shew, that there is Beauty or System in some other things. And this we may observe, in passing, makes it evident, that Knowledge is not in itself, and merely because it is Knowledge, Beautiful: For we know a negative proposition as certainly as we do an affirmative; and yet it is not in itself, nor for its own sake, Beautiful.

And here again we may observe the goodness of Providence, which hath annexed Pleasure to every the least operation of Intellect; for, as Intellect perceives nothing but Ideas, it must perceive every thing in System, and by consequence enjoy the Pleasure of Beauty in every perception.

But it is to be observed, at the same time, that, though there be Beauty in the smallest System, such as that of a single Idea or simple Proposition, the Beauty is greater or less as the System is greater or less. Therefore, the Beauty of a single Idea is not so great as of a Species, nor of a Species as of a Genus above it: And, for the same reason, the Beauty of a higher Genus is greater than that of

a

* See this explained at some length, p.

† Vol. I. p. 383.

a lower Genus ; the Beauty of a single Propofition is not fo great as the Beauty of feveral Propofitions, fo connected together as to make one Demonftration ; and the Beauty of one Demonftration is not fo great as the Beauty of many, forming one System of Science.

It may not be improper here to obferve the very great difference betwixt Senfations and Ideas. A Senfation does no more than advertife us that fome material thing exifts, of which we learn, by our Senfes, certain qualities, that are ufeful or pernicious to the Animal Life: Whereas an Idea feparates the Form from the Matter, and, by that means, lets us know the nature of the Thing ; for every Idea includes the Definition of the Thing, and virtually contains the Genus, Species, and Difference, which the Definition does no more than unfold.

It may alfo not be improper to obferve, in paffing, the great utility of a ftudy too much neglected at prefent ; I mean Logic. Many people, I know, are apt to imagine, fome French writers particularly, whom I have read, that Genus, Species, and Difference, are no more than terms, that we have invented to exprefs the notions of our Minds ; and that they have nothing to do with the Nature of Things. But the truth is, they have as real an exiftence as the Things themfelves, denoting the Nature and Effence of the Things, as far as it is poffible for us to comprehend them.

Thus, it appears that there is no Beauty without System ; and, wherever there is System, there is Beauty.

Of a kin to the *Beautiful* is the *Good*, an Idea which we will next endeavour to develop. — The general Idea of Good is that, which is conducive to Happinefs, that is, to the pleafure of a Sensitive Being ; for fo I define Happinefs. But here we muft carefully diftinguifh

tinguish betwixt the Good of the Animal Nature, and of the Intellectual. What is Good to the Animal is that, which nourishes and preserves it,—procures it the Pleasures of Sense, and other Animal Pleasures: Whereas the Good of the Intellectual Nature is that which procures Knowledge, the sole Pleasure of the Intellect; and, as Knowledge pleases because it is Beautiful, the Good of Intellect is that, which procures to it the contemplation of Beauty, either by furnishing the subjects of such contemplation, or preparing and disposing the Mind for it. It is, therefore, not without reason, that the Greeks, in the expression, *καλοσκαθος*, or *καλοκαγια*, have joined together the *Beautiful* and the *Good*, with a proper precedency to the Beautiful, as the principal Idea; for so they appear to be joined in Nature.

The *Good* and the *Useful* are also commonly joined together, in the same manner as the *Good* and the *Beautiful*; and for the same reason; for the *Useful* is subservient to the *Good*, as the *Good* is to the Pleasures of the Animal and Intellectual Life: Thus, Money is useful, because it procures food, and other necessaries and conveniences of the Animal Life; and it may minister in the same way to the Pleasures of the Intellectual Nature.

C H A P.

C H A P. VI.

Of the Pleasure of the Fine Arts.—It is Beauty which pleases in them.—Their Beauty is in the Piece; and the Piece must be a System.—The best Critic is he that can best comprehend the System.—Of the Pleasure of Virtue.—This also arises from Beauty.—Virtue considered both in Contemplation and Practice.—We contemplate it either in ourselves or others—In both Cases we approve of it, because it is beautiful.—For the same reason we practice it.—Benevolence not Virtue, without a certain Fitness or Propriety.—Natural Affection, Good Will, and Affection to our Kind, or to any Individual, are not Virtue, without a reflex Act of the Mind.—The several Relations that make Virtue a System—considered with Relation to Ourselves, to Others, and to God and Nature.—The Virtue of the Philosopher takes in the whole System of the Universe.

IN the preceding Chapter, I have shown, I hope, to the satisfaction of the Reader, that Beauty is the foundation of the Pleasure we have in Truth and Science. In this Chapter, I will endeavour to show, that it is likewise Beauty which makes us delight in the other two things I have mentioned as giving Pleasure to Intellect, namely, the Fine Arts, and Virtue; and, in general, I think I shall be able to prove it to be that which has the greatest influence in human life.

As to the Fine Arts, such as Music, Painting, Sculpture, and Poetry; it is acknowledged, I think, by all, that it is their Beauty which we admire: And it can as little be doubted that it is the Correspondency or Congruity of the parts of any of the pieces of that kind,

kind, or, in other words, the System, that makes their Beauty; and the greater the System in any of these Arts, the greater the Beauty, provided it can be comprehended and taken in at one view. What extent of a Whole can be so comprehended, must depend upon the understanding of the critic. He, of little understanding, will take in but a small part of a System; the Characters, perhaps, in a piece of Poetry, the Versification, a Simile, a Description, or some such splendid patch: But a critic, such as Aristotle, will consider the Fable chiefly, as being that which makes the Piece a Whole, and to which every thing else ought to be subservient; and, as to a Poem which has no Fable, such as a Didactic work in Verse, or a Poem of mere description, he will not give it the name of a Piece.

The last of the three I mentioned is Virtue, concerning the Foundation of which there has been much dispute in later times: But I hold to the philosophy of Aristotle, who has placed it in Beauty*. And, first, let us consider, What it is that gives us delight in the contemplation of Virtue; and, next, let us consider, What moves us to the practice of Virtue?

We contemplate virtue either in others or ourselves. Let us first examine for what reason we admire it in others: And I say it is merely for the Beauty of it, for the same reason that we admire a fine

* This Account of Virtue is given by Aristotle, in his *Ethics* or *Nicomacheia*, the best book of morals that ever was written, not only for the Matter, but likewise for the style, which I think a perfect model of the Didactic; for it is of the popular kind, not so short and obscure as the style of his Esoteric writings, and as much adorned as a Didactic style ought to be. In this work, he has discriminated more accurately the several Virtues and Vices than any other writer; and, in the Definition of the Virtues, he commonly adds, *ἰσικα του καλου*, as a condition absolutely necessary to make it a Virtue. If this work of Aristotle's had been diligently studied and understood, how many idle systems of morals had never been written, or, at least, never read by the learned?

fine picture, or a fine statue ; and, indeed, the chief Beauty of either of these is the expression of a noble and virtuous Mind. If we approve of a virtuous action, merely because it may be useful to us, every body will allow that we do not give the praise that is due to Virtue. But, say some, it is Benevolence that makes Virtue amiable and praise-worthy. To this I answer, *1mo*, That there are many virtuous actions which we admire highly, but which have no relation to the good of others ; such are the actions that a man performs from the sense of the dignity of his own character, and of human nature. This Sense would influence the actions of a man living in a desert island, and would make him virtuous, without the least intercourse with any of his species : And, even in the middle of society, there are many things we do, merely from that sense, without any regard to what is called the interest of ourselves or of others. And, *2do*, I say, that a benevolent action is applauded by a true judge of life and manners, not merely because it is benevolent, that is, intended for the good of others, but because the object of that benevolence is a proper object, and because, considered with all its circumstances, it has that fitness and propriety which is essential to Virtue : For Virtue has its numbers, measures, and proportions, as well as outward forms ; and what is Beauty, but number, measure, and proportion ? Benevolence, therefore, itself, we admire only for its Beauty.

If, therefore, we admire Virtue in others for its Beauty, for what other reason should we admire it in ourselves ? If we only esteem it, because it promotes our interest in the world, and increases our estate and reputation, we certainly are not virtuous or noble minded.— And thus it appears, that it is the Beauty of Virtue, which makes us approve of it either in ourselves or others.

If such be Virtue in contemplation, why should it be different in practice ? Ought we not to perform a virtuous action for the same reason that we approve of it both in ourselves and others ? If no

reason can be assigned for such a difference betwixt judgment and conduct, then we must admit, that, if our motive to any action be no other than to acquire estate, title, or public applause, the action is not virtuous : Or, if it proceed from the most disinterested Benevolence, yet, if it has not that fitness and propriety, which alone can make it beautiful, it is not a virtuous action ; for I can conceive actions perfectly disinterested, proceeding from natural affection, from a certain instinctive Love which we may have for the persons that we are accustomed to live with, or from a general good-will to our kind, which are not virtuous, because they are not performed with that consideration and reflection which Virtue requires, but from a kind of instinctive impulse, such as makes Brutes perform the same actions : For the Brutes are as fond of their offspring as we are ; they have a love for their kind, which makes them herd with animals of their own species, rather than with any other ; and they have private friendships, too, which they contract from living together. Such actions, therefore, belong to the Animal, not to the Intellectual Nature. And I say the same of an action proceeding from the Passion of Pity, by which we are affected, sometimes to a very great degree, by the sufferings of our fellow creatures, and in a lesser degree, by the sufferings of any of the animal race. But no Virtue is Passion : And Pity is Passion arising from a natural instinctive affection, by which we are connected with our kind, and, in some degree, with the whole animal race ; and accordingly it operates instantly, without any reflex act of the judgment approving of it. And we see something like it among the Brutes, for they appear disturbed when any of their species expresses pain by their cries.—In short, I hold that no action can be virtuous, unless the Mind consider of it before it is done, and approve of it, as becoming, handsome, and beautiful. There must, therefore, be a choice in all such actions, and a preference given to them, which, by Aristotle and the other Greek philosophers, is called *προαιρεσις*, and is held by them to be essential to Virtue : So that, whatever is done without choice and deliberation, though proceeding from the kindest and best affections, belongs not

to

to the Intellectual Nature, but to the Animal ; and therefore it is not Virtue. To make Virtue of any Affection, there must be an apprehension of Merit and Well-deserving in the Object of the Affection. In Pity, for example, if we know nothing of the person, whether he be well or ill-deserving, it is no more, as I have said, than a mere animal feeling ; and it is only the apprehension of some worth in the person that makes it a virtuous feeling : For proof of which, let us suppose that we know the person to be worthless, we have no longer that feeling for him which deserves the name of Pity, if we suppose Pity to be an Affection of the Rational Nature ; and, though the sight of him in pain may be offensive to our Animal Nature, yet our reason, so far from being dissatisfied with his sufferings, which it would be, if he were really an object of Pity, will rather approve of them, and even rejoice in them, if he be a great criminal :—Or, though he should not be a criminal, but of a mean contemptible character, we will rather despise him than pity his misfortunes. Of this Plutarch has given us a fine example, in his Life of Paulus Emilius, the conqueror of Macedon. He tells us that, when Perseus, the last King of that country, was brought a prisoner into the presence of Paulus, he behaved with such abject submission, even prostrating himself before him, that, Plutarch says, he deprived himself of the last consolation of the unfortunate, that of being pitied.

Thus, I think I have shown, that Aristotle is in the right when he makes the *το καλον*, or the Beautiful, the foundation of all Virtue, and an essential part of the definition of every particular Virtue.

If it were necessary to say more upon this subject, I would suppose a man doing the best actions, and from motives the most disinterested, such as Benevolence, and Love to his Country and Mankind, and yet, at the same time, without the least Sense that he was acting a becoming and handsome part, and without any pleasure in what he did : I would desire to know whether such a man could be esteemed virtuous ? I think it is impossible he could ; for Virtue can-

not be without Pleasure, and that Pleasure is certainly not of the Sensual, but of the Intellectual kind, which, as I have shown, can only arise from the contemplation of Beauty. The case I have supposed never did, nor ever will exist; which shows that it is a matter of fact, as well as of reason and argument, that there can be no Virtue without a sense of the Beautiful, and that the *dulce* and *decorum* do both necessarily belong to it.

The most of our modern writers upon Virtue seem to forget that it belongs to the Intellectual part of our nature, and not to the Animal; and I am afraid a great part of them are not philosophers enough to be able rightly to make the distinction betwixt these two natures. Good and natural affections, such as Animals have for themselves, their offspring, and their kind, they call *Virtue*; and they only blame the excess of one of these affections above another, so as to destroy what they call the Balance of Affections in the Mind: But they are not agreed among themselves which of these Affections constitutes Virtue. Some say it is only the Affection towards the kind, or to others, which they call Benevolence, that is a Virtuous Affection: Others again, and among these our Scottish philosopher Mr David Hume, make Virtue to consist only in Utility; so that every Affection, according to him, which has that for its object, is virtuous: And, in this, as well as in other points, he endeavours to revive the philosophy of Epicurus, whose maxim it was, that

Utilitas, justi prope mater et aequi *.

But the truth is, that, as Virtue belongs to our Intellectual Nature, and to that only, no Affections of any kind, however good or natural, nor any perception of Pleasure in these Affections, or in the actions proceeding from them, constitutes Virtue; because Virtue cannot be without, *first*, previous Consideration, Choice, and Deliberation, and, *secondly*, a reflex act of the Mind, approving of itself, and enjoying that Pleasure which belongs to Intellect only; I mean the Pleasure of Beauty. This is, properly speaking, what is called Virtue,

* Horat. lib. 1. Satyr. 3.

Virtue, and belongs only to Man : Whereas good Affections, tending to the preservation of the individual and the kind, are as natural to the Brute as to the Man ; and, although we may call them Virtues, it is only metaphorically and improperly, as we speak of the Virtue of a Horse or a Dog.

The best treatise upon Virtue in modern times is, I think, my Lord Shaftsbury's Inquiry. But he, too, enlarges a great deal too much upon good Affections and Dispositions towards our society and kind, and thinks, that he has sufficiently explained the nature of Virtue, when he shows that those Affections have a direct tendency to promote the happiness both of the individual and of the kind : Nor do I remember that he ever mentions the reflex act of the Mind, which I hold to be essential to Virtue, except once, and that but slightly, and in passing. But I must do him the justice to own, that, when he wrote his third volume, he appears to have come to a juster sense of the matter ; for there he speaks of Virtue being nothing but a noble enthusiasm, of which Beauty, and the highest and most exalted Beauty, is undoubtedly the object : And he speaks also " of the Harmony and Numbers of the Heart, and Beauty of the Affections, which form the manners and conduct of the truly social life *."

As

* See Miscellany 2d.—My Lord Shaftsbury, whatever his faults in other respects may be, which I have presumed to censure pretty freely in the third volume of the Origin and Progress of Language, page 284, has moralized, it must be owned, in a most gentlemanly way, and recommended Virtue upon principles that must make it highly agreeable to the admirers of Beauty in Characters, Sentiments, and Manners. These are the men of the highest Taste, much higher than those who admire Beauty and Grace only in outward forms : And it is this Taste which I hold to be the distinguishing characteristic of the *gentleman*. I would further observe of my Lord Shaftsbury, that he is a striking example of what a great genius, with the assistance only of classical learning, will do, even in philosophy : for, that his Lordship was not learned in Ancient philosophy, is evident from what he says of Aristotle, " That, as his talent was more towards polite learning and the Arts, than towards the deep and solid parts of philosophy, it happened that, in his School, there was more care taken of other Sciences than of *Ethics*, *Dialectic*, or *Logic* ; which provinces were chiefly cultivated by the successors of the Academy and Perch ;" (*Advice to an Author*, Part II. sect. 2.)

This

As I am engaged thus far in speculations concerning Virtue, I think it will not be improper to explain more particularly in what the Beauty of Virtue consists, and to enlarge upon those connections and relations of things which make Virtue a System.

Every virtuous action, and, indeed, every action, must stand in some relation, either to the Agent, to Others, or to God and Nature, that is, the Whole of Things.

With

This not only shows that his Lordship had not read Aristotle's *Physics*, *Metaphysics*, and other works of abstruse or *esoteric* philosophy, as he calls it, but not all his *popular* works, and particularly his *Morals*. And it is really surprising that his Lordship had not so much as heard that he was the inventor of Logic, and that he was also the first that reduced *Dialectic*, which, I suppose, his Lordship means by the word *Dialectic*, to an Art.—In short, it does not appear to me, that my Lord had read any of the numerous works of Aristotle, except that mutilated fragment, the *Poetics*, which he quotes frequently, but never mentions another work of his, upon a popular art likewise, and which, I think, of much greater value than the *Poetics*, if for no other reason, than that it is complete, and the MS. of it more correct, I think, than of any other of Aristotle's works; the art I mean is Rhetoric, upon which Aristotle has written three excellent books.—As to Plato, he was more conversant in him: But he does not appear to me to have entered deep even into his philosophy, but to have studied only some of the easiest and most popular Dialogues, such as the *Alcibiades* 1st and 2d; but, as he was a man of excellent taste, he has caught the beauties of Plato's style, better, I think, than any writer in English. His Rhapsody is, in my judgment, the best philosophical Drama that has been written since the days of Plato; in which, besides its beauties of the Poetical kind, there is a very great deal of sublime philosophy. There is also another ancient Author whom he has imitated very successfully, I mean Horace in his Satires and Epistles; for, like him, he has introduced into his writings, even such as are not professed Dialogues like his Rhapsody, Personages, and Characters, whom he has made to converse in the most pleasant and gentleman-like, familiar style, that is to be found any where; and, in this way, he has varied and embellished his composition very much: And, though I am an admirer likewise of his high style, yet I think his familiar much better of the kind. The same is the judgment of the Halicarnassian with respect to Plato's familiar Style of Socratic Dialogue, compared with his high, or Dithyrambic style, as the Halicarnassian calls it.

As to those of modern times, who pretend to write Philosophy without the assistance of either Ancient Philosophy, or Ancient learning; I cannot help saying, though I should give offence, that I think their works despicable, both for Matter and Style.

With respect to ourselves, a virtuous action must be suitable to the dignity of our nature, to our character, and to our rank and station in life : With all these, it must be of a piece, and have nothing repugnant or discordant to any of them.

2do, With respect to others, it must be suitable to our particular relations or connections with them, to the society or community of which we are members, and to a greater community still,—our kind, with which Nature has connected us as well as every other Animal. And here the System of Virtue will take in the most extensive Benevolence.

And, *lastly*, with respect to God and Nature, it must be correspondent with the system of the Whole of Things, that great City or Community, to speak in the language of the Stoics, comprehending Gods and Men, and of which every individual Man is a part. This is the Grand System, the most beautiful, as well as the greatest of all Systems ; a respect to which makes the virtuous actions what the Stoics call a *κατερθωµια*, or a *perfect right action* : Whereas, Virtues that respect only lesser Systems, are no more, in their language, than *καθηµοιτα*, or *offices* *. This is the Virtue of their Sage, whom they

* See Cicero in the beginning of his book of Offices.—The Stoic System of Morals was certainly most comprehensive, taking in all Nature, and the universality of things. Hence it is, that their moral writings speak so much of the Universe,—the Universal Nature,—the First Cause,—the Series and Chain of Causes,—Matter and Form,—the Successive Changes and Periods of Existence, which this our Earth, and every other thing in Nature, has gone through and will go through. He that does not know that there is a World, does not know where he is, says Antoninus, lib. 8. parag. 52. of Meditat. He must comprehend in his Mind the whole world, and not only the Age in which he lives, but the succession of Times and Periods, and the Changes and Vicissitudes of all things ; lib. 9. p. 32. And it is every where inculcated in this, and other Stoical Works, that man should consider himself as a part of this great Whole, subject to the laws of it, and taken into the system whether he will or no : So that the foundation of all duty, according to them, is a cheerful compliance and resignation to this Universal Nature and predetermined Order of Things ; and the end of man is to comply with the laws of this

they likened to a Divinity in many respects, and particularly in this, that, in every thing he did, he had the whole system of the Universe in view, and never acted from partial considerations. Such Virtue as this, it is evident, can only be the Virtue of a philosopher, and a philosopher of the most exalted kind : But all the Virtues, even those of vulgar men, must have a reference to some System, greater or less, and from thence derive that Beauty which is essential to Virtue.

As there can be no Virtue without a Sense of the Beautiful, so neither can there be any Religion ; for there can be no Religion without the highest admiration of the Deity. Now, the proper object of admiration is *Beauty* ; for the Grand, the Sublime, the Majestic, are but names for the highest order of Beauty, which we contemplate in the greatest and most awful objects. A Religion, therefore, of which the only passion is Terror and Consternation, without any mixture of Love, Admiration, or Joy, in the Contemplation of the object of its worship, is truly no Religion, but a pannaic terror, and miserable disorder of Mind. Nor ought such a diabolical Religion to be dignified with the name of *Enthusiasm*, which is one of the noblest passions in our Nature, and which, in a certain degree, must always accompany true Religion : For it is nothing else but a high and ecstatic admiration of Beauty in any object ; and the higher the object is, the more rapturous and transporting the admiration should be. The Deity, therefore, being the highest of all objects, the Religious Enthusiasm ought, for that reason, to be the highest. The next to it is the Enthusiasm of the philosopher, who contemplates the

Great City ; lib. 2. p. 16.—Marcus Antoninus, in another passage, lib. 9. par. 3. gives an example of the difference betwixt a common office or duty, and a *κατορθωμα* or perfect right action, with respect to the fear of death : Who cheerfully submits to death, as a thing as natural as to be born, to grow, bring forth teeth, or any other natural operation, and that is absolutely necessary to the order of Nature, according to which there is a constant succession of generation and corruption, composition and dissolution—He is a wise and virtuous man : But, who submits only in the view of leaving a bad world, and being free of present pain and misery, is but a vulgar man.

the Universe, and the Whole of things. This Enthusiastic Admiration, Lucretius, speaking of his master Epicurus, has expressed, by a very strong word, viz. *horror*, in the following lines,

*His tibi me rebus quaedam divina voluptas
Percipit, atque horror; quod sic Natura tua vi
Tam manifesta patet, ex omni parte reclusa*.*

And it must be confessed, that very profound Admiration, though a passion altogether different from Terror, or Horror, has effects very similar; for both passions surprise, and transport the Mind, as it were, out of itself †.

VOL. II.

Q

Nor

* Lib. 3. v. 28.

† Horace, I observe, in one of his philosophical epistles, I mean that to Numicius, the sixth of the first Book, uses the words, *formido*, *pavor*, and *terror*, as synonymous with *admiration*: He begins with Admiration.

Nil admirari, prope res est una, Numici—

Then he goes on, and says,

*Hunc solem, et stellas, et decedentia certis
Tempora momentis,—sunt qui formidine nulla
Imbuti spectent.——*

Then, speaking of other things, such as Popular Applause, Honours, and Titles, and the like, he says,

*Qui timet his adversa, fere miratur eodem,
Quo cupiens, pacto—pavor est utrobique molestus.*

Where it is evident, that the word *pavor* is applied both to the Admiration of those things, and the fear of the contrary: He adds,

*Improvisa simul species exteret utrumque:
Gaudeat, an doleat; cupiat, metuatne; quid ad rem,
Si, quidquid vidit melius pejusve sua spe,
Defixis oculis animoque et corpore torpet?*

Where

Nor is Virtue without its Enthufiafin ; for a Man truly Virtuous has the higheſt Admiration of the *Fair Form*, which, as Cicero ſays, if it could be ſeen with the eyes, *incredibiles Amores excitaret ſui* : But I ſay it is ſeen, and by an eye much purer than the bodily eye, and its Beauty preferred to that of any *corporeal Form*.

The *Fine Arts*, too, ſuch as Sculpture and Painting, are admired with a certain degree of Enthufiafin, but not ſo great as that with which we admire the Beauty of Character and Sentiments : For the fineſt Statue or Picture is ſeen with dry eyes ; but a generous, noble, Sentiment, expreſſed either in verſe or proſe, will make the tear ſtart to the eye, and affect the voice ſo much, in perſons of great Senſibility, that they can hardly read the paſſage ; for it is by tears, and the alteration of the voice, that Nature expreſſes, not only Grief and Diſtreſs, and the paſſion of Pity for the ſufferings of others, but alſo our Senſe of the Beautiful and Noble in Sentiments and Actions. But no proſpect of utility, either for ourſelves or others, will excite any ſuch commotion in us.

There is an Enthufiafin belonging, not only to Philoſophy and the Fine Arts, but alſo to the inferior Sciences. Of theſe, the Mathematical Science has, I believe, the leaſt of that paſſion : And yet I ſhould reckon a Geometer, Mechanic, or Computer, of no genius even in his own art, if he had no Senſe of the Beauties of his Theorems ; but it is impoſſible, by the nature of things, that he can have the ſame rapturous and ecſtatic emotions of Mind, let him meaſure, compute, and inveſtigate, the properties of Figures ever ſo ſucceſſfully, as the Philoſopher who contemplates the Wiſdom and
Good-

Where the reader may obſerve, that the laſt line is juſt a paraphraſe of the *horror* of Lucretius.—I have enlarged the more upon this paſſage of Horace, that I think it has not been rightly underſtood by any of the commentators.

Goodness of God, manifested in the System of the Universe,—a pleasure, which to him is an anticipation of the joys of Heaven. The Stoics, therefore, when they enjoined us not to admire any thing, did not mean, or, at least, ought not to have meant, to forbid us this Admiration: The Admiration they forbid us is of such things as Horace mentions, Wealth, and Power, and popular Applause; though it must be confessed, that the precept is expressed in too general terms, when we are desired

Nil admirari—

But the philosophy of this epistle of Horace is altogether Stoical; and the precepts of that philosophy, as is well known, carried things much farther than their natural and just bounds.

Q 2

C H A P.

C H A P. VII.

The Sense of Beauty is the Source of every Action and Affection that can be called Human.—It produces the Principle of Honour.—The Prevalence of that Principle among all Nations, barbarous and civilized.—Examples of it.—The nature of Honour connected with the Universal Passion, the Desire of Praise.—From Honour proceeds Anger.—Of Revenge:—It operates differently upon different Characters of Men.—Love and Friendship also proceed from a Sense of the Beautiful.—The Connection of Friendship with Anger.—Vanity also from the same Source:—Vanity of two kinds.—Envy necessarily connected with Vanity.—The Sense of the Ridiculous is derived from the Sense of what is Beautiful.—The same is the Source of Ambition—also of Avarice.—All our other Affections and Passions belong to our Animal Nature, not to our Intellectual.—Beauty pleases because it is Beauty.—The Final Cause of that Pleasure.—Reason why Beauty consists in System.—By the Exercise of our Intellect upon any Subject we are preparing for the Exercise of it upon the greatest Subject, the System of the Universe.

IN the preceding Chapter, I think, I have shown that Beauty is the Principle of Virtue, and, by consequence, of what is greatest and noblest in our Nature: But I say further, that it has an universal influence in human life, and that every action and affection, which are, properly speaking, human, proceed from that source.

In the *first* place, I will show, that there could be no Sense of Honour without a Sense of what is Fair, and Handsome, and Becoming, in Character and Sentiments. A Sense of Honour is found so universal among all Men, barbarous or civilized, that it may be reckoned inseparable from Human Nature. Among civilized nations, it is the great Principle of Action ; for what we call Fashion, which governs our lives, owes its influence intirely to the Sense of Honour ; for what is Fashionable is practised only because it is Honourable. And, among the barbarous nations, it is as prevalent ; nor have we hitherto discovered any nation, in which there does not appear to be a Sense of Honour, in one thing or another. The savages of Guiana, in South America, have such a Sense of Honour, that they will languish and die, if they are affronted by actions, words, or even looks, as I have been assured by a gentleman who was five years among them. The Esquimeaux girl, that was at London some years ago, could not bear to be exhibited as a show : And, whenever she suspected that a company was got together to look at her, she was highly affronted. Even the Orang Outang, whom many will not allow to be of our species, is of the same disposition, as is attested by the Bristol merchant, whose letter I have printed in the Origin and Progress of Language* ; and was attested also by another very credible narrative, that I heard, of one of them, who served as a sailor on board a Jamaica ship that traded to the slave coast, messed with the sailors, did the duty of a common sailor, and also served the Captain as a cabin-boy ; but one day having broken a China bowl, the Captain beat him, which the animal laid so much to heart, that he abstained from food, and died.—In short, the Sense of Honour I hold to be so essential to Human Nature, that, if a man never had it, I should not believe that he belonged to the species : And, if he once had it, but lost it intirely, I should consider him as the most abject and degenerate creature of the human race.

Now,

* Vol. 1 p. 281. second edit.

Now, the Sense of Honour is founded upon the Sense of Beauty ; for it proceeds from an opinion, that we are possessed of a certain Beauty and Dignity of character, which demands respect from others. If a man has great strength and elevation of Mind, he will not be very solicitous to have this opinion of himself confirmed by the testimony of others ; he will be satisfied with the honour he gives to himself. And this is the case of the *proud* Man : But by far the greater part of Mankind are not *proud*, but *vain* ; and they desire that the good opinion they have of themselves should be confirmed by the opinion of others ; and thence comes the desire of Praise, which is so universal a passion.

From the Sense of Honour, and Desire of Praise, proceeds the passion of Anger, one of the strongest passions belonging to the Human Nature. This passion arises, when we not only do not meet with the Praise from others which we think we deserve, but when we are treated by them with neglect or contempt*.

Revenge

* See Aristotle upon the subject of Anger ; *Rhetorica*, lib. 2. cap. 2.—where he has given a very accurate definition of Anger, and explained and distinguished all the causes which produce it, and which all resolve into *honour offended*, or, in one word, *affront* : For we must distinguish betwixt injury and affront : A man may suffer great injuries and loss, for which he will grieve very much, but not be affronted or angry. It was not the loss of Briseis, that made Achilles angry with Agamemnon ; but it was *ἵνα τιμῆς Ἀχαιῶν οὐδὲν εἴσται* ;—and again because he treated him *ὡς τιμῆς ἀτιμῆτος μεταβάσσειν*.—In short, his anger rose from the sense of his own dignity and worth, to which Agamemnon had shown no regard.

Having mentioned Aristotle's *Rhetoric*, I would recommend very much to the study of the learned reader this 2d Book of it, concerning the Passions and Characters of Men, as containing more of what is called the Knowledge of the World than any book I ever read. And, in general, I would recommend the Moral and Political writings of Plato and Aristotle, as the best school in which a man can learn this Science of the *World* ; for it is with the World, as it is with other things, we shall never be perfect in the Practice of it, unless we know likewise the Science. ■

Revenge is nothing else but lasting Anger, or *Μητις*, as the Greeks call it; and, if the passion is violent, a man will rather die than not satisfy it. This is the case of some barbarous nations, who, by the practice of war and hunting, have got a ferocity of manners, which, instead of making them languish and die when they are affronted, like the tame and gentle savage of Guiana or the Orang Outang, will not rest satisfied, till they have appeased their anger by the death of the person who affronted them. And, as those men have greater strength of Mind than we have, and greater perseverance in all their resolutions and enterprises, they will wait many years for an opportunity of satisfying their revenge.

As, from a Sense of Honour, and of what is Beautiful and Respectable in Character, arises Anger, so also Love and Friendship. As to Love, it is acknowledged by every body, that it is founded upon our Sense of Beauty; and, as to Friendship, it cannot be without Mutual Esteem; and that again cannot be without each of the parties having a Sense of Worth and Beauty of Character in the other. This connection betwixt Anger and Friendship Aristotle appears to have known very well, when he tells us, that the nations in whom *Θυμος*, or *Anger*, is a prevailing Passion, are most inclined to Friendship*: And, accordingly, the Indians of North America are as remarkable for their Friendships, as for their Anger and their Revenge. And Homer has made the character of Achilles perfectly consistent, when, at the same time that

* *De Republica*, lib. 2. cap. 7. As the connection betwixt Anger and Friendship is not very apparent, I will subjoin the words of Aristotle: *Ὁ θυμος ἐστὶν ὃ ποιεῖ τὸ φιλητικόν*—*αὕτη γὰρ ἐστὶν ἡ τοῦ ψυχῆς δύναμις, ἣ φιλοῦσιν. σημεῖον δὲ πρὸς γὰρ τοὺς συγγενεῖς καὶ φίλους ὁ θυμος αἰρεῖται μάλλον, ἢ πρὸς τοὺς μισῶντας, ὀλιγομενέσθαι νομίζοντας*—And a little after he quotes a poet, who says, *Ὅτι τοὶ πικρὰ σιγῆζαυτίς, ἔτι δὲ καὶ πικρὰ μίσουσι*.—And it is a common observation, that mens Anger and Hatred are in proportion to their Love and Friendship.

that he has made him fo Paffionate and Revengeful, he has made him as violent in his Friendfhip; fo that, rather than not Revenge the death of his friend, he chofe to Die himfelf *.

But not only do thofe violent paffions of ftrong Minds proceed from a Senfe of Honour, but there is that common paffion of Weak Minds above mentioned, which is derived from the fame fource; I mean *Vanity*,—an equivocal word, denoting, either the Love of Praife for mean and frivolous things, or an exceffive Love of Praife for great and valuable qualities †; but ftill it is the Love of Praife, which cannot be without a Senfe of fomething Beautiful and Praifeworthy in Character. It is Vanity that gives that univerfal dominion to Fashion, which I obferved before: And, however contemptible a vain man may appear in the eyes of a man of fenfe, I fhould think it a very bad fign of a young man, to have no Vanity; for a man muft have attained to great fenfe and knowledge, more than can be fuppofed in a young man, to be *too proud* to be *vain*, as Dean Swift very well expreffes it.

And here I cannot help making an obfervation, which, I know, will appear very ftrange to the moft of my readers; That, to direct well the vanity of men, and particularly of young men, who are more governed by that paffion than thofe of riper age, is the greateft work of legiflation, and of good government. For Virtue may be made fashionable, as well as Vice: And men who have a Senfe of Honour, (and fuch only are, by Nature, deftined to be free citizens), will not be out of that fashion, more than any other; whereas, thofe who, by Nature, are intended for Slaves, wanting the Senfe
of

* See Arift. Rhetor. lib. 1. cap. 3.

† It is in this latter fenfe that we fay Cicero was Vain, who defired Praife for Great and Noble Qualities; but he defired it too much. In the latter fenfe, we fay a man is Vain, who defires Praife for his Houfe, his Equipage, or his Drefs.

of honour altogether, or having it in a small degree, must be compelled to do what is right by stripes, the punishment of slaves, not by disgrace, the greatest punishment of freemen. While, therefore, what is right, and truly praiseworthy, in life and manners, continues to be honourable in a State, that State will continue to be free and prosperous; but, on the contrary, if what is bad becomes honourable, or even things in themselves indifferent, such as Wealth, but which, by the use that is made of it, is truly said to be the root of all evil, that State will soon cease to be free and happy. To abstain, therefore, from Money, in an age of Wealth and Luxury, is the highest compliment which Horace thought he could bestow upon one of his friends; of whom he says, that he was

—abstinens

Ducentis ad se cuncta pecuniae.*

Nor do I think that Livy has any where praised his countrymen more, than where he has said, “That, in no country, Poverty continued so long honourable †.”—But to return to our subject.

To this Vanity is commonly joined Envy; for the vain are almost all invidious. This is one of the worst passions belonging to human Nature, and yet it arises from a Sense of what is Beautiful and Praiseworthy in Character, and the Desire of being more esteemed and respected than others, upon that account.

From the Sense of the Beautiful arises a Perception that appears altogether opposite, namely, the Perception of the Ridiculous ‡; for the Ridiculous is that which is Deformed: But philosophers know that

VOL. II.

R

there

* *Ad Lolium.*—Lib. 4. Ode 9.

† Liv. in *Proemio.*

‡ See what I have said upon this subject, Vol. 3. p. 298. of *Origin and Progress of Language.*

there is the same knowledge of contraries ; and, though a man be not a philosopher, he will readily perceive that it is impossible to know what is Beautiful, without knowing, at the same time, what is not Beautiful, or Deformed, and *vice versa*. This Sense of the Ridiculous is expressed by that strange agitation of the muscles of the face, and often of the whole body, which we call *Laughter*, and which every Body knows is peculiar to Man, who therefore has been defined a *risible Animal*: But every Body does not know that the reason, why it is peculiar to him, is, that he is an Intellectual Animal; for it is only Intellect that perceives Beauty, and its contrary, Deformity: And therefore the Brute, not having Intellect, is neither a Risible Animal, nor perceives Beauty.

But, though every man must perceive the Ridiculous, as well as the Beautiful, yet every man does not delight in it. It is the pleasure, chiefly, of the vain, the invidious, and the malignant, not of the great and good, who delight in the contemplation of the *Beautiful*, but turn their eyes away from the *deformed*. Hence it is that Savages, who are commonly high minded men, are very grave, and seldom laugh: And, among civilized nations, neither philosophers, nor high-bred men, are addicted to laughter; which, therefore, is the passion of the vulgar only, in such nations.

Ambition is one of the passions of great Minds, and is evidently founded in a man's sense of the dignity and superiority of his character, which he thinks entitles him to govern others: And in all such characters, the Sense of Honour, and the Love of Praise, is very strong. Even Avarice, one of the most sordid passions belonging to our Nature, has a mixture of the Love of Praise in it; for a rich man desires to be respected for his Wealth: And, accordingly, I have observed, that all the Avaritious are Vain to a certain degree, that is, as far as it does not interfere with their Love of Money.

All

All our other Defires and Paffions belong to the Animal Nature : For they are either the defire of bodily pleafures, or of the means of enjoying thefe ; or they are affections of the Mind, fuch as are common to us with the Brutes.

And thus it appears that Beauty is the fole delight of our Intellectual part,—the fource of the pleafure of arts and fciences,—the foundation of all our Virtues,—and of our Vices too, fuch as Anger and Revenge, Vanity, Envy, Contempt, and Derifion.

If it be asked, Why Beauty pleafes us ? the anfwer is, That it pleafes us becaufe it is Beauty ; or, in other words, It is the ultimate caufe of the pleafure : And, in this refpect, it is the fame with the Pleafures of Senfe, which pleafe us for no other reafon but becaufe they are Pleafures of Senfe. And the fame may be faid of thofe pleafures which arife from natural affection and fociety.

If it be farther asked, What is the final Caufe of Beauty giving us fo much pleafure ? I anfwer, That the goodnefs of the Author of Nature has thought proper to annex to the exercife of all our faculties a certain pleafure. This is the cafe of all the Energies of the Animal Life ; and it would have been very extraordinary, if, to our nobleft energy, and to the exercife of our higheft faculty, no pleafure had been annexed.

It may alfo be asked, Why Beauty is made to confift in System, and nothing elfe ? To this the anfwer is obvious, from what has been already obferved, That Beauty being a pleafure of the Intellect, it could not have been perceived by Intellect in any other way.

I will conclude this Chapter with obferving, that, as the System of the Univerfe muft be not only the greateft but the moft perfect

that can be conceived, and, consequently, of the highest Beauty,—and the contemplation of it being the noblest occupation of Man, as well as the happiest,—we are, by Nature, so much framed for that contemplation, that our Intellect apprehends nothing but in System: So that every exercise of our Intellect, upon every subject, may be said to be a preparation for the enjoyment of that highest happiness, for which we are by God and Nature destined. Whoever, therefore, cultivates his understanding properly, is acquiring, by degrees, the capacity of this highest enjoyment, which may be called *the Beatific Vision* of Philosophy.

B O O K

B O O K III.

Of the several Minds in Man, considered as distinct Substances.

C H A P. I.

The Intellectual Mind, a distinct Substance from the Animal.—Only two Opinions upon the Subject.—Things, to be distinguished by their Properties—Active Beings, by their Operations.—The Operations of the Intellect, and of the Animal Life, quite different.—Man operating by Intellect, not a Sensitive Being.—The Animal Nature, no Improvement or Refinement of the Vegetable.—No more is the Intellectual an Improvement of the Animal.—The Vegetable Life exists separately from the Animal—therefore they are separate Substances.—For the same Reason, the Intellectual and Animal Natures are separate Substances.—Our little World, composed of four Substances—This the Tetractys of the Pythagoreans.—Every Vegetable and Animal, compounded of three different Natures.—This Doctrine, of three distinct Substances in Man, the Doctrine of the Peripatetic School, as explained by Philoponus.—Objection to this Doctrine, answered.

HAVING, in the preceding Book, distinguished the several kinds of Mind in our wonderful composition, and, particularly, having shown that the Intellectual Mind is perfectly distinct from the Animal, in every view in which it can be considered, whether with respect to its Objects, the manner of apprehending these
Objects,

Objects, its Desires and Inclinations, and, lastly, its Pleasures, the Reader, it is hoped, will be prepared for what I am to undertake to prove in this Chapter—That the Intellectual Mind is a Being altogether distinct from the Animal Life, as distinct as the Animal Life is from the Vegetable. This I have endeavoured to prove in my First Volume *; but, as the subject is of such importance, I will say something more of it here.

There can be but two opinions upon this subject: One, that Intellect is nothing more than a superior faculty of the Animal Nature; —The other, that it belongs to a different Nature, and is a quality of a substance altogether distinct from the Animal.

In the *first* place, as we know not the Substance or Essence of any Thing, we cannot judge of the difference of Things, otherwise than by their qualities: And, if the Things we compare together are Active Beings, it is their Energies and Operations that we are chiefly to consider; and, if these appear to be essentially different in kind, not in degree, we ought to pronounce the Beings to be likewise different in kind. Now, I think I have shown most clearly, that the Operations and Functions of the Animal Life are quite different from those of the Intellectual Mind: And, indeed, the difference is so great, that *Man*, considered as an Intellectual Being, cannot be said to be a Sensitive Being, which is the very definition of an Animal; because it is by the Senses the Animal Operates, and, in that way, is distinguished from the Vegetable. It is true, he operates also by the Phantasia: But the Phantasia is a kind of Secondary Sense, and may be reckoned a Bodily Organ, as well as the Senses. Then all his affections and dispositions are referable to the Body. On the other hand, the Intellect does not operate either by the Senses or the Phantasia, but, in a manner, as I have shown, quite different; so that, when we perceive external objects by our Senses, or Phantasia,

* Book II. chap. 12.

tasia, we do not act as a Man, or Intellectual Creature, but as a mere Animal.

The Desires and the Pleasures likewise of the Intellectual Nature are quite different from those of the Sensitive. It is true, indeed, that Intellect operates upon Matter; and that our Intellect uses the Materials which the sense furnishes. But it is of necessity that Intellect should operate upon Matter, either mediately or immediately, otherwise the Material World could not be such as it is: And we should not be men, if our Intellect could operate without the Materials furnished by Sense.

2do, Nobody will say, that the Animal and Vegetable Natures are not distinct, though joined together in the same composition; and, Why should not the Intellectual Nature be as distinct from the Animal, as this is from the Vegetable? It is said, that Intellect is nothing but an improvement of the Animal Nature: Why may it not be as well said, that the Animal is no more than an improvement upon the Vegetable? If it had pleased God to join the Intellectual Nature to the Vegetable, without interposing the Animal, Would it not have been ridiculous to have said, that the Intellectual Nature was nothing but a finer kind of Vegetable? Whatever is said to be a Refinement or Improvement of another thing, must be of the same kind. Thus, if the senses of any Animal be made more acute,—if the Phantasia be made to represent the objects in it more perfectly, and to retain them longer,—if an Instinct shall be given him, directing him better to preserve the individual, and continue the kind,—the Animal, no doubt, will be improved: But, if Powers and Faculties are given him of a quite different kind, and serving purposes quite different; then the Nature of the Animal will not be improved, but another Nature of a different kind will be added to his.

3tio, If the Animal Nature did not exist separately, and if also the Intellectual did not exist in that way, it might be thought that the supposition of their existing conjoined in Man was a mere hypothesis, and that Man was truly a simple, uncompounded, substance. But we are sure that the Animal exists separately; and, if we believe in God, we must believe that Intellect exists likewise separately. And, if so, What should hinder them to exist conjoined? Body and Mind exist in that way; and certainly the Animal and Intellectual Minds are not substances more different in their natures, than Mind and Body.

Thus it appears, that, in our various Nature are joined together the Vegetable, Animal, and Intellectual Natures; to which may be added a fourth Nature, which I call the Elemental Life. This makes Man the most wonderful compound here below: And he is truly what the antients called him, a *Microcosm*, or Little World; for we cannot conceive the Great World composed of any other ingredients. And I am persuaded these *four* are the famous *Tetraclys* of the Pythagoreans; which was thought so great a mystery of philosophy, that the Pythagoreans swore by him who first discovered to them the *Tetraclys*, the *Eternal Source of ever flowing Nature**.

Nor

* See Theon. Smyrnaeus's *Mathematica*, cap. 38. p. 147.—See also Nicomachus *περι τα βιολογουμενα εν τη Αριθμητικη*,—and Themistius *περι Ψυχης*, lib. 1. fol. 66.—I know, that the veneration, that the Pythagoreans had for the number *four*, is ascribed to its being a symbol of the progress of Nature in the formation of Physical Bodies; the *monad* standing for the *point* the *duad* for the *line*, the number *three* for the simplest superficial figure, viz the *triangle*, and the number *four* for the simplest solid figure, viz the Triangular Pyramid, consisting of three sides and a base: So that the number *four* completed the progress of Nature in the formation of Physical Bodies. But though, no doubt, the Pythagoreans considered Arithmetic as the Primary Science, and Geometry as nothing more than the application of Numbers to Lines and Figures; yet it is likewise certain, that they made Numbers

Nor should we be surpris'd that Man is so compounded, when there is a like composition in every other Animal, and even in Vegetables: For, in each individual of these, there is, *1mo*, The common Nature of the genus; *2do*, The more particular Nature of the species; *3tio*, That more particular Nature still, which distinguishes one individual from another; and, *lastly*, The common Elemental Life, or Principle of Motion, which is in all Bodies unorganized, as well as organized. Nor will any one who has attended to the varieties of Nature to be discovered by the analysis and decomposition of Bodies, be surpris'd that the composition of Minds should be as various as that of Bodies.

This doctrine of three of the four Minds in our wonderful composition, I mean the Vegetable, Animal, and Intellectual, being distinct substances, and not different qualities of *one* and the *same* substance, is no discovery of mine, but the doctrine of Aristotle, and of the Peripatetic school, as delivered and most clearly explained by Philoponus, in the introduction to his Commentary upon Aristotle's books *De Anima*; and, as Philoponus was a Christian, I have no doubt but this was the doctrine of the church at that time.—As to the *fourth*, or Elemental Mind; I have given a reason in the note below, why they do not mention it as any part of the composition of Man.

There is an objection which Philoponus, in that introduction, states to this doctrine, calling it a vulgar and popular objection; namely, That, in this way, we have three Minds instead of one. But, though it may appear a vulgar objection to a philosopher, who

VOL. II.

S

knows

bers the symbols of Divine and Spiritual things: And, therefore, I think, it is better to explain this grand mystery of the *Tetraëlys*, by applying it to Mind rather than to Body; and, by supposing it a symbol of these four Minds, which, rising one above another, as numbers do, animate the whole universe, and govern its movements. But, in the school of Plato and Aristotle, the Elemental Life was considered as belonging only to *Nature*, not to *Man*; and, therefore, in the composition of Man, they speak only of a *trinity* of Minds, the Vegetable, the Animal, and the Intellectual.

knows the variety of Nature, and has learned to distinguish betwixt the several things that enter into the composition of Natural Substances; yet I am persuaded it is the source of the common error upon this subject: For we speak of Man as having but one Mind, without distinguishing betwixt his Soul and his Animal or Vegetable part; and we think a man, now a days, a good philosopher, if he can distinguish betwixt this single Mind in Man and his Body. But, for the same reason, as Philoponus has well observed, that we conceive the Body, and the several kinds of Mind, to be distinct substances, though closely joined together, so we ought to conceive these minds as distinct from one another*.

From this doctrine of our Intellectual Nature being a substance distinct from our Animal Life, as distinct as that life is from the Vegetable, there result several most important consequences, as I shall show in the following chapter.

C H A P.

* I will give the words of Philoponus, because there is an error in the text, which I think I am able to correct. Μη απορετω δε τις ιδιωτικην απουσιαν ενειρη. Τι ουτ; τρεις ψυχας εχουσι, και υποτεριων ψυχων διοικουμεθα; λεγω γαρ οτι ωσπερ ενωθισα η ψυχη τη σωματι τωυτω, οκει μιν εν τι πραγμα ποιειν; Κατα αληθειαν δε ουχ εν τι εσθιν, ουτω τη τε αλογω, και τη φυτικη συνημιση; μιν μιν τινα συνημιαν ποιει δια την συναρκειαν; εξηπται γαρ προσιχως της μιν λογικης η αλογος, της δε αλογου η φυτικη. Δια δε της γινωμενης εκ της συναρκειας ταυτης συμπαθησαι, μικτ φασιν. Και οτι ως οργανοις πεχρηται ταις αλλαις δυναμιστιν η αλογος. In the last part of this passage there should not be after the φασιν a full stop, but only a coma; and, in the end of the passage, instead of η αλογος, we should read η λογικη: And then the sense is clear, which is this; "Because these several Minds, by reason of this connection, have a mutual sympathy, we say that they are one, and that the Rational Mind uses the other two as organs."

I cannot help observing here, that it is much to be wished that this valuable work of this Christian commentator upon Aristotle were reprinted, and the many errors in the only edition we have of it, both in the punctuation and the words, corrected: And I have no doubt but that it will be done in England; as I hope that country will have the honour of reviving the Greek Philosophy, which it will not be difficult to do where the Greek learning is so well understood.

C H A P. II.

The Consequence of the Doctrine of three distinct Substances in Man.—These Substances cannot be transmuted into one another—nor will the Destruction of one be attended with the Destruction of another.—Still less will they be destroyed by the Destruction of the Body.—The Intellectual Substance cannot be so destroyed, as it operates without Body :—Nor the Animal or Vegetable Substances, though they do not operate without Body.—These are not perishable by their own nature, being Immaterial Substances.—Of the separate Existences of these Minds.—The Intellectual does so exist.—The Animal and Vegetable Minds do not exist separately.—Of the Doctrine of Transmigration.—How to be understood upon the Principles of this Philosophy.—Into what Bodies the several Minds transmigrate.—Whether the Human Mind transmigrates into the Brute.—No Transmigration of the Elemental Life.—This Philosophy establishes the separate Existence, and the Immortality of the Soul, upon the surest Foundation.—The Doctrine of Lucretius and of Mr Locke easily refuted upon the Principles of this Philosophy.—Comparison of the Human Soul to the Master of a Ship.—Of the Use of this Philosophy in Theology.

AND, in the *first* place, it is evident that, if the Intellectual, Animal, and Vegetable Life, which make our wonderful composition, are distinct Substances, it is impossible that the one can be transmuted into the other ; for there is no such thing in Nature as a metamorphosis of any Individual Substance, or any Species of

Substances, into another. In natural Substances, indeed, such as Vegetables and Animals which are propagated by Generation, we observe that the mixtures of some of them produce a motely offspring, participating of the nature of both Specieses. But this confusion goes no farther than the first generation: And, if we could suppose it to go farther, it could not affect the present argument; for it is impossible to conceive that Mind can propagate Mind, in the way that Plants and Animals produce one another. We must therefore hold, that the Intellectual, the Vegetable, and the Animal Natures, whatever improvements they may receive in their several kinds, continue always distinct Substances, and never run into one another; so that the Vegetable never becomes an Animal, nor the Animal an Intellectual Being. And, if so, we must not dream, as some philosophers appear to have done, of an ascent of Minds from the lowest to the highest; nor imagine, that the Vegetable, by being passed through certain Strainers and Refiners, can ever become Intellectual.

2do, It follows, from the three Substances being distinct, that the destruction or annihilation of one cannot produce the destruction of the other. If, indeed, the Intellectual Mind was nothing but a Quality or Property of the Animal, and the Animal the same of the Vegetable, it would be impossible that the one could subsist after the other was destroyed: But, as they are separate Substances, they must have a separate existence, not dependent upon one another, or upon the existence of any other Substance, as Accidents or Qualities are dependent upon the existence of the Substances in which they are inherent. Supposing, therefore, that, at our death, the Animal Life in us was wholly annihilated, as it no doubt ceases to exist in the same composition of Matter, our Intellectual Mind, being a distinct Substance, would still continue to exist: And the only consequence with respect to it
would

would be, that it would lose the ministry of the Animal Life, and could not move Bodies, nor receive perceptions and impressions in the same manner as it did before. Our Intellectual Part is not more connected with our Animal, than the Animal is with the Vegetable in us; and yet we know, not from reasoning only, but from fact and observation, that the Animal or Sensitive Life may cease in one of our members, and yet the Vegetable continue.

It may, therefore, be laid down, as a general proposition, That, when Substances are distinct, however they may be connected together, the destruction of the one will not be attended with the destruction of the other. That this is the case of Bodies, we have ocular proof; for different corporeal Substances, however intimately they may be mixed and incorporated together, can be separated and analysed, without any hurt to any of the compounds by the dissolution: And the same is true of the composition of Mind.

3tio, If the incorporeal Substances in us cannot be destroyed or annihilated, by the separation from one another, or even by the annihilation of any one of them, if we could suppose such a thing, much less can they be destroyed by the separation or dissolution of the Body to which they are joined; for they are Substances still more distinct, if possible, from Body, than from one another, Body being of a nature much more different from Mind, than any Species of Mind can be from another. As to our Intellectual Mind, it is not, as we have seen, immediately connected with our Bodies, but only with our Animal Life, through which it operates upon our Bodies, and receives impressions and perceptions from thence: But in that way only it is connected even with the Animal Life; for, when it forms Ideas, thinks and reasons, it acts by itself, without the least assistance from the Animal Part of us. And, as we know the Nature

ture or essence of nothing, except by its operations, or, indeed, that it at all exists, Aristotle, I think, most philosophically, concludes, that the Intellectual, as it operates separately, has a separate and independent existence *.—And thus it appears, that, by the dissolution of our Bodies, or their annihilation, if we could suppose such a thing, our Intellectual Part cannot be destroyed, any more than by the dissolution or annihilation of any other parcel of Matter.

As to the Animal Life, there may appear more doubts, because the Animal Mind operates by bodily organs. But, if we are convinced, that it is a Substance distinct from these organs, we cannot suppose that, by the derangement, or total dissolution of those organs, the Mind itself should be destroyed. It uses other organs or instruments, by which it operates upon Bodies, such as Levers and wedges; yet nobody supposes that, by the destruction of these, the Mind who employs them is destroyed. Now, the only difference betwixt the two kinds of instruments is, that the one is remoter, and the other nearer and more closely connected with the Mind. I think, therefore, we may safely conclude, that the Animal Substance in us, and in other Animals, is not destroyed by the destruction of the organs or instruments which it employs. Whether it can be supposed to exist separately, without being annexed to any organs, as our Intellect may exist, is another question, which I shall consider presently.

What I have said of the Animal Life will apply equally to the Vegetable; for, if the Vegetable Life be an Immaterial Substance, it is impossible that it can perish with the composition of Matter to which it is annexed: But it will not from thence follow that it exists in a separate state.

* See Vol. 1. p. 196.

4^{to}, As, therefore, none of the three Minds can perish by the destruction of one another, or of the Body, it is evident that, if they do perish, it must be in consequence of something in their own nature that makes them liable to Death and Destruction. Now, this cannot be the case; for, in the ordinary course of Nature, of which only I am speaking, not of any extraordinary or miraculous interposition of Deity, there is nothing annihilated: And what we call the Death or destruction of any Substance, such as Animal or Vegetable, is nothing but the dissolution or separation of the Bodily parts of it, and the derangement of the organization by which the Plant or Animal operated. Now, of an immaterial Substance, which has no parts, it is impossible that there can be any dissolution or derangement of parts; and I will venture to affirm, that whoever speaks of the death or annihilation of a Soul, or of any other Mind, has no Idea affixed to his words, and speaks without understanding what he says.

5^{to}, As to the question, Whether those Minds exist separated from all Matter and Mortal Concretion, I think there can be no doubt but that the Intellectual Mind may exist in that way; for, as it can operate without Body, there can be no reason given why it should not exist without Body. We are sure that the Supreme Mind exists in that manner. And, as our soul is in a constant state of progression, even in this life, when we live as we ought to do, there is the greatest reason to believe, and none at all to doubt, that we at last shall be so refined and purified from all the contagion of Matter, as to become pure spiritual creatures. But this will not happen,

*Donec longa dies, perfecto temporis orbe,
Concretam exemit labem, purumque reliquit
Etherium Sensum et auræ simplicis ignem*.*

Even

* Virgil. Æn. Lib. 6. v. 745.

Even in this life, a common understanding acts without Body ; and the philosophical Mind acts so much in that way, that it may be said to exist, for the greater part, without Body. It is true, indeed, that a perfect Savage, that has not formed Ideas, can hardly be said to operate without the Body, or to be any better than a mere Brute. But still he is an Intellectual Being *potentially*, as we are in our state of infancy : And it is a fine observation of Aristotle, That, in things eternal, such as the Mind is, whatever exists *potentially*, will, some time or other, exist in *energy or actuality* ; so that, in such Beings, there is no difference betwixt the *posse* and the *esse* *. And, therefore, as it is impossible to deny but that the human soul *may* exist in that way, it is fair to conclude that, some time or other, it *will* so exist, not only separated from Body, with which I have said it is not immediately connected, but even from Animal Life.

As to the Animal Life, I do not think we have any reason to believe, that it either does, or ever will, exist in a separate state : For we see, that all its energies and operations arise from Body, and are relative to Body only ; and, therefore, as we know nothing of the nature of any thing but by its operations, we ought to conclude, that it is of such a Nature as never was destined to exist without Body. And, if this be true of the Animal Life, it certainly cannot be otherwise in the Vegetable Life : Nor indeed can we have any idea of a Vegetable Mind without a Vegetable, which it nourishes, makes to grow,—preserves the individual, and propagates the kind †.

6to,

* Το γὰρ ἰνδύχουσαι του εἶναι οὐδὲν διαφέρει ἐν τοῖς αἰδιόις. *De Natu. Aufcult.* Lib. 3. cap. 5. Se. 6. And the reason is, that, if what is in *potentiality* never exists, the *potentiality* would be given in vain, and would exist for ever to no purpose. Now, says Aristotle, Nature does nothing in vain ; Μηδὲν ἢ φυσὶς ποιεῖ κεντην. Lib. 3. cap. 10. *De Anima*. It may be observed that Aristotle applies this maxim only to *things eternal*, meaning the Principles and Essences of things, which, being immaterial, as I have shown, (p. 72.), are all eternal ; whereas the corporeal forms are in constant change and succession.

† See what I have further said upon the separate existence of the several Minds in us, in the first volume of this work, book. 2. chap. 16.

To, The doctrine, therefore, of Transmigration, which I believe is the most antient philosophy in the world, comes to this, upon the principles of my philosophy; That, as Mind never perishes, whenever the Body to which it is annexed is dissolved, if it be by Nature destined not to exist separately without Body, it must, of necessity, animate some other Body, and, therefore, must transmigrate into another composition of Matter. This must be the case of both the Vegetable and Animal Life, and, for the greater part, I believe, of the Intellectual Life; as there are very few souls that are prepared, upon quitting this Body, for the highest state of refinement, which must be in a separate state of existence.

The only question upon this subject appears to me to be, *From* what form, *to* what form the several kinds of mind may be moved? and, Whether the transmigration be universal to the three several orders of Being, Vegetable, Animal, and Man?

That the Soul of Man transmigrates into Man, cannot, I think, be doubted, unless we should suppose that there is a creation of a new Soul for every Human Body that is born, which no philosopher will believe, and which Synesius, the most learned Bishop of the antient Christian Church, declares he could not believe*. Or, if we should suppose this new creation, what is to become of the Souls of the departed? They are not fit, for the greater part, as I have said, to exist in a pure Spiritual State: They must, therefore, animate some body; And what Body so fit as that of Man?

But what shall we say of the Animal Mind? Does it transmigrate into the Body of Man? And I am of opinion it does not: For, as the Animal Mind cannot, as I have said, be transformed into the Intellectual Mind, if we could suppose such a transmigration,

VOL. II.

T

the

* See Vol. I. p. 260.

the Animal might have the form of a Man ; but he would not be really a Man, any more than an Idiot or a Changeling.

The greatest difficulty in this matter is, to know whether the Human Mind transmigrates into the Brutal form. And it is the opinion not only of the philosophers of the East, but of some of the West, particularly Plato, that the Human Soul may, by way of punishment, be degraded to inhabit a Beast. Whether it be so or not, is a question, which, I think, philosophy cannot determine : Only this we know with certainty, that, if the Human Intellect be in a Brute, it must be there latent, as it is in us in the womb and during our infancy.

That there must be a transmigration of the Animal Mind from Animal to Animal, and of the Vegetable Mind from Vegetable to Vegetable, is, I think, evident, if it be true, what I have laid down, that neither of these Minds is annihilated, or perishes, any more than the Intellectual. I think we also know with certainty, that these transmigrations of the Animal and Vegetable life are governed by certain rules, as well as every thing else in Nature : But what these rules are, I believe no philosopher ever can discover.

But, What shall we say of that principle of Motion, that Elemental Life, as I call it, which is in every particle of Matter ? Does it transmigrate from one particle to another ? And, I say, it does not ; because no reason can be assigned for such transmigration : For, as this Life is in the minutest particles or indivisible atoms, there is no dissolution or separation of parts, as in the Bodies of Animals and Vegetables ; and, consequently, the life, which animates them, continues always in them, without transmigration or change of any kind.

What

What I have said in this and the preceding chapter, will, I hope, put the important doctrine of the separate existence of the Intellectual Mind in a clearer view than it has been hitherto put, and will show the truth of what Aristotle says, “That, when it so exists, it is “what it truly is*,” by which he means, that, being free of the contagion of the Body, and delivered from all the passions and disorders which its conjunction with the Animal produces, it is truly itself. And indeed it is much more difficult to conceive it joined with a substance so different as Body, than to conceive it existing by itself.

What I have said will, I hope, also put the immortality and eternity of the soul upon the surest bottom, on which philosophy can put it: And, accordingly, Aristotle makes that conclusion from its separate existence †. And, indeed, it answers at once all the objections that have been made to its immortality: For, if it be a separate substance from the Body, it is not merely a certain modification, or organization, of Matter, as Dr Priestley maintains, which, therefore, must be at an end when the Body is dissolved; and, if it be a separate substance from the Animal Life, it will not perish when that life ends, as Lucretius supposes.

And indeed, the arguments used by this philosopher plainly show, that the source of the error is confounding the three substances, of which we are compounded, with one another, and with the Body with which they are all incorporated. And, indeed, if I really believed that all the three were qualities of the same substance, so united together, that they could not exist separately, I should be much disposed to
T 2
believe,

* *χωρισθεις, δε εστι μορον τουθ' εστις εστι.* lib 3. De Anima, cap. 6.

† The words he uses are, *αβαντος και οδον.*—See the explanation of these words, which I have given in a note upon p. 140. of vol. I.

believe, that the Body, in which they are all inherent, was that substance, and that, when there was an end of it, there was an end of them also.

Further, this doctrine of the Intellectual Mind, or Soul, being a separate substance, not only shows the impossibility of Mr Locke's notion of *Matter thinking*, but shows us also the ground of his error; for he thought, no doubt, that the faculty of Thinking was no more than an improvement, or refinement, of the Animal Life. Now, if we shall likewise suppose that the Animal Life is nothing more than the Vegetable exalted, and, as it were, sublimated, it is but going one step further to suppose, that the Vegetable is nothing else but Matter organized, and of a more artificial texture than common Matter: And, if so, the whole of us is Material, the Soul as well as the rest; whereas, if the soul be a distinct substance, it is impossible, as I have shown, that either of the two Animating Principles can be transmuted into it, much less that Matter can become Soul.

The Human Soul, therefore, may be fitly compared to the Master of a Ship, who sits at the helm, and governs the vessel: This vessel must be properly equipped with masts and sails and all instruments or organs proper for navigation; otherwise the Master cannot perform his office. In like manner, the Body must have all the necessary organs, and these in good order; otherwise the Soul cannot perform its function of government. The next in command, under the governour of this Vessel, is our Animal Nature; and, under the Animal, the Vegetable. These two operate directly and immediately, by their several organs or instruments, which are parts of our Bodies, in the same manner as the Masts, Sails, and Rigging, may be said to be parts of the Ship: Whereas, the Soul does not operate immediately or directly by these organs, but, like the Master of the Ship,

Ship, gives directions to the officers under him to employ them. And, though the conjunction of our Souls with our Bodies is no doubt clofer, and more intimate, than that of a Master with a Ship, yet our Soul is no more a part of our Body than the Master is of the Ship : And, therefore, as the Master, even while he is in the Ship, can act by himself without the Ship, and can do other things besides governing the Ship, so can our Soul, even when it is in the Body. —If this comparison be just, it is as improper to say, that it is the organization of the Body that makes the Soul, as it would be, to say, that it is the construction of the Vessel, and its being furnished with all proper instruments of navigation, that makes the Master ; and it is no more true, that the Soul perishes when it leaves the Body, than that the Master perishes when he leaves the Ship*.

Lastly, If we are convinced that our own Souls have a separate existence, both from our Bodies, and from our Animal Life, and are eternal, we shall be easily disposed to believe that there is in the Universe an Intellect infinitely superior to ours, that has the same separate and eternal existence. And, in this respect, the doctrine I have maintained in this Chapter will be of great use in Theology ; for, as I have more than once observed, it is only from studying our own Mind, and its properties, that we can ever rise to any comprehension of the Supreme Mind.

C H A P.

* This comparison of the Soul to the Master of the Ship, I am indebted for to the Author, above quoted, of the Religion of Nature Delineated, p. 192.

C H A P. III.

Whether there be not two Intellectual Substances within us.—Distinctions necessary to be made for resolving this Question.—1st, Distinction betwixt Mere Power, or Capacity, and Actuality.—2d, Distinction betwixt Form and Matter.—3d, Distinction betwixt Substance and Accident.—Accidents are perceived by the Senses, but Substance is an Idea formed by Intellect.—The Human Intellect exists only potentially—not only in the Individual, but in the Species.—The Progress from Potentiality to Actuality slow in the Individuals of Civilized Nations—very much slower among Savage Nations.—Of the Nature of the First Ideas formed by Savages.—The Form in them not separated from the Matter.—Practical Intelligence in Civilized Nations, not much different.—Great Difference, in Point of Intelligence, betwixt the Savages who subsist by Industry, in the Practice of certain Arts, and those who live upon the Natural Fruits of the Earth.—The Savage does not Speculate—therefore has no Ideas of High Abstraction—is neither Arithmetician nor Geometer.—What his Ideas of Number and Figure are.—Of his Idea of Mind—does not make the Distinction betwixt Natural Causes and the Operations of Mind—believes in superior Minds.—Speculative Intelligence contrasted with Practical.

BY what I have said in the preceding Chapter, I hope I have made it evident, that our Intellectual Mind or Soul is a Substance, distinct, not only from our Body, but from our Animal and Vegetable Life, however closely it may be connected with them, in this our present State.—But Intellect appears so different, in different

ent Men, and in the same Men at different times and in different states, that some have doubted whether there be not different Intellectual Natures in us, and whether the Animal, Man, be not still more composed than I make him: For, as Aristotle has observed*, there are very many *parts* of the Mind, such as the Intellectual, the Sensitive, the Phantastic, the Orestic, &c. ; and it is difficult to determine whether they be Substances by themselves, or Qualities of the same Substance. As to this doubt concerning Intellect, I mentioned it in the preceding Volume †, started by one of Aristotle's commentators; and, even in Aristotle himself, there are some passages, which look as if he were inclined to give us two Intellects, distinguished from each other by their several operations; and no less a philosopher than Plotinus understood this to be Aristotle's meaning, as we are informed by Philoponus, in his commentary upon the Sixth Chapter of the Third Book of Aristotle, *De Anima*. This is a matter of no less curiosity than importance in the Philosophy of Mind; and therefore I propose to examine it in this Chapter; for which purpose it will be necessary to premise some distinctions; for there is nothing more true, than the common saying of the Schoolmen, that, 'Qui bene distinguit, bene docet.' And he who thinks that, by the force of his genius merely, he can apprehend those things in the lump, without taking the trouble to make such distinctions, may bid adieu to philosophy.

And there is one distinction often mentioned in the course of this work, but of which it is proper to remind the Reader here, as, without it, it is impossible to explain this subject. It is a distinction which runs through all Nature, discriminates things Eternal and Divine from things Mortal and *in Generation*, as the Antients expressed

* Lib. 3. c. 10. *De Anima*.

† Vol 1. p. 167.

pressed it; yet it is never mentioned in our modern philosophy, though it be found almost every where in Aristotle. The distinction I mean is betwixt *Power* or *Capacity* to become any thing, and *Energy* or *Actuality*: For the Antients, who had comprehensive views of things, and believed that Nature proposed an end in all her operations, considered not only what a thing was for the present, but what it was by Nature destined to be in future. Thus, they considered the Seed of the Animal or Vegetable as an Animal or Vegetable in Capacity: The embryo in the womb, and even the infant when it is born, was no more, in their language, than a Man in Capacity. And not only in particular substances, such as Animals and Vegetables, did the antients suppose a state of mere capacity, but also in the whole material world: For they understood that all the Bodies we see, so various in their form and texture, did all proceed from a first Matter, which had no form at all, but was capable of receiving all forms; so that it was every thing *potentially*, but nothing *actually*. And this Aristotle understood to be the case, even of Minds incorporated with Bodies; for he has said that the Human Intellect is, at first, nothing but mere *capacity*.

In all things that are generated and corrupted, there is a state betwixt the two, which is the perfect state of the thing, and to which it has, by Nature, a tendency and progress; as, on the other hand, when it has passed that state, it has a tendency to decay and dissolution. This state of perfection is, in the language of Aristotle, called, by a word of his own making, *entelebeia*.

As Nature does nothing by starts and bounds, there is a regular progression in every thing, and sometimes a very slow one, from mere capacity to this perfect state, best shown in its energies and operations, by which the end of Nature is fully accomplished, every thing, by Nature, being destined for action and operation; for other-
 wise

wife it would exist to no purpose.—But nothing can operate, that is not fitted and disposed, by its nature, to operate. This disposition is called, in Greek, *ἕξις*, or *habit*: And, though it makes the thing perfect, yet, as it is only preparatory to Action, which is the ultimate end of Nature, it is called by Aristotle the *First Entelecheia*; whereas the other is the *Complete Entelecheia* or, *Energy*, of what is come to its state of perfection*.

This is the progress of things in generation and corruption. As to things divine; we conceive no such progress in them, nor any distinction betwixt Capacity, Habit, or Energy; but we hold Energy to be essential to their Nature, so that they cannot exist without energizing. But this does not hinder that inferior Beings of this kind may be improved in their Natures and Energies, though we cannot conceive them when existing by themselves, and not joined with Body, in a state of mere Capacity, without Energies at all, or with interrupted Energies.

There is another distinction that I likewise think of absolute necessity in this argument; but neither is it made by our modern philosophers, though it be the foundation of the antient philosophy of Nature: The distinction I mean, is between Matter and Form. Those, who are perfectly unlearned in the antient philosophy, will readily conceive this distinction in the works of Art, in which they see the same materials assuming very different forms: And the antients said there was the same distinction in the works of Nature, and that there was *Matter*, or, as it is commonly called by modern philosophers, *First Matter*, which received indifferently all Forms and Qualities, and was the common substratum of all material things; the existence of which we must admit, as I observed before*.

VOL. II.

U

unless

* For this distinction betwixt the *πρωτη* and *δευτερη εντελεχεια*, See Arist. lib. 2. *De Anima*, cap. 1.

† P 13. 3.

unless we will maintain, with the Cartesians, that Matter and Extension are the same.—This philosophy is much more ancient than the philosophy of Plato and Aristotle, and, I am persuaded, is as ancient as any in the world : For it was the philosophy of the School of Pythagoras ; and, I think, there is no reason to doubt that it was brought by him from Egypt. It is to be found in that most valuable piece of Pythagorean philosophy, *Timæus de Anima Mundi*; who says that the Material World consists of three things, the Idea, that is, the Form,—the Matter,—and the composite of these two, that is, the things which are perceived by our Senses *. As to Substances immaterial ; it is almost needless to observe, that they could admit of no such composition ; they were all Form, and therefore the most simple of all Beings.

The last distinction I shall mention is well known, even to those who are no farther advanced than to the threshold of philosophy ; it is betwixt Substance and Accident,—a distinction which runs through the whole of things, every thing existing being either Substance or Accident. It is so obvious, and has been so often taken notice of before, that I should not have mentioned it upon this occasion,

* See what I have said before in a note upon p. 70. of the different ways in which Plato and Aristotle express themselves, concerning the Form, or Idea, of a Thing, and that Idea joined with Matter, so as to make a Composite, which is apprehended by the Senses.—Without entering into the controversy betwixt Plato and his scholar about Ideas, I think it must be admitted, that the Matter of which any natural substance is composed, is in constant change, and never one moment the same : It is, therefore, the Idea of such substances alone that has a permanent existence ; and, accordingly, it is only by the Idea that any thing is an object of Intellect. And it is in this way that Aristotle himself argues against Heraclitus, and others, who said, That nothing had any permanent existence, but every thing was in a perpetual flux like the stream of a river ; *Metaph. lib. 4. cap. 5.*—p. 878. edit. Du Val.

caſion, if it had not been to obſerve, that, by our ſenſes, we only perceive the Accidents of things : But it is by our Intellect only that we perceive the Subſtance of any thing ; for the Intellect, collecting together the ſeveral Accidents of the thing, and perceiving that they muſt exiſt in ſome *Subſtratum* or Subject, does, in this way, form the Idea of Subſtance.

Having premised theſe obſervations, I will now apply them to the Human Intellect. And, in the *firſt* place, I think it is evident, that, in our entrance upon this ſtage of our exiſtence, it exiſts only Potentially, not Actually : For, though our Soul be, as I hold, immortal and divine, yet, being ſo intimately connected with the Body, it is ſo far mortal and in generation, and therefore muſt have the ſame progreſs from Potentiality to Actuality, that all things mortal and in generation have. I hold, therefore, Aristotle's compariſon to be juſt, of our Mind in that ſtate to an unwritten tablet*, or, as we would ſay, to a blank ſheet of paper : For, whether we ſuppoſe, with Aristotle, that our Ideas originate in this ſtate, and are formed by the Mind from objects of Senſe,—or with Plato, that theſe objects only excite and reſuſcite them, as it were, from the dormant ſtate they are in at our birth,—it is certain that then we have them not, at leaſt, in Energy and Uſe.

And not only is there this progreſs, from Potentiality to Actuality, in the Individual, but, as I hold, alſo in the Species. To be convinced of this, we need only conſider how ſlow the progreſs of our children is in underſtanding, notwithstanding the intercourſe they have with Intellectual creatures, and how much they learn by imitation and inſtruction. But how much more ſlow muſt the progreſs of the perfect Savage be, without ſuch advantages ? And, indeed, it

U 2

appears

* Lib 3. *De Anima*, cap. 5. *in fine*.

appears to me, that, if Societies had never been formed nor Arts invented and practis'd, we never should have had any use of Intellect. And, as there is no reason to doubt but that every nation was, at some time or another, in this savage state ; therefore, I say, this progress from Potentiality to Actuality is of the Species, as well as of the Individual : And as our Intellect is by far our nobler part, so the progress of it is very much slower than of our Animal and Vegetable part. But of this progress of Man I will say a great deal more in the subsequent part of my work : I shall therefore only add here, that, if there were not such a progress in Man, and a progress not to end with this life, human life would be not only miserable, but ridiculously imperfect, and quite irreconcilable with any System of Wisdom and Goodness in the Universe.

Of our progress from Sensations to Ideas, and of the difference betwixt these two, I have spoken fully elsewhere. As the first exercise of Intellect among Men must have been practical, and, as the subject of Practice is Particulars, or Individual Things, it is evident that, in our first Ideas, there could not have been the separation, above mentioned, of the Form from the Matter ; but the Composite would be the Subject of such Ideas. Of the manner in which we first form our Ideas, I have already spoken at pretty great length *. I have there said, that, among the several qualities, which, we see, are inherent in the same Subject or Substance, as it is called, we perceive *one* that is principal, which makes the thing what it is, and distinguishes it from every other thing. This is the *Idea* of the Thing, which when we perceive to be common to many things, we are said to *generalise*, and to have the *Idea* of a Species. In this way we perceive, indeed, the *One in the Many* ; but we perceive it only with the *Many*. Such are the Ideas of all Savages : For, to deny that Men who
Speak,

* P. 72. 85.

Speak, Consult, Deliberate, and Reason, often much better than we do, have Ideas, and affirm that they have only Sensations, shews the grossest ignorance of the philosophy of Mind. Nor, indeed, is Practical Intellect much different among us; for we must necessarily know Individuals: And, if the Savage be inferior to us in the knowledge of Generals, he does more than make it up in his accurate knowledge of Particulars; and, therefore, in the practice of those Arts to which savages apply, such as Hunting, and War of the kind they use, they discover much more sagacity than we do. I speak of those Savages whom the necessities of Life oblige to practice Arts, such as the Indians of North America; for, as to those who live in a country and climate where Nature is so bountiful as to give them every thing necessary for their subsistence, without art, and with little or no labour, such as the Caribs and other inhabitants of the West India Islands, they have little use of Intellect of any kind;—so little, that the Spaniards, when they first came among them, could hardly believe them to be human creatures; and it required a Bull of the Pope to establish their humanity.

As the Savage does not speculate, it is impossible that he can have Ideas far removed from Matter and Material Things. He cannot, therefore, have Ideas of Existence, Time, Space, Substance as opposed to Accident, Quantity, Quality, Relation, and other Ideas of highest Abstraction. Even Number,—that Idea of such necessary use in Human Life, that no Society can subsist, or Art be practiced without it, being that by which we consider a thing, either as *one*, subsisting by itself and separated from other things, or as a multitude of such separate things defined and limited, the Savage only perceives as applied to particular things, but cannot use Numbers as we do, without such particular application, nor consider their nature and properties by themselves, and abstracted from every thing else. He is therefore no Arithmetician, and still less a Geometer: For, though he
must

muſt have the Idea of Figure in particular things, he has not learned to abſtract the Dimensions of Body from Body, and to make a Science of them by themſelves. As to Subſtance Immaterial ; it is an Idea of the higheſt Abſtraction, and the nobleſt ſubject of Speculative intellect : But it is ſuch an Idea, as it is impoſſible the Savage can have perfect, that is, abſtracted from all Matter ; for-it is only by entering into ourſelves, and ſtudying our own Minds, for which the Savage has neither leiſure, being wholly occupied with the concerns of the Animal Life, nor inclination, that we can attain to ſuch an Idea. He cannot, however, be ſaid to have no Idea of it : But his Idea of it is the ſame that he has of Number and Figure ; that is, he perceives it incorporated with Matter ; for he perceives that there is a Power that moves Body, and which is not Body. Nor do I believe that there is any Savage who thinks that Body moves itſelf, or who makes the diſtinction, which our modern philoſophers make, betwixt Natural Cauſes and the Operations of Mind ; for thoſe Natural Cauſes, when diſtinguiſhed from Mind, can be nothing elſe but Matter and Mechanifm, by which they ſuppoſe all the Operations of Nature are produced. But the Savage is ſo far from being of that opinion, that he underſtands, and, I think, rightly, the winds and waters, and every part of Nature, to be moved by Mind ; though, I believe, he is not philoſopher enough to diſtinguiſh the ſeveral kinds of Mind, or to conceive that there may be Mind that *moves* without Intelligence or Volition. But he perfectly conceives that the Mind which performs thoſe operations is a far greater Power than his Mind ; and, therefore, all ſavages believe in Superior Minds : And ſo far the Indian,

———*whoſe untutor'd Mind*

*Sees God in clouds, and hears him in the wind **,

is much wiſer than many of our philoſophers.

Let

* Pope's *Eſſay on Man*.

Let us now contrast, with the operations of the Practical Intellect, the Speculative Life and the Occupation of a Philosopher. He lives, as it were, in the Intellectual world, and is conversant with pure Ideal Forms, resembling, in some degree, those in the Mind of the Deity, the Patterns and Archetypes of all Material Things, which have no reality or permanency of existence except in so far as they participate of them. He dwells, too, within himself, studies himself, that is, his own Mind, and from thence proceeds to the contemplation of superior Minds, and even of Deity itself. The employment, in this manner, of his Noblest Faculty upon the Noblest Objects, must, of necessity, produce the greatest happiness of which human Nature, in this state of its existence, is capable. Nor is this happiness disturbed, in any great degree, by the clamorous wants of an indigent Animal Nature, more indigent in vulgar men than in any other animal, the imagination of man being more rich and fertile than that of any Brute, and consequently producing more appetites and desires, which having invention and sagacity sufficient to gratify, he is thereby rendered more miserable. It is no wonder, therefore, that Aristotle thought the Contemplative and Philosophical Life so much preferable to the Practical *; and that Plato judged it necessary to compel the citizens of his commonwealth, after they had continued to philosophise some time, to descend to govern the state, and to mix in the affairs of men, as the Gods of Homer did in the battles of the Greeks and Trojans,—Θεός τις ποιοῦν ἀνδρῶν; for such a Man is truly a God among men.

CHAP.

* See the note * upon p. 105.

C H A P. IV.

The Question stated, Whether the Practical and Speculative Intellect be the same?—They are the same.—This the Opinion of Simplicius.—Objections to this Opinion.—1st, That the Objects of the two Intellects are different.—2do, The Authority of Aristotle on the other Side.—Answer to the first Objection, that the Practical Intellect is a necessary Step in the Progress to the Perfect Intellect, and that the Objects of Practical and Speculative Intellect are not more different than the Ideas of perfect and imperfect Intellect must be.—Distinction betwixt Practical Ideas and Sensations.—Answer to the Authority of Aristotle—that, when he speaks of the Intellect operating by the Phantasia, he means the Practical Intellect.—The same when he speaks of a passive, incorruptible, Intellect.—The Interpretation of Simplicius of that Passage, better than of Philoponus.—This is evident from Aristotle's Words.—No Philosopher ever thought more highly of the Human Soul.—He makes Energy its Essence in a separate State—Joined with the Body it must be sometimes quiescent, as is Sensitive Life.—Difference, in this respect, betwixt the Sensitive and Vegetable Part of us.—What Aristotle means when he says, that the Soul, in a separate State, does not Remember, Reason, Love, or Hate.—Wonder that Aristotle's meaning should have been mistaken.—The Reason of the mistake.—Observations on the Doctrines of this Chapter—as to the Mind's intuitive Perception in a separate State, and as to its constant Activity—the Mind's Sympathy with the Body in this State—what Aristotle means by the Soul's not Loving or Hating in a separate State.

HAVING thus made the distinction betwixt practical and speculative Intellect, let us now inquire, Whether the Mind, that

that perceives only the perishable Forms incorporated with Matter,—is conversant only with individual things, and employs itself in the government and direction of the Animal Life,—be the same with that which contemplates the eternal and unchangeable Forms of things,—makes Mind its principal object,—abstracts itself as much as is possible in this state of existence from all external things,—and places its whole happiness in the study of Beauty and Truth; or, in other words, Whether the Practical and Speculative Intellect be the same? And I am of opinion, that they are the same: And I find, that the two commentators upon Aristotle, Philoponus and Simplicius, are of the same opinion. When I wrote the First Volume, I had some doubt about the opinion of Simplicius; but, upon studying his commentary more diligently, I find, that he makes our Intellect only one; but, as he is full of the Platonic notions of the procession of Mind, he supposes that our Intellectual Mind, perfect in its own nature, goes out of itself, as it were, mixes with Material Things, and becomes that Practical Intellect, which is often so imperfect.

To this opinion it may be objected, *imo*, That the several faculties of Perception of the Human Mind are distinguished from one another by their several objects. In this way, Sense is distinguished from Intellect, the one perceiving individual things, the other generals. Now, as we have one faculty by which we perceive Forms incorporated with Matter, and another by which we perceive the Forms pure and unmixed with Matter, and even Mind itself, the author of all Forms, these faculties must be different.

zdo, The authority of Aristotle may be urged against me, who, though he allows there is an Intellect in us, which is immortal and eternal, exists separately, and energizes by itself, does, at the same time,

ſpeak of an Intellect that does not operate without the Phantafia,— is paſſive and corruptible.

To theſe objections, it may be answered; That, as there is a progreſs in our Intellect from mere potentiality to a perfect ſtate, but which muſt neceſſarily be through ſeveral ſtates leſs perfect, according to a general law of Nature, which holds, as I obſerved above, in all things in generation, and particularly in the Animal and Vegetable parts of us, as is well known to Naturaliſts, I ſhould deſire to know, what more natural progreſs, or indeed what other progreſs, can be imagined, than that the intellect, inſtead of perceiving the pure Forms or Ideas, which, no doubt, are the proper objects of Intellect, ſhould perceive them mixed with Matter?

As to what is ſaid of the difference betwixt the Ideas of the Practical and Speculative Intellect; they are not more different than the Ideas of Perfect and Imperfect Intellect muſt neceſſarily be. That there ſhould be a difference is abſolutely neceſſary; and it is not poſſible to imagine any other. But the Ideas even of the Practical and Perfect Intellect are ſtill Ideas, and altogether different from Senſations: For the Senſe, as I obſerved before, perceives only the accidents of things; whereas the Practical Intellect, imperfect as it is, perceives the Form of the thing, though not without the Matter.

2do, As to the authority of Aristotle, it is true that he ſays, that we do not think without Phantafms, that is, Appearances in the Phantafia *. But it is evident from the context, that Aristotle is there ſpeaking of the Practical Intellect, which, as it is converſant about particular

* Οὐδὲ ποτε γὰρ ἀνεῖν φαντασμάτων ἢ ψυχῆ. Lib. 3. *De Anima*, cap. 8.

particular and individual things, must operate with the assistance of the Senses and the Phantasia : But, as to the Speculative Intellect, which is conversant only with the Ideas or Forms of things without the Matter, it is evident that it cannot operate properly, if it takes the assistance of either Sense or Imagination ; and it is certainly true what Plato says, that nothing disturbs the Intellect more in its operations than the Phantasia. And, when it is employed upon its noblest object,—Mind and things divine, it is evident, that, if we try to picture them in our Imagination, we never can have any proper Idea of them. It is true indeed, that it is very difficult to think even upon subjects of speculation, without any help either from Sense or Phantasia : But, to think so, is undoubtedly the perfection of Intellect, to which the philosophers of the Platonic school, in later times, aspired, by a certain regimen and manner of life, which they called *Cathartic* *. But, without such preparation, though in Geometry we use the Senses and Phantasia more, I think, than we ought to do, yet in Arithmetic those, who have learned the science, operate upon numbers, and investigate their nature and properties, without applying them to particular things, and consequently without the Senses or Phantasia. And, therefore, I perfectly agree with the Pythagoreans, who held, that nothing was so proper a preparation for the contemplation of Divine things as the study of Numbers, which, for that reason, they used as the symbols of Divinity and of all the mysteries of Nature †.

X 2

It

* See Philoponus in the beginning of his commentary upon Aristotle's books *De Anima*.

† See Nicomachus Gerasinus' Arithmetic, and the *Τα Φιλολογουμένα της Αριθμητικής*,—a complement from this author and some other Pythagorean writers ; a very rare and curious book, which I saw in the King of France's library and had the use of for some time, but do not know where else it may be found.

It is true, also, that Aristotle says, that the Intellect is passive and perishable * ; and it is from this passage chiefly that it would seem Aristotle makes a distinction of Intellect into that which is operative and immortal, and that which is passive and perishable. To avoid this interpretation, Philoponus supposes that Aristotle means here, by the *Nous παθητικός*, the Phantasia. But Aristotle every where distinguishes betwixt the Intellect and the Phantasia, particularly in Lib. 3. *De Anima*, cap. 3. et 4 ; nor do I see with what propriety he can call the Phantasia Intellect, any more than the Sense. I therefore agree with Aristotle's other Interpreter, Simplicius, that Aristotle here means, by the passive Intellect, the Intellect that is practical, of which he had said before, that it does not operate without the Phantasia, and, consequently, not without the Senses. Now, this Intellect is certainly passive, as it has its Ideas not from within, but by impressions from without ; for whatever is acted upon is passive. But the commentators upon Aristotle very properly distinguish betwixt a *παθος*, or *suffering*, which tends to impair or destroy the thing, and that which tends to improve and perfect it. The first kind is what is called *φθορα*, or *Corruption* : But the *παθος* here is of the latter kind ; for, by the impression of external objects upon the Senses, the Intellect is excited, improved, and brought to perfection in us. Aristotle adds, that this Intellect is corruptible or perishable : And, I think, Simplicius has given also a very good meaning to this expression ; for, says he, whatever operates by Organs, if these organs are perishable, may be said also to be perishable. Now, as the Practical Intellect operates by the Organs of Sense, which are perishable, so far forth it may be said to be perishable also †.

That

* *Παθητικός και φθαρτός*. Lib. 3. *De Anima*, cap. 6. *in fine*.

† Simplicius's commentary upon the first book of Aristotle, *De Anima*, p. 16. of the commentary, and also his commentary upon the 3d lib. p. 69.

That this is the meaning of the passage, and that Aristotle is there speaking of the Practical Intellect, as opposed to the pure Theoretical Intellect, is, I think, evident from the words, which plainly oppose to one another the two different manners of operating of the Intellect. And, indeed, through the whole chapter, the two are contrasted together; and the one is said to be *impassive*, or *απαθης*, and *αμιγης*, or *unmixed*, while the other is said to be *passive* and *corruptible* *. But that he did not believe that these two Intellects were two distinct Substances, and not one and the same Substance, is evident from the whole doctrine laid down by him in this and the preceding chapter, which is, That our Intellect, without any distinction betwixt the Speculative and Practical, proceeds from a state of potentiality to a state of perfection: And, if so, it is evident that, before it can arrive at perfection, it must operate imperfectly, and be at first passive, before it can be active; a distinction with which Aristotle sets out in the beginning of this chapter.

But,

* The whole words in the particular passage referred to are as follows: Χωρισθεις, (speaking of *Nous*), δε εστι μισος τουθ' οπερ εστι και τουτο μισον αυτατου και αιδιος. Ου μνημονουμι δε, οτι τουτο μιν απαθης· ο δε παθητικος νους, φθαρτος, και ανυ τουτου ουθι νοου. Lib. 3. *De Anima*, cap. 6. where it is evident that the *τουτο μιν απαθης*, which he opposes to the *παθητικος Νους*, is the pure speculative Intellect, which, he had said before, in the same chapter, was both *αμιγης* and *απαθης*: The *ου μνημονουμι*, with which the sentence begins, I hold, applies to the pure Intellect, and means not that it forgets, but that it has not any use or need of memory; as I think is evident from a passage in the first book of this treatise, cap. 5. towards the end, where, speaking of this pure Intellect, he says, That, when the Body to which it is joined is dissolved, ουτι μνημονουσι, ουτι φιλει; of which passage I shall say more in the sequel. What he says in the end of the passage before us, that, without the passive Intellect, the Mind thinks of nothing, refers to the progression from that state of mere capacity in which the Intellect is, before it is impressed by external objects; which impression is absolutely necessary for its operating in this our present state.

But, whether Aristotle believed that we had two Intellects, or only one, it is perfectly clear that he believed that at least we had one Intellect that was incorruptible and immortal. And, indeed, it appears to me, that no philosopher or divine ever thought more highly of the Human Soul than Aristotle. Even when he considers it as acting in conjunction with the Body, he says it is *χωριστός*, that is, *separable*; but, when it is actually separated, (for that is the force of the word *χωρισθείς*), then only it is, what it truly is, immortal and eternal*.

But, farther, he says that, in this separate state, it is, by its essence, active; so that it cannot exist without acting or energizing, *τη ουσια ων ενεργεια* †: And, a little farther down, in the same chapter,

* *Χωρισθείς, δι' εστι' μόνον τοῦδ' ὀπίρ' ἑστί'· κκι τοῦτο μόνον ἀθάνατον κκι αἰδιον.* *De Anima*, Lib. 3. cap. 6. The distinction betwixt *ἀθάνατον* and *αἰδιον* I have observed elsewhere, (vol. 1. p. 140.) When he says, that the Intellect only is immortal and eternal, he means, as Philoponus has well explained the passage, that the other parts of our composition, such as the Sensitive and the Vegetative, are mortal; for, it appears from other passages in this work, particularly lib. 1. cap. 3. *in fine*, that Aristotle did not believe in the Pythagorean doctrine of Transmigration.

If the Intellect alone be immortal and eternal, and the other parts of our composition not eternal, it is evident, that, according to the opinion of Aristotle, it must be a substance by itself, and not a quality, improvement, or refinement of the Sensitive or Vegetative parts of our Nature; and, accordingly, Aristotle, lib. 1. *De Anima*, cap. 5. has expressly said, that the Intellect is a substance by itself, which is not corrupted or impaired by the decay of our Sensitive Faculties: *Ὅ δι' τούτ' ἰσχυρίζεται, οὐσια τις οὐσα, κκι οὐ φθινομένη· μαλίστη γὰρ ἐφθιρεί' ἂν ὑπο τῆς ἐν τῷ γῆρα κκι κενώσεως*, &c. where it is to be observed, that the word *ἰσχυρίζεται* implies, that the Soul is added, or, as it were, inserted, into the corporeal part, being a substance quite distinct from it. And, in the 1st chap. of the 2d book, and indeed every where through the whole work, he speaks of Mind, in general, as being a substance by itself.

† Lib. 3. cap. 6.

chapter, he says, That it does not sometimes think, and sometimes not think, *οὐκ ἔτε μὲν νοεῖ, ἔτε δὲ οὐ νοεῖ*; that is to say, it always thinks. This Philoponus seems to think is going too far, and making the Human Mind equal to the divine; and therefore he would understand it to mean, that there is always some one Human Intelligence in the world that is thinking; but the words will not bear that meaning; for Aristotle is not speaking of many Intelligences, but of one. Nor does the Sense require it; for, though the Human Intelligence, when separated from all concretion of Matter, thinks always, (and, indeed, it appears to me it is impossible to conceive it in that state without thinking), we are not to suppose that it either has the same extent of thought, or the same power, as the Divine Mind. On the other hand, I am persuaded, that our Intellect, when joined to this Body, as it was at first in a dormant state and did not exert itself at all, so, after it is put in action, it sometimes *retires*, as Milton says, *into its private cell, while Nature rests**, in the same manner as the Sensitive part of our Nature is quiescent while we sleep; for this is the consequence of the Animal and Intellectual Minds being so intimately joined with a substance inert and so different in Nature, as Body, by which they are sunk and weighed down, so as to need repose. As to the Vegetable Life in us; having a principle of motion in it resembling that in unorganized Bodies, which is always active, it continues to act, even in our sleep; and indeed it was necessary that it should do so, for the preservation of the Animal †.

More-

* Paradise Lost, Lib. 5. v. 108.

† The reader will observe, that I have altered my opinion concerning the constant operation of Intellect, which I have maintained in vol. 1. p 141 203. But I am not ashamed to acknowledge my error, and to confess, that I was led into it by that expression of Aristotle's above mentioned, *οὐκ ἔτε μὲν νοεῖ, ἔτε δὲ οὐ νοεῖ* which

Moreover, Aristotle says, that our Intellectual part, in this separate state, does not love or hate, nor remember, nor make use of the *Διανοια*, or Discourse of Reason; all which, he says, belong to the compound of Soul and Body, not to the Soul by itself, it being then impassive, and of a Divine Nature *. The meaning of which is, That our Soul, in that State, has all its Ideas present at once: It sees, intuitively, premisses and consequences, without deduction or inference, or any process of Reasoning: It has no need of Memory or Reminiscence, which are only necessary in this state of our existence, to prevent our Ideas from being as fleeting as our Bodies, which, as they must affect our Mind, are the cause of forgetfulness, imparting to the Mind, in some degree, their fleeting Nature; and, therefore, in the passage above quoted, Aristotle says very properly, that the Intellect, in its separate state, does not remember, because it is not passive, that is, not affected by Body †: And, *lastly*, he says, 'That it does not love or hate; by which he means, that it is free from all such affections or passions which he considers as belonging to the Animal Nature, from which it is separated, as well as from the Body.

Such being the doctrine of Aristotle concerning the Soul, laid down so clearly and distinctly, it must appear very surprising that his

Inadvertently applied to the Intellect, even when united to the Body; whereas Aristotle certainly understands it only of the Intellect χωρισθεις, or separated from Body.

* Το δὲ διανοητικόν, καὶ φιλεῖ, ἢ μισεῖ, οὐκ ἐστὶ ἐκείνου (του του) παθῆ, ἀλλὰ τοῦ τοῦ ἔχοντος ἐκεῖνο, ἢ ἐκείνο ἔχει. διό, καὶ τούτου φθέρουμένου, οὐτε μνησκούει, οὐτε φιλεῖ· οὐ γὰρ ἐκείνου ἐστὶ, ἀλλὰ τοῦ κοίτου, ὁ κοινῶς ἐστὶ· ὁ δὲ τοῦ ἰσως θειωτέρον τι καὶ ἀπῆδες ἐστὶν. Lib. I. cap. 5. Where Philoponus observes, that Aristotle uses the word *ισως*, because he had not yet so fully proved, as he does afterwards, that the Soul was of a Nature Divine, and therefore impassible.

† Οὐ μνησκούει, ὅτι ἀπῆδες.

his meaning should have been mistaken by any of his commentators ; and yet the eldest of them, Alexander Aphrodisiensis, was of opinion, that Aristotle believed the Soul to be mortal, and to perish with the Body. Of this we are informed by Philoponus, in his commentary upon the Sixth Chapter of the Third Book, *De Anima* ; and that he does no injustice to the Aphrodisian, is evident from a work of his, still extant, upon the subject of Mind, in which he pretends to deliver the doctrine of Mind upon the principles of Aristotle's philosophy. I cannot see any other ground for his error, except that Aristotle says, that Mind is the *εἶδος*, or Form, of the Animal ; which is saying no more, than that it is the Mind which makes any Animal of a Species distinct from a Vegetable or an unorganized Body. But, surely, it does not follow from thence, that Mind is not a distinct Substance from Body : For two Substances, united together, will make a Species distinct from either ; and, according to Plato, all the several Forms and Specieses of things are Substances, which have a separate existence, not only out of Matter, but out of the Mind of any Intelligent Being ; which Substances, being united to Matter, compose the several Specieses of Corporeal Things.

I will conclude this Chapter with a few observations.—However extraordinary this philosophy of Aristotle's may, at first sight, appear, yet, if we attend carefully to what passes in our Minds even in this life, we shall be disposed to believe that his notions of the separate state of the Soul are not ill founded.

And, in the *first* place, it must be admitted, that our most perfect knowledge, at present, is our knowledge of Axioms or Self-evident Propositions, of which we perceive the truth intuitively, without any discourse of Reason. Now, in a more perfect state of our Intelligence, it is evident that we must perceive the truth of more propositions in the same way ; and, in a more perfect state still, we must

perceive every propofition in the fame manner as, we are fure, Superior Intelligences apprehend them.

And here we may fee, that, when we *know* in this way, the Memory is entirely ufelefs. In reasoning, we muft remember the premifes before we can infer the conclufion : But, when our Ideas are all prefent to us, and when we perceive intuitively their connection, we have no need of Memory or Recollection.

2do, As to the unceafing Energy of Mind in its feparate ftate, it will not at all appear incredible, if we confider the wonderful activity of our Mind even in this life. While we are awake, we always think ; and, as there are but few people that do not dream, even in our fleep our Phantafia at leaft, if not our Intellect, is bufy: For the Phantafia I hold to be a faculty of our Mind, quite diftinct from Intellect ; and I make the fame diftinction of the Phantafia, that Philoponus does in his commentary upon the 4th Chapter of the 3d Book *De Anima*. He there fays, that the Phantafia is either retentive only of the perceptions of Senfe, or it is operative and a kind of Painter, joining together the forms of things, which it has received from the Senfes, often in a very ftrange and fantaftical manner. Of the firft kind is the Phantafia of the Brutes, which appears only to retain and prefent to them, waking or fleeping, the impreffions of fenfible objects, juft as it receives them from the Senfes : Of the other kind is our Phantafia, which is exceedingly active, both when we are awake and afleep. This Phantafia, if it is by Nature fo happily conftituted as to put together its images in the moft beautiful and graceful manner, makes what we call Genius ; and, if it be cultivated and improved by ftudy and art, it produces artifts of every kind, fuch as Poets, Painters, Muficians, and Architects.—In the feparate ftate of the Soul, there can be no Phantafia, any more than Senfes or Senfation ; but the mind contemplates

templates the original Forms of things in the Intellectual World, where it dwells.

How much the Mind sympathizes with the Body in this our present state, must be known to every body. If the Body is in ill habit, it disturbs all the operations of the Mind,—its Memory, its Phantasia, and its Intellectual powers: And, on the contrary, if the Body is in good habit, and if the Mind be not disordered by Passion, all the functions go on well. But, let the Body be ever so well disposed, every philosopher, who may be said to live by the Mind, must acknowledge, that the Body is a dead weight upon him, disturbing more or less the operations of his Intellect, and making them cease altogether for a great part of his time. It was to prevent this, at least in some measure, and to separate the Body from the Mind, as much as it was possible, in this life, that the Cathartic Regimen above mentioned was invented by the later Platonists; by means of which, some of them have told us, that they were exalted above Humanity, and enjoyed for some time communication with superior Minds. Those, who do not believe that there are Minds superior to their own, will laugh at such stories; but, as I do most firmly believe that there are such Minds, and that we are by Nature destined for intercourse with such Minds after our death, if we live as we ought to do, I can easily believe, that men favoured of Heaven, and who abstract themselves as much as possible from the Body, may, even in this life, anticipate the enjoyment of such communication.

3^{tho}, What will appear most extraordinary in this account of our Soul given by Aristotle, is, that it does not *love* in its separate state. Can we conceive, it will be said, that the Mind, in its most perfect state, should not enjoy the greatest pleasure of the Rational Mind? For, what can give greater pleasure than that pure love, which

Plato ſpeaks ſo much of, and which, from him, is called Platonic Love? But the love, that Aristotle here ſpeaks of, belongs to the Animal Nature: And, where it is, there muſt alſo be the contrary paſſion of Hatred; and, accordingly, Aristotle joins the two together, and ſays, that the Mind, in its perfeſt ſtate, neither *Loves* nor *Hates*. Now, all theſe affections of the Animal Nature are, as it is well known, much ſtronger in Man than in any other Animal: And, though they no doubt give pleaſure of ſome kind, yet it is certain that they produce the greateſt part of the miſery to which human life is liable; for they muſt neceſſarily be attended with Anger, Jealouſy, Envy, Malignity, and ſuch like perturbations, as cannot be the portion of perfeſt Intelligence. But, as in that ſtate we muſt enjoy the greateſt happineſs our Nature is capable of, and as that cannot be without deſire of ſome kind or another, (for Happineſs is the accompliſhment of deſire), the mind, in that ſtate, muſt neceſſarily deſire the enjoyment of Beauty and Truth. Nor indeed is it poſſible, I think, to conceive, that Intelligence, entirely ſeparated from the Animal Life and all its concerns, can have any other enjoyment beſides the contemplation of Beauty and Truth; which, as they are to be ſeen in the higheſt perfection in Nature and its great Author, the ſtudy of theſe higheſt objects muſt be the occupation and delight of pure Intelligence.—But, of this, I have ſaid enough in the preceding part of this volume.

B O O K IV.

Of the Origin of our Ideas, and the several Properties of Mind.

C H A P. I.

Aristotle has said nothing of the Origin of our Ideas.—Different Opinions of his Commentators upon the Subject.—Mr Locke's Discoveries upon this Subject.—All our Ideas, according to him, derived from Corporeal Objects that are in perpetual Change.—This Material Origin of our Ideas degrades the Human Mind—supposes that the Soul had no Existence before it came into this Body.—All Ideas not derived from Matter, particularly the Ideas of Mind.—Our Mind, being after the Image of God, has some of these underived Ideas.—All Ideas that are not, originally, Perceptions of Sense, cannot be derived from Sense.—Examples of original Ideas in our Minds.—The Idea of Substance one of these.—Mr Locke's Notion of Substance.—No Knowledge of any thing without the Idea of Substance.—The Idea of Matter and Form, another Example—also of Cause and Effect.—Mr Hume argued well, when he denied, upon the Principles of Mr Locke's Philosophy, that there was any Idea of Cause and Effect—also the Idea of Beauty.—Mr Locke's imperfect Notion of Beauty.—Also the Idea of Good, not derived from Sense or Reflection.—Also the whole Class of Ideas of Relation.—The antient Division and Classification of Ideas, different from Mr Locke's.

Locke's.—*The new Language, that Mr Locke has introduced into Philosophy, not so good as the antient;—obscure and complexed, compared with the antient.—Two Reasons for insisting so much upon the Defects of Mr Locke's Philosophy.*

HAVING, in the preceding Book, explained sufficiently the nature of our Ideas, I propose, in this, to treat of the Origin of them,—a subject of which I have often wondered that Aristotle has said so little; for, though he every where distinguishes Ideas from Sensations, yet he no where tells us, as far as I remember, from whence we derive our Ideas. But Plato has been more explicit upon the subject, and has written a whole Dialogue, to prove that the Mind derives all its knowledge from itself, and that, every thing it now knows, it knew in a former state of its existence, and is only excited to the remembrance of it by the operation of external objects upon our Senses; so that all our knowledge in this life is Reminiscence: And I observe, that some of the Alexandrian commentators upon Aristotle, who have joined the philosophy of Plato with that of Aristotle, (and, indeed, I think, they ought never to be separated), speak the same language. This opinion I hold to be the truth.

Those, who know no more of the philosophy of Mind than what they have learned from Mr Locke, will be surpris'd that I should make a question of what he has determin'd so long ago, and what has been received with such general approbation, not only in Britain, but all over Europe. But, I think, they would have much more reason to wonder, if Mr Locke, unassisted by learning, or any knowledge of the antient philosophy, should have discovered what escap'd all the philosophers of antiquity, though there was no branch of philosophy that they cultivated so much as the Philosophy of Mind.

To add to their discoveries upon this subject, even after the most diligent study of their writings, I hold to be very difficult. But, without such study, I think it is, by the nature of things, impossible that a single man, in the space of a short life, should, by his own abilities merely, and superiority of genius, have discovered what had not been discovered by the labours of so many eminent men in Egypt, Greece, and Italy, through a succession of thousands of years.

This great discovery of Mr Locke, so celebrated by his admirers, is shortly as follows : We have perceptions of the operations of external objects upon our organs of sense ; or, in other words, we have perceptions of Sense : We have also perceptions of the operations of our own Minds, such as *perceiving*, *thinking*, *believing*, &c. The perception of individual objects by the Sense, Mr Locke calls Ideas of Sensation : The perceptions of the individual operations of our own Minds, he calls also Ideas, and distinguishes them from the other, by the name of Ideas of Reflection. Those single perceptions, whether of the objects of Sense or of the operations of our own Mind, when generalized, he calls General Ideas ; and they are generalized by the Mind's comparing together particular Sensations with one another and also particular Reflections with one another, and observing what they have in common, and separating or abstracting that which they have particular or peculiar. And thus is formed the Idea, which, from having what is common to so many of them, is called a General Idea ; and, from being separated or abstracted from what is peculiar to each of them, is likewise called, in the language of Mr Locke's School, an Abstract Idea. And all Ideas, according to Mr Locke, by which he means all appearances in the Human Mind, of whatever kind, (for in that Sense he has told

us he uſes the word *,) are either Ideas of Senſation, or Reflection, in the ſenſe which I have given to theſe terms.

If this doctrine be true, we have no Idea that is not made out of perceptions of Senſe, or perceptions of the operations of our own Minds. Senſation, therefore, and Reflection, are, according to Mr Locke, the only Sources of our Ideas: Or, to ſpeak more properly, there is but one ſource of them, viz. Senſation, as the Mind, at firſt, only operates upon the objects of Senſe; ſo that, even our Ideas of Reflection are to be derived from Senſe. And, further, as Senſe is excited by external objects, theſe objects are ultimately the ſource and origin of all our Ideas; ſo that all we know and underſtand, all thoſe eternal truths which philoſophers talk ſo much of, have no better origin than thoſe tranſitory, material objects, which are running a conſtant round of generation and corruption.

Mr Locke does not appear to have believed, that the Human Mind had any Ideas, or, indeed, any exiſtence, before its appearance on this ſtage: And, if ſo, our Intelligence, which cannot be conceived without Ideas, muſt be derived entirely from Matter. A philoſophy, which debaſes the Human Mind ſo much, ought to be carefully examined: And, if the reader is not violently prejudiced in favour of this material origin of our Intellectual Part, I hope to be able to convince him, that, however much ſome of our Ideas may be connected with Matter, we have others, and thoſe too of the greateſt importance, which have no connection with Matter, and cannot be derived from any reflex act of the Mind upon its own operations, but are immediately and directly from thoſe ſtores, which, I ſay, are originally in the Mind itſelf.

In

* Introduction, ſect. 3.

In the *first* place, Neither Mr Locke, nor any body that believes in God, will say, that all the Ideas of every Mind, and particularly of the Divine Mind, are from Matter; or, that the *Ideas*, or *Forms*, which we find incorporated with Matter in the Material World, are not derived from those Ideas in the Divine Mind which make what we call the Intellectual World, of which the Material is no more than a type, or shadow, that is continually passing away. If then it be true, that we are made after the image of God, is it not natural to suppose, that we have in our Minds some, at least, of those original Forms underived from Matter, which, though they may be latent some time, are, at last, roused and excited, *first*, by Impulse from external objects upon our organs of Sense, and then by that active power which is essential to the Intellectual Mind.

But the matter does not rest upon this probability; for, I will give many examples of Ideas, and these too of the greatest importance, which can have no other origin: And I will show, that Mr Locke's system, which derives all Ideas, or Appearances, in the human Mind, from Sensation and Reflection, however plausible the novelty of it may have made it appear at first, is, when thoroughly examined, exceedingly defective and altogether erroneous.

The first example I give of an Idea that is original and indigenuous in the Mind, and not derived either from Matter, or from the operations of our Mind upon Matter, is an Idea which stands at the head of the categories: The Idea I mean is *Substance*, which belongs to the Univerfity of things, as all things in the universe are either Substance or Accident. Now, this Idea is certainly not a perception of Sense, as I have shown elsewhere *; and, accordingly, the Brute has it not: Nor is it a Perception of any operation of our

* p. 73.

own Mind ; for, let us abſtra&ct, generalize, combine, and repeat, as much as we pleaſe, any Senſation or Reflection, we never can produce the Idea of Subſtance.

It may be ſaid, perhaps, that the Mind, by abſtracting the qualities of any thing from the ſubject of which they are qualities, gets the Idea of Subſtance. But the Mind, before it can make ſuch an abſtraction, muſt have already acquired the Idea of Subſtance ; for we only abſtra&ct one thing from another, which we know. Thus, we abſtra&ct the ſmell of a roſe from the colour, and both from the feel ; but we cannot abſtra&ct any of the three from the Subſtance of the roſe, till we have got the Idea of that Subſtance.

It will be aſked, How then do we get an Idea, which neither Senſe, nor attention to the operations of our own Mind, furniſhes ? My anſwer is, That the Mind produces it out of her own ſtore ; being excited to this production, by conſidering that there muſt be ſomething to which the qualities of any external object, perceived by the Senſe, belong, and in which they are inherent. Thus, I diſcover, by my ſenſes, the qualities of Extension, Solidity, and Reſiſtance, in Bodies ; upon conſidering which, the Mind immediately perceives, that there muſt neceſſarily be *ſomething* which is extended, ſolid, and reſiſting : And this *ſomething* I call the Subſtance of each Body. I know, by Conſciouſneſs, certain Operations of my own Mind ; and, in like manner, I diſcover, that, where there are operations, there muſt be *ſomething* that operates : And this *ſomething* is the Subſtance of Mind.

Mr Locke ſeems to have been ſenſible, that the Idea of Subſtance cannot be drawn from either of the two ſources, which he has aſſigned to all our Ideas : And, therefore, he would fain deny that we have any ſuch Idea ; at leaſt he ſays, it is ſo obſcure and imperfect, that it does not in the leaſt add to the ſtock of our knowledge. But there

there are many things that we are sure do certainly exist, and yet we have no clear conception of the manner of their existence. This is the case with respect to the Supreme Mind, and even our own Minds, of the existence of which we have much greater certainty than of the existence of Body. And, as to our knowledge, it would be exceedingly imperfect without the Idea of Substance, or rather we should have no knowledge at all: For we could not conceive Qualities, without, at the same time, having an Idea of some Substance in which they are inherent; and I hope I have already shown, and will further show, that, by distinguishing the several substances of which we are composed, there is something to be added to our knowledge.

There are other two Ideas of the greatest importance to philosophy; but which likewise are neither Sensations nor Reflections. These are the Ideas of *Matter* and *Form*, of which the whole Material world is composed: For it is only the composite of these two that is perceived by the Senses; but it is Intellect alone that can make the separation, and conceive each of them by itself. Matter, without form of any kind, is not only no Perception of the Brute, but it is an Idea of the Human Mind, so remote from common sense and observation, that I doubt very few of our modern philosophers have any such Idea: And, as to Form without Matter, I do not believe that Mr Locke was learned enough to know, that Ideas, of which he speaks so much, are nothing else but Forms of that kind. And, as to substantial Forms, it is plain from what he says, that he had not the least Idea of them; for he did not know enough of the system of Nature, to know, that, in all natural Substances, there is a certain *Form* from which all the qualities of the Substance result: And this is what is called, in the language of the Peripatetics, the *Substantial Form* of the thing. In every subject of Science this Form must be discovered, otherwise there could be no Science. Thus, for example, the Geometer must know the *Essence*

or *Substantial Form* (for theſe words are ſynonymous) of the Triangle, or any other Figure of which he treats, otherwiſe he never could demonſtrate the ſeveral qualities and properties of the Figure reſulting from that Form. It is the ſame in the works of Art, if they are perfect in their kind ; for in them there muſt be ſomething principal, to which every thing elſe in the piece is to be referred. Now, to ſuppoſe that it is otherwiſe in the works of God, and that an Animal or Vegetable is nothing but brute lifeleſs Matter, with ſo many qualities inherent in it, but unconnected, and without any bond of union among them, would be contrary to the whole analogy of Nature, in every part of which we obſerve a wonderful union and ſubordinacy of things to one another. But of this I have ſaid a great deal more in the Firſt Volume of this work *.

Farther, there are two other grand Ideas, which never can be derived from Senſation or Reflection ; and yet they are ſuch, that, without them, we never can philoſophiſe upon the ſubject of God or Nature, or indeed upon any other ſubject : The ideas, I mean, are thoſe of *Cauſe* and *Effect*. For, whatever Idea we may have from Senſation or Reflection, of the thing that *produces* or the thing *produced*, we never can derive from thoſe ſources the Idea of Production, or of the one being the Cauſe of the other. Mr David Hume, therefore, argued very well upon the Principles of Mr Locke's philoſophy, when he maintained, that we had no Idea of Cauſe and effect ; and that we only knew that one event preceded another.

There is alſo another Idea, of ſovereign uſe in human life, the foundation, as I have ſhown †, of Virtue, and of every thing that gives delight to the nobleſt part of our Nature, which is neither an Idea of Senſation nor Reflection. The Idea, I mean, is that of *Beauty*, which, though perceived in objects of Senſe, is perfectly diſtinct

* B. 2. chap. 2.

† P. 112. &c.

distinct from the perception of these objects: And, accordingly, the Brutes, which perceive these objects as well as we do, have no perception of Beauty; and many of our own species see numbers of most beautiful things without perceiving any Beauty in them. And it is the same with respect to the operations of our Mind; for the perception of Beauty in them is quite distinct from the perception of the operations themselves.

Mr Locke says, that the Idea of Beauty is a complex Idea of *Colour* and *Shape*. If his own Idea of Beauty had been more perfect, he would have added *Motion*; the Beauty of which is a much higher Beauty than that of either Shape or Colour. But I say, that a man may combine what Ideas he pleases, and perceive the combination as distinctly as possible; yet, if he has not in his Mind a preconceived Idea of Beauty, or, in common language, if he has not Taste, he will have no perception of Beauty in any single thing, or in any combination of things.

Moreover, I say, that we have not, from Sensation or Reflection, the Idea of *Good*, for the same reason that we have not the Idea of Cause and Effect; because *Good* is that which has a tendency to produce *Happiness*. Now, how defective must any system of Ideas be, that does not take in those two governing Ideas of Human Life, the *Beautiful* and the *Good*?

But what need I insist upon particulars, when that whole class of Ideas, which, according to Mr Locke's own account of them, is most numerous, cannot be derived either from Sensation or Reflection? The Ideas I mean are those of *Relation*. For, though from Sensation and Reflection we may have the Idea of each of the two things *related*, it is impossible that from either of these sources we can have the Idea of the *Relation*; which, therefore, is an Idea that the Mind must draw from its own store, without the assistance of either Sense or Reflection.

Thus.

Thus it appears to be true, what the Bishop of Worcester has maintained in his dispute with Mr Locke, that all our Ideas are not derived from Sensation or Reflection, but that many of them are from *Reason* *; by which he means the Mind operating otherwise than either by Sense or Reflection.

Mr Locke has thought proper to class our Ideas according to their origin, as he conceived it. But the Antients distinguished betwixt the origin of them, and the classification or arrangement of them. With respect to the arrangement, they distributed them into ten classes, called Predicaments or Categories; and human wisdom has not invented any better division of them: As to the origin of them, they considered that as a separate subject of inquiry, of which I have said a good deal in this chapter, and shall say more in the next.

But, before I leave the subject of Mr Locke's philosophy, I cannot help observing, that, not only the Matter of it is very erroneous and imperfect, but the language of it, and the terms of art he uses, are such as I cannot approve of.

The language of antient philosophy, which came down from the School of Pythagoras to the *Academy* and *Lycæum*, is short, clear, and comprehensive, as their Ideas of things were. They divided the univerty of things according to their manner of existence, whether *primary* or *secondary*; calling those things which existed *primarily*, that is, independently by themselves, *Substances*, and denominating those things which had but a *secondary* existence, dependent upon other things, *Accidents*. This distinction of things Mr Locke has endeavoured to ridicule †: He has, however, been obliged to use it, though

* See the Bishop of Worcester's answer to Mr Locke's letter concerning some passages relating to his Essay of Human Understanding, p. 100.

† Lib. 2. cap. 13. parag. 19. and 20.

though he has thought proper to change the name of *Accident* (a most significant appellation, as I have elsewhere observed, especially in its Greek origin,) into *Mode*.—Further, they distinguished and arranged things, according to their Genuses, Specieses, and Differences, that is, the qualities which distinguish one species of the same genus from another. This division of things, likewise, Mr Locke has thought proper to represent as merely nominal, adapted only to the use of different languages, but without any foundation in the Nature of things*. But the antients thought this distinction so much founded in Nature, that they defined things according to their Genus, Species, and Difference. And, indeed, nothing shows more that System of the universe, the contemplation of which is the chief delight of the philosopher, but of which Mr Locke appears to me to have hardly had any Idea: For it shows the procession of things, such as it is in Nature, from the highest to the lowest, from what is most general, that is, the highest Genus, such as those that compose the Categories, down to the lowest Specieses, below which there is nothing but Individuals: Then it shows most manifestly the *verum concordia discors*, that wonderful similarity and yet difference of things, and that connection and dependency of one thing upon another, by which every Species is a System, the Genus above it a greater System, and so on till we come to the Category, or highest Genus

* Book 3. chap. 5. sect. 8. and foll. And, in his dispute with the Bishop of Worcester, he has gone so far as to maintain, that there is no Nature common to the several individuals of a Species—that Man, for example, is a common name for Peter, James, and John, but denotes no Nature common to these three; so that it is impossible there can be three persons in one Nature.—See the Bishop of Worcester's answer to Mr Locke's 2d letter, towards the end, where the Bishop shews the dangerous consequence of such a philosophy to Religion. And, indeed, a philosophy which maintains that there cannot be three persons in one Nature, or two Natures in one person, is totally adverse to the mysteries of the Christian faith, as it must deny the doctrine both of the Trinity and the Incarnation.

Genus of the order. This division also shows the wonderful tendency there is in Nature to the *one*, and that ascent by which things rise above one another, till they end, like a pyramid, in a point. And so comprehensive is the division, that it includes all the possible variety there can be in the matter: For every thing must either be only a Species, only a Genus, or both Genus and Species; and, besides these, there can be nothing else. *Man*, for example, being the lowest Species, and having nothing under it but Individuals, is a Species only: The Genus, *Animal*, which is immediately above *Man*, is both Genus and Species; for it is a genus with respect to *Man*, but it is a Species with respect to the $\tau\omicron\ \epsilon\mu\psi\upsilon\chi\omicron\upsilon$, or *animated Being*: And so we ascend till we come to *Substance*, which is a Genus only, and not a Species; and, as I observed elsewhere*, we may reduce all the Categories, or highest Genuses, to one, viz. *Substance* and its Attributes, which makes this Logical System of the Antients a kind of System of Theology.

Thus, it appears that the language of antient philosophy most clearly expresses the nature of things; and the terms of Art, so far as concerns this philosophy of Ideas, are very few, being no more than five, viz. Substance and Accident, Genus, Species, and Difference. In place of this language, so simple and plain, Mr Locke has thought proper to introduce a new one, much more perplexed and obscure: For, in the *first* place, he has confounded Sensations and Ideas, making Ideas to be Sensations, and Sensations Ideas;—things, as I have shown, in their nature, perfectly different: What is, properly speaking, Ideas, he calls Abstract Ideas, as if there were no Ideas but what were abstracted from Matter: Then he speaks of Simple Ideas and Compound Ideas, and Simple Modes and Mixed Modes;—terms which he uses in such a way, that I am often at a loss to know whether he means by them Accidents or Specieses. And I think

* Vol. I. p. 36.

think it is not without reason that the Bishop of Worcester, in the treatise above mentioned *, accuses him of confounding Men's apprehensions with his new Terms, such as *Complex* and *Abstract Ideas*, and *Specific Names* ; to which, I think, he might have added, *Modes*, and *Mixed Modes*.—In short, I cannot help saying, though I should give offence, that the philosophy of Mr Locke is, under the appearance of a new philosophy, nothing but the antient, much mangled and deformed, and expressed in a barbarous jargon. From this barbarity, Mr Harris has the merit of having first rescued Philosophy : And I despair not to live to see both the doctrines and the language of antient philosophy restored.

I have insisted so much upon the errors and defects of Mr Locke's philosophy, for two reasons : *first*, To clear the way for Plato's doctrine of Ideas, which I am to deliver in the next chapter, by removing those objections to it, which will naturally arise in the Mind of every one who has studied Mr Locke's book upon human understanding ; and, *2dly*, To show how insufficient the best natural parts are, unassisted by antient learning, in the study of philosophy ; for Mr Locke was undoubtedly a man of excellent natural parts, very much superior, in that respect, to Mr David Hume, or to any that has philosophised without the assistance of the Antients since his time. And his style is as good as, I think, that of any man can be, who is not a Scholar and has not formed his Taste upon the best models of antiquity ; without which it is as impossible to write well, as to excell in the arts of Sculpture and Painting, without studying the antient monuments of that kind.

* P. 121.

C H A P. II.

The general Proposition maintained in this Chapter, That all Ideas are originally in the Mind, is demonstrated from the Nature of Ideas, and the Distinction betwixt them and Sensations.—All Ideas must originate, either from Mind or Body.—The Ideas of External Forms first considered.—The Sensations which these Forms produce, not Ideas, however much generalized or abstracted they may be.—Our Sensations not the Materials out of which Ideas can be made.—Ideas resemble the Form of any Piece of Workmanship, which is not from the Matter but from the Mind of the Artist.—Without Sensations we cannot have Ideas; but Sensations, therefore, are not the Cause of our Ideas.—They are excited by Sensations—are less perfect at first—more perfect afterwards.—Some so perfect as not to exist at all in Matter.—Of Ideas of Reflection.—Every individual Perception of the Operation of our Mind, is, according to Mr Locke, an Idea.—This not true.—There must be the Knowledge of the Nature of the Operation.—This cannot be without the Knowledge of the Agent.—This Knowledge can only be derived from Mind.—The only Question remaining is, Whether our Mind creates its Ideas?—This cannot be conceived.—Ideas cannot be discovered in the Objects in which they are inherent, unless they be previously known.—The Soul being a distinct Substance, puts this Matter out of doubt.—No Soul can be without Ideas.—If it creates Ideas, it creates itself.—This impossible.—All our Ideas, as well as our Minds, are from God.—In his Mind the Ideas cannot be abstracted from Matter.—This Origin of our Ideas much nobler than that assigned by Mr Locke—is the consequence of our being made after the Image of God.—No innate Ideas in one Sense.—A previous State of the
Human

Human Soul.—*The latent Ideas in us not called up by an Act of the Mind, like the Ideas we have already acquired.—That we have no consciousness of any thing in a State of pre-existence, no proof that there was no such State.—Mr Locke's Error, in confounding Consciousness and Identity.—The Intellectual Part of us may be dormant and quiescent for some Time.—This agreeable to the Analogy of Nature.—Instances of such a State, both in the Vegetable and the Animal.—Our Intellectual Part sometimes quiescent, even after we are grown up.—Ideas even then lie dormant in our Minds for Years.*

IN the preceding Chapter, I think, I have shown, that there are very many of our Ideas, and these of the greatest importance, which are not derived from Body. The Reader, I believe, will not be inclined to divide the matter, or to think that some of them come from Body, and some from Mind ; and, therefore, I hope he will be prepared for the general proposition which I am to maintain in this Chapter, that all the Ideas of our Mind can come from no other source than the Mind itself. This, I think, I am able to demonstrate from the account I have given of Ideas in the preceding Book, and the distinction I have made betwixt them and Sensations. I have there shown, that, by the Senses, we only apprehend the external and material Qualities of things, which are continually changing and passing away, as well as the Matter in which they are inherent ; whereas, by the Intellect, we apprehend the Nature and Essence of the Thing, that which makes every thing what it is, and continues always the same, in all the vicissitudes of Generation and Corruption and amid all the changes to which the material and outward Form of the thing is liable. And this is what, in the genuine sense of the word, and, as it is used by ancient philosophers, is an *Idea* ; which, therefore, they say, is eternal and un-

changeable, and which to know is the only Knowledge and Science *. And, as this internal Nature and Essence of every corporeal form is nothing else but that internal principle which moves the Body,—makes it cohere,—produces all its Qualities and Accidents,—and which, therefore, can be nothing else but Mind, as it is Mind that gives being and energy to every thing;—I say, it is only from Mind that our knowledge of this or of any other Mind can be derived, and not from Body, which never can produce Mind, nor any conception of Mind.

All our Ideas, it is evident, must originate either from Mind or Body: I will begin with those which are most likely to originate from Body,—I mean our Ideas of external Forms; of which as we have Ideas as well as Sensations, it is sometimes, as I have observed †, not easy to distinguish the one from the other.

Mr Locke has been pleased to call even our particular Sensations by the name of Ideas: But this is a language which no Man, who either thinks or speaks accurately, will use; and the utmost that the greatest Materialist can pretend, is, that our Sensations, when abstracted and generalized, become Ideas. But I think I have shown most evidently, that Sensations, however abstracted from the Matter which produces them, or from one another, or, however much generalized, that is, applied to different subjects, are still no more than Sensations, that is, impressions made upon our organs of Sense, preserved in our Phantasia or Memory ‡. And, if Sensations, by be-
ing

* Το κινου, therefore, in the language of Plato, is *εφατισθαι της ουσις*: And Ideas are, in his language, the *τα ουσις ουτα*, and *ωπαυται και εχουτα*; while things, in generation and corruption, *ουκ εστι, αλλα γινεται*. The more I study the doctrine and the language of this philosopher, the more I admire him; and I am persuaded that no man ever knew more of the inmost Nature of Things, without excepting even his scholar Aristotle, or had more exalted notions, both of divine and human things, than Plato.

† P. 69.

‡ P. 78.

ing abstracted and generalized, cannot become Ideas, I think it is as evident, that, neither by separating, compounding, or combining them in any way, can they be so transformed.

But, it will be said, that, though our Sensations are not themselves Ideas, they are the materials out of which the Mind makes them, in the same manner as an artist makes any piece of work out of Timber, or Stone, or any other Material; and this I know is the common opinion of those who derive all our Ideas from Sensation.

But I should be glad to know how the Mind can operate upon its Sensations, otherwise than by abstracting, generalizing, separating, or compounding them; and, if by none, nor all of these operations, no Ideas can be produced, it is not to be conceived how Ideas are to be made out of Sensations.—As to the works of art that are made out of Stone or Metal, these materials only change their form, and the piece of work produced is still Metal or stone. But an Idea is not a Sensation in any respect, but is as different from it as the *Form* of the piece of work is from the *Matter*: And, as the Form has an origin quite different from the Matter, so is the Idea derived from a source quite different from the Sensation.

It is true, indeed, that, in this state of our existence, confined as we are in this prison of flesh and blood, we can have no Ideas without impressions made upon that flesh and blood by external objects. But this is saying no more, than that our Mind at present cannot operate without Sensations: But it will not from thence follow, that our Sensations are the *Cause* of our Ideas; for we must distinguish betwixt the *Cause* and that without which the *Cause* cannot operate. An animal cannot act, or exert the functions of the Animal Life, without a certain degree of heat and moisture; and yet heat and moisture are not the Causes of the Animal acting: I cannot see an object,

object, if a person stands betwixt me and it; but that person moving out of the way is not the *Cause* of my seeing it*.

Thus, it appears, that the Ideas, even of objects of Sense, are not from Sense: And, if not from Sense, they must be from Mind; and all that the Sense can do is, to excite the Mind to produce them out of its own store.

But, as there is a progress in our Intellectual Part, as well as in every other part of our wonderful composition, so the Ideas of sensible objects, when they are first excited in us, are far from being perfect: But the latent Idea is only by degrees disclosed and perfected. This is evident in the Idea of Figure, which being excited by our senses in the manner that I have described †, is, no doubt, at first, very imperfect; but, when it comes to be perfected by the science of Geometry, it is an Idea which cannot be derived from Matter, because it does not exist in Matter; for there is no such thing in Nature as a perfect circle or globe, such as is defined by Geometers;—there cannot even be drawn a straight line, in which many crooks and Inequalities may not be perceived with a microscope.

The same is true of those Forms, which we admire so much in Painting and Statuary; for it is acknowledged by all the connoisseurs in those arts, that, if an artist did no more than copy life exactly, as the Indian and Chinese painters do, he would not deserve the name of an artist. The *Ideal Beauty*, therefore, (for so it is properly called), makes the perfection of all the fine arts; and this Beauty is not collected from Sense or Observation, but arises from our own Mind.

Here,

* See upon this subject, vol. 1. p. 162.

† P. 83.

Here, therefore, we have two sets of Ideas, which cannot be derived from Matter, because they do not exist in Matter; and in this they differ from other Ideas which exist in material objects, as well as in our Minds. If then we have Ideas which we do not exist in Matter, but only in our Minds, and which, therefore, cannot be derived from Matter, we ought not, as I said in the beginning of this chapter, to divide the matter, but to suppose that all our Ideas are originally in the Mind.—And so much for the Ideas of sensible objects.

As to Ideas of Reflection, Mr Locke does not pretend that they arise immediately from the objects of Sense; but they arise, according to him, from our Consciousness of our perceptions, of those objects: And every individual perception of the operation of our Minds upon those objects, is an Idea in his language, as well as every individual Sensation. But I deny the one as well as the other; and I say there can be no Idea without some knowledge of the Nature of the Thing. Now, it is impossible that we can have any knowledge of the Nature of any operation, without knowing something of the Agent. In order, therefore, to have an Idea of Perception, Volition, Thinking, and Reasoning, we must know that the Agent in these operations is some Invisible Power, by whatever name we call it, whether Mind or Spirit. And so far even the most barbarous nations have Ideas of Reflection; for they know that all that they themselves do is the operation of a principle, which is distinct from their Bodies and will survive their Bodies. And thus it appears, that the Ideas of the operations of our own Minds, as well as the Ideas of sensible objects, are all originally from Mind, and not from Body.

The only question then remaining is, Whether our Ideas are created by the Mind?—or, Whether they are always in the Mind, but
in

in a dormant and unconscious state, till they are excited by the impressions of external objects upon our organs of Sense? For, as I have shown that our Sensations cannot be the materials of which our Ideas are made, it follows of necessary consequence, that, if they were not originally in the Mind, they must be created by the Mind, that is, produced out of nothing. Now, a power of producing out of nothing is what the ancient philosophers would not allow, even to the Supreme Mind: But no philosopher, ancient or modern, has ever thought that it belonged to any Inferior Mind. If, therefore, the Human Mind does not create Ideas, it must derive them, like the other Materials upon which it operates, from a Superior power; with this difference only, that the materials of the one kind are External, but our Ideas are Internal and Original in the Mind.

It may be objected, that we do not create our Ideas, but only discover them lurking, as it were, in external objects, and immersed in Matter, from which we evolve them. But here I repeat what I said before*, speaking of abstract Ideas, which, by many, are believed to be the only Ideas, That it is impossible to abstract an Idea from the Matter in which it is inherent, or from other Ideas with which it may be mixed, without previously knowing what that Idea is. In all compositions of Bodies we never can find any ingredient in the composition, or separate it from the rest, unless we first know what it is: And, if we seek for any man in a crowd, we cannot expect to find him, unless we have some knowledge of him before hand.—The truth, therefore, appears to be, that our sensations, and the perceptions of the operations of our Mind, make us recognize Ideas which were before in our Minds but without our being conscious of them, in the same manner as the Idea of an old acquaintance, whom I had long forgot, is revived in me by seeing him, or any thing that I knew belonged to him.

What

* P. 75.

What appears to me to put this matter out of all doubt, is the doctrine that I have maintained, and, I hope, have proved to the satisfaction of the reader, That our Intellectual Mind is not a superior faculty of our Animal Nature, but a substance distinct by itself. If so, it is necessary that it must always, while it existed, have had Ideas; for it is impossible to conceive Intelligence without Ideas, either latent and inactive, or exerted and produced.

It may be said, that the *capacity* of forming Ideas is of itself sufficient to constitute a Soul, or Intellectual Part. But there is nothing in Nature that consists of Capacity merely; for, though there be many things that have Capacities, without having those things *actually* of which they are capable, there is nothing exists that hath not something in *Actuality* and *Energy*; for, if it wanted that, it would be really nothing.

If, therefore, we could suppose that our Intellectual Mind created its own Ideas, we must suppose that it likewise created itself: Now, this is a thing altogether inconceivable, even of the Supreme Intelligence, which we do not say created or produced itself, but that it existed necessarily from all Eternity: And, if we could conceive the Intellectual Nature producing itself, Why may not the Animal nature?—Why may not the Vegetable likewise produce itself?

It is, therefore, the Supreme Mind, from which all substances material and immaterial, the visible and the invisible world, are derived, that is the Source of our Ideas, as well as of our Minds, in which they exist. In his Mind there are undoubtedly Ideas, which, it would be impious to say, originated from Matter; and yet I doubt those who speak of all Ideas as *Abstract Ideas*, must believe either that he has no Ideas, or that they are of that kind. This last Mr Hobbes denies, and calls, very properly, such Ideas a *Tumult* in the

Mind, excited by external things pressing upon the organs of our Senses*. But he does not say what other Ideas are in the Divine Mind: And the fact truly is, that he believed there were none, or, in other words, that God did not exist; and, those who believe that there are no Ideas but *Abstract Ideas*, must believe the same, if they know the consequences of their own doctrine.

This origin, which I have assigned to our Ideas, must, I think, be acknowledged to be much more noble than that which Mr Locke has given to them, and more conformable to our divine original; for we must suppose, that there is some resemblance betwixt us and that original. If there was not such resemblance, we could not, as I have often taken occasion to observe, have any comprehension of the Supreme Mind. And what more natural resemblance than this, that, as all the Ideas of the Divine Mind do not arise from any thing foreign, but are originally in his Mind, so are ours; and that our Ideas are not, any more than our Minds themselves, derived from so vile and low a thing as Matter. If this were not the case, I do not think we could be said to be made after the image of God.

At the same time, I agree with Mr Locke, that there are no *Innate Ideas*, if, by *Innate Ideas*, he means Ideas that are present to the Mind, and contemplated by it, before they are excited by that *tumult*, to use the words of Mr Hobbes, which the pressure of external objects upon our organs produces. But I say they were there, though latent and unproduced, before any such Tumult, and were there even before our existence in this world.

There are, perhaps, who believe, that our Souls did not exist before they came into this Body, and that there is a new creation of Soul

* See Mr Hobbes's words, quoted vol. 1. p. 143-

Soul for every Body ;—a doctrine, which I hold to be as unphilosophical as it is unwarranted by Revelation : But, supposing it were true, what the learned Bishop would not believe *, that our Soul is the younger brother of the Body, I say, that our Souls, at whatever time created, must have been created with Ideas, and not merely the capacity of forming them, when they should be joined to our Bodies ; for it is inconceivable, that a substance, such as I have proved the Soul to be, should exist with a Capacity only to exert certain powers at some after time. A Being, no doubt, may have powers only in Capacity ; and we ourselves have many such : But we are something, in the mean time, without those Capacities. Now, a Soul, without Ideas, either exerted or latent, is, as I have said, a mere nonentity ; for it is a substance without the qualities essential to it.

We are not, however, to imagine, that those latent Ideas are like the Ideas preserved in our memory in this state of our existence, which can, by an act of our Mind, be called up, and presented again to the Mind ; but Nature has so ordained it, (and, no doubt, for very wise purposes), that they can only be excited by the impulse of objects upon our organs of Sense ; and even this not at once, but with a good deal of difficulty, which makes the progress flow from Sensations to Ideas.

Neither is it necessary to suppose that, if we had those Ideas formerly, we must be conscious of them when they are excited in us, as we are conscious of Ideas that we recollect from our Memory. If, indeed, it were true, what Mr Locke has maintained, that Consciousness is the principle of Identity, being that which makes us the same to-day that we were yesterday or twenty years ago, there would be an

B b 2

end,

* His name is Synesius, the most learned in philosophy of all the Fathers of the Church whose writings I have perused. See the passage from him quoted in Vol. I. p. 266. in the Note.

end, at once, of the doctrine of the pre-existence of Souls; because we certainly are not conscious of what passed in our former state. But here, again, the Bishop of Worcester is right, who, in his answer to Mr Locke's Second Letter, maintains, that, for Identity Consciousness is not necessary, but only that the Vital or Intellectual Principle should continue the same, whatever state it may be in. And, indeed, the confounding Consciousness with Identity, is one of the grossest and most nonfensical errors of modern Metaphysics, such as never entered into the imagination of any antient philosopher *: For it is confounding the evidence of a thing with the thing itself; consciousness being no more than a proof, which our memory furnishes us, of our prior existence;—a proof, indeed, as clear as any we have of our present existence, of which Consciousness is the only proof. But, suppose we have not that proof, will it from thence follow that we did

* Whoever will take the trouble to read, with attention, what Mr Locke has written upon the subject of Personal Identity, will not think this censure too severe. It is the most obscure and perplexed piece of reasoning I ever read, upon a subject in which there is really no difficulty, if he had known the nature of the thing which he has made the subject of his book; I mean Ideas: For, if he had known that the Idea of every corporeal thing is that internal principle which makes the particles, that compose it, cohere together, produces its movements, and all its qualities and properties;—in short, makes the thing what it is, he would have been at no loss to know what constitutes the Identity of every thing in the Animal, Vegetable, or Mineral kingdoms. And, if he had understood, as he ought to have done, the philosophy of Mind, he would have known, that this principle of Identity could be nothing else but Mind; which being, by its nature, eternal, continues always the same, while the Body to which it is annexed is in a perpetual change and flux. He appears to have had some glimpse of this truth with respect to Vegetables and Brute Animals; for he says, that it is the principle of vitality which constitutes their Identity. But, what evidence is there that this principle always continues the same? He will not say that there is consciousness in the Vegetable; and I think he will hardly affirm that it is in the Brute, though he ought to say so, since, according to his philosophy, Consciousness accompanies all perceptions of every kind. Now, if the principle of the Brute or Vegetable continues always the same, though there be no evidence of it from Consciousness, Why may not that principle in Man, which we call the Soul, continue always the same, though wanting likewise the evidence of Consciousness.

did not exist in any past time ? Because we have no Conscioufness of what we did in our state of infancy, are we from thence to conclude that we did not then exist, or that we never were infants ? And the same reason that makes us believe we existed then, should make us believe that we existed in the womb, and that we may have existed thousands of years before. The philosophers, who argue as Mr Locke does, do not appear to me to make a distinction, which is the foundation of all good logic, and, indeed, of all sound philosophy ;—betwixt Substances and Accidents, nor to have known that, if the Soul be a Substance, it may undergo a change as to its Accidents, and yet continue the same. It may, therefore, have Memory and Recollection of its past actions at one time, and not at another, and yet be the same individual Substance. And, indeed, if this recollection be necessary to assure us of our existence in every past time, there is no man can be sure that he is the same man that existed all yesterday: For, though he may recollect his actions in some part of that day, he cannot recollect them in every part of it ; and *when* he cannot recollect them, *then* he must be supposed not to have existed. Virgil, therefore, I hold to be a much better philosopher than Mr Locke, when he tells us, that the Spirits, before they are reïmbodyed, drink of the waters of Lethe : And it is no doubt for very good reasons that Providence has so ordered it, that we have no memory or recollection of our former state.

It may be objected, that an Intelligence, quiescent and dormant in the womb, and during the time of our infancy, is difficult to be conceived. But to this I answer, that many of our Divines maintain that our Souls are in that state, from the time of our death till the resurrection : And, indeed, those who deny an intermediate state must say so. Nor is there any thing unphilosophical, or contrary to the general analogy of Nature in such an opinion ; for we know that both plants and animals may be in such a dormant state, some of them for a very considerable time. A wil-
low,

low may be used as a stick several years, during which time the Vegetable Life appears to be quite extinct; and yet, when it is put into the ground, it revives, and puts forth buds and leaves. In the animals that sleep during the winter, there is a total cessation, at least, of the animal and sensitive part of them. And there is an instance, well vouched, and recorded in the Philosophical Transactions, of snails, which, after being kept in a dry place for above fifteen years, and without the least marks of Animal Life in them, were revived, by being put into water a little warmed*. Another instance of the same kind is recorded of Animalcules that have been discovered in the grains of blighted wheat, which, after being kept four years, revived likewise by being moistened †. Now, if the Vegetable and the Animal Life may be so long suspended, Why not the Intellectual? Why may not that part of us be in a dormant and quiescent state, while we are in the womb or in a state of infancy? Even when we are grown up, it seems often to be at rest in our sleep, when the Animal part of us, and particularly the Phantasia, is very active: We, indeed, sometimes reason in our dreams, but not always; and, I believe, our philosophic poet is in the right, who says, in the passage above quoted ‡, That Reason retires

*Into her private cell, when Nature rests.
Oft in her absence mimic Fancy wakes
To imitate her; but misjoining shapes
Wild work produces oft, and most in Dreams.*

And Aristotle says, what I am persuaded, upon inquiry, will be found to be true, that children do not dream: So that even their Phantasia is quiescent while they sleep. And he says the same of some

* Philof. Transactions, vol. 64. p. 432.

† See a book published by Henry Baker, F. R. S. entitled, Employment for the Microscope, p. 250.

‡ P. 167 — I have quoted Milton more than once in this work: For I esteem him not only as the greatest Poet, and best Writer, in modern times, both in prose and verse, in Latin and English; but he appears to me to be exceedingly learned in Ancient Philosophy, as well as in Ancient Arts, and Ancient History.

some grown people ; but that happens, he tells us, very rarely *. Even while we are awake, and after our Minds are stocked with an infinite number of Ideas, from Experience, Reason, Science, and Conversation, how many of them lie dormant in our Intellect, till they are resuscitated by recollection, teaching, or the operation of some of our Senses. What we call proving or demonstrating, is not giving us new Ideas, but calling up old ones, as Plato has shown, by an admirable example of a mathematical demonstration, in the *Meno*. And, indeed, it is characteristical of the Human Mind, and what distinguishes it as much, or, perhaps, more, than any thing else, from Superior Intelligences, that it has not all its Ideas, and, indeed, but a very few of them, present at the same time, and is therefore obliged to pass from one to another, and to call them up by Reminiscence and Recollection, as it has occasion for them. Now, if it be true that some of our Ideas lie dormant in our Minds for years together, Why may we not suppose that all our Ideas are in that state while we are in the womb, and during the first years of our life, till they are excited by our Senses, by Conversation, and by the Intercourse of Life ?

What has led Mr Locke, and all our modern philosophers, into the error, that our Ideas are derived from Matter, is the term of *Abstract Ideas*, which, as I have observed †, is understood to be synonymous with *Ideas* : So that all our Ideas, by those philosophers, are understood to be abstracted from Matter, and, consequently, as they think, derived from Matter. That all Ideas, even the Ideas of the Divine Mind, are so abstracted, no man can believe who believes in God. But even the Ideas of our Mind must, as I have observed ‡, be known and recognized, before they can be distinguished and separated from the Matter with which they are joined.

I

* Liber, *De Insomniis*, cap. 4.

† P. 75.

‡ *Ibidem*.

I have, in a preceding Chapter *, explained in what sense Aristotle, and his Commentators, speak of *Ideas by Abstraction*, or in *Abstraction*, which last is the expression Aristotle commonly uses †. By such expression, they did not denote all Ideas, as our modern philosophers do, but only the Ideas of certain Accidents of Substances, considered by the Mind as separated and abstracted from the Substances in which they are inherent. Of this kind are mathematical Ideas, such as the Ideas of Magnitude, Figure, and Number, which the Mind contemplating by themselves, and as abstracted from the Natural Substances, of which they are Accidents, has formed out of them the Sciences of Geometry and Arithmetic ‡. And hence it is, that Mathematics are said to be in the middle, betwixt Material Substances, and Substances Immaterial: For these, both in Idea, and real existence, are entirely without Matter; whereas the Subjects of Mathematics, Figures, and Numbers, do really exist in Matter, and are only separated from it by our manner of conceiving them and thinking of them.

The process by which those Ideas are abstracted I have minutely described in Volume First §. It is no more than an analysis made by Science, of that operation of the Human Mind. It may be compared to the analysis, which Aristotle has made in his books of *Analytics*,

* P. 75.

† His commentators commonly say that those Ideas are δι' αφαιρησεως, which, I think, is not so good an expression, as importing that they are formed from Material Objects, which, I am persuaded, Aristotle did not believe; but Aristotle's own expression is, τα εν αφαιρεσει λεγομενα. Lib. 3. *De Anima*, cap. 8. *in fine*, et cap. 9.

‡ See the Commentary of Simplicius, p. 77. upon the eighth Chapter of Aristotle's Third Book, *De Anima*, where all this is most accurately explained, and at great length.

§ P. 103. et seq.

lytics, of a more complex operation still,—that of Reasoning : But it would be as ridiculous to say, that Men could not have Ideas without analysing them according to the Rules of Art, as to pretend that we could not reason without Aristotle's Art of Reasoning ; though, no doubt, we do both the better for being taught by Art.

To be convinced of this, let us consider the case of Savages. They have no Logic or Science of any kind, know nothing of Genus, Species, or Difference, nor have any Arts, except a few of the necessary Arts of Life ; yet they have Ideas, though not so perfect, to be sure, as those of the men of science among us, and likewise a language to express them, by which they not only converse in private, but deliberate in public, upon the affairs of their tribe and nation, with as much or more wisdom than most civilized nations. But, as they cannot analyse and abstract according to the Rules of Art, they have not Sciences, nor even Arts reduced to a System. Thus, not being able to analyse the dimensions of Body, as Euclid has done, into Points, Lines, Surfaces, and Solids, and to separate and distinguish them accurately from Body and from one another, they have no Science of Geometry ; though, undoubtedly, they have the Ideas of different Figures. And not being able to abstract Number accurately from the Things Numbered, and to investigate its properties by itself, they have no Science of Arithmetic ; though they have the Practice of it to a certain degree. And, in short, because they are not able to analyse accurately compounds of any kind, and to divide things into their genuses and specieses, they have no science of any kind ; though, in matters of common prudence, and such arts of life as they practice, in which the Form is never considered separated from the Matter, and the knowledge of Individuals is more necessary than of Generals, they excel very much.

Thus, it appears that we have our Ideas from *within*, and not from *without*, as is commonly believed. But, if our Minds furnished

us only with Ideas, we should be able to make but small progress in knowledge; as, in this state of our existence, we cannot immediately and intuitively see the connection of our Ideas, otherwise than by Circuit and Collection,—that is, by Reasoning. Now, in reasoning, as Aristotle has well observed, nothing could be proved, if every thing was to be proved. There must, therefore, be some propositions which are self-evident, and the foundation of all our Reasoning. These propositions I hold also to be from Nature, as well as the Ideas of which they are composed; for they certainly are not from Sense, nor from Reason or Argument.

And here we may observe, that, in this respect also, we differ from Superior Intelligences only in degree: For these Intelligences must see very many things intuitively, which we can only see by inference and deduction; and the Supreme Intelligence must see every thing in that way: But it was of absolute necessity that we should see something in that way, otherwise we never could have discovered any thing by Reasoning.

Thus, I think, I have shown, that Ideas are as different from Sensations in their Origin, as they are in their Nature—that Sensations arise from the impression of Material Objects upon the Organs of our Sense; and, therefore, they indicate nothing but the various Motions of these objects, and the alteration thereby produced upon our organs—that they only serve the purpose of the Animal Life, and, therefore, are common to us with the Brute, and are retained in the Memory and Phantasia, as long only as they are necessary for the purposes of that Life;—That, on the other hand, Ideas are from the Mind itself—That they indicate to us the Nature of things, that is, the *Form* without the *Matter*—that, as they are from Mind, they are, like Mind itself, eternal, being there before our existence in this life, and continuing after we cease to exist here—and, *lastly*,
that

that Nature has so connected our Intellectual with our Animal part, that the former cannot operate till it is roused and put into Action by the operations of the latter : And, as our Intellect is in a dormant state while we are in the womb, and during the first years of our infancy, it is of necessity that our Ideas should be so also.

I will conclude this Chapter with observing the wonderful progress of Man from the rudest and most imperfect state to the perfection of his Nature in this life, and by what slow degrees the several ingredients of his wonderful composition disclose themselves. At first, his Vegetable Nature appears to be entirely predominant ; for the Embryo seems to be no more than a mere Vegetable, so that even the Animal is then latent. It is, however, there ; and so also is the Intellectual. Then, by degrees, the Animal Life appears ; but he can hardly be called a Sensitive Being till he is born, and his Animal Powers are disclosed and brought into energy by the Action of External Objects upon his Organs of Sense. But still his better part lies buried under the Vegetable and Animal, till it is likewise produced in its turn, *first*, by the necessities of Life, and the Arts invented to supply those necessities ; then, by the Arts of Pleasure and Entertainment, the Fruit of Plenty and Leisure ; and, *last* of all, by Science and Philosophy.

This is undoubtedly the progress of the *Individual*,—slow enough indeed, being from a state no better than the mere Vegetable and Animal. But the progress of the *Species* to a state of civility and Arts, that is, of Intelligence, is very much slower. For the Individual in the civilized nation learns both by Imitation and Instruction : Whereas Savages learn neither way, but must invent every thing ; so that their progress must be wonderfully slow,—so slow, that the Antients thought that the

assistance of Gods, or Superior Intelligences, inventing Arts for them, was necessary to carry them on.

This progress of the Species is an important article in the history and philosophy of Man ; and I shall make much use of it in the sequel.

C H A P.

C H A P. III.

Of the Difference of Minds.—Great Errors proceed from not knowing accurately that Difference.—The Vegetable differs from the Elemental Life, as to the Body moved—the Motion—the Growth—and the Final Cause.—Difference betwixt the Animal and Vegetable.—The Animal sensitive, the Vegetable not.—Reason for this Difference.—The Animal has a Feeling of Pleasure and Pain—the Vegetable not.—This Difference betwixt the Animal and Vegetable proved by Experiment.—The Vegetable propagated many more ways than the Animal.—The Vegetable Life subservient to the Animal.—Remarkable Instance of this in the Construction of the Vegetable Part of Animals.—The Vegetable and Animal Life come very near one another.

HAVING thus shown, that our Intellectual Mind is a substance quite distinct from Matter, and borrowing nothing from it, I return to a subject upon which I have said a good deal already, but which I think it is necessary further to explain: The subject I mean is the difference of the several Minds. To know this accurately, is, I think, of great importance in philosophy; and I observe, that many of our modern philosophers have fallen into great errors by not distinguishing accurately the several kinds of them. Des Cartes, for example, not being able to distinguish betwixt the Intellectual Mind or Soul and the Animal Life,—and being persuaded that the Brutes had no Soul, but not conceiving how they could have Sensations, Appetites, and Desires, without a Soul, maintained, that they had no
Minds

Minds at all, but were mere machines. Others, rejecting this notion of Des Cartes, but as ignorant as he of the difference betwixt the Intellectual and Animal Life, go to the other extreme, and believe, that Brutes have Intelligence as well as we, differing only in degree. Others, again, not discriminating exactly the Vegetable and the Animal Life, seem to think that Vegetables, for any thing we know, may have Sensations as well as Animals, though perhaps less perfect. And, as to the Elemental Life, as I call it, which informs every particle of Matter; having no Idea at all of it, they endeavour to account for the motion of such Bodies by certain Ethers, Fluids, Subtle Matter, and I don't know what: And, perhaps, from their inability to account for these Motions upon any hypothesis that has the least degree of plausibility, they are driven to absolute Atheism, and maintain that Matter can move itself.

I will begin with distinguishing the Elemental Mind from the Vegetable: And there is one distinction, which I have already observed, taken from the Bodies that are moved; namely, That the Elemental, or Unorganized Bodies, are much more simple and less artificial in their structure than the Vegetable.—Another difference is from the nature of their Motion, which, like the Body moved, is much more simple and uniform in the Body unorganized, than in the Body organized. And there is another remarkable difference in the Motion, that the Body unorganized is moved altogether, and not one part before another or without another: Whereas, the Vegetable and Animal having Organs and Vessels, there is Motion in them, when there is none in the rest of the Body; and it is by their means that the other parts of the Body are moved.

Another very material difference is, with respect to the production and the growth of the two kinds of Bodies. The unorganized Body is produced at first by particles of Matter, homogeneous, no
doubt,

doubt, in many respects, though in some particulars they may be of different kinds, coming together by a certain sympathy, and cohering, so as to form one mass, to which, according to their different Natures, we give different Names, such as Gold, Silver, Iron, &c. And the growth of these Bodies is, by accretion, or apposition, from without, of certain particles of the same kind.—On the other hand, the Vegetable is produced from seeds, and in a way of generation, which has been discovered to be very analogous to the generation of Animals; and its growth and nutrition is not by accretion or external apposition of parts, but by nourishment, which it receives from the earth by the means of certain organs, which convey it into the inward parts of the Plant, where it is digested, assimilated, and distributed all over the Body. Hence comes the growth of the plant, its foliage, flowers, fruit, and seed.

The last difference I shall observe, is from the final Cause, which ought never to be out of the view of the philosopher: As the Vegetable is of a Nature much more excellent than any unorganized Body, and as it is a law of Nature, that what is less excellent is produced for the sake of that which is more so, the unorganized Body, being less excellent than the Vegetable, is intended for the sake of it. And, accordingly, the Earth, the Air, the Water, the Fire, Salts, and all other Mineral Substances, serve for the production of Vegetables.

As the scale of life rises higher, the difficulty of distinguishing the several principles of vitality increases. It is, therefore, more difficult to distinguish the Vegetable from the Animal Life, than the Vegetable from the Elemental: And the similarity has of late been discovered to be so great, that some, as I have observed, are inclined to think, that the difference is only in degree, such as they suppose

th

the difference betwixt the Animal and Intellectual Life to be; and that the Vegetable has even Sensation.

It was Sensation which the antients made the characteristical difference betwixt the Animal and the Vegetable: And they were certainly so far in the right, that whatever is Sensitive is an Animal. But why has the Animal Senses, and not the Vegetable? This leads to the final Cause of the distinction, which no genuine philosopher will ever have out of his view; and the general principle, from which I imagine all the differences betwixt the Vegetable and Animal may be deduced, is this, that the Vegetable is fixed to a certain spot from which it draws its nourishment; whereas the Animal is locomotive, and has its nourishment to seek, sometimes in places very distant. This makes Senses necessary to the Animal, which would be entirely useless to the Vegetable; for the Animal being obliged to go about in search of his food, it requires that correspondence with external things which the Senses furnish, and by which it is enabled both to find out its food, and to defend itself from the dangers which threaten a Being that goes about, much more than one that is fixed to a certain place.—In short, it is by the information of the Senses that an Animal is enabled both to preserve the individual and continue the kind.

If the Animal has Senses, it follows of necessary consequence, that he must have likewise the feeling of Pleasure and Pain: For it is impossible to conceive that a creature should have the Sense of Touch, which may be said to be an universal Sense common to all Animals, or of Taste, without feeling Pleasure or Pain; nor indeed would these Senses answer the purpose for which they are given, if they did not inform the Animal, in that way, of what was useful or not useful.

Further,

Further, if he has the feeling of Pleasure and Pain, he must likewise have Appetites and Desires, by which he seeks the one and avoids the other. Those, therefore, who maintain that the Plant has Sensation, must also maintain that it has both Pleasure and Pain, and likewise Appetites and Desires.

Those, who philosophise only by facts and Experiments, will hardly believe what they cannot see with their Eyes or perceive with some other of their Senses. They will not, therefore, be convinced by this Reasoning *a priori* and from *Final Causes*, that the Vegetable has not Sensation and a feeling of Pleasure and Pain. But, luckily for these philosophers, there is an Experiment, which, if they please, they may make upon their own Bodies, and which will convince them that the Sensitive Nature in them is quite distinct from the Vegetable; for, if they cut the nerves of any member of their Body, they will immediately perceive that they have no Sensation in that member below where the nerves are cut, and yet the Vegetable part there, if the artery be not cut, and if the blood continue to circulate, will remain entire and uncorrupted.

As the Vegetable part of the creation is intended for the sake of the Animal, it is therefore more abundant, and is propagated in more different ways: For almost all Animals are propagated only by seed in the common way of generation; whereas the Vegetable is not only propagated in that way, but by Slips, Grafts, Laying, Suckers from the root, and even by Cuttings, in which last way it is now discovered that all Plants, with sufficient care and attention, may be propagated.

And from hence results a remarkable difference betwixt the Animal and the Vegetable; namely, that the Vegetable Life appears to be in every part of the Vegetable, whereas the Sensitive Life has

a particular Seat, which is the Brain, in all Animals that have Brain ; fo that the communication with that Seat being cut off, by the cutting of the Nerves, which all proceed from the Brain, there is, as I have faid, an end of the Sensitive Life in the Animal.

Further, as the Sensitive Life is more excellent than the Vegetative, fo the latter, according to the order of Nature, is made fubfervient to the former. And this accounts for a remarkable difference betwixt the Vegetable, when it is by itfelf, as it is in the Plant, and when it is joined with the Sensitive Life, as it is in the Animal : For, in the Plant, the fap by which it is nourifhed only afcends and defcends, but does not circulate as the blood does in Animals ; nor has it one common Fountain or Refervoir, where it is thrown out, and again taken in ; for that was not neceffary for the oeconomy of the Plant : Whereas, for the fupport of the Body of the Animal, fo much more artificially organized than the plant, and for enabling the organs to perform their feveral functions, it was neceffary that there fhould be a circulation of the Blood, a diftribution of it to every part, and a fecretion from it of many different juices, of which the Vegetable has no need.

Another remarkable difference is, that, as the Animal is an *emancipated fon* of the earth, (as he is called by fome philofopher, whofe name I have forgot), and goes from place to place, he has members adapted to that progrefive Motion, by which he moves not only on the Earth, but in the Water and the Air. And he has alfo a certain impulfe of his Mind, called in Greek *ἔμφυς*, and, in Englifh, *Spontaneity*, by which he is excited to that Motion ; whereas the Vegetable, being fixed to a certain place, has neither.

The laft obfervation I fhall make upon this fubject is, that, as there is no gap in Nature, the Vegetable Life comes fo near to the Animal, that there are Animals which partake fo much of the Vegetable,

table, as to be denominated by both names, and called Zoophytes, such as Polypuses and Corals, and several others that have been of late discovered and curiously examined. In them the use of that great principle, which I have laid down as a distinguishing characteristic of the Animal from the Vegetable, is well exemplified; for, as Animals are more or less locomotive, so they have more or less the use of Senses. Those Animals, who, like the Vegetable, are fixed to one place, and only move themselves in that place in order to take in their nourishment, have very few Senses, perhaps only one, viz. the Touch, without which they could not be an Animal at all.

Thus, I have endeavoured to explain the Differences betwixt the Animal and the Vegetable: Some of the Similarities I have likewise mentioned; and I will say more upon that subject when I come to treat of Nature, and to show what a wonderful analogy the different parts of Nature have to one another.

The only two Minds, that remain to be compared, are the Animal and the Intellectual. But, upon this subject, I hope I have already said enough for the satisfaction of those who can be convinced by other evidence than that of their Senses: For there is no experiment that can show this difference, as in the case of the Animal and Vegetable Life; it is only found reasoning and good philosophy which can satisfy a Man that he is not a Brute.

C H A P. IV.

The Importance of the Doctrine of Causes.—Aristotle's Account of Causes, full and complete.—Plato's Addition of two other Causes, not necessary.—Abuse of the Term, Cause.—Things said to be Causes which are only the removal of Impediments that hinder the real Cause to operate.—The Power of the Mind without the Organs of Sense, evident in Dreaming and Night-walking, or when the Body is affected by certain Diseases.—The Internal Organs, such as the Brain, not properly Causes, any more than the External.—The Intellectual Mind, not immediately connected at all with the Body or its Organs.—Hot and Cold, Moist and Dry, no Causes of Things.—The considering such Things as Causes, leads to great Errors.—The common Distinction betwixt First and Second Causes, not sufficiently attended to by our Modern Philosophers, particularly the Newtonians.

IN order to think and speak accurately upon Metaphysical Subjects, we must not only distinguish betwixt the different kinds of Mind, but also betwixt the different kinds of Causes. Mind is undoubtedly the Cause of all things in Nature, and the only active Being in the Universe, all things else being merely passive; and yet we speak of many other things as Agents and Authors of various productions: And I doubt not, but that an inaccurate language of this kind has led into many errors in philosophy.

No philosopher has so well distinguished the different kinds of Causes as Aristotle; and, as philosophy is the knowledge of Causes, he

he may be said thereby to have laid the very foundations of philosophy. There are, according to him, four kinds of Causes, the *Material*, the *Formal*, the *Efficient*, and the *Final*. This Division I have explained in the first part of this work *; and I shall only add here, that, however little Final Causes may be studied by philosophers at present, yet, if we believe in God, and hold that every thing in this universe is produced and governed by Intelligence, we must of necessity, at the same time, believe that the Final Cause is truly the First of all Causes, and therefore most worthy of the study of the Philosopher, being that for the sake of which every other Cause is employed: So that it may be called the *Cause of Causes*; for it is for the sake of the *end* that the *Efficient Cause* acts, that the *Form* is given to the thing, and the *Matter* provided to receive that Form. And, as the Final Cause is the first and highest of Causes, so the Material is the lowest; yet it is of absolute necessity, as it is the subject in which the Form must exist, in the works both of Nature and of Art †.

To

* Vol. 1 p. 33.

† Aristotle, in the last chapter of his 2d Book of Physics, speaking of the *final* and *material* causes, expresses the difference of them in this way. He says, a thing is done *διὰ τοῦτο*, meaning the final Cause, or the *ὄν ἕνεκα*; but, at the same time, he says, that the thing cannot be done *οὐκ ἂν ἄνευ τοῦτοῦ*, meaning the *ἕλθῃ*, or *material Cause*. And he adds, *καὶ κοινῶν μὲν τῶ φυσικῶν λειπόμεθα καὶ αἰσθητῶν, μάλλον δὲ ἢ τῶν ἕνεκα· κινήσει γὰρ τοῦτο τῆς ἕλθῃς, ἀλλ' οὐχ ἕνεκα τοῦ τελους.* that is, "Both Causes, (the Final and Material), ought to be treated of by the Natural Philosopher; but chiefly the Final, because this is the Cause of the Material, not the Material of it." Our modern philosophers have just reversed this method of treating Physics; for they speak a great deal of Material Causes, but little or nothing of Final.

I will subjoin here Simplicius's account of the pre-eminence of the Final Cause; *Τὸ κρείττονος αἰτίου τὸ τελικόν· ὄν ἕνεκα καὶ τὸ ποικητικὸν ποιεῖ, καὶ τὸ εἰδικὸν ὀρίζει, καὶ τὸ ἄλλοκοῦ αἰτίου ὑπερτερῆται οἰκίει τῆς προσηματικῆς*—in libros *De Anima*, lib. 3. fol. 89. p. 2. where the learned reader will observe, that he says the *το εἶδος*, or Species, *ὀρίζει τὸ προσημα*, that is, bounds or determines the thing, because it is by the Species, not by the Matter, that every thing is what it is, and is separated from every thing else; and accordingly it is by the Species that we know every thing.

To theſe four Cauſes Plato has added two others, viz. the Inſtrumental Cauſe and the Exemplary, but without any neceſſity or good reaſon : For the inſtrument, by which any agent performs any work, is not the Cauſe of the work, properly ſpeaking, but the means by which it is performed ; and, accordingly, in common language, we do not ſay that the pencil is the cauſe of the picture, or the graving-tool of the ſtatue, but the Artiſt of both *. Or, if the Platonicians will dignify it with the name of a Cauſe, it is to be referred to the Efficient Cauſe ; but it is only a Secondary Cauſe of that kind, and of a nature very much inferior to the Primary, as much inferior as *Body* is to *Mind*, or the *Tool* to the *Artiſt*. And I ſay the ſame of all the operations of *Body* upon *Body* ; as, when one *Body* impels another, the impelling *Body* is only the Secondary Efficient Cauſe of the Motion, but the Primary Cauſe of it is *Mind*, moving either that impelling *Body*, or ſome other which impels it. And here again the truth appears of what I have elſewhere obſerved †, that *Mind* is ultimately the Efficient Cauſe of every thing in the univerſe. As to what is called the Exemplary Cauſe, if it is to be conſidered as a Cauſe, it muſt be referred to the *formal* ; and the expreſſion denotes no more, than that the *Form*, inſtead of being derived from the *Mind* of the *Artiſt*, which is commonly the cauſe of the works of *Art* and *Intelligence*, is taken from ſome thing *without* the *Mind* of the *Artiſt* ‡.

Having

* The learned in the Greek language will obſerve, that the inſtrument or means, by which any thing is done, is expreſſed by the prepoſition *δια*, conſtrued with the genitive ; for they ſay a thing is done *δια τούδε η τούδε* : Whereas the Final Cauſe is expreſſed by the ſame prepoſition joined with the accuſative, as appears from the paſſage of *Ariſtotle* quoted in the preceding note.

† P. 20.

‡ I will enumerate all theſe fix cauſes, as they are expreſſed by the various uſe of the Greek prepoſitions. Τετραχως ουι η αρχη κατα ται Αριſτοτελιη* η γαρ το ες ου, ως η υλη η το καθ' ο, ως το ειδος η το υφ' ου, ως το ποιου η το δι' ο ως το τελος. Κατα Πλατωνια και το προς ο, ως το παραδειγμα και το δι' ου, ως το εργασιον. Οσκαως δε η αρχη ληγεται,

Having said so much of Causes in general, I will proceed to take notice of some things which are commonly spoken of as Causes, but which are truly not such. It is commonly said that the Eye sees, and the Ear hears; by which expression, one might be induced to believe, and, I imagine, is generally believed, that the Eye is the Cause of our Seeing, and the Ear of our Hearing, or that the Eye is the Agent in the operation of Seeing, and the Ear in the operation of Hearing. But neither is true; for it is most certainly the Mind that both Sees and Hears. Neither is the Eye or Ear even the Instrumental Cause, or the Means by which the Mind Sees and Hears. But true philosophy teaches us, that the Mind perceives all things by its own Natural Powers, and that the Body, so far from assisting its perceptions, is an impediment to them, which is only in part removed by those five inlets of knowledge we have from the Senses; so that a Man cannot be said to See by means of his Eyes, any more than a person can be said to See an object by another going out of the way, who is betwixt him and it. The obstruction, indeed, is removed; but there is a great difference betwixt the Cause of any thing, and the removal of an impediment, without which the Cause could not act*.

This

λιγυται, τερμυταχως και το αιτιον.—Simplicius, upon the Physics of Aristotle, lib. 1. fol. 3. I have given this quotation for the sake of the young student of Greek, who, if he has made any considerable advances in the language, will perceive, that the use of the prepositions, either single or in composition, is one of the greatest niceties in it. The Theologian also may, from this passage, learn how improperly the words και λογος η προς του Θεου, in the beginning of St John's gospel, are translated, "And the word was with God;" whereas it should be, "after the image of God;" as it is expressed in other parts of scripture.

* This I have explained at more length in the first volume of this work, p. 167. where I have quoted the words of Plato in the *Phaedo*, where he has expressly made the distinction betwixt the Cause, and that without which the Cause cannot operate. Αλλο μιν τι εστι το αιτιον τμ οστι, αλλο δε εκεινο αυτου ου το αιτιον ουκ αν ποτ' ειη αιτιον.

This paradox, as I know it will appear to the most of my readers, that the Mind sees without eyes, the learned reader will not be displeased to see explained by Ci-

"cero,

This will appear the leſs incredible, even to the Reader who is no philoſopher, if he conſiders the common phaenomenon of *Dreaming*, which evidently ſhows that the Mind has the Power of Perception, independent of the Body and its Organs; for, in our Dreams, we ſee and hear without our Eyes and Ears, and ſometimes in ſo lively and forcible a manner, that we are more affected than by the ſame perceptions when awake. The caſe of the Night-walker is ſtill a more remarkable example of what the Mind can do by itſelf; for the Mind of the Night-walker, as it appears to be more ſeparated from the Body than in common Sleep, does things which are generally not believed, becauſe few people are philoſophers enough to know the Power of Mind acting by itſelf*. The ſame is the caſe of

cero, with that copiouſneſs and elegance which diſtinguiſh his philoſophical ſtyle, as well as that of Plato, from every other of the ſame kind. The paſſage is in the firſt Book of his Tuſculan Queſtions, cap. 20. where, after ſpeaking of the enlarged views and wonderful proſpects that the Mind ſhall enjoy after its ſeparation from the Body, he adds, “*Nos enim ne nunc quidem oculis cernimus ea quae videmus. Ne- que enim eſt ullus ſenſus in corpore, ſed ut non ſolum Phyſici docent, verum etiam Medici, qui iſta aperta et patefacta viderunt, viae quaſi quaedam ſunt ad oculos, ad aures, ad nares, a fede animi perforatae. Itaque ſaepe aut cogitatione, aut aliqua vi morbi impediti, apertis atque integris et oculis et auribus, nec videmus nec audimus: Ut facile intelligi poſſit, animum et videre et audire, non eas partes quae quaſi fenestrae ſunt animi: Quibus tamen ſentire nihil queat mens, niſi id agat et adſit. Quid quod eadem Mente res diſſimillimas comprehendimus, ut colorem, ſaporem, odorem, ſonum? Quae nunquam quinque tantis animus cognoſceret, niſi ad eum omnia referrentur, et is omnium iudex ſolus eſſet.*” Atque ea proſecto tum multo puriora et dilucidiora cernentur, cum, quo natura fert, liber animus pervenerit. Nam nunc quidem, quanquam foramina illa, quae patent ad Animum a corpore, calidiſſimo artificio natura fabricata eſt, tamen terrenis concretisque corporibus ſunt intercepta quodam modo. Cum autem nihil erit praeter animum, nulla res obiecta impedit, quo minus percipiat quale quidque ſit.” I have ſaid the ſame thing in vol. I. p. 162. when I had not this paſſage of Cicero before me, in which it is ſo much better expreſſed.

* See what I have ſaid upon the ſubject of the Night-walkers, vol. I. p. 161.

of persons affected by certain diseases, of which I have given one example in the preceding Volume, which fell under my own observation; and I will here give another, which I had from very good authority. It was communicated to me in a letter from the late Mr Hans Stanley, a gentleman well known both to the learned and political world, who did me the honour to correspond with me upon the subject of my first volume of metaphysics. I will give it in the words of that gentleman. He introduces it, by saying, that it is an extraordinary fact in the history of Mind, which he believes stands single, and for which he does not pretend to account: Then he goes on to narrate it. ‘ About six and twenty years ago, when I
‘ was in France, I had an intimacy in the family of the late Marchal de Montmorenci de Laval. His son, the Comte de Laval,
‘ was married to Mademoiselle de Maupeaux, the daughter of a
‘ Lieutenant General of that name, and the niece of the late Chancellor. This gentleman was killed at the battle of Hastenbeck;
‘ his widow survived him some years, but is since dead.

‘ The following fact comes from her own mouth. She has told
‘ it me repeatedly. She was a woman of perfect veracity, and very
‘ good sense. She appealed to her servants and family for the truth:
‘ Nor did she, indeed, seem to be sensible that the matter was so extraordinary as it appeared to me. I wrote it down at the time;
‘ and I have the memorandum among some of my papers.

‘ The Comtesse de Laval had been observed, by servants who sat
‘ up with her on account of some indisposition, to talk in her sleep
‘ a language that none of them understood; nor were they sure, or,
‘ indeed, herself able to guess, upon the sound’s being repeated to
‘ her, whether it was or was not gibberish.

‘ Upon her lying in of one of her children, she was attended by
‘ a nurse, who was of the province of Brittany, and who imme-

‘ diately knew the meaning of what she said, it being in the idiom
 ‘ of the natives of that country ; but she herself, when awake, did
 ‘ not understand a single syllable of what she had uttered in her
 ‘ sleep, upon its being retold her.

‘ She was born in that province, and had been nursed in a family
 ‘ where nothing but that language was spoken ; so that, in her first
 ‘ infancy, she had known it, and no other ; but, when she returned
 ‘ to her parents, she had no opportunity of keeping up the use of
 ‘ it ; and, as I have before said, she did not understand a word of
 ‘ *Breton* when awake, though she spoke it in her sleep.

‘ I need not say that the Comtesse de Laval never said or ima-
 ‘ gined, that she used any words of the Breton idiom, more than
 ‘ were necessary to express those ideas that are within the compass
 ‘ of a child’s knowledge of objects,’ &c.

I have not the least doubt of the fact, being attested by a man of
 so respectable a character. I think with Mr Stanley, that it is a very
 extraordinary fact in the history of Mind, though I am not surpris-
 ed that the Comtesse, who, I suppose, was no philosopher, did not think
 it so. I will endeavour to explain it upon the principles of the phi-
 losophy of Plato and Aristotle, leaving it to those, who believe
 that we are nothing but Matter and Mechanism, to account for it up-
 on the principles of their philosophy.

In the *first* place, the reader will be surpris- ed, when I tell him, as
 I believe Mr Stanley was when he read my letter in answer to his,
 that I do not think the Comtesse was dreaming, though she was cer-
 tainly sleeping ; but she was in the state of a night-walker or *som-*
nambule, as the French express it: And I have two reasons for think-
 ing so. The first is, that she remembered nothing of what she had
 uttered

uttered in her sleep. Now, as I have observed in my First Volume *, the difference betwixt dreaming and night-walking is, that we remember our dreams, but never what we do when we are in the other state †. *2dly*, Our dreams are composed of what is at the time in our memory and our phantasia, not of things which never were there, or, though they may have been there, are, at the time we dream, utterly forgot and obliterated. Thus, in our dreams, we speak or hear a language which we understand, though it may not be our native language; but we neither speak nor hear a language that we never understood, or, having once understood, have utterly forgot. In the same manner, we see in our sleep persons that we know, or have known, and still retain the memory of, but never persons that we know not, or have never known. At the same time, I do not deny that, in our dreams, as well as in night-walking, the Mind may perceive objects that it never perceived before, or, perhaps, never could perceive by any of the five Senses. That it will have such perceptions in a state of perfect separation from the body, I have not the least doubt. Nor do I deny that, even in this life, it may perceive *what eye hath not seen, nor ear heard, neither hath it entered into the heart of man to conceive*. But this I hold to be supernatural: And of this kind I believe Lucullus's dream to have been, which I have mentioned in the First Volume ‡, and likewise the dream concerning Pompey §. And if the Comtesse had spoken a language that she had never before understood, I should have thought the case altogether beyond Nature, and not to be accounted for upon any principles of philosophy that I know.

E e 2

. Holding,

* Page 161.

† Aristotle has observed this in his treatise *De Somno et Vigilia*; and he says that, in his Problems, he has given a reason for this difference betwixt dreaming and night walking; but I have not been able to find the passage.

‡ Page 155.

§ Page 156.

Holding, therefore, that there was nothing ſupernatural or miraculous in the caſe, it is, I think, a neceſſary conſequence, that theſe articulate ſounds, with the ſignification annexed to them, muſt have been in the Mind of the Comteſſe before ſhe fell aſleep, or became diſeaſed; for, if they had never been in her Mind, it would have been, as I have ſaid, miraculous; and it would have been ſo likewiſe, if they had been once in the Mind, but had been altogether out of it at the time ſhe became diſeaſed, or fell aſleep; for their coming back again to the Mind, in that caſe, muſt have been by the operation of ſome ſupernatural power, as much as if they had been preſented to the Mind for the firſt time.

The fact, therefore, as I underſtand it, was, that this *Breton Language* was in the Mind of the Comteſſe at the time ſhe became diſeaſed and fell aſleep, though the perception of it was not, at that time, preſent to her Mind. Nor is this ſingular; for we very often dream of things, the perception of which was not preſent to our Minds when we fell aſleep; but then theſe things we could have recollected, and ſo preſented to the Mind before we fell aſleep, if any occaſion of ſuch recollection had been given us; and the ſingularity of the caſe of the Comteſſe was, that ſhe had totally forgot the Breton language, and could not have recollected a word of it before ſhe fell aſleep. This ſingularity makes the caſe a phaenomenon of Mind, which cannot be explained without knowing, better than is to be learned in any modern book of philoſophy, the nature both of Mind and Body.

And, in the *firſt* place, as Mind is an immaterial ſubſtance, of a nature perfectly different from Body, we cannot conceive that the perceptions of our Minds make an impreſſion upon it, ſuch as a ſeal does upon wax, and every Body, more or leſs, upon another; though, as almoſt our whole language concerning Mind conſiſts of metaphors

metaphors taken from Body, we frequently speak of impressions upon Mind; and even Aristotle, whose philosophical language is less metaphorical than any I know, often speaks in that way. Whatever perceptions, therefore, were once in our Mind, we cannot conceive to be worn out of it, or effaced, as we are sure all impressions upon Body will be sooner or later: And it is for this reason that we cannot conceive that any perception of the Mind, whether Idea or Sensation, which was once in it, can ever go out of it, though it may not be actually present to it for a reason that shall be immediately given.

On the other hand, Body is, by its nature, fleeting and transitory, in so much that it is not precisely the same Body for two moments together, but is in a constant flux and vicissitude of change and succession.

This being the nature of Mind and Body, the next thing to be considered is, what the consequence must be of their being so closely joined, as they are, in our wonderful composition. And, in the *first* place, as the union is so intimate, it seems to be necessary that the Mind should so far partake of the nature of its companion, as not to have its perceptions fixed and permanent, but transitory as the particles are, which compose the body to which it is joined. And, accordingly, its perceptions of Sense it has only by succession, one after another; nor does any perception of that kind last longer than the impression, made by the external object upon the organs of sense, continues: And, in like manner, our Ideas, which are excited by those perceptions, are fleeting and transitory.

But, if these perceptions, thus excited, were to be carried away by the flux of the body, as by a stream, so that we could not recall them again and present them anew to the Mind, it is evident that

we should have no knowledge at all in this state of our existence, but all the impressions upon our Minds would be immediately effaced, like traces in water. But we have a faculty, by which our perceptions, after they are past, are revived and presented anew to the Mind. This faculty is called *Memory**, without which we could acquire no knowledge in this life; and the exercise of it is what we call *Reminiscence* or *Recollection*, which cannot be, unless we have the consciousness that we formerly knew the thing. The losing of that consciousness is what is called *Oblivion*: And then there can be no Reminiscence or Recollection; but we must learn it again, that is, know the thing anew, or be forever ignorant of it.

And here we may observe a wonderful analogy between Plato's system of Reminiscence of what we knew in a former life, and our Recollection of things in this life. For this Recollection is never without either the thing itself being presented again to the Mind, or something that has a connection with it. In like manner, says Plato, we have no Reminiscence of any thing in a former life, without that thing being again perceived by the Mind, or something that has relation to it; yet the notions of both are in the Mind, but latent, and not perceived, till they be excited in the manner I have mentioned. And I lay so much weight upon arguments from analogy, in questions concerning Nature, that, if there were no other reason to convince me of the truth of Plato's philosophy upon this point, it would be to me sufficient. But I hope I have given other reasons for this opinion, that will convince the reader, as they have convinced myself †.

I

* I have, in the First Volume, page 96. made a distinction betwixt Memory and Phantasia, the one being, according to my apprehension, the receptacle of Ideas, the other of perceptions of Sense; but it is unnecessary to embarrass this argument with that distinction.

† See Chap. 2. of this book.

I will add another observation upon this subject : That the state of the Night-walkers bears a most perfect resemblance to the state of pre-existence in which Plato supposes our souls to be before they appear upon this stage : For the Night-walker has ideas and perceptions of the objects of Sense, though without the assistance of the Senses *, such as we must suppose our Mind to have, in its pre-existent state ; and it acts likewise upon Body, as there is all the reason in the world to believe it does in that state. But, when the person awakes, he enters, as it were, on a new scene of existence, with a total oblivion of what passed while he was asleep.

But, when we are awake, and found in Body, the state of our Mind in this life, while we are confined in this dark prison of flesh and blood, must be very different from its perfect state, when it is separated from the Body, and is pure and unmixed †, as Aristotle expresses it ; then it has no Memory, as the same author tells us, because all its perceptions are present to it, and consequently it has no Reminiscence, Recollection, or Oblivion.

But how can our soul be so much separated from our Body while it remains in it ? How could the Comtesse recollect in her sleep the words of a language of which she did not remember a word when she was awake ? My answer is, That she could not have done it in her ordinary state of Body and Mind, even when she was asleep ; though, at that time, the Soul is more disengaged from the Body than when we are awake, because the Animal Life and the Senses are then at rest : But the Comtesse was then not only asleep, but she was diseased ; and in certain diseases the Soul is more disengaged from.

* See what I have said upon the subject of the Night-walker, Vol. 1. p. 161.

† See Vol. 1. p. 141. and this Vol. p. 165.

from the Body than at any other time. In fainting fits, for example, men very often see extraordinary sights, such as may be called *Vifions*, fo far they exceed any thing that is to be seen when they are in a good state of health*.

The tye, therefore, betwixt the Comteffe's Soul and Body being much loosened, both by her being asleep and diseafed, she exerted some part of that power which her Mind would have had, if it had been altogether separated from her Body. If she had been a woman of Science, or a Philosopher, she might have had perceptions of theorems, which she had either never known in this life, or, if she had known them, had altogether forgot them; and of this kind I had likewise some experience myself, in the fever mentioned in the preceding note: But, as I presume she was not a Lady of that kind, all that was present to her Mind at that time was the language and ideas of her childhood.

Thus, I think I have shown, that this extraordinary fact is not only to be explained by my philosophy, but serves very much to confirm the truth of it, and, indeed, is the best illustration I could have given of it. Our souls, in their pre-existent state, must have had

* This Aristotle has observed in his third chapter, *De Somno et Vigilia*; and in a pamphlet that was published in London in 1778, entitled, 'Conjectures upon the Materiality of the Soul,' the author relates that he was present when a friend was blooded, who fainted as soon as the blood began to spring; and, when he recovered from his faint, said that he had seen the most charming scenes that it is possible to imagine; and the surgeon who let him blood said that it happened frequently. I myself had some experience of this kind; for, when I was thought to be dying of a fever, about three years ago, I had a dream, or, as I would rather call it, a vision, in which I was happier than ever I was in my life: And it was a happiness of a kind altogether spiritual and intellectual, such as I could not express by words; but next morning I told my physicians that I had been in elysium last night, and, upon feeling my pulse, they declared me to be out of the fever.

had Ideas, as we cannot conceive a Soul without Ideas ; but, when we come into generation, and are united to the Body, these Ideas are obliterated, and, as it were, effaced. They continue, however, still in the Mind, though in a latent state, obscured and overlaid, if I may so speak, by our vegetable and animal part, but are excited and revived by the operation of external objects upon our organs of Sense ; for such is the connection which God and Nature have ordained betwixt our intellectual and sensitive part. Being so revived, they continue in the Mind for some time, but not all present together, as we must suppose they were when the Mind was pure and disengaged from Matter, but only called up, and presented to the Mind, upon occasions. This faculty of Recollection and Reminiscence is lost by degrees, and then the Idea or Perception, of whatever kind, is lost for the present, as much as if it had never been in the Mind. In this case was the Comtesse with respect to the Breton language ; and in the same case is every one with respect to what he has once learned, but has absolutely forgot. In that state, these perceptions are as much latent as when we came first into this world ; nor can they be again revived (such is the order of Nature,) while our Mind continues perfectly united, as it is in our ordinary state, with the Body ; but, when that union is entirely dissolved, then will all these perceptions be again revived, and the Mind will enjoy itself, and continue in the possession of all its Ideas, without interruption or disturbance from Body ; and I think it is a comfortable thought to every philosopher, and lover of knowledge, that, whatever we acquire of that kind, during this life, shall not be lost to us in the next. Now, betwixt the utter dissolution of Mind and Body and our ordinary state, there is a kind of middle state, in which we are while we are asleep, or affected by certain diseases ; and then the Mind, being disincumbered in some degree of the body, exerts her native power, and resumes some part of that knowledge which she had lost by oblivion. In a situation

not unlike that of the Comtesse, is a very old man ; for the dissolution of his Mind and Body being then near at hand, he recollects what he had known in his youth, but had absolutely forgotten for many years. And there is a gentleman still living, concerning whom I have had occasion to be well informed, who, in his youth, lost his judgment by a blow on his head, and has ever since been in a state of idiocy, not remembering or giving any attention to what happens every day ; but he remembers very perfectly every thing that passed before that accident, since which, his Mind may be considered as in a state of separation from the Body, and as in another life, remembering every thing that passed before that separation.

These are my notions of the Mind's power of perception, either when it is entirely separated from the Body, or in part by sleep or disease. But, when we are awake, and found in Body, I admit that we cannot perceive Objects of Sense without the use of the Organs of Sense, which, therefore, are then of the nature of those things mentioned by Plato, that are not Causes, but without which the Cause cannot operate.

Of this kind, I hold not only the External Organs to be, but also the Internal Organs, such as the Brain or Heart, which are not Causes of the operations of Mind, but only things without which the Mind could not operate.

What I have said here, the Reader will observe, applies only to the Animal Mind, which alone perceives the objects of Sense ; for, as to the Intellectual Mind, whose Objects are of a quite different kind, I hold that it has no immediate connection with any Organs, External or Internal, but only mediately, by its connection with the Animal Life, which is so necessary to it in this state of its existence, that it cannot act without it.

The physiologists, who are not philosophers, speak of a certain temperature of Hot and Cold, Moist and Dry, as being the Cause both of the Animal and Vegetable Life. But it is truly not a Cause, but only that without which the Cause cannot act.

I have been the more full upon this subject, because I am persuaded, that the considering those things as the Causes of the Operations of Mind, not the concomitants only, has been the original source of Materialism; for it has led men to believe that Mind is nothing else but Body modified and organized in a certain way: And, accordingly, Epicurus has endeavoured to prove the mortality of the Mind, by showing, that it cannot act without the Body; from which he concludes, that it is inseparable from the Body, and must subsist or perish with it*. And in this way all the Materialists, from him down to Mr David Hume, have always argued.

I will conclude this chapter with putting the Reader in mind of a distinction of Causes, which, though commonly made, seems to be forgotten by some of our modern philosophers;—the distinction I mean is betwixt First and Second Causes. This distinction supposes, what I hold to be certainly true, that nothing can exist without a *present* Cause: So that, though there may be a remoter Cause, there must always be some immediate Cause operating in the production of the Effect, the system of Nature being nothing else but a series of Causes and Effects, at the head of which is the great Author of Nature, who is the Cause of all things, but only the first Cause, not the nearest, or immediate. Thus, he is the Cause of the Life and Movement of all Animals, but only the remoter, not the immediate: And in this sense St Paul is to be understood, when he says, “that in Him we live, move, and have our being †.” In like manner I maintain

* See Lucretius.

† I could have wished, for the honour of our English translators, that they had not

maintain against Dr Baxter, that God moves unorganized Bodies, not immediately, but by the intervention of that Mind which I call the Elemental Mind. With respect to things in Generation and Corruption, which are the Causes of other things of like nature, the remoter Cause may no longer have an existence, and yet the thing produced continue to exist by virtue of some immediate Cause continually operating. Thus, an Animal or Plant, produced in the ordinary way of generation, receives its existence and first movements from the parent Animal or Plant; but it continues to exist and to be moved by virtue of the Animal or Vegetable Life, that is in it, after the parent, which first began its motion, has ceased to exist.

If the Newtonians had attended to this distinction, they would not have maintained, that a Body, put in motion by impulse of another Body, continues in motion by virtue of that impulse, after it has ceased, but would have seen clearly that the impulse was only the remoter cause of the Motion, and that the Motion must be continued by an immediate Cause, which can be no other than Mind. And I think they were the more inexcusable, for giving so great a handle to the Atheist, by the *vis insita*, which they devised for carrying on the Motion, when they knew that there were other Motions, which were carried on in the same direction, which could not be accounted for from any impulse, such as the Motions of magnetism, which, if we suppose to be produced by a *vis insita*, there is an end of Theism.—But of this more hereafter.

C H A P.

not followed the vulgar idiom in rendering this passage, but had translated *κινουμθα*, *we are moved*, instead of *we move*. *Acts of the Apostles*, chap. 17. v. 28.

C H A P. V.

The Seat of Dreams is the Phantasia—The Phantasia belongs to the Animal Nature, for the Preservation of which it is absolutely necessary.—Distinction of the Human Imaginations into those of which we perceive the Delusion, and those which we believe to be Realities.—This Distinction applied to our waking Imaginations.—Distinction of our Imaginations into Voluntary and Involuntary.—Of this latter Kind, the Phantasms that appeared to Bonnet's old Man.—Another Instance of the same Kind—Of waking Phantasms, which we mistake for Realities.—This the Case of the Madman.—Difference betwixt Madness and Folly.—Difference betwixt a lively Imagination and Madness.—Of our sleeping Phantasms, or Dreams.—Difference betwixt Dreaming and Night-walking.—Of the Authors who have written upon the Subject of Dreams.—viz. Aristotle, Synesius, and Baxter.—Facts concerning Dreaming.—The Dreamer is asleep.—Distinctions betwixt sleeping and waking made by Aristotle.—Distinction betwixt Dreams and other Appearances in our Sleep—Definition of Dreams.—Certain Positions laid down concerning Dreaming.—Inquiry into the Philosophy of Dreaming, that is, the Causes of it.—1st, The Opinions stated of the three Philosophers above mentioned who have written upon this Subject, beginning with Aristotle.—His Theory of Dreams.—They are, according to him, the Relicts of our Sensations during the Day.—Dreams not prophetic, according to him, though there may be a fortuitous Concurrence of the Event with the Dream.—Objections to Aristotle's System of Dreaming.—It can only account for our Dreams of things recent.—It does not define the Phantasia nor a Phantasm properly.—General Observations upon his Philosophy.—Of Synesius's

sius's *System of Dreaming*.—*Account of the Author*.—*A great believer in Divination by Dreams—kept a Journal of his Dreams*.—*The Seat of Dreams, according to him, is the Phantasia*.—*It contains the Forms of all Material Things, and is the Organ by which the Mind perceives them*.—*In the Phantasia, says Synesius, are the Forms of all things past, present, and future*.—*These the Materials of our Dreams*.—*Our Dreams are of two kinds—plain and direct—or mysterious and symbolical*.—*The latter kind the more common*.—*These accounted for*.—*Of the Art of interpreting them*.—*No common Art for interpreting all Dreams, but an Art peculiar to each Man, which he must learn by Experience*.—*Objections to Synesius's System*.—*Apology for Synesius*.—*Baxter's Opinion concerning Dreams*.—*The Author's System upon the Subject*.—*An Account of the Phantasia—*which is divided into retentive and active—*distinguished from Body—from the Vegetable—from the Intellectual Life—belonging therefore to the Animal Nature*.—*That Nature not to be divided into three Parts, but one Nature operating differently*.—*Necessity of these different Operations*.—*Progress of the Animal Nature in Man*.—*The Phantasia exceedingly imperfect at first*.—*Definition of the Phantasia*.—*The same with the Common Sense of Aristotle*.—*It has a Power of perceiving Likenesses and Differences in Objects of Sense*.—*This comparative Faculty is what is called the Reason of Brutes*.—*Of the Human Phantasia*.—*And, 1st, Of our Phantasia, when waking*.—*The Images in it exceed the Reality of Nature*.—*Much influenced by the Habit of the Body*.—*By the Love of Beauty it is distinguished from the Phantasia of the Animal*.—*The Perception of Beauty, in the Intellect*.—*The Phantasia subservient to Intellect, as the higher Power*.—*Difference betwixt Genius and Taste*.—*The Influence of the Ridiculous upon the Imagination*.—*Of other Dispositions of Mind—The Influence of the Studies and the Pursuits of Life upon the Imagination*.—*Our waking Phantasia under the controul of our governing Power—but that*
Power

Power not absolute or unlimited.—Of our Sleeping Phantasms, as distinguished from the Operations of our Intellect in Sleep.—These likewise under the Influence of the Habit of the Body.—Of the Phantasms in our Sleep considered as distinct from our Reasonings at that Time.—Such Phantasms must necessarily exist.—Consequences of our Dreams being the Operation of our Phantasia, and not our Intellect.—The World in our Phantasia very much finer than the Natural World.—Of the Dreams of Poets—of Philosophers.—Of the Dreams of the wicked.—These a great addition to their Misery.—The Dreams of the generality of Men, betwixt these two, neither happy nor miserable.—No Order or Regularity in the Phantasms of a vulgar Man, sleeping or waking.—Otherwise in the Brute and the perfect Man.—Baxter's Account of the Origin of Dreams refuted.—Of Prophetic Dreams.—Objections to Synesius's System concerning them.—All Prophetic Dreams plain and direct, and proceeding from Minds superior to ours.—Such Minds may communicate with ours, though embodied.—The Revelation by Dreams in one of two Ways.—Facts concerning Dreams—Particular Account of the Dreams of Aristides during 13 Years;—Cured of a Disease, that lasted so long, by Advice that he got in Dreams.—Delivered from other Dangers in that Way.—Nothing incredible in the Narrative of Aristides.—Reasons for believing it to be true.—Objections answered, to the Testimony of Aristides.—The authority of Synesius in favour of Dreams.—His whole Life conducted by them.—Of the Final Causes of Dreams.—The Philosophy of Human Nature very imperfect without the knowledge of that Cause.—That Cause the Happiness of Sensitive Intelligent Beings during their whole Lives.—The virtuous happy in that Way, as the vicious are miserable.—Another End of Dreaming, to convince us that we are to exist in a Future State.—The Final Cause of Supernatural and Prophetic Dreams is the Direction of Human Life, which otherwise cannot be properly directed.

THE phaenomena of Dreaming and Night-walking, of which I have spoken in the preceding Chapter, being so curious, and as the best way we can judge of the operations of our Mind in a sepa-

rate state, and after death, is, by its operations in that *death of each day's life*, as Shakespeare describes Sleep, the reader, I am persuaded, will not be displeas'd that I return again to the subject, and bestow a whole Chapter upon it. I do it the rather, that I think it will make still more evident the distinction I have endeavour'd to establish betwixt our Animal and Intellectual Nature.

That Dreams of all kinds, whatever way they come to us, whether through the gate of Horn or Ivory, or whether, to speak plainly, they are mere idle fancies or of some Truth and Reality, have their seat in that part of the Mind which is called the *Phantasia* or *Imagination*, is acknowledged by every body. I will therefore begin this inquiry with examining the nature of this wonderful faculty of the Mind, and which, as I have said elsewhere *, presents to us such strange scenes, both sleeping and waking, that it may not improperly be called the magic lanthorn of the Mind.

It is by this faculty that the want of the use of our Senses is supplied; for, by the means of it, we perceive objects of Sense, both when we have no use of our Senses, as in Sleep, and when the objects are out of the reach of them, which is the case of our Imaginations when we are awake. But, though it operate without the Senses, it has such a connection with them, and dependence upon them, that it never presents to us any objects but those which we have, either at some time or another, actually perceived by our Senses, or which are of the same nature with our perceptions of Sense, but magnified or diminished, or put together in forms and shapes different from any thing that is to be seen in Nature. This manner of operating of the Phantasia is not only to be observed in our Dreams, but also when we are awake: For what we call castle-building is of that kind; and a Poet is nothing else but a skilful castle-builder.

It is therefore true, what I have elsewhere observed, that the Phantasia, however various and wonderful its operations may be, presents to us no new object of Sense, or, to speak more accurately, no object of a new Sense. So that what the Schoolmen say of the
Intellect

* Vol. I. page 90.

Intellect is undoubtedly true of the Phantasia ; and I would have the proposition altered in this manner, *Nihil est in Phantasia, quod non fuit in Senfu*. It is evident, therefore, that this faculty belongs to the animal part of our Nature, and is, as I have shown in the First Volume *, an essential part of it ; since, without it, the Animal could not subsist, nor perform the functions for which Nature has destined it.

There is, with respect to the Operations of the Phantasia in Man, a distinction to be made, which ought to be carefully attended to ; and it is this, Sometimes we perceive the illusion of those fairy scenes in our Imagination, and sometimes we do not. The former is generally the case when we are awake ; the latter when we are asleep. I will begin with applying this distinction to our waking imaginations.

That there is a principle within us, superior both to Sense and Imagination, is what cannot be denied by any man who deserves the name of a philosopher. This principle, which I call *Intellect*, is the governing principle of our Nature. It therefore corrects the appearances, both of Sense and Imagination. And, particularly, with respect to the Imagination, it informs us, when we are awake, that the Scenes, it presents to us, are no better than the scenes of a play, with which we may be amused and entertained, but ought not to believe them to be realities.

Of these representations of the Phantasia when we are awake, we ought to distinguish two kinds. The first is of those which depend upon our Will, and of which we may be said to be the poets or painters ourselves. Of this kind are all the works of Fancy

VOL. II.

G g

and

* Vol. I. page 90.

and Genius, which give fo much delight, both to the performers, and to the fpectators or hearers. But of this kind there are fome which are not altogether voluntary, but obtruded upon us by certain affections or paffions, under the dominion of which we are at the time. It is in this way, that objects that we have feen, and have interefted us very much, come acrofs our fancy, and prefent themfelves to us when we often would chufe not to fee them. But ftill we know them to be no more than Phantafms or Imaginations, and, by employing our thoughts another way, we may, if they be troublefome, get free of them.

But there are fcenes of another kind, which our Imagination prefents to us when we are awake. Thefe are not only involuntary, but entirely unconnected with any affection or paffion ; and therefore they are nowife interefting or affecting. The fcenes I mean are fuch as appeared to the old man of whom Bonnet fpeaks in the paffage quoted in the Firft Volume *. And fuch are the appearances, mentioned by Aristotle †, of figures upon the wall to men in fevers. Thefe, fays Aristotle, the fick man knows to be illufions, if the fever be not very high ; but, if it be very high, he miftakes them for realities. Thefe vifions, which Bonnet's old man faw, were, I
am

* Page 158—I am well informed of another inftance of the fame kind. My information is from the late Sir James Stewart, who had a relation of his, an old gentleman, whom I knew and efteemed, that lived fome years in his houfe, and died in it. Sir James, in a letter that I received from him, on the publication of my Firft Volume, told me that his old friend, who retained his fenfes to the laft, was in ufe, when he was perfectly awake, and in broad day, to fee figures upon the wall, not coaches and equipages, fuch as Bonnet's old man faw, but libraries and collections of books, and fometimes women fitting and fpinning. This he never told to any body, for fear he fhould be thought delirious, till one day, that Sir James happened to read to him the ftory from Bonnet, which I have related, and then he informed Sir James of the vifions that he had, and not once or twice, but very frequently.

† Aristotle de Infirmis, cap. 2.

am persuaded, the effects of disease, not in the organs of sight, any more than the like apparitions to a man in a fever, but of the Mind ; and, if the disease had gone much farther, I have no doubt but he would have mistaken them for realities. And thus much of our waking Phantasms, which we know to be such.

What we are next to consider, is those Phantasms which appear to us when awake, and which we mistake for realities. This I take to be the case of Madness, and of that lesser degree of Madness in women or weak men, which we call *Vapours*, if they come to a certain height. The Phantasia of the madman presents to him Visions, which he believes to be realities, and acts accordingly ; for it is a fact not more strange than it is true, that, though the governing principle of the madman cannot correct or redress those false appearances in his imagination, yet it enables him to reason and act consequentially, upon the supposition of the appearances being real existences. And he argues and acts commonly much more consistently than those who do not mistake appearances for realities, but have weak understandings, or strong passions, or both : Such men we call fools. And here lies the difference, in my apprehension, betwixt the two : The fool knows that the appearances in his Phantasia are not realities, but reasons ill, and makes false conclusions from them ; the madman mistakes them for realities, but reasons well upon that supposition.

As almost all things in Nature run into one another, like shades of different colours, which makes it difficult to say where the one begins, or the other ends ; so it is with respect to madness, and a very lively fancy under the influence of strong passions. A man of that kind, though he have still the faculty of reason, yet his imagination may be so heated, and the colouring of the pictures there be so strong and lively, that he may sometimes, like a man at a play,

when he is much moved by the representation, forget himself, and imagine these pictures to be realities, or, at least, not reflect upon the illusion. While he is in that condition, he is truly in a state of madness; and the only difference betwixt him and those we commonly call *mad*, is, that his phrenzy does not last so long, and he may be waked out of it, by the use of his reason, like a man out of a dream; for, even in dreaming, as Aristotle has observed *, the impression may be so strong upon us, that, after we are awake, we believe, for a considerable time, that what we saw in our dreams is a reality: And if they are the dreams of a sick man, that impression will continue as long as his sickness continues, as I myself experienced in the fever above mentioned that I had not long ago.

Having said so much of the Phantasia in general, and of our waking Phantasms, I come now to speak of what is the principal subject of this Chapter, our Phantasms in our sleep, and particularly in our dreams. Night-walking is, as I have said, very different from dreaming; and, indeed, the night-walker, though he acts upon Bodies, as I am persuaded separate Spirits do, appears to me to be in the World of Spirits, rather than in this world, and much more separated from the Body than the Dreamer is. For the Dreamer has Consciousness and Recollection of what passed in his sleep; and in that way his sleeping life is connected with his waking: Whereas the Night-walker, when he is awake, exists, as it were, anew, and is as ignorant of what passed in his sleeping life, as the Spirits mentioned by Virgil were of their former life, after having drunk of the waters of Lethe. And, besides, the body of the dreamer gets that rest which the animal requires, and which is the purpose that Nature intends by Sleep; whereas the Body of the Night-walker is as much employed as when he is awake; so that Night-walking is altogether an

* De Inomniis.

an unnatural state *. But of Night-walking I have said enough in the preceding Chapter, and shall now proceed to treat of Dreams.

Upon this subject, there is no modern author that has written, as far as I know, except Mr Baxter, in his treatise upon the Immateriality of the Soul. But there are two treatises of Aristotle upon the subject; one of which he entitles, 'Concerning Dreams,' and another 'Concerning Divination by Dreams.' And there is an excellent discourse upon Dreams by a most learned Christian philosopher of the fourth century, Synesius by name, who, in treating of this so common phaenomenon, has taken occasion, as he informs us in his introduction, to enter into the most abstruse mysteries of philosophy. And indeed it appears to me, that, since the days of Plato and Aristotle, there has not been a philosopher of greater depth than Synesius.

From the writings of these authors, and from what has occurred to myself, I have endeavoured to form a kind of system upon a subject, which appears, at first sight, to be so strangely odd and whimsical, as not to be capable of any system. And I will begin with collecting the facts relating to dreaming, as it is only upon facts that any good theory, concerning any part of Nature, can be founded.

One fact concerning dreaming is admitted by all, that it happens while we are asleep; and, therefore, before we go farther, it is proper that we should distinguish accurately and philosophically betwixt sleeping and waking. And here, likewise, we are assisted by Aristotle, who has written a small treatise, which he has entitled, 'Concerning

* I am credibly informed that a night-walker does not feel pain. The person, who told me so, said that he himself made the experiment upon a female night-walker, into whose arm he stuck a pin, and she did not express the least sense of pain. If so, the night-walker must be in the state of a separate Spirit, which acts upon Body, but is not acted upon by it.

‘cerning sleeping and waking.’ The difference betwixt the two he makes to be, that, in the one state, we have the use of our Senses, in the other we have not. They both, therefore, belong to the same part of our Nature, viz. the Animal or Sensitive; the one being the Action or Energy of our Senses, the other the Cessation of that Action.

But this alone, as he observes, is not sufficient to distinguish accurately the two states; for it often happens, that, when we are awake, we have not the actual use or exercise of any Sense. We must therefore add to the definition of sleeping, that not only we have not the use of our Senses in that state, but that we have not the capacity of using them during our continuance in that state; so that, while we are asleep, though objects of Sense be presented to us, and act upon the organs of Sense, as when we are awake, we do not perceive them. And from Hence Aristotle infers, that if, in our sleep, we see any light, or hear any noise, as some people do, we are not perfectly asleep; nor are such appearances in the Mind Phantasms or Dreams, but real Sensations*.

It appears, therefore, as Aristotle has observed, that Sleeping does not belong to any one Sense, or to all considered severally, but to the common Sensorium, by which we see, hear, smell, taste, and touch, and distinguish one of these Sensations from another, and perceive the difference betwixt Sensations of the same kind. This is what Aristotle calls, ‘*the Common Sense*’; and that part of the Mind to which it belongs, ‘*the Common Sensorium* †’. And, as this Sense belongs to all animals, though they may want some of the particular Senses, and even all of them except touch, sleeping, therefore, belongs to the whole Animal Nature; and there is no Animal that does not sleep.

Sleep,

* Lib. de Insomniis, cap. ultimum.

† Lib. de Somno et Vigilia, cap. 2.

Sleep, therefore, is a temporary incapacity of the *Common Sensorium*, or Sensitive Part of our Mind, to perceive the impressions made upon the several Organs of Sense, by external objects; I say *temporary Incapacity*, because, if we suppose a perpetual incapacity, then such a Body would not be an Animal, but a Vegetable, or some Inanimate Substance. And as what never acts, must be supposed not to have the capacity of acting, which, in that case, would be to no purpose; therefore all Animals, according to Aristotle, must, at times, wake as well as sleep; that is, at some time or another, they must have the use and exercise of one Sense at least*.

Thus, one should think that Sleeping was sufficiently distinguished from Waking: But it is not so; for, as Aristotle has observed, there are temporary incapacities of perception by Sense, which are not Sleep, because they proceed from disease, or from some hurt. And he instances Fainting, in which we have no perception by Sense, and yet see wonderful Phantasms †. The temporary incapacity, therefore, of Sensation, properly called Sleep, is that which proceeds from Nature, not from Accident or Disease; for, as Aristotle informs us, the Operations of Mind, by means of the Body, such as Sensation, cannot, by their nature, be perpetual; and, therefore, when they are continued for a certain time, the Sensorium becomes wearied, as it were, and incapable to perform its functions, and then the Animal falls asleep. And this, according to Aristotle, produces the necessity of Sleep in all Animals ‡. The Final Cause, therefore, of Sleep, according to him, is the relaxation and refreshment of the Animal, while the Senses are locked up: And the Efficient and Material Cause is certain Vapours, which, he says, arise from the
nourish-

* Ibid. cap. 1.

† Ibid. cap. 3. in initio. See an extraordinary fact of this kind, mentioned page 224.

‡ Ibid. cap. 3.

nourishment we take in, and ascend to the head, which they make heavy and unable to sustain itself; then returning back again, and going downward, they produce Sleep*.

Having thus shown what Sleep is, namely, that it is a Cessation of the Action of our Senses, proceeding from the weariness of Nature, we are next to consider what Dreaming is, and to distinguish it from some phenomena which appear to be Dreams, but are not. And, in the first place, it is agreed by all, that we can only be said properly to dream when we are asleep; and therefore those Visions I just now mentioned, which a man has in a fainting fit, are not dreams, though they be the operations of the Phantasia, because we are not then asleep.

Secondly, Those perceptions above mentioned, of Light, or Noise, which some people have while they seem to be asleep, are not Dreams, for the same reason, and likewise for another reason, namely, that they are the perceptions, by the Senses, of objects of Sense actually present, consequently not the operations of the Phantasia, which all dreams must necessarily be.

But, *3tio*, Even all Phantasms in our Sleep, though they be the operations of the Phantasia, are not Dreams, unless the Mind be deceived by them, and believe them to be real existences; for, if the Mind tell itself, as it sometimes does, that this is but a Dream and a Delusion, then it is not, properly speaking, a Dream, but such an Imagination as we have when we are awake and in our sober Senses †. And the reason is, as Aristotle has told us, that we are not then perfectly asleep; because the governing principle in us is active, and

* Ibid. cap. 3.

† Arist. de Insomniis, cap. 3. in medio.

and reviews our Phantasias, and corrects appearances, in the same manner as it does when we are awake.

4thly, There are other operations of this governing principle, while we are asleep, which we ought likewise to distinguish from our Dreams : What I mean is, our Reasoning upon the Phantasms which our Dreams present to us ; for we often reason, and reason very well, in our Sleep, upon the Supposition that the objects appearing to us are real objects. But such Reasonings Aristotle very properly distinguishes from the Phantasms which give occasion to them, and which alone are our Dreams *.

And here we may observe, in passing, a very great resemblance betwixt Dreaming and Madness ; for the Madman has Phantasms that he believes to be real, as well as the Dreamer, and, as I have observed, generally reasons very well, upon the supposition of their being realities.

Further, we not only reason in our Sleep, upon the subject of these Phantasms, but sometimes abstractly ; and there have been examples of persons solving difficult problems of geometry or arithmetic in their Sleep, that they were not able to solve when awake. And Plato says, that, if we were to live temperately, and keep our Minds free from disorderly passions, we should have Philosophic Dreams, in which we might make great discoveries †. But such operations being not of the Phantasia, but of the Intellect, are not what are properly called Dreams.

VOL. II.

H h

Lastly,

* These reasonings Aristotle calls, *ὅσα ἐν τῷ ὕπνῳ γίνονται ἀληθεῖς ἰστοίαι, παρὰ τὰ φαντασματά* ' *ὡς οὐδὲν ἰσχυρίοι φαταίαι*.' *De Insomniis, cap. ult. in fine.*

† Lib. 9. *De Republ. in initio*. I have no doubt that Plato spoke from experience ; and I can say, from my own experience, that the more a man philosophises, and the older he grows, the more *philosophical* his Dreams will become, and less *phantastical*.

Lastly, There is a difference betwixt dreaming and walking in our Sleep ; which, as I have sufficiently explained already *, I will say no more on it here.

From these observations, the following definition of Dreams may be collected : ‘ They are Phantasms, which appear to us, while we are sleeping and the Body is at rest—believed, while the Sleep continues, to be Realities—of which we have Memory and Recollection while awake, but then are convinced that they are delusions, and ‘ mere creatures of the Phantasia.’ By Memory and Recollection when we are awake, I have distinguished dreaming from walking in our Sleep ; and by our conviction, when awake, of the delusion, I have distinguished it from Madness ; for a Madman perceives Phantasms, which have as little reality as those we see in our Dreams, but believes them to be realities, as well when he is awake as when he is asleep. And, therefore, as I have said elsewhere, Dreaming is a short Madness †, and it may be added, that Madness is a long Dream.

Having thus defined what Dreaming is, and distinguished it from other things with which it may be confounded, I will now proceed to lay down certain positions concerning it, which I hold to be certain.

And, in the *first* place, it certainly belongs to the sensitive or animal part of our Nature, as much as our Sensations do ; and, indeed the

* Pages 216.—223. 223. and 237.

† I will here give Aristotle’s definition of Dreams, if any body likes it better : Το φαντασμα το απο της κινησιως των αισθηματων, όταν εν τη καλυψαν η, η̄ καθευδεις, τουτ’ εστι ενυπνιος, *De Injornniis in fine*. Which may be thus translated, ‘ A Dream is a Phantasm, proceeding from the motion of our Sensations while we are Sleeping, so far forth as we are Sleeping.’ What he says of the motion of our Sensations will be explained when I come to speak of the cause he assigns for Dreams.

the Phantasia, which is the seat of Dreams, may be considered as a secondary Sense, supplying the place of the five Senses when they cannot operate, either through weariness, as in Sleep, or because their objects are not within their reach; and, as it belongs to the Animal Nature, so it is common to us with some of the Brutes, as Aristotle has observed*.

Secundo, As our Dreams are so much connected with our Sensations, it is certain that they, as well as our Sensations, depend very much upon the habit of our Body. Sick men's dreams are wild and extravagant, even to a proverb: But, on the contrary, the Dreams of men in good health, and that live temperately and regularly, and whose Minds are not disordered by unruly passions, are commonly not wild or extravagant, but containing some regular story, which, if we wake and fall asleep again, is often resumed and carried on.

Tertio, Our Dreams not only depend upon the habit of our Body, but also upon our age or time of life; and I believe it is true, what Aristotle has observed, that children do not commonly Dream. And he says further, that some men, when they are young, have no Dreams, but, when they are farther advanced in life, they have them. And he adds, that some never Dream through their whole lives; but this, he says, is rare †.

Quarto, When we Sleep soundest, which is generally in the beginning of the night, we very often do not Dream, or, at least, we do not recollect our Dreams, if we should happen to be then awakened; but it is generally in the morning, or after midnight, when we do not Sleep so sound: So that what Horace says,

H 2

—*Post*

* Lib. de Divinatione per Insomnium, cap. 2. in initio.

† Lib. de Insomniis, in fine.

—*Post mediam noctem ubi Somnia vera,*

will apply to all Dreams, as well as to *true* Dreams.

Quinto, In our Dreams we have no Memory, nor make any distinction of time past, present, and future ; and therefore every thing in a Dream, whether past or future, is represented to us as present, without any recollection of what is past, or foresight of what is to come : For this reason it is, that, in our Dreams, we see and converse with people dead, as if they were alive ; and things that are to happen appear to us as if we were spectators of them.

Sexto, Our waking thoughts, our studies, occupations, and the events of our life, have no doubt a great influence upon our Dreams, and very often furnish the subject of them. It is therefore, in a great measure, true what Petronius says,

—————*cum prostrata sopore*
Urget membra quies, et mens sine pondere ludit ;
Quidquid luce fuit, tenebris agit. Oppida bello
Qui quatit, et flammis miserandas saevat in urbes,
Tela videt, versasque acies, et funera regum,
Atque exundantes perfuso sanguine campos.
Qui causas orare solent, legesque forumque
Et pavido cernunt inclusum corde tribunal.
Condit avarus opes, defossamque invenit aurum.
Venator saltus canibus quatit. Eripit undis,
Aut premit eversum periturus navita puppim.
Scribit amatori meretrix. Dat adultera munus.
Et canis in somniis leporis vestigia latrat.
In noctis spatio miserorum vulnera durant.

But

But it is not true that what our thoughts were last employed about is always the subject of our dreams; but, on the contrary, it happens more frequently that we dream of things that we have not thought of for a great while, or perhaps never thought of at all.

And, *lastly*, I hold it to be certain, that future events, or past or present things, that we could not otherwise know, are sometimes revealed to us in Dreams, more frequently, I believe, in the antient world, and among people nearer to the natural state than we are, but sometimes, though rarely, to such men as we. And this I the more readily believe, that I cannot doubt the many stories that I have heard concerning what is called the *Second Sight*, by which things are represented to men in visions while they are awake, which otherwise they could not know. But it is to be observed, that I speak only of clear and direct Dreaming, called by Aristotle *ευθυνοειδεια* *, by which the event is plainly, and without ambiguity, revealed; for, as to the art of reading Dreams, as it is called, that is, expounding such of them as are supposed to be symbolical and enigmatical, I do not know that it has any foundation in Nature.

Having thus established the facts, and laid down certain propositions concerning Dreaming, which I hold to be incontestible, I will now endeavour to explain the philosophy of it, that is, assign the causes of this wonderful phaenomenon, not the less wonderful for being so common; and I will begin with stating the opinions of the two antient philosophers I mentioned, Aristotle and Synesius, and also of Baxter, the only modern philosopher, as far as I know, who has examined this subject. This is the method that Aristotle follows in all his philosophical inquiries; and I think it is the best method

* Lib. de Divinatione per Infomnium, in fine.

thod possible, first to study what others have said upon any subject, and then to try what you can add to their discoveries, or correct in them.

Aristotle, as I have said, has written two books upon the subject, one upon Dreams, another upon Divination by Dreams. In the first, his theory of Dreams is as follows: All Sensations, he says, are produced by a certain movement of the Organs of Sense; which movement is caused by external objects. This movement of the Organs being carried on, and propagated to that internal principle of animal life within us, which we call the *Sensorium*, and which he calls a *Common Sense*, produces that perception of the Mind called *Sensation*. The Motion of the organs, says he, continues after the action of external objects upon them ceases, in the same manner as the Motion of a Body, impelled by another Body, continues after the impelling Body ceases to touch the Body impelled, the Motion being continued by the Air propagating the Motion, which it receives from the Body impelling, to other Air, and that Air to other Air; and so on, till the impelling force growing weaker and weaker by degrees, the Motion at last ceases*. And that this general Law of Motion holds with respect to our Organs of Sense, he proves by sundry experiments. A man who has been looking at the sun for some time, when he is brought into a dark place, or a place with much less light, sees nothing: And a man who has looked stedfastly, for some time, at one colour, when he transfers his sight to an object of a different colour, it appears to him to be of the same colour. All which, says he, can be owing to nothing else but the Motion of the Organ of Sight, produced by the first impression upon it, still continuing †. Now, this continued Motion in the Organ of Sense is not perceivable by

us

* Lib. de Infomniis, cap. 2. in initio.

† Ibid. cap. 2. p. 693. *Edit. du Val.*

us when we are awake, (except in such particular cases as those just now mentioned), by reason of the continual movement and agitation we are in, and the various impressions of so many different Objects upon our Organs while we are awake. But, in the stillness of the night, when we are asleep, and when no impressions are made upon the Organs, at least none that reach to the Sensorium, the Motion, produced in them by the impression of external Objects during the day, still continues; and being propagated to the Sensorium, in the same manner as when we are awake, the Sensorium being then vacant, and free from other impressions, perceives those remains of Motion in our Organs; and thence arise our Dreams, which therefore he says are the remnants or reliëts of our actual Sensations while we are awake*. But, says he, this communication of Motion from the Organs to the Sensorium may be disturbed and interrupted by other Motions in the Animal Body, particularly by the Motion of the vapours or exhalations from the head downwards, which produces broken and incoherent Dreams, like images in water when the water is moved: And, if that defluxion is very great, as in the case of children, there will be no dreams at all; but, if it be moderate, then it will not interrupt the propagation of the Motion from the Organs to the Sensorium. By this propagation from the Organ of Sight, we see in our Dreams; by the same propagation from the Organ of hearing, we hear; and so as to all the other Senses †.

This is his system of Dreaming: As to Divination by Dreams, from what he says in the beginning of the second chapter upon that subject, one should imagine that he thought future events were to be known in that way, and that those prophetic Dreams were produced

* Ibid. cap. 3. p. 695. in fine. His words are, ὑπολειμα του εν τη ενεργεια αισθηματος.

† Lib. de Divinatione per Insomnium, in fine.

duced by Demons, if not by Gods *. But, upon going further into this work, we discover that he believed those Dreams, which are commonly said to be prophetic, to be neither the Causes nor the Signs or Prognostics of future events, but merely *συμπτώματα*, or *fortuitous coincidences* of these events with our Dreams.

From this account of Aristotle's doctrine of Dreams, it is plain that he derives them all from Material Causes; nor is it to be wondered at, that he did not believe in the Divinity of Dreams, as Homer did †, and all antient nations before philosophy came in among them; for Aristotle not only had not the least grain of enthusiasm or superstition in him, but it is evident that he did not believe in the existence of so many Gods or Daemons as the followers of Plato did; and he is blamed by Proclus, in a passage that I have quoted in my First Volume ‡, for ascribing the Motions of the heavenly Bodies to Mind inhabiting them, but not accounting in the same way for the various Motions here on earth.

But to his system I think several objections may be made. In the *first* place, I cannot be convinced that the Phantasms in our Sleep are nothing but relicts of the Motion produced by external Objects upon the Organs of Sense: For these should be much weaker than the first impressions of Objects upon the Organs; whereas, in fact, they are often much stronger, and more lively, and make a greater im-

* His words are, *Θιοπειπτα μιν ουκ αν ηη τε ενυπνια, δαιμονια μιντοι ενυπνια* η γαρ φυνεις δαιμονια, αλλ' ου θεα.* cap 2. in initio.

† —και γαρ τ' οιας εκ Διου εστι. *Iliad.* 1. v. 63.

And an *ονειραπολος*, or Interpreter of Dreams, mentioned in the preceding line, was a man held in great estimation in those times.

‡ Page 208.

impreſſion upon us, than the original Senſations, of which, according to Ariſtotle, they are but faint copies.

Ariſtotle's ſyſtem, were there any truth in it, which I do not think there is, will only account for our recent Senſations continuing to move the Senſorium in our Sleep; and, if it were true that we did nothing in our Dreams but go over again the Senſations of the preceding day, it might be defended with ſome ſhow of reaſon: But the fact is very different; for it is not always, nor, indeed, I think, commonly, that the buſineſs of the preceding day is the ſubject of our Dreams, but, on the contrary, we very often Dream of perſons that have been dead for twenty years, and that we have not thought of for a long while, and ſometimes of perſons and things that we never ſaw. But, ſuppoſe that we had ſeen them, but at ſome diſtance of time, it is impoſſible to account how the impreſſion, made upon the organs of Senſe, ſhould remain for any conſiderable time, after ſo many impreſſions have been made upon them in the interval: For, as to the inſtances he gives, of the organs retaining, for ſome time, the impreſſion made upon them, it is only for a very ſhort time; and, during that time, ſhort as it is, there is no other impreſſion intervening.

zdo, Ariſtotle ſays, that a Dream is a Phantaſm of a certain kind*; and, in the ſame chapter, he ſays that it is of that kind of Phantaſms which we ſee in certain diſeaſes, and which we believe to be realities. The queſtion, therefore, is, What a Phantaſm is, of which a Dream is a Species? Now, we cannot know what a Phantaſm is, unleſs we know what the Phantaſia is, which is that Power or Faculty of the Mind, by which theſe Phantaſms are created

* Lib. de Inſomniis, cap. I.

and preserved. If, therefore, Aristotle has not rightly defined the Phantasia, it is clear that his doctrine of Dreams cannot be well founded. Now, both in the chapter just now quoted, and in the Fourth Chapter of his Third Book, *De Anima*, he has defined the Phantasia to be a Motion produced by an actual Sensation *. But this is plainly the definition of a *Phantasm*, not of any power of the Mind by which Phantasms are produced, nor of any part of the Mind where Phantasms have their seat. Neither is it, I think, a good definition, even of a Phantasm; for we certainly have Phantasms, awake as well as sleeping, of Objects of Sense, which we have perceived many years before, when the Motion, produced by them upon the Organs of Sense, must be supposed to have ceased long ago. The doctrine, therefore, of Aristotle, upon the Subject of Dreams, and of Phantasms in general, I hold, with all the respect due to so great an authority, to be very unsatisfactory.

It may be observed, in general, of the philosophy of Aristotle, that, although no man was a more perfect Theist, or thought more highly of the human Soul, believing it to be a Substance quite distinct from the Body, immortal, and eternal, and of unceasing energy and activity in its separate state, yet it does not appear that he had formed any clear opinion of the Animal Mind being likewise an Immaterial Substance distinct from the Body; and therefore he endeavours to account for the phaenomena of the Animal Life, and particularly Dreaming, by vapours and exhalations, (*αναθυμιασις*), and subtle fluids, and the Motions thereby produced, much in the same manner as Plato tells us Anaxagoras endeavoured to account for all the phaenomena of Nature.†; whereas I hold, that

* Aristotle's words are, *φαντασια δ' εστι η εναυτης κατ' αναθυμιασιν γινωσκουσα κινησις*;

† See the Phaedo, p. 97. *editio Serrani*.

that the Animal Life is a Mind, as well as the Intellectual, being a Substance Immaterial, distinct from Body, operating by itself, as the Intellectual Mind does, and particularly in Dreams, although being so intimately united with Body, its operations must be much affected by the habit of the Body, not less, but, I believe, more, than the operations of our Intellect. Acknowledging, therefore, this influence, I account for its operations, as I do for those of Intellect, from its own Nature, and not from the Vapours and Exhalations of Body, which may disturb and distort its productions, but never can be the *cause* of any of them.

And here our Materialists may observe, with some triumph, that Aristotle has been as unsuccessful as they in accounting for the operations of Mind by Matter and Mechanism. It may likewise give them some satisfaction to think, that, in the illustration, above mentioned, of his hypothesis of Dreams, he has accounted, as lamely as they do, for the continuation of the Motion of Projectiles, which, he says, is caused by external impulse; not, indeed, by the original impulse, after it has ceased, (for of that he does not appear to have had the least idea), but by the friction of the air, one body of air impelling another and so continuing the Motion; whereas, if he had stuck to the Principle of Motion, that, he says, is in all Physical Bodies, which I call the Elementary Mind, and which, he says, is a species of Mind, and dignifies with the name of *Nature*, he could very easily have accounted for the Motion of Projectiles, by showing that this Mind moves Body in various ways, and not constantly, but occasionally, as, in this case, upon occasion of the Body being impelled by another Body; and in many other instances, which *elective attraction*, as the chymists call it, exhibits to us: And this may serve to show us how true Aristotle's notion is of the internal Principle of Motion in Bodies, which he has made the foundation of his whole
Natural

Natural Philofophy ; for, when he departs from it, he falls, we fee, into very great errors. Thefe errors the Platonifts have avoided, by making Mind the Author of all Motions in the Univerfe, thofe on Earth as well as thofe in Heaven, as Proclus has obferved in a paffage which I have elfewhere quoted * ; and, therefore, it muft be admitted by the greateft admirers of Ariftotle, that Plato is more the Philofopher of Mind than Ariftotle.—But to return to Dreams.

I come now to the fyftem of Synefius † upon this fubject. He was a firm believer in Divination by Dreams ; and, had he lived in this.

* Vol. I. p. 208.

† This Synefius was originally of Cyrene, a Lacedaemonian colony in Africa ; and he was of heroic race, being of the family of Hercules, the nobleft family in the world, and which produced more Kings and Heroes than any other that ever exifted. His defcent from Eurythenes, the firft King of Sparta, and the fifth from Hercules, was vouched by the public records of the city : *Synefius, Epiftle 57*. If we fhould doubt of the proof of a genealogy which goes back into ages of fo remote antiquity, one thing is certain, that there is an elevation both in his thoughts and ftyle, that is worthy of a man of the higheft rank, as well as greateft learning, and fetts him much above all the writers of his age. He addicted himfelf to the Platonic Philofophy, which, as it is well known, was the philofophy of the primitive Chriftian church, and which beft fuited fuch an exalted genius as his. He was fo famous for his learning and philofophy, that the Chriftians of thofe days were at very great pains to make a convert of him, and were fo zealous to bring him within the pale of their church, that they made him an offer of the bifhopric of his native place, Ptolemis, (a city near Cyrene, and which had come in the place of it, the antient city being then in ruins,) even before he believed in the refurrection of the dead, as Euagoras informs us, which he was, with much difficulty, perfuaded to accept of. He flourifhed under Arcadius the Emperor, to whom he has addreffed an admirable oration, (for he was a rhetorician, as well as a philofopher), entitled *περι Βασιλειας*, in which he fays he fpoke with more freedom to the Emperor than any Greek before him had ever done ; and, indeed, it appears from the oration itfelf, that he animadverted with great freedom upon the errors of his government. This treatife of his, *περι ουρανιω*, has been thought worthy of a Commentary by one Nicephorus,

this age, he would have been accounted ridiculously superstitious : But Synesius was a Platonic philosopher ; and, besides the Greek philosophy, which he appears to have studied most diligently, he was learned in the theology of the Egyptians and Chaldaeans, as we are informed by his commentator Nicephorus in his preface to his commentary. And it is well known that all the philosophers of those times,

phorus, a learned Greek of later times ; in the Preface to which he has given a wonderful account of the learning and philosophy of Synesius, speaking of him as a man inspired, and exalted above humanity. And as to his style, it is praised by Adrian Turnebus, in a style almost as attick and as elegant as Synesius's own style. See what he has prefixed to his edition of his works, which is the edition that I have used : See also what I have further said of him, vol. 1. p. 260.

I will subjoin to this note Nicephorus's words, speaking of his learning, because I think them remarkable. ' It was confessed,' he says, by all, ' ου μορον εισηση κατα τοις Ελληνικη λογος ιστι ποικιλια, πασης εις ακρον σπουδαστην καταστησαι (Συρισιοι), αλλα και τωις Χαλδαϊκωι διασημητην απικτην αρχην και ιστην δ' αυ ιερογραμματων των παλαιων παρ' Αιγυπτιωις θεουμαστωθωτων βιβλια και μυστικηι τελειωι τοις ιππιτα χρονοις παρεδωσαν, και ισα Διλη φων ιδογματισαν θεολογοι, ουδε τουτων επιλιςτος μωρεις ο αιολος' Where we have mentioned all the foreign philosophy, (I mean besides the Greek), which was studied at that time ; ist the Chaldaic Mysteries, or *οργια*, as they are called by Nicephorus, by which, no doubt, are meant those Chaldaic Oracles which we have published with the Commentaries of two learned Greeks of later times, Pietho and Pfellus ; and these Oracles, I imagine, were nothing else but a collection from the writings of the antient Divines and Philosophers of Chaldea : Next the Mystical Philosophy, preserved in the antient books of the *ιερογραμματων* or *Sacred Scribes*, of the Egyptians, that is, as I understand the word, they who understood and could write the sacred Character, to which only those Mysteries were committed : And, last of all, the Doctrine of the Theologians of Delphi. Till I read these last words, I believed that the Oracles, so often quoted by Plotinus, Porphyry, Jamblichus, Proclus, and Synesius himself, were only the Chaldaic Oracles. But it appears from these words of Nicephorus, that the Delphic God, after he had ceased to be political, and could no longer direct the affairs of men by his councils, still kept up some authority, by dictating in matters of philosophy : And perhaps some of the Oracles, quoted by Synesius in this work, and which are not to be found in the above mentioned collection of the Chaldaic Oracles made by Pietho and Pfellus, are from the Delphic Priests. This, I think, is a curious anecdote of literary history.

times, such as Plotinus, Porphyry, Jamblichus, and Proclus, were great believers in Divination. In this work he speaks of several kinds of Divination; but to all of them he prefers that by Dreams, because it is constantly carried about with us, requires no apparatus, or expence, nor any thing else but a constant attention to our Dreams, and to what happens in consequence of them. For this purpose, he recommends it to every one to keep *Night Journals*, (*επινοητιδες*, as he calls them), as well as *εφημεριδες*, or *Day Journals*; by which, says he, we have the history of our whole life. And it is evident from what he says, that it was his own practice*.

The seat of Dreams, according to him, is the Phantasia; in which he agrees with all philosophers, and also in another thing, that the Phantasia belongs to the *ψυχη*, or *Animal Life*, considered as distinct from the *Nous*, or *Intellect*. This *ψυχη* he holds to be embodied with a thin vehicle of air, or aether, which he calls *Πνευμα*, or the *σωμα πρωτον*, in opposition to the *σωμα εσχατον*, or *περιβλημα οστρεωδες*, that is, the outward body, which he likens to an oyster's shell inclosing us. As the intellect, says he, contains in it the forms or specieses *των οντων*, that is, of things really existing, so the *ψυχη* contains in it the forms *των γινομενων*, that is, of things which have no permanent existence, but are perpetually in generation and corruption, such as all material things. All these the Mind has in itself, but has the perception only of such of them as are produced and exhibited to the Mind by the Phantasia, which he considers as the Organ by which the *ψυχη* perceives its objects †. As all material things are *in time*, they are distinguished, according to the threefold division of *time*, into *present*, *past*, and *future*. And of all the objects of each of the three kinds there are Forms, according to him, in the Phantasia: For, though
all

* Page 129. 33f.

† Page 100. and 101.

all things here below consist of Matter and Form, it is only one part of the composition, viz. the Form, that appears in the Phantasia; and it is the Forms of things present, past, and future, in the Phantasia, which make our Dreams.

From this account of the Phantasia given by our author, it is evident that it is the very same with what Aristotle calls the *Common Sense*, by which the Mind perceives whatever is reported to it by the Senses. And, indeed, our author expressly says so in page 103. where he calls the Phantasia the *κοινωτατον αισθητηριον*, and the *αισθησις αισθησιων*; and says that the outward senses are only so many porters, which inform this superior Sense who it is that knocks at the door.

Our Dreams, being thus composed of things past, present, and future, are, with respect to things future, of two kinds; the one plain and direct, requiring no interpretation; the other mysterious and enigmatical, and which, therefore, need to be expounded. The first of these, he says, is Divine, proceeding from Minds superior communicating with our Minds: And particularly, he mentions one Divinity, that he calls *Θεος εγκοσμιος*, or *Mundane God* *, by which I suppose he means the *ψυχη του κοσμου*, or the Soul of the World, which was the third person of Plato's Trinity. Such Dreams, he says, can only happen to such as have their *ψυχη* and their Phantasia purged from every thing gross and earthly, by philosophy, virtue, and a proper diet and manner of living; or, if they happen to any other, it must be for some very good reason, and on some great occasion †. But the latter
kind

* Page 124.

† Page 125. and 126.

kind are by far the most common ; and that Sleep, says he, may not be unprofitable to any, he gives us a rule for the interpretation of them. But, first, he accounts for them in this manner : He says, that the *forms*, or εἰδωλα, as he calls them, of all things past, present, and future, are continually flying off from the Things : For, says he, as we are sure that the Corporeal part has always effluvia from it, by which it is constantly waisted and diminished, so Philosophy tells us that the Form also is constantly going off in the same way ; so that, in no respect, a material thing has any real or permanent existence *. These forms, thus flying about, the Phantasia receives, as a Mirror does the Images presented to it. Of these, the forms of things present are more clearly represented ; with less clearness those of things past ; and with least of all those of things to come, as having a much more imperfect existence than either the past or the present †. They are, therefore, very obscurely represented in this Phantastic Mirror : And if the Phantasia is much moved and disturbed by Sympathy with the Body, he compares it to Water, which, if it be much agitated, must needs represent the Images in it very much distorted, and out of their natural order ‡.

For setting those Images of future things right, and thereby foreseeing what is to come, he says there are two ways : The first is by an art, which, some pretend, will apply to all Dreams of all persons. But this art he rejects as fallacious, and no better than mere imposture : For he says it is impossible, by the nature of things, that there should be an Art of Interpretation of Dreams, as there is of Physic ; because the subject of Physic is much more stable and permanent, and more like in different men, than the Phantasia is, the most

* Page 125.

† Page 126.

‡ Page 127.

most subtle and various thing in the world, and the most unlike in different men *. The other method, therefore, is that which he approves of, by which every man in this matter is made a rule or standard for himself; so that a man, in order to learn the art of interpreting his Dreams, needs only study himself, observing diligently and accurately after what dreams of his what events happen †; and thus from Memory will arise Experience, and from Experience Art, according to the genealogy of Art given by Aristotle ‡.

With this account of Dreams, Synesius has mixed a great deal of the Mystical Platonic Philosophy, concerning the *descent* of Minds into Bodies, the way they are affected by the contagion of Body, and their *reascend*, or *αναγωγή*, towards their native mansions.

This is the system of Synesius upon the subject of Dreams, in which the Reader will observe a great deal of truth and sound philosophy, mixed with a good deal of what appears to me very whimsical and fanciful. For his *ειδωλα* I take to be as much a fiction as the *ειδωλα* of Epicurus, and a more extraordinary fiction in two respects: First, the *ειδωλα* of Epicurus are all material, being films which come off from the superficies of things, and which so far, no doubt, have a foundation in reality, that there are constant effluvias, more or less, from all Bodies; whereas the *ειδωλα* of Synesius are cast off from the immaterial forms of things.—2dly, Epicurus had no idea of any *ειδωλα*, except of things that either do exist, or have existed; whereas Synesius tells us that there are images of things that are only *to* exist, and that these images produce our prophetic Dreams.

VOL. II.

K k

But,

* Page 126. and 127.

† Page 128. *et seq.*

‡ *Metaph. in initio.*

But, though I venture to find these faults with Synefius's system, I am far from being confident that I am in the right, because I must confess there are many things in this work of his, that I do not perfectly understand: And his commentator Nicephorus appears to me to understand them as little as I do; for there is a depth in his matter, and, at the same time, an elevation in his style, and a kind of oracular obscurity, which, I suppose, is the reason that makes Nicephorus say that he writes like one inspired. As, therefore, I am not one of those that reject every thing, they do not understand, as absurd or unintelligible, I am disposed to believe that there may be a meaning in Synefius which I have not fathomed, and that what seems to me odd and extravagant in his system, would appear, if I understood it better, to be found and solid philosophy, though, no doubt, of the sublimest kind.

The last author I mentioned, who has written upon Dreams, is Mr Baxter; and his system is, that all our Dreams, of whatever kind, do not proceed from the Mind itself, nor are of its own growth, but are produced by the operations of other Minds upon it.

I will now proceed to give my own opinion concerning Dreams, agreeing in some respects with each of the opinions above mentioned, but in other respects differing from them all. And, in the *first* place, as Dreams are undoubtedly Phantasms, and there can be no Phantasms without a Phantasia, I will begin the inquiry by giving a more particular account, than I have hitherto done, of this Power, Faculty, or Part of the Mind, and so will endeavour to supply that fundamental defect which I have observed in Aristotle's system of Dreaming.

That

That there is something within us, which perceives objects of Sense, without the assistance of the Organs of Sense, is a fact of daily experience, of which no man can doubt.

This faculty of the Mind is called *Phantasia*, or, in common language, *Imagination*, and is very properly divided by Philoponus, as I have observed *, into *retentive* and *active*; the first retaining the objects which we have received from the Senses, the other calling them up, and presenting them to the Mind, upon particular occasions, and combining them together in various forms. And in this respect the Phantasia resembles Intellect; for the Intellect not only forms and retains Ideas, but calls them up to the Mind, and operates upon them in various ways.

2do, That this power of perception belongs to mere Matter or Body, is what no man will maintain who is not a downright Materialist; for, if Matter can *perceive*, it may *think, reason, reflect*, and, in short, perform every operation that we ascribe to Mind, and there will be no distinction betwixt Body and Mind. I therefore do not approve of a manner of speaking which the Material Philosophy has introduced, as if a part of the Body, which they call a Sensorium, and which I believe they place in the brain, was that which perceived objects of Sense, retained them, and operated upon them: For we ought never to forget that saying of antient philosophy, that it is Mind only which sees, hears, or perceives, by any of the other Senses; nor that distinction above mentioned †, made by Plato, betwixt the cause of a thing, and that without which the cause cannot operate. For there are certain organs of the Body, both internal and external, without which the Mind, inclosed as it is in Body, cannot operate;

K k 2

but

* Page 170.

† Page 215.

but these are not the cause of its perceptions, any more than a man who stands betwixt me and any object, by moving out of the way, is the cause of my seeing that object.

Tertio, It is universally agreed that Matter, though animated by the Vegetable Life, has not this power of perception by the Phantasia, any more than by the Senfes; perception in both these ways, and the consequence of such perceptions, viz. Inclination and Aversion, Pleasure and Pain, being the peculiar properties by which the Sensitive Nature is distinguished from the Vegetable.

4to, Neither is the Phantasia to be confounded with the Intellect, the objects of the two being intirely different; for nothing is more just than the observation of Synesius, that the Phantasia is the seat of things in generation or corruption, or the *τα γινόμενα*, as he expresses it; whereas the other is the seat of the *τα οντα*, which, in the language of Plato and his followers, is what I call Ideas, being things that have a real existence; whereas corporeal substances are in a constant change and vicissitude of generation and corruption. And it is also very well observed by Synesius, that it is the *Form*, without the *Matter*; by which we are not to understand, that it is that inward Form which constitutes the nature and essence of every thing, and is no other, as I have shown, than the Idea of the thing; but it is the outward Form of the thing, such as is represented to us in painting, or in a mirror.

Of this distinction betwixt the Phantasia and the Intellect our daily experience may convince us: For, as the objects of the two are quite different, so are their operations; the Intellect reviewing and correcting the appearances in the Phantasia, and informing us that they are no more than Phantasms, and often wild and extravagant Phantasms. And it is a common saying, and a very just one, that

that a man has a good fancy, but a bad judgment; and, when a man has no judgment at all, but gives implicit assent to his Phantasms, without questioning their reality, we say the man is *mad*, as I have already observed*.

As, therefore, the Phantasia does not belong to mere Matter, nor to the Vegetable, or even the Intellectual Mind, it must necessarily belong to the Animal Mind; for, besides these three, and the Elemental Life, as I call it, which animates all Physical Bodies, there is nothing else in our Microcosm, nor, as far as we can conceive, in the great world, or Universe. Accordingly, the better sort of Brutes have a Phantasia, as well as we, without which it were impossible that they could perform the functions of an Animal Oeconomy of any variety; and their Phantasia operates, 'not only while they are awake, but also in Dreams, when they are asleep.

Now, this Animal Life, to which the Phantasia belongs, is, as I have shown, a Mind altogether distinct, not only from the Vegetable, but the Intellectual Mind, being a Substance by itself in us, as much as it is in the Brute. We are not, therefore, to consider it as a faculty only of our Intellectual Mind, as many do, and which has produced much confusion among Philosophical Reasoners, but as a Substance altogether different, incorporeal, as well as the Intellectual Mind, though of a nature far inferior.

But there is no necessity to split the Animal Nature into two or three parts, supposing that there is one that perceives external objects, another that retains those perceptions, and a third that operates upon them. And, particularly, it would be altogether absurd, to suppose that there is a Mind that only retains the images of sensible objects, but does not operate upon them: For Action is of the very essence of Mind; nor can we conceive Mind, without a power of
action.

* Page 235.

action, though that power may not be always exerted. We are, therefore, to understand, that it is the same Sentient Principle or Mind, operating in different ways, in the same manner as the Intellectual Principle operates in perceiving Ideas and in combining them in different ways. And, as Nature does nothing in vain, all the three operations of the Animal Life are equally necessary for the Animal Oeconomy: For it would not be sufficient, as I have shown, that the Animal perceived external objects, if he did not retain the perceptions of them in his Mind; and again, it would not be sufficient, if we had only images of things in our Phantasia, which we perceived as we perceive things in Dreams. But it is absolutely necessary for our subsistence in this Body, that we should be informed of what passes without, as we are by our Senses, which Synesius very properly compares to door-keepers or porters, that let us know who knocks, and desires to inform us of something that it is proper we should know. And, lastly, even these two would not be sufficient, if the Animal had not a third faculty, by which he operates upon his Phantasms, and joins them together in various ways; for it is by that faculty that the wonderful thing we call *Instinct* operates, and conducts the whole Animal Life of the Brutes.—But of Instinct I shall say a great deal more afterwards.

I hold, therefore, that, in the full grown or perfect Animal, these three Powers of the Animal Nature are divisible only in Ideas. But, as there is a wonderful progress in all things in Nature, from an imperfect to a perfect state, I hold that, when the Animal begins to exist, they are actually divided, and particularly with respect to Man.

It appears to me, that, when we first enter into this scene of existence, we have no other method of perception but by our Senses; for there is reason to believe that very young children have no Phantasia

tafia at all ; a child in the womb being no better than a Vegetable, and first when he is born a very imperfect Animal, and much resembling the lower kinds of the Brute creation, which I imagine have no Phantasia. And this may be the reason of the fact which Aristotle has observed, that children have no Dreams ; and if it be true, as he says, that there are some few elderly people that likewise have no Dreams, I believe it will be found, upon inquiry, that those persons are very defective in Imagination. The truth, therefore, seems to be, that, at first, our only method of perception is by the Senses ; then, in process of time, comes another method of perception by the Phantasia, the necessities of life so requiring. And thus we see the powers even of our Animal Mind rise one above another, and grow out of one another : First come the Senses, then the Phantasia ; and thus the Animal Mind is completed : Next in order, and last of all, that Superior Mind, which had so long lain latent, and, as it were, overwhelmed by the Vegetable and Animal Life, discloses itself ; and then, and not till then, we are only *actually* men ; for, before, we were no more than men *in capacity*, as the Peripatetic definition of *Man* has well distinguished.

According to this account of the Phantasia, it may be defined to be ‘ The Animal Mind, considered as retaining the perceptions of Sense, calling them up, and presenting them to the Mind, as occasion requires, and performing various operations upon them.’ And I agree with Synesius, that the Phantasia, thus defined, is no other than that *common Sense*, of which Aristotle speaks so much *, by which the Mind, at the same time that it perceives so many different objects, compares them together, and perceives their likeness or their difference ; for it is of absolute necessity for the oeconomy of the Animal Life, that the Animal should have a perception of the

* See Page 255. of this Volume.

the *likeness*, and also of the *difference*, not only of the objects of different Senses, but of the objects of the same Sense : And it is this comparative faculty of the objects of Sense with one another, that is called the *Reasoning* of Brutes.

Having said so much of the Phantasia in general, I will proceed to consider the human Phantasia in particular, the seat of that wonderful phaenomena of our Nature, which I have undertaken to explain. But, before I proceed to treat of our sleeping Phantasms, I will endeavour to explain the operations of our Phantasia while we are awake ; which being more immediately under the inspection of our Intellect, we understand better than its operations while we are asleep.

In the *first* place, it is evident that the operations of the Phantasia, as well as the Intellect, must be very much influenced by the habit, dispositions, and inclinations of the Mind, and also by the studies and occupations of life, and, lastly, by the temperament and habit of the Body. I will begin with the last : But first, I must observe, in general, of all our Imaginations, whether asleep or awake, that they commonly very much exceed the reality ; and the objects of all our passions and pursuits appear to the Phantasia much finer, and more pleasurable, than we find them when we come to be in possession of them ; the reason of which I take to be this, that the Mind, being of a nature so much superior to the Body, and working upon its own materials, exhibits scenes, and draws pictures, very much finer than any that can be made of the gross materials which Nature furnishes ; and this especially in Madness, or in Sleep, when the Imagination is not at all controlled by the Judgment.

As to the Body, every man knows, from experience, how different his Imagination and Fancies are, when he is in good health, and

and when his Body is affected by any disease ; and there are some diseases which affect the Imagination more, when we are awake, as well as when we are asleep, than other. Thus, as Aristotle has observed, men in fevers see figures upon the wall, even before the disease is come to such a height, as to make the sick man believe them to be realities. And there are some diseases, which affect the Imagination, or Spirits, as we commonly speak, so much, that they are called by Physicians Diseases of the Spirits.

Further, as the appetites and wants of the body are the chief concern of many men, the objects of their gratification are those which occupy the first place in the Phantasia of such men ; and I am persuaded that those appetites, and whatever else may concern the animal oeconomy, are the only objects of the Phantasia of the Brute, sleeping or waking ; for, as Nature does nothing in vain, there can be no reason assigned why there should be any thing else in their Imagination. And, as a sensual man is very little better than a brute, his Imagination must be full of what he shall eat, drink, or enjoy, of bodily pleasure of every kind.—And so much for the influence of the Body upon our Imagination.

Had we no other desires but those belonging to the Animal Life, our Imaginations, like those of other Animals, would be wholly employed about the objects of those desires ; but we have other desires belonging to the Rational Nature, which make our Imaginations much more rich and various than those of the Brute creation. And first, we have the love of Beauty of every kind, whether in objects visible or audible, in manners, sentiments, or actions, This Love of Beauty, as I have shown *, is congenial with the Rational Nature : And whoever is entirely void of it, hardly deserves the name

VOL. II.

L l

of

* Book II. Chap. v.

of a Man. But in this, as in other respects, Man differs very much from Man ; for some have the love and taste for Beauty in a very small degree ; others, whom Nature has formed of her best clay, and Heaven bestowed on them a more than ordinary portion of the Celestial Fire, have it in a very high degree. Of such Men the Imaginations are filled with the most beautiful scenes of Nature and Art, Men and Manners. If it be the Beauty of the visible kind which captivates those Minds, and if their Imaginations are carried into works, then have we Painters, Sculptors, and Poets of an inferior kind, I mean descriptive Poets. If it be the Beauty of Sounds, then have we Musicians. But, if the turn of Mind be towards Beauties of a higher kind, such as those of Sentiments, Manners, and Actions, then are produced Heroic and Tragic Poets, Painters, Sculptors, and Musicians of the highest order, who express in their compositions what is most sublime and exalted in sentiment and character. The capacity of performing in these several Arts is what we call *Genius* ; and the perception of Beauty in them, and the capacity of distinguishing true Beauty from false and affected, is what we call *Taste*.

Nor is it to be wondered at, that Intellect, which is the seat of the Fair and the Beautiful, should make this difference betwixt the Phantasia of Man and Brute ; for Intellect being the governing power in our Nature, every thing else is made subservient to it, according to a general Law of Nature, by which all inferior things are made for the use of what is superior and more excellent. Thus, in Animals, we find that the vegetable part of their composition, being less excellent than the animal part, is so formed and modelled, as to be accommodated to the purposes of the more excellent Life, and, for that reason, is in many respects different from the same Life in the mere Vegetable, as I have elsewhere observed *. Now, the

Beau-

* Page 210.

Beautiful and the *Handsome* is the chief and the only Intellectual Pleasure: For Intellect delights in nothing, as I have elsewhere shown *, but what is Orderly, Regular, and therefore Beautiful; the contemplation and enjoyment of which is the perfection of our Nature.

But, as there is necessarily the same knowledge of Contraries, it is impossible that we can know what is Beautiful and Graceful, without knowing also what is Deformed; and there are many men, who have a great taste for what is Deformed, Odd, Grotesque, or, to express it in one word, *Ridiculous*. The nature of this Taste, seemingly so strange, and how it comes to belong to Human Nature, I have elsewhere explained †; and, though many may not agree with me in what I have there said, the fact is most certain that such a Taste there is; and the imaginations of those who have it are filled with objects of the ridiculous kind.

Moreover, there are Minds naturally weak and timorous. Of such Men the Imaginations are filled with the objects of terror and affright. While there are others, whose better turn of mind presents to them objects of joy and pleasure.

There is nothing more natural to Man than Imitation; and Aristotle has very justly characterised Man ‘*the most Imitative of all Animals.*’ Those, who possess this talent in the highest degree, have their Imaginations filled with objects that they have seen or heard; and, if they produce them into Action, they are what we call *Mimics*.

The Passions, too, and Pursuits of Men, their Studies and Occupations, fill the Imagination with corresponding Objects. Thus, the

L 1 2

vain

* Book II. Chap. 5.

† Page 129. of this Volume.

vain man's Imagination is full of honours done to him, and praise bestowed upon him : The avaritious fee, in the Mind's eye, prodigious heaps of wealth amassed : The Men who delight in the magnificence of houses, gardens, table, and equipage, have their Imaginations filled with scenes of these Kinds. And, when these passions and pursuits become the study and occupation of our lives, we have hardly any other Imaginations.

Thus, it appears that our Phantasia, while we are awake, is suited to the habits and dispositions of our Minds and Bodies, and to our studies and pursuits in life. As to the Intellect, or governing Power within us, it reviews and corrects the appearances of the Phantasia, and checks and controuls it in its fallies and excursions, and can transfer it from one object to another. But, though it be thus under the government of reason, it has an active power in itself, and does often act without the consent or approbation of Reason ; for our Fancies do not depend entirely upon our will ; and there are often Phantasms in our Imagination, even while we are waking, of which we can give no account at all.

And here we may observe, in passing, that, though Reason is the governing Principle in us, yet its authority is much bounded and limited by the constitution of our nature : For, in the *first* place, it has no power at all, directly and immediately, over the vegetable part of our nature ; for we grow and are nourished without our Understanding taking any concern in the matter : And, *secondly*, it can only controul and check the operations of the Phantasia ; but it cannot operate for it, nor entirely prevent its operating. We may also further observe, that the Phantasia is not passive, as the Mind is in Sensation, but is active, and creates objects for itself.

Having

Having thus examined our Phantasms while we are awake, I come now to speak of our Dreams, that is, our Phantasms in our Sleep ; but, before I say any thing of them, I will make some observations upon what Aristotle does not call Dreams, but which certainly comes very near to them, I mean our Reasonings in our Sleep.

That our Intellect, which operates, as well as our Phantasia, without the assistance of the Body, when we are awake, should operate, as the Phantasia likewise does, when we are asleep, is very natural ; and, in fact, we are sure it so happens. But it operates differently, as the Phantasia likewise does in different men ; for, in vulgar men, it operates, as it does when they are awake, upon the Phantasms in the Imagination, reasoning, as such men do, upon corporeal things and the events of human life. But, in the Philosopher, it is very often employed in the same way as it is during the day, reasoning about truths eternal, and investigating theorems of science, not conversant with things in generation and corruption. I have not, therefore, the least doubt of the truth of what Synesius says, concerning his philosophic Dreams, having had some experience of that kind myself, and being well assured that others have had the same experience *. And it is very reasonable to think, that the Intellect, in the still and quiet of the night, when its attention is not called off by any external objects, should be more collected within itself, and should operate better, than at any other time.

That the exercise of this faculty of our Mind, when we are asleep, as well as when we are awake, should be much affected by the habit and disposition of our Body and Mind, is both agreeable to reason, and confirmed by experience. If our Body is perfectly sound and healthy, without being either overcharged with food, or in want
of

* See page 241.

of it, and if our Mind is free from passions and perturbations, and very much employed in philosophical speculations, I have no doubt of the truth of what Plato says *, that Sleep will not much interrupt our progress in science.

I come now, at last, to what is the subject of this Chapter, viz. Dreams, properly so called ; and I am hopeful, that so long an Introduction to the subject will not appear unnecessary or superfluous : And, if I am not mistaken, from what I have said, I shall be able, not only to explain the facts concerning Dreaming, but to demonstrate, *a priori*, that they must have existed ; for the consequence of an accurate investigation of any question of natural philosophy is, that, by reasoning *a posteriori*, we discover principles, from which we are able, by reasoning *a priori*, to deduce the phaenomena. And this, I trust, has happened in the present case.

And, in the *first* place, as the Animal Life in us is an Immaterial Substance, and, consequently, an active Principle, though it be quiescent in the womb, and not perfect even when we are born, but, like other things in nature, coming to perfection by degrees, I hold it to be certain, that, when both the Body and it are arrived to a state of maturity, it will not require that rest which, we are sure, the Body and its Organs require. Although, therefore, I am inclined to believe, that neither the Animal nor the Intellectual Principle is perpetually active while clogged and incumbered with this Body ; yet I think it impossible to believe that our Intellectual part will be soon tired with thinking, or our animal part in operating upon the forms in our Phantasia, as the Body is with Motion, the Eye in Seeing, the Ear with Hearing, or the Nerves, which are supposed to convey these Sensations to the Brain, in performing their functions.

And,

* De Rep. Lib. 9. in initio.

And, accordingly, we find that, while we are awake, our Intellect, or our Imagination, is perpetually at work, though our Body, and all its Senfes, may be perfectly at reft. And, as there is no other difference betwixt Sleep and a ftate of that kind, except that we are under a temporal incapacity of perceiving objects of Senfe, fo that our Senfes can no longer perform the office of Porters, to ufe the fimile of Synefius, and inform the Mind who knocks at the door, a ftate which we are fometimes in even when we are awake, if we be thinking intenfely, it would be contrary to all reafon to fuppofe, that, at all times, or even for the greater part, when the Body refts in Sleep, the Mind fhould lofe its natural activity.

Thus, I think it appears, that, however wonderful a phaenomenon Dreaming may feem to a vulgar Man, it would appear wonderful to the philofopher if we did not Dream. And I am perfuaded we Dream very much oftener than we know of: For we either are not attentive to our Dreams, and at pains to recollect them; or we have not the faculty of recollecting them, which is the cafe with refpect to a great deal of our waking thoughts; for there is no man alive, that at night can recollect one half of what paffed in his Mind through the day.

2do, As our Dreams are entirely the operation of our Phantafia, if there be no Phantafia, or if it be very weak and imperfect, there will be no Dreams, or very few. And this, as I have faid *, I take to be the true reafon for children, and even fome elderly people, having no Dreams, and not the Material Caufe affigned by Ariftotle.

3tio, From the fame principle, of our Phantafms in our Sleep, that is, our Dreams properly fo called, being entirely the work of our
Phan-

* Page 243. 247. 263.

Phantasia, it follows, that, as Conscioufness belongs only to Intellect, in our Dreams, which are truly such, and not operations of our Intellect, we have no Conscioufness nor Memory of any thing that is past, but are entirely occupied with the present Phantasias: And, as it is only by means of the Intellect that we recollect our Dreams, for want of which it is impossible to believe that the Brutes have any recollection of theirs, if our Intellect be weak, or if the Sleep, we have been in, was very profound, it is reasonable to suppose that, if there be any recollection at all of our Dreams, it will be very imperfect. And this, I think, may account, both for children not remembering their Dreams, if they have any, and for full grown people not remembering the Dreams that they have in the beginning of the night when they Sleep soundest; and I should suppose that those people who, it is said, do not Dream at all, were defective in the Intellect, as well as the Phantasia.

410, From the same principle, we may account for our having no Idea in our Dreams of what is past, or of *Time* in general, which is an Idea belonging entirely to Intellect; for, when we form the Idea of *Time*, we compare together what is *first* and *last*; and the Interval betwixt these two is what we call *Time*. Now, it is impossible that the Phantasia, any more than the Sense, can make this comparison; and therefore its objects are all apprehended, like the objects of Sense, without any distinction of past, present, or Future.

510, The colours with which the Phantasia paints its objects in our Sleep must be much more bright than when we are awake, and the Shapes and Figures it represents more striking and lively, not only for the reasons given above, but because the operations of our Phantasias are not disturbed and interrupted by the intrusion of the objects of Sense, as in the day-time; and, because our Minds being
more

more disengaged from our Bodies while we are asleep, than while we are waking, it is natural that all the operations, both of the Phantasia and the Intellect, should be more perfect than when we are awake ; and the Phantasia being under no controul from the judgment, Fancy has its full play. Hence it comes that men of good Imaginations see in their Dreams such scenes as no poet can describe. And Mr Thomson, in his Castle of Indolence, has, I believe, given as good a description of them as is possible, by telling us that they are not to be described, in the following most beautiful lines.

*No, fair Illusions ! Artful Phantoms, no !
 My Muse will not attempt your fairy land :
 She has no Colours that, like you, can glow ;
 To catch your vivid scenes too gross her hand.
 But sure it is, was ne'er a subt'ler band
 Than these same guileful Angel-seeming Sp'rites,
 Who thus, in Dreams, voluptuous, soft, and bland,
 Pour'd all th' Arabian Heaven upon our nights,
 And blest'd them oft besides with more refin'd delights.*

I think, however, he has succeeded pretty well in describing them in the preceding stanza, which I am sure the reader will not be sorry that I transcribe, as I think it as fine descriptive poetry as is to be found in this, or in any other language.

*And hither Morpheus sent his kindest Dreams,
 Raising a world of gayer tinct and grace ;
 O'er which were shadowy cast Elysian gleams,
 That play'd, in waving lights, from place to place,
 And shed a roseat smile on Nature's Face.*

*Not Titian's pencil e'er could ſo array,
So fleece with clouds, the pure æthereal ſpace ;
Ne could it e'er ſuch melting forms diſplay,
As looſe in flowery beds all languiſhinglly lay.*

Such Dreams a man of poetic genius will have, if his body be not diſeaſed, nor Mind diſordered by Paſſion. But, if he be a philoſopher of the higheſt kind, whoſe thoughts, as Milton ſays, ' Commerce with the ſkies,' he may enjoy in his Dreams a kind of beatific viſion, ſuch as is mentioned in a piece of very antient philoſophy, entitled, ' The Chaldean Oracles *:' And I am perſuaded that it was in Viſions or Dreams ſuch as theſe, that Plotinus and ſome others of thoſe myſtical Platonifts of later times pretended to be united with the Supreme God †. Of this every man may believe what he thinks proper ; but I have no doubt that a man, ſuch as I have deſcribed, will, in his Sleep, live in a world very different from that he lives in while awake, and very much finer.

On the other hand, if Men live intemperately, if their pleaſures are chiefly of the corporeal kind, their Imaginations, ſleeping as well as waking, will be filled with groſs and ſenſual objects ; and their Dreams will be wild, broken, and diſorderly ; and, as the diſorders of their Mind and Body increaſe, their Dreams will become moſt terrible, ſuch as the ſame Poet deſcribes.

But

* There is a collection of theſe Oracles made by Pletho, with a commentary, both of him and Pſellus, upon them, published in Paris in 1007, by one Johannes Opſopoeus. See page 81. and 90. of that collection, where it is ſaid that the Philoſopher, in ſuch Dreams, ſees nothing that has form or ſhape, but only a ſhining light. Synefius alſo ſpeaks of men in their Dreams being thus exalted to an immediate communication with the Divinity.

† See Vol. I. page 140.

*But for those Fiends, whom blood and broils delight ;
 Who hurl the wretch, as if to hell outright,
 Down, down black gulphs, where sullen waters Sleep;
 Or hold him clambering all the fearful night
 On beetling cliffs, or pent in ruins deep :
 They, till due time should serve, were bid far hence to keep.*

When a man is in that situation, he is, I think, as miserable as a man can be in this life ; for, even Sleep, ‘ that balm of woe,’ as Shakespeare calls it, our refuge from the miseries of life, makes this man more miserable than he was before, and presents to him another world, which, if he has any notion of a future state, must give him terrible apprehensions of the world he is to go into when this life is at an end. But, betwixt a life of virtue and philosophy, and this extremity of vice and misery, there are many intermediate degrees ; and, according as our lives come near to one or other of the two extremes, our Dreams will be better or worse. Of the generality of men, who are not remarkable either way, the Dreams are commonly trifling and insignificant, giving very little pleasure or pain ; and therefore they are very little observed ; nor, indeed, do they deserve any notice ; and, if a man of that kind were to keep a register of his Dreams, as Synesius advises, it would be a most insignificant one. Of such a Man even the waking Imaginations are but trifling, and not worthy of being remembered. Those in his Sleep, when under no controul from his judgment, must be still more insignificant.

To ask a reason for the Phantasms of such a man, either waking or sleeping, would be a superfluous inquiry ; because he is neither in the natural animal state, or in the state of a perfect rational creature. In the first of these states, his Phantasia, his Appetites and Desires, and all his Actions, would be governed by unerring Wis-

dom, commonly known by the name of *Instinct*; and then, no doubt, a reason might be given for every appearance in his *Phantasia*. And accordingly, I am persuaded, that, in the Mind of the Brute, at least of such of them as are in the natural state, there is no *Phantasm* which has not a direct tendency, either to the preservation of the Individual, or the continuation of the race. Again, in the perfect man, his *Phantasia*, as well as his *Intellect*, is governed by perfect Reason; his Theorems of Science are without error, and upon the most important subjects; and his *Imagination*, both sleeping and waking, is full of the fairest forms, and the finest scenes, of *Nature* and of *Man*. Nor do these *Phantasms* arise in the Mind at random, but are called up by the governing Power, regularly, and in order, for certain purposes. On the other hand, the *Phantasia* of a vulgar man is influenced by a bad habit of Body, and is governed by false opinions, and unruly passions, and therefore his *Phantasms* are the cause of much disorder and misery in his life; nor do they arise with any order or regularity; and, though there may be some connection among them, it is not worth inquiring about, or finding out. Such, therefore, being the influence of our *Phantasia* upon human Life, it was an excellent prayer to the Gods, of some philosopher whose name I have forgot, ‘To give him good *Phantasms*.’ But it is a vain prayer, unless we live a virtuous and orderly life, and cultivate good affections and dispositions.

From this account that I have given of *Dreams*, it appears that I differ from Mr Baxter, who derives all *Dreams* of every kind from the operations of other Spirits upon our Spirits. But, though I believe, as he does, that there are above, below, and round about us, multitudes of other Minds, *millions*, as Milton says*; yet, as Nature does nothing but for some purpose, I cannot believe that any of those Minds are so idly employed as to inspire our trifling *Dreams*.
And

* *Paradise Lost*, Book iv. v. 678.

And even those of the better kind may, I think, be derived from a Phantasia well regulated, and a sound constitution of Body and Mind. But I am now to speak of Dreams, which, I believe, are from Jove, as Homer says, or from some Superior Mind communicating with our Minds, and imparting to them knowledge, which they could not otherwise attain. The Dreams I mean are those by which future events are foretold.

And here I differ from Synesius, who distinguishes, of these prophetic Dreams, such as are plain and unambiguous, from those that are ambiguous and enigmatical. The former, he admits, are from Superior Powers; but the latter he derives from certain effluvia or *idols*, as he calls them, which fly off from things future as well as present, and are imperfectly represented in the Mirror of our Phantasia, so as to require much attention and observation in order to divine futurity from them. But I make no such distinction; and I say that all Dreams which are truly prophetic are sufficiently plain.

And, in the *first* place, though I agree with Synesius, that our Phantasia is the seat of the forms of things in generation and corruption, as our Intellect is of Ideas of things eternal; yet, I cannot be convinced that the human Phantasia contains all things in generation and corruption, the future as well as the present, any more than that our Intellect contains all Ideas; but I believe that the capacity of each of them is limited. But, *2dly*, if I did believe that our Phantasia was as comprehensive as he makes it, I must see a reason why, at one time, I should see futurity in it, and not at another; for no body will say that we always see future events, though, according to Synesius, they be always in the Phantasia. I must therefore know how they come to be produced to our view at one time, and not at another. This, I know, he accounts for by his *Idols* or Images; but these, as I have said, are mere fictions, and, I think,

think, altogether inconceivable with respect to things not yet come into existence. But, even admitting this hypothesis, Synesius himself confesses that there is no art of connecting and piecing together those imperfect images, so as to make a connected story of them, that is, in other words, expounding Dreams; but that it is merely a thing of experience and observation, without any reason or principle to guide us; and therefore it must be very uncertain, depending altogether upon the state the Phantasia is in, which must be very different, even in the same men, at different times, according to the changes of their habit of Body, or disposition of Mind.

Rejecting, therefore, Synesius's distinction, I hold that, by no art, experience, or observation, we can find out a meaning in Dreams other than what they plainly import; and that all Dreams, truly prophetic, are clear and unambiguous. And I agree with Synesius, that those Dreams are not derived from the Mind itself, but proceed from some Superior Power; and so far I also agree with Mr Baxter.

As I most firmly believe that there are other Minds in the Universe besides ours, and that betwixt our Mind and the Supreme, there are other Minds interposed in infinite subordination, some of them of knowledge and power very much superior to ours; so I also believe that these Minds may, and often do, communicate with ours. Our Minds communicate with one another, by the means of bodily organs, which is the necessary consequence of their being embodied as they are, not with a thin aethereal vehicle, but with a gross corporeal frame, which some of the ancient philosophers compared to the shell of an oyster. But that pure Spirits can communicate with one another, and even with our Mind, embodied as it is, without the use of bodily organs, I think there is no reason to doubt. That the Supreme Mind communicates in this way with our Mind, every genuine

genuine Theist, who believes in the Providence of God, and his influence in the affairs of men, (not to speak of Christians), must, I think, necessarily believe. And, if so, there can be no reason for doubting that those Superior Minds, whom it is most likely that the Supreme employs in such purposes, have an intercourse with our Minds, and do sometimes reveal to us future events.

If the reader is disposed to allow this to be possible, he surely will not think it improbable that it should be in our Sleep, when the Mind is not disturbed by the tumult of the Senses, or the hurry and bustle of the world. It is not, however, to every Mind, or upon every slight occasion, that this revelation is made, but it is to a Mind sedate and composed, and well prepared by religion and philosophy, as Synesius has observed, for the Divine Illumination; and it is always to serve some good purpose, respecting the person himself, or others.

The revelation is always in one of two ways: Either by some person, human or divine, who appears to us in our Dream, and tells us that such a thing is to happen; or by a Vision, in which the thing is represented to us as present. This vision of the night very much resembles those visions of the day which are called the Second Sight: And they are not to be distinguished from those trances into which the Scripture tells us the holy men of old did sometimes fall; for such Trances I hold to have been no other than Dreams while they were awake.

There are, I know, very many, in this unbelieving age, who will think that all I have said, concerning Prophetic Dreams, is no better than a Dream such as their own. I will, therefore, for the sake of those who are not to be convinced by reason and argument, which, I believe, is the case of the most of those who at present call themselves

felves philofophers, mention fome facts concerning Dreams of this kind, which, I think, are well vouched. Some of thefe I have already mentioned in the Firft Volume *, and I will now give an account of the moft extraordinary Dreamer that perhaps ever was, though very little known even to Scholars ; I mean Ariftides the *Sophift*, fo they called at that time Rhetoricians, who compofed and pronounced orations on fubjects of learning and philofophy : Such was Dion Chryfoftom, who lived before his time ; Maximus Tyrius, who lived much about the fame time ; and Libanius and Themiftus, who flourifhed in later times. They were truly, what the name *Sophift* imports, Philofophers as well as Orators ; for the ftudy of Philofophy was at that time always joined with Learning and the Study of Eloquence. This Sophift was from Adrianus, a town of Ionia. He flourifhed under the Antonines, the moft learned age that has been fince the days of Auguftus Cæfar : and was known both to Antoninus Pius, and to Marcus, and was highly efteemed by both of them. He had the greateft reputation of any man of letters of his age, and is mentioned with high commendations by feveral later writers, none of whom fpeak of him as a liar or an impoftor. This man, about the thirty-second year of his age, was feized with a violent difeafe, or rather a complication of difeafes : For his lungs, his nerves, and his intefines, were all affected, and he had almoft a continual fever ; fo that he was reduced to a ftate of the greateft weaknefs, and was given over by all his phyficians. In this ftate he continued for no lefs than thirteen years, during all which time he had a conftant communication with Superior Powers, both by Dreams and Vifions. Of thefe he has given us a very particular account in fix difcourfes †, which he calls the *Sacred Difcourfes*, written not at all in the ftyle of an Oration, though they are numbered among his Orations, but in the ftyle of a plain narrative. Thefe Powers

* Vol. i. p. 155.

† Page 273. of the Oxford Edition.

Powers appeared to him under the form of different Divinities, such as Æsculapius, Apollo, and Minerva, but particularly of Æsculapius, whom he considers as his tutelary God, and from whom he got the most particular directions for the cure of his disease, which, at last, was cured accordingly. These directions he did not at first set down in writing, nor what he did in consequence of them ; but, afterwards, by the special order of the God, he wrote them down, as far as his memory served him ; and he has carried the narrative down to the twelfth year of his disease, in the beginning of which he breaks off abruptly *, being probably prevented by death from finishing it. Besides the Dreams, without number, concerning the cure of his disease, he got directions, by Dreams and Visions, in many other things ; and, particularly, he escaped being swallowed up by a great earthquake, which almost totally destroyed Smyrna while he was there, by being ordered in a Dream to go to a certain place in the neighbourhood of the town, and there to build an altar, and to sacrifice to Jupiter : And he says the earthquake just stopped at that place †. Another time, he says, Minerva with her Ægis, such as she was represented by Phidias's statue of her in Athens, appeared to him when three other persons were present, who did not see her, as he did, except when she mounted up into the air and went out of sight, but heard her speak to him ; and he has told us what she said ‡. What was chiefly prescribed to him by Æsculapius, (besides many drugs which he mentions), was the use of the cold bath, when the frost was so severe that he could not get into the water

VOL. II.

N n

without

* Page 318.

† Ibid.

‡ Page 300. She put him in mind of the *Odyssæy*, and said that he ought to believe, from what he then saw, that the assistance which Homer said she had given to Ulysses and Telemachus was not fabulous, and that he might expect the like assistance from her.

without breaking the ice: And, in the same weather, he was ordered to wear nothing but a linen tunic, to go barefoot, and to sleep in the open air. Once, he says, after using the cold bath, he was not only immediately relieved, as to all his bodily complaints, but he was in a state of Mind so pleasant, that, he says, he cannot describe it, otherwife than by telling us, that it was something more than human*.

Those who believe that there is nothing in Heaven or Earth but Body, will, I know, laugh at such stories, because they cannot account for them by any Powers of Matter or Mechanism; but I, who firmly believe that I have a Mind, as well as a Body—that there are other Minds in the Universe, infinitely superior to mine in knowledge and power—and that these Minds may communicate with the Human, and at no time more probably than in Sleep—cannot discover any thing incredible in this narrative of Aristides. I therefore examine the evidence of it, as I do of any other fact that appears extraordinary, but not impossible; and I can see no reason for rejecting the testimony of a man of such reputation as Aristides, so much honoured and esteemed, by not only the greatest, but the best men of his age, particularly the Emperor Marcus Antoninus, and by whole cities, such as the city of Smyrna, that erected a statue to him. When I also consider how much he has been celebrated, not only in his own time, but by writers who lived after him, without the least hint, by any one of them, of a suspicion that he was a liar or impostor, which if Pope Pius the Fourth had believed, he would never have erected a statue to him yet to be seen in the Vatican, I cannot persuade myself that such a man would have gone on, in a series of lying and imposture, for so many years, without any motive, that appears, either of interest
or

* Page 296.

or of vanity. Interest he could have none : And, as to vanity, the discourses, in which he gives an account of his Dreams, and of the cures prescribed to him, are not, as I have observed, written in the Oratorical and Epidicctic Style ; nor does it appear that they ever were pronounced as Orations. Neither does any author, who speaks of him, say that he acquired any reputation by his Dreams, but only by his Eloquence and Learning.

I cannot therefore reject such evidence, except upon the credit of a sound and solid system of philosophy, showing that these facts are either absolutely impossible, or in the highest degree improbable. But I am acquainted with no such philosophy. On the contrary, the philosophy I have learned favours very much the credibility of the narrative : For, in the first place, it assures me that the Soul will exist separated from the Body, after its union with the Body is dissolved by Death ; and then, being disincumbered of its load, it will exert its native Powers, and enjoy more freely the communication with Superior Minds : *2do*, It is natural to think that, though the separation betwixt the Body and Mind be not entire, as in death, but the connection only impaired, and, in some degree, loosened by disease, the Mind may even then act more by itself, and be more favoured by extraordinary communications, than at other times : *3tio*, The Mind, in ordinary Sleep, is more disengaged from the Body, and more at its ease, than at other times, not being then disturbed by the Senses, which, when we are awake, are constantly soliciting it, and importuning it, as it were, by the objects which they present to it. The connection, therefore, betwixt the Mind and Body of Aristides being loosened in both these ways, it is no wonder that he had Dreams and Visions of an extraordinary kind.—And, *lastly*, however improbable it might be that a vulgar man should be so much favoured of Heaven, yet, if we suppose that there may be an extraordinary interposition of Providence in favour of any man, it may

be well fupposed in favour of fo extraordinary a man and a philofopher, fuch as Ariftides was.

It may be objected, that, if we give credit to the Dreams of Ariftides, we muft believe in the heathen religion, and in the exiftence of fuch Deities as Æfculapius, Apollo, and Minerva. But to this I anfwer, that, as we are to fuppose that Ariftides was a believer in the religion of his country, it was proper that the Spirits, that appeared to him, fhould affume fuch fhapes as would give them credit with him, and difpofe him to follow their counfels.

But if, after all, the reader fhould be inclined to reject the authority of Ariftides, as a Heathen and favouring the Heathen religion, I fhould defire to know what objection he has to the credibility of the Christian Bifhop Synefius. He fays that, in his Dreams, he was forewarned of dangers that threatened him, which, by that means, he efaped *: By the fame means, he fucceeded in the bufinefs in which he was engaged ; particularly in his embaffy to Arcadius the Emperor, from Cyrene and other Greek cities † : He philofophifed too, he fays, in his Sleep, and difcovered things which he could not find out while awake : He compofed, likewise, in his Dreams ; and, of what he had compofed before, while he was awake, he fmoothed the ftyle, taking it down, and making it lefs turgid ‡. This very work upon Dreams he was directed to compofe by a Dream : And he wrote the whole of it that very night §. And, from the account he gives of the effect it had, both upon himfelf and others, when it was read over, it is plain that he thought he was infpired when he wrote it. And it is probably to this ftory that Nicephorus, his commentator, alludes, when he fays that he wrote like one infpired ¶. Even in hunting, by which, he fays, and by his books
he

* Page 123. 124.

† Page 124.

‡ Page 123. From what he fays in this paffage, it appears that the obfcurity of his ftyle arofe chiefly from his imitation of the antient Attic, and his ufing new and ftange words, which he made himfelf to exprefs his conceptions.

§ Epift. 153. towards the end, page 293. edit. Petavii.

¶ See page 253. of this Vol. in the Note.

he lived, he was directed, by his Dreams, when and where he was to find the Game †. In short, from his account of the matter, it appears that, through his whole life, in his business, his studies, and even his sports, he was guided by the counsels and suggestions of a genius, that accompanied him through life, but communicated with him chiefly in Dreams; whereas the Genius of Socrates gave him warning, for the greater part, when he was awake ‡, never inciting him to do any thing, (for he had no need of that, being by nature disposed to every thing good and virtuous), but restraining him from some things which would have proved fatal to him. Of this Plato has given one or two examples.

I ask again, upon the credit of what system of philosophy I ought to reject the testimony of so eminent a bishop of the primitive church, who, besides, was the greatest philosopher of his age, and one of the worthiest and best men of that or of any other age §?

Against authorities, so respectable, I know nothing that can be said, except that such things do not happen in our age; and that men, in all ages and nations, have been always the same, equally religious, virtuous, and learned; and that, in every age and nation, there have been at all times such men as Aristides, Synesius, and Socrates. But this, I think, no man, who is either scholar or philosopher, will maintain; and though he be neither, yet, if he is a man of common observation, and has lived as long as I have done, he will perceive a decline of men, even in his own time, both in Mind and Body.

But,

† Page 123.

‡ The Genius, or *Daemon*, as it was called, of Socrates, spoke to him in an audible voice, as Plato relates in the *Theages*. *Εβλ. γαρ τι θεια μοιρα παρεπομινον 'μοι 'εν παιδῶ ἀρχαίνοις δαίμονιοι. σοτι δι τούτο φωνη, ἢ, ὅταν γινηται, 'αίσι μοι σημαίνει, ὅ 'αυ μίλλω πραγματι, τούτου 'αποτειπται. προτειπει δι 'ουδῆποτε, &c.* It was the opinion of the Antients, that every man had a Genius that attended him through life, though he did not manifest himself, as the Genius of Socrates did, but was of a Divine Nature, and therefore is called by Horace, *Naturae Deus humanae*.

§ See a very particular account of him by Tillemont, in his *Ecclesiastical History*, Vol. xii. p. 499.

But, if he is a philosopher, he will not only know that it *is* so, but he will know that, of necessity, it *must be* so; because he will see it, as a philosopher should see things, in its causes.

It remains now only to inquire into the Final Cause of Dreaming, without the knowledge of which there could be no philosophy of Dreams: For philosophy is the knowledge of Causes; and the Final Cause, as I have observed, is the First and Principal Cause, and may be said to be the Cause of Causes. The works of man nobody pretends to understand, unless he knows the purpose for which they are intended; and the same is true of the works of God.

I will begin with those Dreams which I hold to be in the ordinary course of Nature. These, I think, I have shown to be necessary; so that, unless the nature of our Minds and Bodies be altered, there must be Dreams. They are therefore a part of the system of Nature; and, if that system be the work of Infinite Wisdom, it is impossible but that some end must be proposed and attained by them: For every thing in Nature is for some end; and, though there may be many things in Nature, of which we cannot discover the end, our limited understandings not being able to comprehend the whole system, these things, for the greater part, are out of the common course of Nature; but it would be strange if we could discover no purpose or design in what happens every day, and with respect to ourselves too, and in our own little world. Every body must acknowledge that our philosophy of Man would be ridiculously imperfect, if we could give no account for what purpose we are in this world, and to what end we live while we are waking. Now, our Sleeping Life is nearly equal to our Waking; and, therefore, if we could give no account of it, we should know but half of human life.

If we believe that the Almighty is good as well as wise, we must likewise believe that his intention is to make all his creatures happy, so far forth as is consistent with general Laws, without which it is impossible that there can be a system of Nature. Further, it is impossible but that Intelligent and Sensitive Beings, who alone are capable of happiness or misery, must, if they be in action, feel either pleasure or pain, and, consequently, must, in some degree, be either happy or miserable. And, therefore, as our Sensitive and Intelligent parts are undoubtedly active in our Sleep, it is impossible that state can be indifferent to us, but must be a source either of happiness or misery. Moreover, by the constitution of our Nature, Virtue necessarily makes our Happiness, and Vice our Misery; and, if they make the Happiness or Misery of our Waking Life, it would be extraordinary if they had no influence either way upon our Life in Sleep. But it has been shown * that the Dreams of a wicked man make a great part of his Misery; and, indeed, without them, he could not be said to be completely miserable. Now, it would be a strange order of things, and a very unequal distribution of rewards and punishments, if they did not likewise make part of the happiness of a virtuous man; and, that they do so, I think I have likewise shown: And, indeed, it is impossible, by the nature of things, but that there should be a conformity betwixt our Sleeping and our Waking Thoughts; and, as the Waking Thoughts of the virtuous man are far better and happier, so must also his Sleeping Thoughts be. As few men, however, very few, are virtuous in any high degree, and fewer still are philosophers, it cannot be expected that we should enjoy any great happiness in our Sleep, any more than Waking. But I maintain, that a man, who has good social affections, and has love and friendship in his nature, and whose Body is not disordered by an unnatural diet and an improper manner of living, will pass many a pleasant night in his Sleep, with friends and relations whom he loves and esteems,
and

* Page 274. 275.

and with the dead as well as the living ; or, if he has had the misfortune, which, I doubt, is the case of many in this age, not to have known much Virtue or Worth, but is an Antient Scholar, his Imagination will raise from their tombs the heroes of Greece and Rome, and make him enjoy their Society.

And here I beg leave again to quote Mr Thomfon, in his *Castle of Indolence*, the finest allegorical poem in any language, and most complete, according to my judgment, both in style and versification, and particularly beautiful upon the subject of Dreams. It is where he prays for good Dreams, in these sweet verses, following the stanza above quoted concerning Dreams of horror and affright.

*Ye Guardian Spirits, to whom man is dear !
From these foul Daemons shield the midnight gloom :
Angels of Fancy and of Love ! be near,
And o'er the Blank of Sleep diffuse a bloom :
Evoke the sacred Shades of Greece and Rome,
And let them Virtue with a look impart :
But chief, a while, O ! lend us from the Tomb
Those long-lost Friends for whom in Love we smart,
And fill with pious awe and joy-mixt woe the heart.*

But, if to virtue and learning be joined philosophy, and if to both be added that *cathartic* manner of life *, by which the later Platonicians said that they were disengaged from the Body as much as was possible in this life, and their Minds exalted to a communication with Superior Minds, we shall then enjoy the greatest happiness that our nature is capable of in this state, and, in our Sleeping Life, shall anticipate, in some degree, the joys that are prepared for the religious and virtuous in the other life that is to come with the Sleep of Death.

That

* Page 163. 171

That there will be Dreams in that long Sleep, no man can doubt, who studies human nature as a philosopher, and considers particularly this phenomenon of Dreaming ; for, if we have Dreams in the death of each day's life, why should we not have them in that longer death, which differs not from the other in any respect, except that the one concludes the life of many days, the other that of only one. In both, the Mind has no use of Senses ; and if, nevertheless, it be active in the one, why not in the other ? And, upon the whole, I think the argument in favour of a separate state of the Soul, and of a future life, is so strongly supported by Dreaming, that, if it could not be proved to serve any other purpose, but to give the righteous hopes of a blessed Immortality, and to deter the wicked from their flagitious courses by the fear of future misery in a separate state, I should think that sufficient.

With respect to supernatural and prophetic Dreams, as I do not believe with Epicurus, that the Divinity takes no concern in the affairs of men, nor am convinced, by the arguments of some of our modern philosophers, that there is no such thing as a particular Providence, but that the affairs of men are governed by general laws, such as those which govern Matter and Motion *, I believe most firmly, that, in some ages and some nations of the world, future events were revealed to men in Dreams, by which great calamities, both to private men and to nations, have been prevented ; and my reason for so believing is, that I do not think human wisdom sufficient to conduct men prosperously through this

VOL. II.

O o

Life,

* There is a Dissertation to prove this, in the preface of Hawkesworth's publication of Captain Cook's first voyage round the world. It is as foreign to the purpose as any thing that can be imagined : But such writers are fond of every opportunity of showing their infidelity, like the French Abbé Chappe, who, in giving an account of his journey through Russia and Siberia to Tobolski, takes occasion to inform the reader that the human Soul is nothing but electrical Fire.

Life, without ſuch extraordinary communications with Superior Minds. This was the opinion of all the antient world, philoſophers as well as other men ; and, accordingly, many different kinds of Divination were practiſed by different nations, of which Dreams appear to have been the moſt antient. We ſee from Homer what credit was given to them in his time ; nor does there appear to have been any other kind of Divination then practiſed, except that by the flight of Birds : And, at this day, it is the only Divination among the Indians of North America.

How this kind of Revelation has ceaſed among us and in other nations of Europe, and how we come to be reduced to the State in which Iſrael was in the days of Saul, ‘ When the Lord answered ‘ not, neither by Dreams nor by Prophets *,’ is a matter of long diſcuſſion, and belongs not to this part of my work. All I ſhall ſay at preſent is, that it appears to me moſt evident, both from the philoſophy and the hiſtory of Man, that he is not the ſame animal, either in Body or Mind, that he was in former ages ; and, if he be ſo much degenerated, as I ſuppoſe him to be, it is no wonder that he is not a fit veſſel for Divine Inſpiration, or proper for Communication with Superior Minds : For the order of Nature requires that there ſhould be an aptitude in every thing for certain ends ; and, in one ſtate or condition, a thing will be fit for a certain purpoſe, and, in another condition, utterly unfit. The age, in which Syneſius lived, was far from being one of the beſt : Nor do I believe that he could have had thoſe ſupernatural communications by Dreams, which he mentions, unleſs his Mind had been exalted by the ſtudy of the ſublimeſt philoſophy, exceedingly different from what we now call philoſophy, which is nothing elſe but Meaſurement and Computation, Facts of Natural Hiſtory, Mechanics, and Properties of
Lines

* 1 Samuel, chap. xxviii. v. 1. 16.

Lines and Figures, which never can give any considerable elevation to the Mind: Even in this more degenerate age, when men are both born and educated worse than they were then, I do not think it is impossible that a man, favoured of Heaven, may, by Religion and the study of the same philosophy, be raised so much above other men, as to carry about with him the same oracle that Synesius did.

Those who have not studied the history and philosophy of Human Nature, nor have been taught to distinguish betwixt the natural state of the Animal and his artificial or civilized state, will be surpris'd to hear of such a degeneracy, as I suppose, of the Species. But the learned in *Man* know that, from the time he forsook that manner of life which God and Nature had appointed for him, he has been constantly degenerating in Body.—That, with respect to his Mind, he has, in the first periods of his progression, wonderfully improved, and, in a manner, created, or at least refuscitated, his Intellectual part. But, as all sublunary things are, by Nature, doomed to decay and corruption, in the latter stage of his progress he declines also in Mind. But, if to this decline in the ordinary course of Nature be added Wealth and Luxury, and their necessary concomitants, Vice and Disease, his degeneracy goes on with rapidity; and he becomes, at last, when he is grown as weak as he is wicked, the most contemptible, as well as the most miserable, of all the creatures that God has made*: For, in that degenerate state, he will be vain, and the more

Ο ο 2

dege-

* Homer has said, and from the mouth of Jupiter too, that, of all the Animals upon this earth, Man is the most miserable:

Ου μιν γαρ τι πορ' εστιν ειζυρωτερον ανδρος

† Παντων, οσα τε γυναικα επιτιμιουσι τε και ιβραται.

So wretched had Vice and Folly made Men, even in the days of Homer. But they were then strong of Mind and of Body; and therefore they were not contemptible.

degenerate the more vain. Now, Vanity is the proper object of Ridicule and Contempt: Nor is any Animal that God has made, even the meanest and lowest, without Vanity, ridiculous or contemptible. Religion, Philosophy, and good Learning, may for a while stem the tide of Corruption and Depravity, and retard the destruction of such a Nation; but, if these be wanting, the fall will be precipitate, and the conclusion must be the utter extinction of the Nation: For it is a law of Nature, that whatever grows worse, and continues to grow worse, must end at last. We see every day the extinction of Families; and, as a Nation consists of Families, for the same reason that Families are extinguished, whole Nations may be so. Accordingly, we know, with the greatest certainty, that Nations diminish in numbers; and there are examples in the history of mankind, of whole Nations, by gradual diminution, disappearing at last altogether. But, as all the works of God are eternal, either as individuals or by succession, nothing perishes utterly, but every thing is renewed in some shape or another; and therefore I believe what the wise of antient times have taught, that there is to be a *καλιγγισις*, or *Renovation of Things*,

tible. But the same Poet tells us, from the mouth of Nestor, that the men in his time, or even in the time of the Trojan war, were nothing like those of the age preceding. This, I know, the young men of the present age will not believe, but will think it a vain boasting of old men, peevish and discontented with the present times. But I desire to be informed how they can know past times, otherwise than by the testimony of those who lived in them. For, in order to compare two things, it seems necessary that one should know both: And there is nothing but an extraordinary superiority of genius that can enable a young man to judge better of present and past times, than an old man who has known both. By the same superiority of genius, these men pronounce decisively, that the modern life in Europe is preferable to the life of a Savage of North America, contrary to the judgment of many, both French and English, who have tried both lives, and could not be persuaded to forsake the Savages, and return to their countrymen and friends.

Things, at certain periods. Upon this subject we have a most excellent Poem of Virgil in his fourth Eclogue*.

But, to conclude this long chapter upon Dreams, I think, I have shown that the Final Cause of all Dreams, natural or supernatural, is the same as the Final Cause of all the works of God—the happiness of all Intelligent and Sensitive Beings during their whole Lives, not only their Waking but their Sleeping Life. And I will only add, that if I have not given full satisfaction to the philosophical reader, I have, at least, the merit of treating the subject more fully and methodically than any other modern author, and of giving him an opportunity of thinking upon it himself, and trying to discover something better with respect to a phaenomenon, which, if it were not so common, would be thought the most extraordinary belonging to Human Nature, and which alone appears to me sufficient to convince the most determined Materialist, that there is something in our composition besides Matter and Mechanism.

* Magnus ab integro saeculorum nascitur ordo:
Jam redit et Virgo, redeunt Saturnia regna;
Jam nova progenies caelo demittitur alto.

V. 5. et seq.

C H A P. VI.

Of Instinct, and the Nature of it—different from every other Power of Mind hitherto mentioned.—It is shown chiefly in the Generation and the Education of the Young.—Shown in Incubation—in the Flights of Birds of Passage.—Instinct stronger in the Natural State of the Animal, but wonderful Examples of it even in the Tame State.—This Instinct of Animals, superior to Human Intelligence.—What Instinct Man had in his Natural State.—Not so much necessary to him as to other Animals in that State.—His present State is directed by Intelligence, instead of Instinct.—That not sufficient to make Men happy, without the Assistance of Superior Powers.—This the Origin of Religion.

THAT Power of Mind, by which it operates so wonderfully when its connection with the Body is loosened either by Sleep or Disease, and which I have endeavoured to explain and account for in the preceding Chapter, is common, in some degree, to us and to the Brute. But the Power I am now to mention is peculiar to the Brute, and shows, more, I think, than any thing else, how impossible it is to account for the operations even of the Animal Mind by Matter and Mechanism, and manifests, at the same time, the wisdom and goodness of Providence in providing so wonderfully for the preservation of the Animal race, which alone is capable of happiness. The power, I mean, is denoted by a name well known, *Instinct*: But the thing itself is little understood; for, I believe, very few know that it is a power quite distinct from Sensation, Imagination, Memory, or even Reason, which are generally believed to be the only faculties belonging either to the Animal or Intellectual Nature: Neither is it acquired by imitation or instruction.

It is employed, both for the preservation of the individual and the continuation of the race; but, as the latter is more particularly

ly the care of Nature, it is in it that the power of Instinct is most eminently displayed. The use of the parts of generation, and the various methods of copulation practised by different Animals, are certainly not discovered by any of the faculties of Mind above mentioned; nor are they practised from imitation or instruction: But it is Nature herself that directs the Animal to do what is necessary for the propagation of the kind.

The education also of the young is a wonderful effect of this Instinct; and likewise the preparation for it in some animals, particularly in those whom Nature has directed to pair, being a thing necessary for rearing the offspring of certain specieses of animals. The beasts that couple prepare holes and layers convenient for their purpose: And the fowls make nests, some of them of most artificial construction, where that is necessary; and this, whether they be made by young or by old birds; so that it is plain they do not learn by practice and experience, as we do.

The process of incubation in the bird-kind also shows a most wonderful Instinct; for the female who sits upon the eggs turns them once in twenty-four hours, and also changes the place of them, so that they all may be in their turn immediately under her breast. And, after the young are in this way brought forth, it is amazing how both the parents join in the labour of rearing them.

There are some birds whose oeconomy requires that they should go over seas at certain seasons: And, accordingly, these birds of passage, as they call them, know at what time to begin their flight, and what course to hold through the pathless air without chart or compass.

I should write a Volume, if I were to enumerate all the different ways in which Instinct directs animals to preserve the individual, as well as to continue the race, some of them much exceeding

exceeding what human art or ſcience can do. But I do not propoſe to write a Natural Hiſtory of Animals; my intention being only to ſhow what Inſtinſt is. I ſhall, therefore, only further add, that, as Inſtinſt is from Nature, it is no doubt moſt perfect in the natural ſtate: And yet there are animals in a tame and domeſticated ſtate, which ſhow a great deal of it. The dog, for example, who, in his natural ſtate, is an animal of prey, as much as the fox, being, as is now certainly known, of the ſame ſpecies, becomes ſo fond of his houſe and home, that, when he is carried away from it, he can find his way back again, which, in many caſes, it would be impoſſible for us to do with all our art and ſcience: For it is a fact well known, that dogs, who have been carried by ſea from Scotland to London, have found their way back again by land to the very place from whence they had been taken away; and in ſo ſhort a time, that it was evident they muſt have taken the neareſt way: And I have heard a ſtory from a perſon whom I can believe, of a Ship Dog, that is, a dog bred aboard a ſhip, who had been accuſtomed always to ſail with the ſhip, but having been left by ſome accident at Leith when the ſhip failed, found his way acroſs the country to *Lochfine*, where the ſhip was fiſhing for herring. Whether the dog had ever been there before with the ſhip, I could not learn with any certainty; but I was aſſured that he had never travelled before from Leith to Lochfine by land. I am alſo well informed of a Tame Serpent, in the Eaſt Indies, which belonged to the late Lord Pigot, and was kept by him in the ſuburbs of Madraſs. This ſerpent was taken by the French, when they inveſted Madraſs in the laſt war, and was carried to Pondicherry in a cloſe carriage. But from thence he found his way back again to his old quarters, which, it ſeems, he liked better, though Madraſs be diſtant from Pondicherry above 100 miles. This information I have from a Lady, who was then in India, and had ſeen the Serpent often before his journey, and ſaw him after he returned.

Nor

Nor is it for no purpose that Nature has given to these animals this wonderful power of Mind ; since without it they could not carry on their oeconomy, or preserve themselves and their race. For this purpose, Human Intelligence, as I have observed, would not be sufficient ; nor could the Dog and Serpent, in the instances I have given, have found their way home, to which Nature had given them the disposition to return, if that Intelligence had been their only guide.

Here, therefore, we have a faculty of Mind, different from Human Intelligence and superior to it in some respects, bestowed by the Author of Nature upon the Brutes for enabling them to answer the ends of their being, and to live the life for which they were destined by Nature.

Those who are not acquainted with the extensive views which the antients had of Nature, and who judge of Mind only by the powers which they see exerted by the human Mind in its present state, do not know what to make of Instinct, and think it one of the mysteries of Nature not to be explained. But those, who have studied the philosophy of Plato and Aristotle, know that Nature, as they define it, comprehends the Brute, as well as the Vegetable and Bodies unorganized—in short, whatever has not Intelligence and Conscioufness. Now, if even Bodies unorganized, Brute and lifeless Matter, as it is commonly called, has an inward principle which governs its motions, and makes them all subservient to the purposes of Nature, there would be something very defective and anomalous in Nature, if her nobler production, I mean the Animal race, was not governed by the same principle. We are not, therefore, to wonder, that the Animal does things which cannot be accounted for from any faculties that we at present possess, such as Sense, Memory, Imagination, and Reasoning, provided it appear that those

things are conducive to the being or well being of the Animal : But, on the contrary, it would be wonderful if faculties superior to ours were not required to carry on the business of Nature.

It may be said that an Instinct, such as that of the Dog and Serpent above mentioned, is not necessary, either for the preservation of the Individual, or the continuation of the Kind. But Nature is so benevolent, as to intend, not only the preservation of Animals, but their pleasure and happiness. Now, it is well known what delight the tame and domesticated Animals have, both in the Men and the other Animals with whom they are brought up, and what a fondness they contract for their house and home : And Nature has been so kind as to furnish them with an Instinct, which enables them to gratify that inclination ; and which not only gives pleasure and satisfaction to *them**, but is of great advantage to *us* ; for without it the animals we have tamed would be of little advantage to us, and could hardly be kept by us. It is an inclination so natural to the whole animal race, that I think those men who have not an attachment to their *natale solum*, their country, family, and friends, are deficient, even in the animal part of their nature, and ought to be accounted imperfect animals, as well as worthless intellectual creatures.

And here we may perceive that the same distinction, which I have made betwixt Man and Brute, is to be made betwixt Man and Nature ; for Nature is that which acts without Intelligence, Consciousness, or knowing what it is doing, whether in Brute, Vegetable, or Unorganized Bodies ; being a Principle, which the great Author of Nature has bestowed upon them, in order to make them fulfil the purposes of Nature : Whereas Man has Intelligence, Consciousness, knows what he does, proposes certain ends, and devises means to accomplish those ends.

The

* See p. 103. where I have spoken of this pleasure which the Brutes enjoy, and which, I say, is a pleasure of *Mind*, and not of *Body*.

The operations of this Power of Nature, which we call Instinct, are so wonderfully artificial in some animals, that I am not surpris'd that a man not learned in the philosophy of Mind should believe that they have Intelligence as well as we. Besides the examples I have already given, I will give one more, taken from that most curious little insect, the greatest artist, perhaps, of the Brute kind; I mean the Bee. I believe nobody will maintain, except it be for the pleasure of disputing and contradicting, that this animal knows the rules of Geometry, by which it makes its hexagons, and joins them together in such a way, that, with the least expence of materials, it makes its cells contain the greatest quantity of honey possible, as has been clearly demonstrated. It is therefore admitted that the Bee is no Geometer: But still, it may be said, that the Bee has Intelligence, as we see many men have, though it be not methodis'd into Art and Science. But I ask, Does the Bee know for what end she works? and I think we must answer, That she does not; for, if otherwise, we must suppose that the unorganized Bodies, such as salts, which being dissolved, form themselves again into crystals of figures as regular as the cells of the Bees, know for what end they act, which, I believe, is more knowledge than any man has. If, therefore, the Bee does not know the end for which she acts, she certainly does not know that the means she uses are subservient to that end; and, if she knows neither end nor means, it is clear that she has not Intelligence, and also that she acts without deliberation, without intention, and necessarily. But has she not *Consciousness*? Does she not know what she is doing?—And I say she does not; for, otherwise, she would not only have Intelligence, but that prime faculty of Intellect, by which it recognizes itself and its own operations.—In one word, she would *reflect*. For every Animal, that knows what he is doing, reflects; a thing which we ourselves do not always do: For nothing is more true than what is commonly said, that we often act without knowing what we are doing. The Bee, however, acts by Intelligence, though she has it not herself, but by an Intelligence much superior to the human, no

less Intelligence than the Divine. Nor ought we to be surpris'd that a Being not intelligent should act intelligently : For it often happens, even among us who have Intelligence, that we act by an Intelligence superior to our own, doing what we are directed to do by men wiser than we, without knowing for what purpose we act. And this I say is the case of every well governed society, where by far the greater part of the subjects act by rules, of which they do not understand the reason*.

Thus, the distinction betwixt Man and Nature, as well as betwixt Man and Brute, is manifest ; as also the distinction betwixt God and Nature. As to the distinction betwixt God and Man, it does not belong to the subject now in hand to enter minutely into it. It is sufficient for my present purpose, to observe, that man, in this lower world, is in a kind of middle state betwixt God and Nature, superior to Nature, in so far as he has Intelligence in himself, and in that respect participates of the Divine Nature ; but it is an Intelligence inferior, in infinite degrees, to the Divine †.

But, as Intellect is latent for a considerable time in the individuals among us, and must have been latent for a very long time, perhaps for ages, among Savages, it is not to be supposed that Nature, in that natural and primitive state, would leave us unprovided with what she has so bountifully bestowed upon other Animals. What particular Instinct Man then had is difficult to say ; but this we may be assured of, that he had all that was necessary for his being and well being : But not so much would be necessary to him, as to other
other

* See what I have said further upon this subject, vol. i. p. 216.

† See vol. i. book 2. chap 17. where I have defined Nature (p. 218.), and shown the difference betwixt God, and Nature, and Man ; and I have also said a good deal upon this subject of Instinct, to which I beg leave to refer the Reader, as also to what I have said in page 46. of this volume.

other Animals, whose oeconomy is more artificial than that of Man, his being very simple, and much resembling that of cattle and horses. After he had acquired Intellect, Reason would, in some measure, supply the place of Instinct: And there remains nothing now of Instinct among us, except what appears in our infants, before they have got the use of Reason, such as their applying to the breast of the mother for nourishment. By the use of Intellect, and the Arts and Sciences invented by us, we have formed a system of life altogether different from the natural; for the perfection of which we believe Intelligence alone is sufficient. But this was not the opinion of the wiser Antients, who thought that human reason alone could not properly conduct human life, without the counsel and assistance of Superior Powers: And this has been so much the general sense of mankind, that, in all ages, and in all nations, some methods have been practised to obtain that favour and assistance. There has, therefore, always been religion in the world, grounded upon this persuasion, that Man, with all his superior faculties, has not wisdom sufficient to make himself happy: But, as men, the more they degenerate, grow the vainer, they come at last to believe, that, without Divine assistance, by their own wisdom merely, they may be happy; and in such a degenerate state, even a philosopher * may arise,

who

* Mr David Hume has been so kind as to give his countrymen this information, making it a part of the valuable legacy he has left the public in his posthumous works. See his Dialogues upon Natural Religion. p. 243. where he says, in so many words, That the prosperous and happy times of all nations are those in which the religious spirit is never regarded or heard of. And for the truth of this he appeals to history, and the evidence of facts. It is true, that he puts this assertion into the mouth of Philo, the Sceptic in the Dialogue. But that it was really his own opinion, I think is very plain from the whole tenor of his writings; and, if it were otherwise, I should believe him to be *intentionally* the greatest enemy of his country. If this opinion be right, the whole policy of the modern nations of Europe must be wrong; and, particularly, our legislature must be very much mistaken, who have

thought

who will inform them, that, the less religion they have, the happier they are.

thought that the chief security the King has for his crown, and the subjects for their lives and properties, is the religion of an oath. And, as to the antient nations, the greatest among them was the Romans; and they were the most religious of men; and though they were excelled, as Cicero tells us, by other nations in other things, in religion they excelled all men. And while they continued religious, *et nondum ille, qui nunc tenet seculum, contemptus Deum venerat*, (to use an expression of Livy's), they were the most flourishing and powerful nation that ever existed. The Greeks, too, were a noble and fine people, excelling in arts and arms, but they were so no longer than they continued to be religious; for, after such a philosophy as Mr Hume's was introduced among them, I mean the Epicurean, which taught that all religion was vain and unnecessary, they became, as Polybius informs us, the most worthless and faithless of men; and, particularly, he says that they were not to be bound by a thousand oaths. And, in general, I defy any man to give me an example of any one nation, since we have any record of human affairs, that has been happy and flourishing, renowned for the wisdom of their government, and great in arts and arms, that was not religious.

As to what I have said of Vanity being the source of irreligion, I think it is evident, both from the nature of the thing, and from the characters of the men who, in different ages and nations of the world, have been the great apostles of Infidelity. See what I have said upon this subject, p. 247.

C H A P. VII,

A wonderful Quality of Mind not hitherto mentioned.—It exists in no particular Time or Place—is not in the Body, as in a Vessel which contains it.—It is, however, somewhere, and in some time.—It is in Space and Time, but not as Body is—is conversant with Objects distant in Time and Place—therefore must exist in those distant Times and Places.—Difference betwixt us and the Brutes in this respect.—In what Sense the Mind is confined to the Body.—Answer to the Objection of our seeing Things at great Distances.—Difference betwixt our Mind and the Divine in this respect.—The Study of our own Minds may give us some Conception even of the Ubiquity of the Deity.—Of the Knowledge of the Future—not so different from the knowledge of the Past as is commonly imagined.—The Brutes have it in their natural State as far as is necessary for the Oeconomy of their Lives—they have it even in the domesticated State.—A Fact concerning the Hanoverian Boy.—Alteration made, as to the Divining Power of the Human Mind, by Society and Civilization.—That Alteration still greater in the degenerate State of Society.—Of the Difference betwixt the Minds of Savages and of Civilized Nations.—Difference betwixt the Animal and Intellectual Minds and the Vegetable.—Necessity that the Vegetable Part of the Animal should be always active, and never abroad.—These Minds have no Situation in any Part of the Body.

I Will conclude this Book with observing a quality of Mind not hitherto mentioned, and which, to a reader not accustomed to metaphysical speculations, will appear still more extraordinary than any

any I have hitherto mentioned : I say that the Human Mind, even our Animal Mind, is not confined either to *Place* or to *Time*.

As to *Place*, the general opinion is, that our Mind is confined to our Body, which it inhabits while we exist in this life; and it is only by death that it is released from this confinement. Even Aristotle, who believed that the Mind was not, by its nature, moveable, has said that it is moved by *accident*, or *κατὰ συμβεβηκός*, as he expresses it *, when the Body is moved; like a man in a boat, who is not moved of himself, but is moved when the boat is moved †: From whence it would appear he thought that the Mind was contained in or bounded by the Body. If that be true, it must of necessity occupy Space; for every thing that is contained in another thing, occupies Space in that other thing. Whereas I maintain, that the Mind occupies no Space, and therefore is not moved, neither of itself, nor by accident: And, in this respect, as well as in every other, it is essentially different from Body, which must occupy Space, that is, must have a Place, and only one Place at a time.

As to *Time*, the general opinion is, that the common division of Time into Past, Present, and Future, applies to Mind as well as to Body; that the Mind *has been* in the Past Time, *will be* in the Future, and *is* in the Present Time; but that it is impossible that the Mind, in the present instant, should exist in the Past or the Future: Whereas I maintain that the Mind does actually exist in that way, however strange it may appear; and in this, as in other respects, it essentially differs from Body, which cannot be conceived to exist actually but in the present instant.

It

* This is a common expression in Aristotle's philosophy; and it means that what happens, is not from the nature of the thing to which it happens, but from something adventitious to it. See what I have further said on this subject, Vol. i. p. 39. and 292.

† See Vol. i. p. 21. and 79.

It will be asked, *Where* or *When* Mind exists? or do I say, That Mind exists in no Place, and in no Time? To this I answer, That the Categories of *where* and *when* must necessarily apply to every thing; and, therefore, that our Minds must necessarily exist in some Time, or in some Place; for, as they act at certain Times, and in certain Places, they must of necessity exist in those Times, and in those Places.

In order to solve these difficulties, and to explain what no doubt appears very paradoxical, we must consider that, as Mind is of a nature perfectly different from Body, it must exist in a manner quite different; and it is natural to think that it should exist in a manner different, even with respect to these common attributes of Time and Place.

That Mind is of a nature quite different from Body, I hope I have sufficiently proved*; and, particularly, that it is not extended as Body is; and that it has not the three dimensions of Length, Breadth, and Depth; the consequence of the contrary supposition being, as I have shown, most absurd and ridiculous, such as that of its being figured and divisible. Now, if it be not extended, it cannot occupy Space; for it is impossible to conceive a thing extended which does not occupy that Space, over which it is extended. At the same time, it is necessary, as I have said, that the Mind should exist some where, that is, in some Space, but not in the manner in which Body exists in Space, but in a manner altogether different, of which we cannot have any clear Idea, any more than of Mind itself, which we are sure exists without Parts: And yet no man can say that he has a clear conception of a Substance existing without Parts; the reason of which is, that, being so intimately connected with Body, as we are, and conversant only with it in the first years of our life, we

VOL. II.

Q 9

never

* See Book I. Chap. 7. of this Volume.

never can so perfectly abstract ourselves from it, as to have any clear conception of Spiritual Substances, though we are sure of their existence.

I therefore hold it to be certain, that the Mind is not where the Body is, in the sense of being contained in it, as a man is in a boat, to use the comparison of Aristotle; because a man in a boat must occupy part of the Space in the boat, and I have shown that Mind can occupy no Space. And in this I think I am supported by the authority of Aristotle himself: For, in arguing against Plato, who said that the Mind was self-moved, and consequently *was* moved, he represents it as an absurd consequence of Plato's doctrine, that he made Mind to be *in Place* *, without which it could not be moved, all Motion being a change of Place. Now, as a man in a boat has undoubtedly a Place in the boat, it is impossible, even according to Aristotle, that the Mind can be in the Body, in the same manner as the man is in the boat.

Further, the Mind is not where the Body is, when it perceives what is distant from the Body, either in Time or Place; because nothing can act but when and where it is. Now, the Mind acts when it perceives: For Mind only acts in two ways; either when it perceives, or when it moves Body. The Mind, therefore, of every Animal, who has Memory or Imagination, acts, and, by consequence, exists, *when* and *where* the Body is not; for it perceives objects distant from the Body, both in Time and Place.

I know it is commonly said, that the Mind perceives those distant objects, by a kind of picture in the Imagination. But I ask, Who drew this picture? Where is the canvass upon which it is drawn?

* Lib. 1. De Anima, cap. 3. where he says that if, by its nature, the Mind be moveable by any *one* of the *four* different kinds of Motion which he enumerates, it must have a Place: Πνευσι γαρ εἰς λεχθειται κινήσεις ἐν τόπων.

drawn? And in what part of the Body is this picture hung up? These are questions that cannot be answered; and the truth of the matter is, that this is only a metaphorical or figurative way of speaking, expressing, that we see the things as if they were presented to us in a picture. All that we truly know of the matter is, that the Mind is conversant with objects, distant both in Time and Place; but how it transports itself to those distant Times and Places, we cannot account, any more than we can for many other things in Nature.

This power of the Mind, however extraordinary it may seem, is common to us with the other Animals; but in them it is confined to the purposes of the Animal Life, that is, the preservation of the Individual and the continuation of the kind, which could not be without Memory or Imagination. But the Intellectual Mind of Man being destined for higher purposes, is not so limited, but goes through the whole universe, even

—*extra flammantia moenia mundi**,

and sees beyond this world other worlds. When the Mind is so employed, it is very properly said to be abroad;

—*peregre est Animus* †;

So that, when external objects operate upon the Senses, and knock, as it were, at the door, the Mind is not at home.

This, therefore, is the answer to the question, *Where* the Human Mind is? That it sometimes is where the Body is, at other times in very distant places: And the answer to the question, *When*? is, that it

Q q 2 is

* Lucretius.

† Horatius.

is sometimes of the present moment only, and at other times it transports itself to Times far distant.

But in what Sense then is it that our Mind can be said to be *in* our Body? My answer is, That it is said to be *in* our Body, and confined to our Body, because there is one part of its power, namely, the power of moving Body, which it can only exert upon its own Body, and, by the intervention of its own Body, upon other Bodies; for, though we can perceive even objects of Sense, without the organs of Sense, as in Dreams, we cannot move any Body immediately or directly, except our own. In this respect, we may be properly said to be confined in our Bodies; and, in every respect, our Mind is certainly impeded and retarded in its operations, by its conjunction with the Body.

It may be objected that I make this matter much more wonderful than it really is; for the fact is truly no more than this, that the energies of our Mind extend to distant Places and Times; but it will not from thence follow, that the Mind itself, its very substance, is transported to those distant Times and Places, any more than it will follow, that, because the Eye sees objects at a great distance, therefore the Eye must be supposed to be present where those objects are.

To this I answer, that it is impossible to conceive any thing acting or energizing, where or when it is not. The substance, therefore, of the Mind, must of necessity be where or when it acts; otherwise we must divide a Substance from its Actions or Energies, which is a thing inconceivable. As to the case of the Eye perceiving objects at a great distance, it is easily explained from what is now known of the Science of Optics; for we know that Vision is produced by the reflection of the rays of light from the object upon the pupil of our eye. If, therefore, it could be proved, that all our thoughts, and
all

all our perceptions, were produced, as Epicurus supposed, by the appulse of corporeal images upon our Minds, the comparison would hold; but, as it is believed no philosopher now a days, not even the Materialist, maintains that our thoughts are so produced, it proves no more, than that a Subtile Body, such as Light, may, from a great distance, come into contact with our organs of Sense. But this never will account for our thoughts when we have no use of our organs of Sense, as in Sleep, nor for our Perceptions, when we are awake, of objects of Sense, distant both in Time and Place.

Holding it, therefore, as certain, that our Mind can transport itself to distant Places and Times, and there operate as it does upon objects present, we may observe the difference that there is betwixt our Mind and the Divinity; for, as I have taken occasion more than once to observe, we can have no conception of the Divine Mind but from the study of our own*. The Human Mind, as we have seen, is not confined to the present, with respect either to Time or Place; and so far it participates of the Divine Nature: But it is not omnipresent, nor of all Times and Places, as we conceive the Divinity to be. There is therefore this remarkable difference betwixt the Deity and us, that we are in different Places only at different Times, whereas the Universal Mind is in all Times, and in all places, at the same Time †.

In this way, the Ubiquity of God is made as plain, as, I think, it can be, to our Capacities, from what passes in our own Minds; and it appears that God is not only present every where, and at all Times, by those inferior Minds, which keep every thing in motion in this Universe, and carry on the System of Nature, but he is himself,

* See Vol. i. p. 224.—226.

† This difference betwixt the Divine Mind and ours has not escaped the notice of the philosophers of the Alexandrian School; and our manner of operating in succession, and thinking of one thing after another, they have very properly expressed by the term *νευσις μεταβατικη*.

Œelf, ŒubŒtantiŒally and eŒŒentially, every where preŒent, as Sir IŒaac Newton has well expreŒŒed it *. How this Œhould be, we cannot comprehend ; but no more can we comprehend how our Mind Œhould tranŒport itŒelf to a diŒtant Time or Place, and paŒŒ Œo readily from one of theŒe diŒtant Times or Places to another. But it is a great deal to be aŒŒured of the faœt with reŒpeœt to our own Minds ; and the only way we can have any conception of the Supreme Mind, is by adding as much as we can conceive to the powers of our own Mind ; as, in this caŒe, we conceive the Divine Mind to be not only preŒent, as ours is, in diŒtant Times and Places, but in all Times and Places at the Œame Time, not ŒucceŒŒively, as is the caŒe of our Minds : And thus we ought to reaŒon concerning all the energies of the Divine Mind. The ŒubŒtance of our Mind is like that of the Divine, perfectly Œimple and *one*, without parts, and conŒequently indiviŒible ; but its energies are divided, being ŒucceŒŒive and one after another : Whereas, we conceive not only the ŒubŒtance of the Divine Mind to be indiviŒible, as all other immaterial ŒubŒtances are, but alŒo its energies to be Œimultaneous, and not ŒucceŒŒive. And it is in this way, as I have juŒt now obŒerved, that Proclus and Œome of the commentators upon Aristotle have very properly diŒtinguiŒhed the Supreme Mind from our Mind. And, however inconceivable to our weak capacities it may appear, that a Mind Œhould have all its Ideas preŒent at once, yet there is Œomething like it to be obŒerved, even in our own Minds ; for no man can infer the conŒluŒion of a ŒyllogiŒm, unleŒŒ the two premiŒŒes be at the Œame time preŒent to his Mind.

Hitherto

* *Sœholium Generale*, in the end of his *Principia* : His words are, ‘ Deus eŒt unus et idem Deus, Œemper et ubique : OmnipreŒens eŒt, non per *virtutem* Œolam Œed etiam per *ŒubŒtantiã* ; nam *virtus Œine ŒubŒtantiã* ŒubŒiŒtere non poteŒt.’ This, I think, is excellent philoŒophy ; and, if God be preŒent every where at the Œame time, not *accidentally*, but *ŒubŒtantiãlly*, it is highly probable that the human Mind, which participates Œo much of Divinity, may be preŒent in the Œame manner, not every where, but in diŒŒerent places, and not at the *Œame* time, but at *diŒŒerent* times.

Hitherto I have spoken only of *Time Past*; I come now to inquire, whether the Animal Mind has Foreknowledge, as well as Past Knowledge, and whether it can transport itself into Future as well as Past Times. And here I cannot help making an observation, which will surprize even my philosophical readers—That there is not so great a difference betwixt the *Past* and the *Future*, and betwixt Prescience and Memory, or Recollection, as is commonly imagined; for the Future is no more present than the Past, and, as the one *has been*, so the other *will be*. If, therefore, the Mind can depart from the Present, it does not appear to make a great difference whether it goes to the one side of it or the other, whether it transports itself to the Future or to the Past: The one appears to me to be just as incomprehensible as the other. The Deity, no doubt, sees at one view the Past, Present, and Future, and is of all Times as well as of all Places: And, that he may, in an extraordinary manner, communicate to any Animal the Foreknowledge of certain events, and that he has often done so, I have no doubt. But the question here is, not concerning any extraordinary gift of that kind, which the Almighty may be pleased to bestow upon any of his creatures, but whether there is belonging to the Animal Nature any knowledge of the Future. This knowledge, it must be confessed, is not near so common as the knowledge of the Past; and for a very good reason, namely, that, without the knowledge of the Past, which an Animal has by his Memory and Imagination, it is absolutely impossible that an Animal of the better kind should, in any circumstances or situation, be able to carry on his oeconomy, and provide for himself and for his offspring. But, in certain circumstances and situations, it may be necessary for the being or well being of some Animals, perhaps of all in the natural state, that they should have prescience, in some degree, of *natural* events, (for of human counsels and actions there is no Animal that has any certain prescience, except by extraordinary gift from Heaven); and, when that

is the case, I have no doubt but the wise and beneficent Author of Nature has bestowed it. Accordingly, both birds and beasts are observed to have a Foreknowledge of Tempests and sudden and violent changes of the weather, much beyond any human Foresight. And I am well assured, that, in countries where the rivers overflow annually, the natives know certainly how far the inundation is to come up into the country, by the birds building their nests, and take their measures accordingly, without ever being deceived or disappointed. The ship-dog I mentioned some time ago, when the ship was in very great hazard in a storm upon a lee shore, foresaw, as I was told by the same gentleman, who was an eye-witness of the thing, a prodigious wave, that swept away every thing upon deck, and, among other things, a box in which the dog lived. Some time before the wave came, he went down to the cabin, where he was never seen before, which frightened the master very much: But, as soon as the danger was over, he came again upon deck, shaking his tail, and licking the hands of all his friends; which was as much as telling them, that they might be of good cheer, for the danger was over.

Virgil has observed the prescience that the birds have of the weather; and I agree with him, that it is no proof of any extraordinary Divinity in their Minds, or that it is revealed to them by any Superior Mind.

*Haud equidem credo, quia fit divinitus illis
Ingenium, aut rerum fato prudentia major* *.

But I cannot agree to his explanation of the phaenomenon, according to the principles of his Epicurean philosophy, from Material Causes,

* Georgic. i. v. 415.

Caufes, fuch as the change of the air ; but I hold it to proceed from an Inftinct, native and congenial with the Minds of animals in their natural ftate, or that are not far removed from it : For we obferve that even hogs domefticated have a prefciency of the weather ; and I believe one of the fureft prognoftics of a ftorm is taken from their carrying ftraw to make their beds.

I have no doubt but that Man, in his natural ftate, had the fame inftinct that other Animals, living in the fame way, have. And I was informed by a gentleman who is ftill alive, and to whom I give entire credit, that the Hanoverian boy, (as he was called), a favage, who was caught in the woods of Hanover, and brought to England, where he lived many years, but never learned to fpeak, fhewed great difturbance and agitation before any great ftorm or violent change of weather. And this I hold to have been fome remains of his natural Inftinct : For I am perfuaded that man, in his natural ftate, when he was under the direktion of Inftinct only, had the prefciency of every thing neceffary for his oeconomy, which we fee other animals have, and which, I think, belongs to the Animal Nature ; and therefore I doubt not but, in that ftate, he forefaw many things, which he cannot now difcover, except by extraordinary communications.

The mere modern reader, and admirer of the prefent ftate of Society and its refinements, will wonder that I fhould think the natural ftate preferable in any refpect to the civilized, or that the Minds of Savages are poffeffed of higher natural endowments than the Minds of civilized men. But every man who has been among favages knows, in the firft place, that their fenfes are much more acute than ours : I do not mean the luxurious fenfes of Feeling and Tafting, which as they do not cultivate fo much as we do, they have them not, I believe, fo delicate, but the more ufeful Senfes

of Seeing and Hearing, which, among us, are become so imperfect, that we are often obliged to supply their defects by machinery; and I doubt other organs of delicate structure, among us, are likewise very much impaired. *2dly*, Their natural parts are much better than ours, in those things upon which they have exercised them, such as stratagems of war, and hunting, in which they discover an extraordinary sagacity. *3dly*, They have certainly more strength of Mind than we have, can endure much more pain and fatigue, and have greater patience and perseverance in all their enterprises. Now, this being the case, it is not to be wondered at that they should have more of that instinctive knowledge, which, I say, is congenial to the Mind, by which it is conversant with things in distant Places, and in Times future as well as past. And, if any extraordinary communication or revelation of future events were necessary for the conduct of their lives, I hold that such uncorrupted Minds, as theirs were before they learned our vices, are much fitter vessels for Divine Inspiration than Minds such as ours.

Hitherto I have spoken only of the Animal and Intellectual Mind, and have shown that they are both capable of transporting themselves to different Places and Times: But such a power given to the Vegetable Mind would be altogether superfluous; as the Vegetable is fixed to one spot, and has not its food to search, or its progeny to rear, in the same manner as the Animal has: And there would be still less reason for giving this faculty to the Mind which moves unorganized Bodies.

And here we may observe the wonderful contrivance of Nature in providing for the preservation of Animals, and the carrying on their oeconomy. If the Vegetable part of the Animal was to be abroad at any time, as well as the Sensitive or Intellectual Part, the Animal must cease to exist. But, as the Vegetable Life is always at home,
the

the machine still goes on, in the same manner as it does in Sleep, when neither the Sensitive nor Intellectual Mind is active.

I shall conclude with observing, that, if this Theory of mine be right concerning the Animal and the Intellectual Mind, those philosophers and physicians have lost their labour who have inquired so curiously in what part of the Body those Minds were situated ; for the fact is, that they have no situation, because they are not extended. Even the Vegetable and Elemental Minds, though of degrees much inferior, yet, not being material, nor consequently extended, have no situation, though they be attached to the Bodies which they animate, in so far, that they can not only not move any other Bodies, but have no perception of any thing external to those Bodies.

B O O K V.

OF THE PRINCIPLES OF SIR ISAAC NEWTON'S ASTRONOMY.

C H A P. I.

Of Astronomy, and the difference betwixt it and Philoſophy.—Sir Iſaac Newton's Principia a Work of Astronomy, not Philoſophy.—Sir Iſaac, however, has philoſophiſed concerning the beginning and continuation of Motion.—If he is in an error in this Philoſophy, it belongs to this Work to take notice of it.—Short Account of Sir Iſaac's System.—The Motion of the Planets compoſed of Projection and Gravitation—both theſe Powers acting in Right Lines.—Their Elliptical Motion, therefore, to be analyſed into a Polygon of an infinite Number of Sides.—Sir Iſaac thought that both the Motions were produced by Bodily Impulſe.—Reaſons for aſſerting this to be his Opinion.—Sir Iſaac, when he wrote his Principia, did not think of Mind as a Moving Power;—two Reaſons for that.—Therefore made a Machine of the Heavens.—Has laid it down that Body is indifferent to a State of Motion or Reſt.—This ſubverſive of the antient Philoſophy of the diſtinction betwixt Mind and Body.—Dangerous alſo to the System of Theiſm, by denying the Providence of God over the Works of Nature.—The Mechanical System cannot be confined to the Heavens, but muſt deſcend to the Earth—muſt go even the length of Dr Prieſtley's Philoſophy—But Sir Iſaac's Machine

chine of the Heavens, not a perfect Machine—liable to two Defects, which even Human Machinery may be free of.

I WILL conclude this Volume, as I did the last, with some observations upon the principles of Sir Isaac Newton's Astronomy, which I think are necessarily connected with what I have said in the preceding part of this Volume, concerning the nature of *Mind* and *Body*, and of the Motions produced by them. What is contained in the Appendix to my First Volume, upon this subject, I know, is understood by many as an attempt to overturn Sir Isaac's System of Astronomy; but, on the contrary, I think I have endeavoured to establish it upon sound principles of philosophy, and such as are consistent with genuine Theism, and the true Religion of Nature; and if I have succeeded, I shall deserve the thanks of all those who admire Sir Isaac as much as I do, and, I would fain hope, of the nation that has given him birth, and to which he does so much honour.

Astronomy, so far as it is a science, and not consisting of facts merely, is nothing but the application of Geometry and Numbers to the Motion of the Celestial Bodies, and, in that way, discovering the Laws of their Motion. According to this definition, the *Principia* of Sir Isaac Newton is the greatest work of Astronomy that ever was written, and he himself the greatest Astronomer that ever lived: For he has first, by a most wonderful induction, discovered the laws of the Planetary Motion, and then has applied these Laws, thus discovered, to the calculation of their Motions and the solution of the Phaenomena concerning them; proceeding in the way that I am persuaded all Sciences have been discovered and brought to perfection, that is, first by *Analysis*, and then by *Synthesis*. But still this is no more than *Astronomy*, not *Philosophy*: For Philosophy is the knowledge of Causes; and however successfully we may apply Geome-
try

try and Numbers to the Motions of Bodies, and meafure and compute ever fo well, yet, if we do not know the Cauſes of theſe Motions, we are not *Philofophers*.

Neither ſhould we confound, as many do, the generalizing of any Effect with the knowledge of its Cauſe. Though I know that a ſtone falls to the ground, not only here, but every where in Europe, Aſia, and America, yet I am not more learned as to the cauſe of it, than if I knew that it happened only in one ſingle inſtance: And, in general, we muſt diſtinguiſh betwixt Natural Hiſtory and Philoſophy; for, though we know ever fo many facts of Natural Hiſtory, and their ſeveral connections and relations to one another, yet, if we do not know their Cauſes, we are not philoſophers.

Unleſs, therefore, the admirers of Sir Iſaac Newton will maintain that he was as great a Philoſopher as he was an Aſtronomer, Geometer, Scientifical Mechanic, and accurate obſerver of the Phaenomena of Nature, and particularly that he excelled in *Metaphyſics* and the *Fiſt Philoſophy*, which inveſtigates the *Fiſt* Cauſes and Principles of things, they ought not to be alarmed at what I have ſaid in the *Fiſt* Volume, and ſhall further ſay in this, upon the ſubject of his *Principia*; nor think that it is an attack that I make upon his System of Aſtronomy; for it is only concerning the beginning and continuance of Motion, with which Sir Iſaac ſets out in that work, that I find fault. Now, he may be in an error as to the *Cauſe* of the Motion of the Planets, and yet be perfectly right as to the *Laws* of that Motion, and may have calculated and meafured it with the greateſt degree of exactneſs. And the candid reader will the more readily excuſe me, that, in my apprehenſion, Sir Iſaac was under no neceſſity at all to ſay any thing of the *Cauſe* of the Motion of the Celeſtial Bodies, which, as I have ſaid, belongs to a Science quite different from Aſtronomy. If, therefore, he has gone out of his province as an Aſtronomer, and intrenched upon that of the philoſopher, and at
the

the same time, maintained principles that I think dangerous to the System of Theism, though, I am persuaded, without intending it, it certainly belonged to a work of this kind, the chief purpose of which is to maintain that System, to take notice of any error that Sir Isaac may have fallen into in this respect.

Sir Isaac's System of the Heavens is, as I understand it, shortly this: The Planets are, by an impulse, or *vis impressa*, as Sir Isaac calls it, set in Motion; which Motion continues in a straight line, by virtue of that Power which Sir Isaac calls *vis insita*; and by this Power it will continue forever to be moved in a straight line, unless its Motion be stopped by some obstacle, or unless it be acted upon by some other Power. In this way, the planets would have gone on forever in a rectilinear course, as our author has said in his introduction to that abridgment of his philosophy, which he has given under the title of '*The System of the World*.' But, in order to produce their Elliptical Motion, he says that another Power is employed, which he calls the *Vis Centripeta*, by which the Planet is carried out of the Rectilinear Direction, towards a certain point, as its Centre. How this Power acts upon the Body, whether by Pulsion or Trusion, by propelling or by drawing it, Sir Isaac has not explained in the Definition he has given of it; which is in these words, '*Vis centripeta est, qua corpora versus punctum aliquod, tanquam ad centrum, undique trahuntur, impelluntur, vel utcumque tendunt.*' But, in the demonstration he has given of the effects of this Centripetal Force in the first proposition of the second section of the first book of his Principia, he supposes it to act, not by drawing, but by impulse; for his expression is, '*Agat vis centripeta impulso unico sed magno, efficiatque ut corpus de recta declinet.*' And his doctrine of Prime and Ultimate Ratios, which he has explained in the first section of his second book, is chiefly intended for the purpose of showing how a Circle or Ellipsis may be analysed into a Polygon of an infinite

nite number of sides *, always increasing in number and decreasing in length, till at last they become evanescent, as he expresses it; and, if it can be so analysed, it must be so compounded.

From this account of Sir Isaac's System, I think, it is evident, and, indeed, it is admitted by all his followers, that he understood the Motion of the Celestial Bodies to be actually compounded of a tendency to go on in a Straight Line, and a tendency towards the Centre; or, as he expressed it, of a Centrifugal and a Centripetal Force; or, as it is more commonly expressed, of Projection and Gravitation.

2do, Further, I am of opinion that Sir Isaac, when he wrote his Principia, believed that both Motions were produced by bodily impulse; for, though Sir Isaac was undoubtedly a Theist, and therefore believed that God was ultimately the Author of all Motion in the universe, yet he appears to have thought that the Motions of this our System were produced *immediately* by Bodily Impulse, and carried on by Matter and Mechanism merely, without the intervention of the Supreme Mind, or of any other. And, as this Mechanical Motion was to continue forever, or for a very long time, without the immediate action of any Power, whether of Body or Mind, he has set out with establishing, by his first axiom, the perpetuity of Motion once begun by a *Vis Impressa*. This would have been altogether unnecessary, if he had not wanted to make our Solar System go on of itself after it was once set agoing. But, as I know many of the Newtonians are unwilling to believe that Sir Isaac's System is so Mechanical as I have represented it, I will give my reasons for so thinking.

And, to begin with the *Vis Impressa* producing the projectile Motion of the Planets, which, according to the first axiom, is to last forever

* See what I have further said upon this subject, Vol. I. p. 525.

ever in a straight line, when once begun.—This first axiom, I must suppose, applies to the Motion of the Planets: And, indeed, Sir Isaac so applies it himself, in his observations upon it; nor could it otherwise have stood, with any propriety, at the head of his system of Astronomy. Now, as I presume that Sir Isaac knew so much of the nature of Mind, as to believe it to be an immaterial substance, I cannot suppose that he would have used the words *Vis Impressa* or *Impulsus*, to express the Action of Mind upon Body; for it is impossible to conceive that an Immaterial Substance can act upon Body by Pullion, Trusion, Pressure, or, in short, in any way in which Body acts upon Body*. I therefore understand this first axiom to relate to Motion produced by Bodily Impulse only, such as is the Motion of Projectiles here on earth; but I do not understand it, for the reasons above mentioned, to be confined to the Motion of Projectiles, but to be understood likewise of the Motion of the Planets, which, therefore, Sir Isaac supposes to be produced by Bodily impulse, as Projectiles here are moved.

2do, As to the *Vis Centripeta*, which produces the Motion of Gravitation, if it be admitted that the *Vis Impressa* is Bodily Impulse, I think it is impossible to deny that the *Vis Centripeta* is so likewise, in the language of Sir Isaac; for, in his fourth definition, he considers it as a species of the *Vis Impressa*: His words are, ‘*Est autem Vis Impressa diversarum Originum, ut ex Ictu, ex Pressione, ex Vi Centripeta;*’ where we may observe that he joins it with *Ictus* and *Pressio*, by which words he never could have meant to express the action of Mind upon Body. And, in his fifth definition, he applies to it the words *drawing* and *impelling*, which can only be understood of the action of Body upon Body. In the demonstration above mentioned, of the first proposition of the second section of his first book, he is

VOL. II.

S s

more

* See this explained at more length, page 47.

more precise in the account he gives of its manner of operating ; for he says that it acts *Unico Impulſu*, that is, in the very same way that the Projectile Force acts, with this difference only, that the Projectile Force acts but once, whereas the Action of the *Vis Centripeta* is incessantly repeated, as he supposes in that demonstration. It is therefore not to be wondered that Sir Isaac endeavoured, as it is well known, to account for Gravitation from Bodily Impulse. And if he believed Gravitation to be so produced, there can be little doubt of his having the same opinion concerning Projection ; for, as Gravitation acts incessantly upon Bodies, and so far resembles perfectly the Action of Mind upon Body, (for which reason it is now admitted, I believe, by all the Newtonians, that Gravitation is the operation of Mind), if Sir Isaac believed that it was produced by Bodily Impulse, he must, *a fortiori*, have believed that the Projectile Force, which acts only by one Impulse, is produced by Body.

3^{tho}, If Sir Isaac, when he wrote his Principia, had thought of any other Motion besides that produced by Bodily Impulse, he would not have supposed, as he appears to have done, that all Motion is, by its nature, rectilinear. Upon this hypothesis, as I have observed, Sir Isaac's whole System is built ; and the Jesuits, his commentators, have laid it down in so many words in their Commentary upon the First Law of Motion ; from which they say it follows, *Omnem motum esse Natura sua aequabilem et rectilineum*. Now, this is undoubtedly true of Motion produced by Bodily Impulse, but is certainly not true of Motion by Mind, which being produced by incessant energies, the direction of it may be varied in every instant of the Motion ; and consequently the Circular or Elliptical Motion may be immediately and directly produced by Mind, of which every body may convince himself by the Motion of his hand in the air or upon the table *.

And,

* See upon this subject, page 48.

And, *lastly*, if Sir Isaac had believed, as Dr Clarke did, that the Motion of the celestial Bodies was carried on by the constant agency of Mind, and not by virtue of any original impulse*, he never could have thought either of a *Vis Impressa*, or of a *Vis Inſita*, by which he supposes the Motion to be continued after the *Vis Impressa*, or the *Impulſe*, has ceased; for both of these are entirely unnecessary, according to Dr Clarke's System and mine. Nor would he ever have thought of the Eternity of Motion, which he has laid down in his first Axiom: For he would have known that, if the Motion be carried on by Mind, it will last as long as the Mind continues to act upon the Body; and that will be as long as it pleases the great Author of Nature, and is suited to the System of the Universe.

I will therefore venture to affirm, that Sir Isaac, while he was writing his *Principia*, had no thought of Motion by Mind, but only considered Motion by Body: And, however extraordinary and unaccountable this may seem, there are two reasons that may be given for it. In the first place, the Motion produced by Bodily Impulse is the most obvious to Sense; and, indeed, the only Motion of which we can, by our Senses, perceive the Cause: Whereas the Cause of the other Motion cannot be perceived by any Sense, and is only discovered, as I have elsewhere observed, by Conſciouſneſs†, with which Geometers and Mechanics have nothing to do. *2dly*, The Mechanical Physics were so much in fashion at the time Sir Isaac wrote, and the Philosophy of Mind and of Nature were considered to be so perfectly distinct, that, if Sir Isaac had endeavoured to account for the Motions of the Celestial Bodies by Mind, no body would have listened to him. All, therefore, he could do, in the state he found Philosophy, was to deliver the Heavens from the Vortices of Des Cartes; but, in place of them, he was obliged, by the opinions of the times and the

S s 2

preju-

* See Vol. I. p. 512.

† Page 47.

prejudices of men, to substitute two other Mechanical Powers in the place of them, viz. Projection and Gravitation.

It would be saying too much, if I said that Sir Isaac had no Idea of Body being moved by Mind, since he, no doubt, believed that God was the Author of all the Motions in the Universe: But I think it is evident that he had no notion of the Planets being so moved; and I hope I shall be forgiven if I say that I do not think Sir Isaac, when he wrote his *Principia*, had any clear conception of the way in which Mind moves Body, or the difference there is betwixt the manner in which Mind moves Body, and Body moves Body*.

To

* Whoever reads the following passage in the *Principia*, will, I am sure, forgive me for this assertion. It is where he is speaking of Attraction or Gravitation, which, I believe, every Newtonian now allows to be produced by the immediate and constant agency of Mind: ‘*Voce[m] attractionis, hic generaliter usurpo pro corporum conatu quocunque accedendi ad invicem: Sive conatus iste fiat ab actione corporum, vel se mutuo petentium, vel per spiritus emissos se invicem agitantium; sive is ab actione Ætheris, aut Aëris, mediæ cujuscunque, seu corporei seu incorporei, oriatur, corpora innatantia in se invicem utcunque impellentis;*’ *Principia, lib. 1. Sect. 11. Scholium.* Where I think the strange Notion, of Bodies floating in an incorporeal medium which impells them towards one another, shows evidently that Sir Isaac had not, at least when he began this work of the *Principia*, any clear Idea, I believe, I may say any Idea at all, of the manner in which Mind moves Body. But, not only when he wrote the *Queries* to his *Optics*, but even before he finished his *Principia*, he appears to me to have discovered that Mechanical Causes could not account for the Motions in the Universe,—that Mind must be necessarily employed, and that it acts upon Body in a manner very different from that in which Body acts upon Body; for, in his *Scholium Generale*, subjoined to his *Principia*, speaking of this same Gravitation, he has these words: ‘*Oritur utque hæc vis a causa aliqua quæ penetrat ad usque centrum Solis et Planetarum, sine virtutis diminutione; quæque agit, non pro quantitate superficialium particularum in quas agit, (ut solent causæ Mechanicæ), sed pro quantitate Materiae Solidæ*” What I have said in the course of this work, and shall further say, upon the difference betwixt Mechanical Motion and Motion by Mind, may be considered as little more than a Commentary upon these words; and, indeed, when to them I join what he has said in his *Queries*, of which more afterwards, I can have little doubt but that I agree with Sir Isaac, at least with his latter thoughts, in my Philosophy concerning the Principle of Motion in the Universe.

To know this belongs to the Philosophy of Mind, and to that First Philosophy which distinguishes accurately betwixt Body and Mind, and shows the different natures of each. Now, there are not any two Sciences more different than Geometry or Mechanics, in which Sir Isaac exceeded all men, and the Philosophy of Mind, in which he might have excelled too, if he had applied to it, which he had not done when he wrote his *Principia*; at least, it is not to be discovered from that work, where there is nothing but Geometry and Mechanics, Mensuration and Calculation. Nor, indeed, does he say any thing positively concerning the Cause of the Planetary Motion; and it is only by inference and deduction from his manner of reasoning concerning their Motion, that we suppose he believed their Motion to be produced by Bodily Impulse. It is only in the *Scholium Generale*, quoted in the preceding note, that he gives so much as a hint that he knew any Cause of Motion that was not mechanical. But, in his Queries subjoined to his Optics, he has been more explicit; and there, I think, I have shown, and shall further show in the sequel, that he said Mind was the Cause of the Motions of the Universe.

From what I have said, I think it is evident that the Motions of the Celestial Bodies are, according to Sir Isaac's notions when he wrote his *Principia*, mechanical. He therefore has made a Machine of our Solar System; for, whatever Motion goes on of itself by the Power of Body merely, is, as I have shown elsewhere *, a Machine, in the proper sense of the word, even supposing, as I am persuaded Sir Isaac did suppose, that the Motion proceeded originally from Mind. In order to carry on this Mechanical Motion, he has laid it down as an axiom, that Body is indifferent to a state of Motion or Rest, and has no natural determination to the one any more than to the other; so that, being once put in Motion, it continues in Motion by the same necessity of its nature,

* See Pages 501. and 502. Vol. I. where, I think, I have explained this matter distinctly and scientifically.

ture, as it continued at rest before it was moved *. If this be true, there is an end of the antient philofophy, which I have endeavoured to maintain in this and the preceding Volume, and of the distinction I have made betwixt Mind and Body, by which I make Mind to be the only moving Power in the universe, whereas Body is that which only is moved, and which, by its nature, is absolutely incapable of moving itself, or of either beginning or continuing Motion. As this distinction is the foundation of my whole Philofophy, and as it is undoubtedly a metaphysical question of very great importance, What is the Cause of the continuation of Motion? which never can be properly determined, without knowing accurately the nature of Body, and wherein it differs essentially from Mind, I hope the reader will not think that, from the vanity and affectation of matching myself with such an antagonist as Sir Ifaac Newton, I have gone out of my way, when I have endeavoured to defend my Philofophy againft principles that are entirely fubverfive of it, and to fhew that Sir Ifaac has not rightly determined this metaphysical question concerning the continuation of Motion.

If any further apology were neceffary for my differing from Sir Ifaac, I think I can fay that the System of Theïfm, to maintain which, as I have faid, is the principal defign of this work, is materially concerned: For, if it be admitted that our Solar System has gone on for *fix thousand years*, without the agency of any Mind, Supreme

* This is evident from Sir Ifaac's definition of the *Vis Infta*, which is in thefe words: ' *Materiae Vis Infta est potentia refiftendi, qua corpus unumquodque, quantum in fe est, perfeverat in ftatu fuo vel quiefcendi vel movendi uniformiter in directum.*' So that, according to Sir Ifaac, by the fame neceffity of its nature, Matter or Body, for he does not diftinguifh thefe two, refts, or is in Motion; whereas, it is a fundamental maxim of the philofophy I defend, that Body is, by its nature, absolutely paffive and inactive, fo that Motion is altogether foreign to its nature, and adventitious, proceeding from a thing whole nature and effence it is to *move*, as much as it is the nature and effence of Body to be *at reft*.

Supreme or Subordinate, it will be impossible to convince the Atheists that it might have not so gone on forever; nor will he be ever persuaded to make the distinction the Newtonians make, betwixt the beginning and the continuation of Motion, that is, betwixt the first remove of the Body from the place that it occupied when the Motion began, and its after removes from the several places which it successively occupies in the course of the Motion. Even the Theists of old, such as Aristotle, who maintained the eternity of the Material World, would tell us that this doctrine of the continuance of Motion made Deity quite useless in the business of Nature; and that we might as well remove the Gods out of the world altogether, and place them in certain intermundane Spaces, as Epicurus did, who, therefore, according to a very just observation of Cicero, took away the Gods in fact and reality, and only left them in words. And, indeed, I cannot help saying that, to deny the Providence of God over all his works, and his actual presence by Himself, or by Subordinate Minds, in all the operations of Nature, and, particularly, in the Motions of the Celestial Bodies, which we so much admire, and which declare, more than any thing else, *the glory of the Lord*, is to take away the better part of Religion, and that which must have the greatest influence upon the minds of men*.

But this Mechanical Philosophy cannot, I think, be confined to the Celestial Regions, but it must come down to Earth, and go through all Nature; for, if the great Motions of the Universe are Mechanical, what shall we say of the lesser Motions here on Earth, such

* See what I have further said upon this subject, Vol. I. page 498. It was in this sense of Religion and Providence, that Cicero says, and, I think, most truly, that his countrymen excelled all the nations then known. After enumerating other things, in which other nations excelled them, he adds, ‘ Sed Pietate et Religione, atque hac una Sapientia, quod Deorum immortalium numine omnia Regi gubernarique perpeximus, omnes gentes nationesque superavimus.’ *Oratio de Aruspicum Responsis.*

such as the Magnetic, Electrical, and Chymical Attractions and Repulsions? Must not the Motions of Plants and Animals, their Organization, Generation, and regular Succession, be produced also by one single impulse, according to the philosophy of Des Cartes: And must not Man likewise be a machine, according to the philosophy of the Abbe Prade* and Dr Priestley; for their philosophy is nothing else but Materialism carried to its full extent: And I think Dr Priestley has some reason to boast, as he does, that he is a perfect Materialist; whereas the other Philosophers of this age are only Demi-Materialists: And I agree with him also, that those who maintain there is a Mind in Man, but not in other Bodies in this Universe, are but Demi-Spiritualists. How different is this System of Philosophy from the Antient Philosophy of Mind, and the doctrine of Theism as delivered by Cicero in his Tusculan Questions, where he tells us that, without Mind, this goodly frame of Nature could not subsist a moment; ‘a truth,’ says he, ‘which all the Plebeian philosophers (to whom I call all those that differ from Socrates, Plato, and that family,) can never overturn †.’

But, supposing that the Mechanical System could be confined to the Celestial Regions, (and I do not know that the Newtonians at present carry it farther, though Sir Isaac has said something tending that way, as I have elsewhere observed ‡, which I wish he had not said), the Machine of the Heavens ought to be a most perfect one, and worthy of its great Author. But this is far from being the case.

In

* See concerning him, Vol. I. page 499; and concerning Dr Priestley, p. 58. of this Volume.

† See the passage quoted at length, Vol. I. page 202.

‡ See Vol. I. page 547. and page 275. where Sir Isaac's words are quoted in the end of the *Principia*. There he says, that even Sensation, and the voluntary Motion of Animals, are produced by a most subtle Spirit, which pervades gross Bodies, and is latent in them.

In order to make a machine perfect and complete, two things are necessarily required : *1st*, That the Moving Power should never fail, so that the machine may not stop for want of it ; *2dly*, That the machinery should not be disordered or deranged by the action, or interference, of the several parts with one another. And accordingly, even a machine of human invention, if it be well contrived, will not stop through either of these defects. And what hitherto has rendered a *Perpetuum Mobile* impossible to be contrived by human art, is the friction of the parts upon one another, and the necessary tear and wear thereby produced. This defect of human machinery we cannot conceive the Celestial Bodies liable to. But we are to consider, whether the Heavenly Machine may not have the two defects above mentioned, from which even a machine of human invention may be exempted.

And, *first*, as to the Moving Power, which is two-fold ; either Gravitation, or the Projectile Force. As to Gravitation, if it were the Operation of a Fluid, as Sir Isaac supposed it might possibly be, it is not easy to say whether it would ever cease or not, Sir Isaac never having sufficiently explained the nature of this fluid, which he only supposed might exist. On the other hand, if this Power be Mind, as is now generally agreed by the Newtonians, it is evident that it can never cease, except by the Will of the Great Author of Nature, upon whom every thing must depend for its preservation and continuance, as well as for its existence at first ; but, as to the other Moving Power, the Projectile Force by which the Celestial Bodies are to be carried on forever, it is evident that it must be decreasing every moment, and must at last cease altogether. This, indeed, could not happen, according to Sir Isaac's hypothesis of the eternity of Motion once begun, if it were true, as he supposes, that there was a perfect vacuum in the celestial regions. And, ac-

cordingly, he has said that the planets will revolve perpetually in their orbits *. But this is certainly not the case; for there is light there, which is undoubtedly a Body, however subtle, and, therefore, must resist more or less, and consequently retard the Motion, and, at last, make it cease altogether.

But, *adly*, This is not all; for Sir Isaac's Machine, by his own confession, has the other defect of the machinery being so ill contrived, that it disorders and deranges itself; for he has told us, that the planets disturb one another's motions, and the comets the motions of them all; and, therefore, he has been obliged to admit, that his system will require the mending hand of the Creator. This is a concession which the foreign philosophers have laid hold of, particularly Mr Leibnitz, (as appears from the letters of correspondence that passed betwixt him and Dr Clarke), to which no good answer has been given, or can be given, upon the supposition that the solar system is a machine. But, if it be true, as I suppose, that the Planets are all moved by the immediate agency of Mind, we ought not to say that there is any disturbance or disorder in their Motions; but that such irregularities, as we perceive in these motions, are all in consequence of general laws, and for some good purpose, though we cannot tell what it is. And the same is to be said of the changes we observe in the heavens, which, though they may portend some alteration of the present system, or may be supposed to prepare the way for a new heaven and a new earth, are not to be accounted defects or irregularities, but parts of the grand plan of the universe, formed by Infinite Wisdom, and which, I am persuaded, has its periods and revolutions, as we see every thing on earth has, though it is likely by much slower degrees: For every thing in the material world exists by change and succession; nor is there any thing fixed and immovable, except the Eternal *One*.

Thus,

* See the passage quoted, Vol. I. p. 533.

Thus, I think, I have proved, that the progressive Motion of the Planet, in its Orbit, is mechanical; and, further, that it is not perfect of the kind. But there is another Motion of the Planet, different from the Progressive Motion, which is also mechanical, according to Sir Isaac's System, and liable to the same defect: The Motion I mean is that on its Axis, which the Newtonians say is also produced by a Projectile Impulse, so that the Planet being once set a spinning, like a top, continues for ever to do so, without any agency of Mind*. This makes the Machinery of the Heavens not a little complicated: And, if the Planetary Motion, in all its parts, is understood to be produced by Bodily Impulse, there must, I doubt, be three Bodies employed; one to give the progressive Impulse, by which the Planet is carried round in its Orbit; one to give it the Centripetal Motion; and a third to give it the Motion on its Axis.

Nor do I think that the matter will be much mended, by supposing, as I believe all the Newtonians now do, that one of the Motions, viz. the Motion of Gravitation, is produced by the constant agency of Mind: But, on the contrary, I think it makes the Machinery more perplexed and intricate, and Sir Isaac's System much less regular and uniform than it would otherwise be; for, according to this hypothesis, two parts of the Motion of the same Planet are produced by Bodily Impulse, and the third part by Mind. So complicated a System seems to be far removed from that wonderful

T t 2

simplicity

* Sir Isaac, in his explanation of his First Law of Motion, has these words: 'Trochus, cujus partes cohaerendo perpetuo retrahunt sese a motibus rectilineis, non cessat rotari nisi quatenus ab aëre retardatur.' And this theory of the Motion of a wheel he applies to the Motion of the Planets in the following words: 'Majora autem planetarum et cometarum corpora, motus suos, et progressives et circulares, in spatiis minus resistentibus factos, conservant diutius.' But, as to the duration of the Planetary Motion, he expresses himself much more strongly in his *Scholium Generale*: 'Corpora omnia in istis spatiis liberrime moveri debent; et propterea Planetæ et Cometæ, in Orbibus specie et positione datis, secundum leges supra expositas perpetuo revolvi.'

simplicity which we observe in the works of Nature, where nothing is produced by several causes, that can possibly be produced by one. Nor is Sir Isaac's System less mechanical, for this amendment, as it is supposed to be, that has been made upon it by his followers: For it is still true, that the Motion of the Planets is carried on by the Power of Matter and Mechanism merely; because the Centripetal Motion, or Motion of Gravitation, only gives a direction to the Motion of the Planet, but does not carry it on.

C H A P.

C H A P. II.

Comparison betwixt the antient and modern Materialists.—Sir Isaac's First Law of Motion, the Foundation of all the Mechanical Philosophy of modern Times.—Ought therefore to be most carefully examined.—That this Axiom should not be known to the Antients, extraordinary.—To judge of the Truth of it, belongs to the First Philosophy.—Of the Nature of Motion;—a thing of constant Change and Succession.—Rest, the opposite of Motion.—Improper, to apply the same Terms, and draw the same Conclusions, concerning Opposites.—Other Improprieties of Expression by which moving and being moved, are confounded, and Vis Inertiae applied to Body in a State of Rest and in Motion.—Of the several Ways in which the Motion can be supposed to be carried on after the Impulse has ceased.—These are four.—It is generally understood by the Newtonians to go on by Virtue of one of these, viz. Impulse.—If so, Sir Isaac's Term of Vis Inertia, unnecessary and improper;—not to be understood of Mind.—The First Law of Motion not a general Proposition, because not applicable to Motion begun by Mind—only to Motion begun by Body—nor to all Motion of that kind—only to Pulsion.—Distinction betwixt Pulsion and Trusion.—Two kinds of Trusion also to be distinguished.—Similarity betwixt Motion by Mind, and Motion by Trusion.—Objection, that there can be no Motion by Trusion in Vacuo, answered.

IN the preceding Chapter, I think I have shown, that the Machine which Sir Isaac has made of the Heavens, so complicate and intricate, and which is most extraordinary, and without example,

ample in Nature or Art, in this reſpect, that it continues to be moved after the moving power has ceaſed to act, and goes on of itſelf, and forever too, without the agency of either Body or Mind, is a Machine very imperfect and defective, and altogether unworthy of its Great Author.—But, ſuppoſe the reader ſhould differ from me in this, and believe that Sir Iſaac's Machine is perfectly well contrived, I would have him ſeriouſly conſider whether a man, who can behold

*Hunc Solem et Stellas, et decedentia certis
Tempora momentis——* HORAT.

and can obſerve all the wonderful Motions of the Celeſtial Bodies, ſo conſtant and regular, and yet ſo various, and believe them all to be carried on by mere Matter and Mechanism, ought to be accounted a perfect Theiſt, as he does not believe in what I hold to be the better part of Theiſm, that which maintains the Providence of God over all his works. For my own part, I cannot think that man truly religious, who has not a ſenſe of a preſent Deity in the works of Nature, as well as in the affairs of men *.

The foundation, not only of Sir Iſaac's Mechanical Syſtem of the Heavens, but of Des Cartes's Mechanical Syſtem both of Heaven and Earth, and, in general, of the whole Mechanical Philoſophy, is Sir Iſaac's Firſt Law of Motion, which ought therefore to be moſt ſcrupuloſly examined by every genuine Theiſt, who, though he may have ever ſo great a regard for Sir Iſaac as an Aſtronomer and Geometer, yet, if Sir Iſaac has thought proper, in complaiſance, as I have ſaid, to the prejudices of the times, to put his Aſtronomy upon Principles inconſiſtent with the doctrine of Theiſm, he ought not, for that reaſon, to adopt theſe principles, more eſpecially if I can ſhow, as I hope I ſhall do in the ſequel, that Sir Iſaac's Aſtronomy can be ſupported without the aid of them.

The

* See further upon this ſubject, Vol. 1 p. 498.

The proposition is thus expressed by Sir Isaac: ‘Corpus omne perseverat in statu suo quiescendi vel movendi uniformiter in directum, nisi quatenus a viribus impressis cogitur statum illum mutare.’ The proposition, thus expressed, I believe, would be hardly understood by an antient Roman*; but, to us, who are accustomed to the modern philosophical Latin, very different from that of Cicero, it is intelligible enough, and may be thus rendered into English: ‘All Bodies persevere in their state, whether of Rest, or of Motion uniformly in a straight line, unless in so far as, by some force impressed upon them, they are obliged to change that state.’

This proposition, which Sir Isaac calls an Axiom, and lays down as the foundation of his whole System, asserts, that Body, once put in Motion by the impulse of another Body, (for so I understand the Axiom, for the reason given in the preceding Chapter), will continue always to be moved in a straight line till its Motion be stopped, or altered, by something foreign or extrinsic to it. And in this respect Rest and Motion are said by Sir Isaac to be governed by the same law; for he says, as the Body continues at Rest till it be moved by something extrinsic to it, so it also continues in Motion till it be stopped in the same way.

And here it must, at first sight, appear very extraordinary, that an Axiom, such as this is said to be, (that is, a Proposition, the truth of which is immediately acknowledged by every man of common sense, though uninstructed in any art or science), should not have been known to any of the antients. It is, I think, degrading the antients lower than hitherto they have been degraded by the greatest vanity of modern times, to suppose that they were ignorant even of Axioms and First Principles. Now that the antients knew nothing

* See what I have said concerning the language of this Proposition, Vol. I. page 530.

thing of this Axiom, as it is called, the negative argument would be sufficient to prove, That there is nothing like it to be found in all the writings, or in any accounts, that we have of the opinions of their philosophers concerning natural things. But, besides this, there is positive evidence that Aristotle at least knew nothing of the matter. This appears from a passage above quoted concerning Dreams, and from another in his book *De Naturali Auscultatione* *.

But this proposition, whether true or false, is so far, in my apprehension, from being an Axiom, that it is impossible to judge of the truth of it, without knowing accurately the nature both of Body and of Mind, and likewise of Motion ; to know which certainly does not belong either to Geometry or Mechanics, nor to any other Science, except the First Philosophy. And therefore Sir Isaac, in beginning his System of Astronomy with this proposition, has gone out of the limits of his Science, as much as Euclid would have done, if he had begun his Elements with the definition of Quantity, of Body, or of Magnitude. I do not, however, blame Sir Isaac for this, as I hold the principles of all sciences to be founded in Metaphysics, or the First Philosophy ; but, on the contrary, I commend him for laying the foundations of his Science so deep, and giving the reader so much information, which he certainly was not obliged to give him,—if the proposition be true.

In examining the truth of it, I will begin with considering the nature of Motion, which is the subject of it. For this purpose, I do not think it is necessary to have recourse to Ideas of so high abstraction, as *Power* and *Energy*, by which Aristotle has defined Motion † ; but it will be sufficient to mention that Quality of it, which

* Pages 246. and 251. The other passage is in his Fourth Book, *De Naturali Auscultatione*, parag. 8. From which, and the Commentary of Simplicius upon it, page 157, it is evident that he had no notion, either of the impulse, after it had ceased, being the Cause of the Motion of Projectiles, or that the Motion continues forever : The way he accounts for the continuation of it, so long as it continues, is from the Pressure of the Air upon the Body in Motion, as I have explained at some length, page 246.

† Vol. I. chap. 3.

which is so obvious to common sense and observation, and which every body must acknowledge to be essential to it; I mean Change of Place, and Successive and Continued Change; for Motion is a thing of constant change and succession. The first change, from Rest to Motion, is not more a change than the change from Motion to Rest, or any of the intermediate changes. It is true, indeed, that the first change from Rest to Motion, or the last from Motion to Rest, affects the Senses more, and therefore is more distinctly perceived than the intermediate changes: But these are not for that the less real. Motion, therefore, is, like Time, a thing consisting of parts, which have no co-existence. And, in this respect, Motion is essentially different from *quantity continuous*, or *magnitude*, which is divisible likewise into parts infinite in number; but these parts are co-existent.

The very opposite of Motion is Rest; for the very definition of Rest is, that there is no Change of Place: It is, therefore, by its nature, a permanent and fixed thing.

This being the nature of these two things, it must appear, at first sight, very extraordinary that the same term should be applied to both, and that we should hear of a *state* both of Motion and of Rest. A *State* of Rest every body must understand, because Rest is, by its nature and essence, a fixed and permanent thing: But the *State* of a thing, which exists only by succession, and whose very nature and essence consists in Change, is, I think, impossible to be understood. We might, with the same propriety, speak of a state of *Time*, which is a Being, as I have said, of the same nature with *Motion*: And, accordingly, it is the Measure of Motion, and, again, Motion is the measure of *Time*; which shows that they are things perfectly similar in their nature, otherwise they could not be a measure or standard for one another. We are, therefore, not to wonder that there is no

Œuch language to be found in Antient PhiloŒophy ; for a *Status Motus*, in Latin, or a *καταŒταŒσις κινηŒειωŒ*, in Greek, would have been thought, among the Antients, a moŒt abŒurd and nonŒenŒical expreŒŒion. And I am perŒuaded that, as inaccurate Œpeaking leads to inaccurate thinking, it has been this inaccuracy of expreŒŒion that has led the Newtonians to believe that, as there was a Œtate of both Motion and ReŒt, Œo that Œtate was governed by the Œame Law.

If the Newtonians had not confounded two things Œo different, and, indeed, Œo oppoŒite in their nature, as ReŒt and Motion, and had not conŒidered them both as a *Œtate*, it appears to me impoŒŒible that they would have fallen into this error, of ŒuppoŒing that both Œtates will continue till they are altered by Œomething extrinŒic ; for they argue in this way : A Body at ReŒt continues in that Œtate, till it is moved to Motion by Œomething extrinŒic to it ; and, therefore, a Body in Motion being alŒo in a Œtate, it continues in that Œtate till it is forced to change it. Now, they ought to have drawn a quite different concluŒion : For the nature of the two things being not only different, but direŒtly oppoŒite, their qualities will be alŒo oppoŒite ; Œo that, if ReŒt, by its nature and eŒŒence, continues till it be changed into Motion by Œomething extrinŒic, Motion, being the direŒt oppoŒite of ReŒt, will not continue in the Œame way, but will ceaŒe of itŒelf. It was in this way the Antients argued concerning oppoŒite things, and particularly that great maŒter of the ReaŒoning Art, AriŒtotle, who, in his book of Topics, has taught us, that, if two things be oppoŒite, oppoŒite things will follow from them. Thus, as Health and SickneŒŒ are oppoŒite, if Health be a Good, SickneŒŒ will be an Evil ; if Vice and Virtue be oppoŒite, and if the conŒequence of Vice be MiŒery, the conŒequence of Virtue will be HappineŒŒ *

There

* AriŒtotle expreŒŒes this rule of reaŒoning in his Œhort way thus : *ΕΙ ΤΟ ΕΝΑΝΤΙΟΝ ΕΝΑΝΤΙΟΝ ΤΙΝΙ, ΚΑΙ ΤΟ ΕΝΑΝΤΙΟΝ ΕΝΑΝΤΙΟΝ.*

There is another distinction, of great importance, which the Newtonians, as I have elsewhere observed, do not appear to me to have accurately made:—It is betwixt *moving*, and *being moved*; for, if they had not confounded these two things, according to the use of vulgar and unphilosophical language, they could have been at no loss to make a distinction of still greater importance, I mean the distinction betwixt Mind and Body; for Mind would have immediately appeared to be that which *moves*, and Body that which *is moved*. And we should have seen at once in what that *Vis Inertiae*, which all the Newtonians ascribe to Body, but which they do not appear to me to understand, consists; for the *Vis Inertiae* is nothing else but that perfect passivity and inactivity, which makes Body absolutely incapable of moving itself, or of exerting any Power of any kind. Of what use this observation is, will appear in the sequel of this argument.

There is another inaccuracy of expression in this matter, which it is proper to observe, and that is the calling by the name of *Vis Inertiae* this passive quality of Body, which, I think, is very improper, even when applied to it in a state of Rest; for the expression undoubtedly denotes a Force, or active Power, by which a thing either continues or changes its state. Now, I deny that Body has any power of either kind; and therefore I think it is improper to say, that Body continues itself in a state even of Rest.

But it is still more improper, and, indeed, I think, absurd to say, that Body continues itself likewise in Motion by its *Vis Inertiae*. It should have been called by a name very different, viz. *Vis Mobilitalis*; for it is truly no other, according to the hypothesis of the Newtonians, than a power of moving itself from place to place, and this forever.

: Before I go farther into this argument, I think it is proper that I should understand how the Newtonians conceive the Motion to be continued forever, in consequence of one impulse. That the impulse is the First Cause, or Occasion, of the Motion, there is no doubt. But the question is, How it is carried on after the impulse has ceased? And that can be done, I think, only in one or other of four ways: For, either the Body must carry on the Motion itself, and, by a power essential to it, as much as Extension or Impenetrability is; or, it must be carried on by the Impulse or Pressure of some other Body, such as a Subtile Fluid or Ether, which has been employed to account for Motion, by some philosophers both antient and modern; or, *3tio*, The Motion goes on by virtue of the Original Impulse, without any other Cause; or, *lastly*, It is carried on by Mind, as I suppose.

As to the *first* of these ways, I have reason to believe that even those Newtonians, who, in deference to the authority of Sir Isaac, maintain this Eternity of Motion, are unwilling to ascribe it to any power essential to the Body, by which it could continue to move itself forever; for an Eternity of Motion, however begun, by a Power essential to Matter, would be giving much too great an advantage to the Materialist, who will deny, as Aristotle does, that Motion ever had a beginning, and who will say, that, if Matter can carry on itself in one direction, it can carry itself on in every direction, and, in that way, can do every thing that we see is done by Mind and Intelligence*.—Neither do the Newtonians now maintain, that the Body is carried on by any invisible Fluid or Ether; nor does Sir Isaac appear to have thought of any such thing when he wrote his Principia. It remains, therefore, that, if Mind be not the active power which carries on the Motion, according to my hypothesis, it must be the third thing I have mentioned, viz. the Original Impulse; and it is this hypothesis which I am now to examine, and which I understand to be generally the sense

* See more of this, page 37.

sense of those Newtonians who yet defend this First Law of Motion.

And, if it be so, I think it is evident that Sir Isaac has used an improper, as well as an unnecessary, expression, when he said that the Motion is carried on by a *Vis Infitā*, which certainly leads us to believe that it is some power inherent in the Body, which carries it on. And, as he constantly distinguishes it from the *Vis Impressā*, by which the Body is set in Motion, I think it is plain that he believed the one power not to be intrinsic, or belonging to the nature of Body, but extrinsic, or from without, as much as the impression of a seal upon wax is, or any pressure or impulse of one Body upon another; whereas the other Power by which the Body continues in Motion, he considered as intrinsic, and of the nature and essence of Body. And this being the case, I confess I am a little surpris'd that he has only said barely, that he did not affirm Gravitation was essential to Body: Whereas he ought to have affirmed positively, as Mr Cotes does in his Preface to his edition of the Principia, that it was an inherent quality of Body, and essential to it. And I am sure, of the two, it has much better pretensions to be of the nature and essence of Body, than what Sir Isaac calls the *Vis Infitā*: For Gravitation acts always, and is the most constant Motion we know here on earth; whereas the *Vis Infitā* acts only occasionally when the Body is impelled by another Body.

I was once much disposed to believe that Sir Isaac, by the *Vis Infitā*, which carries on the Motion of the Body after the impulse has ceased, meant to denote Mind: But, upon considering more attentively his definition above mentioned, of this *Vis Infitā*, I think it is evident that he could not have that meaning; for he makes it to be a power by which Body continues in Rest, as well as in Motion. Now, it is evident that it is not by Mind, but by its own nature and
essence,

effeñce, that a Body, being at Reſt, continues at Reſt. And, by the ſame nature and effeñce, I am convinced that Sir Iſaac underſtood Body to continue a Motion once given it by the *Viſ Impreſſa* : And therefore I hold that the preſent Newtonians differ from their maſter, when they lay aſide the *Viſ Inſita*, and maintain that the Body continues the Motion by virtue of the *Impulſe*, or the *Viſ Impreſſa*, only.

Underſtanding, therefore, the axiom in the ſenſe in which it is now generally underſtood, I proceed to inquire whether it be a general propoſition, extending to all kind of Motion, however begun, whether by Body or by Mind. That Sir Iſaac applies it only to Motion produced by Bodily Impulſe, I think is evident, for the reaſons already given ; and ſo far, I think, he is in the right, that it only can be applied to motion of that kind : For we have no experience or obſervation that can carry it to Motion begun by Mind ; but, on the contrary, our daily experience convinces us that the Motion begun by Mind continues no longer than the Mind continues to operate, except in certain caſes, where the action of one Mind prevails over the action of another, as in the caſe of an Animal Body falling or running down a ſteep deſcent ; in which caſe, the elemental Mind, that carries the Body downward, is too ſtrong for the volition of the Animal that would ſtop it.

And this difference, betwixt the Motion by Mind and the Motion by Bodily Impulſe, is, I think, clearly deducible from the different natures of Body and Mind : For Body can only act upon Body by its ſurface ; whereas Mind, having no ſurface, cannot poſſibly act upon Body in that way, but operates in a manner quite different, as I have explained above, that is, by Animation, which operates, not by Impulſe, producing a Motion that continues ſome time after the impulſe ceases, but by inceſſant energies, repeated in every inſtant of the Motion, which being diſcontinued, the Motion ceases.

It

It appears to me, therefore, evident, that this Law of Motion will apply only to Motion produced by the action of Body upon Body. But the question is, Whether it will apply to all Motion, even of that kind ?

In order to determine this question, we must distinguish two ways in which Body acting upon Body produces Motion. The first is by Pulsion, that is, when the Body that acts upon the other propells it, so as to make it go on of itself, without the Body propelling it ; and this way of moving Body is commonly called *Impulse*. For producing this kind of Motion, it is necessary that the Body impelled should have a certain degree of elasticity ; for it is by that quality that it acquires the force which carries it on by itself. A Body, therefore, such as *wool*, or *soft clay*, not being compacted or pressed together, will not go on in that way, whatever the force or quality of the Body impelling may be ; but it can only be carried on in the other way, which I am now to explain, that is, by *Trusion*.

When a Body is moved by another in this way, it does not leave the Body moving, but is carried on along with it ; and in this way, not only soft unelastic Bodies, such as those just now mentioned, are moved, but also elastic Bodies, if they are not propelled with violence by the Moving Body, so as to produce what Sir Isaac Newton calls an *ictus* or *stroke*, but are moved only by the pressure of the other Body.

Again, this Trusion operates upon Body in two several ways ; for, either the Moving Force acts upon that part of the Body which is opposite to the direction in which the Body is moved, or it acts upon the same side. In the first case, I call it *protrusion* ; in the other case, it is well known by the common name of *drawing* or *pulling*.

These

These being all the different ways in which we can conceive Body to move Body, the question is, Whether Sir Isaac's *First Law* will apply to all these several kinds of that Motion; and I say, that, as the law is now understood by the Newtonians in the sense above explained, of the Motion going on by itself in consequence of an impulse, it will apply only to Motion produced by an *Itus*, or *Stroke*, or by *Pulsion*, as I express it, and not to Motion produced by Pressure or Trusion, whether it be in the way of Protrusion, or of Drawing, according to the distinction above made.

If this be so, the Newtonians must admit that their Law of Motion is not universal: For, in the *first* place, it does not apply, as I have said, to Motion by Mind; neither does it apply to every kind of Motion produced by Body, and particularly to that kind of Motion which I call Trusion, by which the Body does not go on by itself, in consequence of any impulse, but is carried on along with the Moving Body.

And here we may observe the similitude betwixt the Motion by Mind, and the Motion by Body in the way of Trusion; for both Motions continue no longer than the Moving Power continues to act: So that here we have a clear instance, even in the case of Motion produced by Body, of the Motion ceasing in the same way that I say Motion by Mind ceases,—not by any stop or obstacle, but merely by the Moving Power ceasing to act. For, to say that Mind stops the Motion of the Body it moves, is not speaking accurately or philosophically; we ought only to say, that the Mind ceases to move, and then the Body returns to its natural state of inertness and inactivity, except where the Body, as I have before observed, is, by the Elemental Mind overcoming the Animal Mind, carried on, as in the case of a person falling or running down a steep. And, in the same manner, when the Body is moved by the Pressure or Trusion of another

ther Body, the Motion is not stopped by any obstacle or impediment, but ceases, merely by the Moving Power ceasing to act.

Some of the Newtonians, with whom I have conversed, and who are unwilling to give up this First Law of Motion, are very much alarmed with this instance of Motion by Pressure, which, at the same time that it explains my notion of Motion by Mind, shows evidently that Sir Isaac's First Law is not universal, even with respect to Motion produced by Body. They endeavour, therefore, to evade it, by saying, that there can be no Motion by Trusion *in vacuo*, but that all the Motion there must be by Pulsion; for they say, the reason why a Body, when only pressed by another Body, does not fly off and go on by itself, is the Resistance of the Medium.

But to this I answer; *imo*, That there is no Space, so far as we know, in which there is no Resistance; for, in the celestial regions, there is light, which, though a very subtle Body, must resist in some degree, and therefore must, sooner or later, put an end to the Motion of the Planets, as I have observed, if they were moved mechanically, as Sir Isaac supposes. *2do*, The only consequence of the Resistance of the Medium is to require a greater force of pressure to move the Body than would be required *in vacuo*. But it is impossible, I think, to conceive that a Body which is at rest *in vacuo*, and which, by its nature and essence, is as much disposed to Rest there as *in pleno*, could not be put out of that natural state of inactivity by a force so gentle, as that the Body would not fly off, but continue to be moved in contact with the protruding Body; or, if it should be drawn gently, and not tugged violently, I cannot conceive that it would overtake the Body which draws it, or continue in Motion after the drawing Body has ceased to move it. And, *lastly*, What can be answered to the instance of unelastic Bodies? Will they say that, *in vacuo*, there is no distinction betwixt elastic and unelastic Bodies, or

that there an unelaftic Body will fly off when it is impelled, as well as an elaftic Body.

And thus I think I have proved, that this Axiom of Sir Ifaac's, concerning the Continuation of Motion, is fo far, at leaft, not an Axiom, as it is not an univerfal propofition, becaufe it not only does not apply to Motion produced by Mind, but not even to all Motion produced by Body, fince I have fhown, that, when the Moving Body acts by Trufion or Preffure, the Body moved does not go on by itfelf, but the Motion ceafes as foon as the Moving Caufe ceafes to operate, in the fame manner as the Motion by Mind ceafes.

C H A P.

C H A P. III.

The ſimple State of the Queſtion.—The ſtrange Conſequences of this Axiom.—It cannot be proved by Experiment—muſt neceſſarily be proved, a priori, by Metaphyſical Reaſoning.—The falſehood of it proved from three Principles, that cannot be controverted.—Motion not one, but many, as many as there are Changes of Place.—It is only continuity that makes one of many Motions.—Of Communication of Motion.—The Newtonians have erred in this matter from not conſidering two things, viz. the Nature of Motion, and the Doctrine of Firſt and Second Cauſes.—The Newtonians ought not to be angry that the Metaphyſical Principle, upon which Sir Iſaac has built his Aſtronomy, has been ſo freely examined.—Authorities in ſupport of the Author's Opinion.—Antient Authorities.—Authority of Ariſtotle.—Modern Authorities.—Leibnitz.—Dr Clarke.—Dr Horſley.—Sir Iſaac himſelf.—True Account of the Continuation of the Motion of a Body impelled is by Mind.—This according to the Analogy of Nature, as Nature is defined by Ariſtotle.—Other Motions of the ſame kind in Nature, ſuch as the Motions of Animals, Vegetables, and the Loadſtone and Iron.—The Impulſe not the Cauſe properly of the Motion, but the Occaſion.—Of the Duration of the Motion by Impulſe.—It decays by degrees.—This likewiſe agreeable to the Analogy of Nature.

HA VING thus cleared the ground, by removing every thing that is foreign to the queſtion at iſſue, I will now proceed to examine it more cloſely. It is, as I have explained it, ſimply this, Whether a Body impelled by another Body, ſo as to go on without

the Impelling Body, will, *in vacuo*, continue in Motion for ever, by virtue of that single impulse. The Newtonians, who maintain the affirmative, have not, I am persuaded, attended to all the consequences of their opinion, otherwise I imagine they would not have so readily embraced it : And, particularly, they do not appear to me to have considered that, if they are in the right, a Body must continue in Motion to all Eternity, by virtue of a single Impulse, which had ceased, we may suppose, millions of years before the time in which the Body still continues to be moved ; during all which time the Body is in Motion, and changes an infinite number of places, without any power, either of Mind or Body, acting upon it, or any other cause, except the impulse, which had ceased long ago. Neither do they appear to me to have considered that, tho' it should seem that an infinite Power was necessary to produce a Motion of infinite duration ; yet, according to this Law of Motion, the slightest Impulse given by any Body here on earth, sufficient only to move the other Body out of its place, will produce a Motion that is to last forever : And, further, that, though the velocity of the Motion must necessarily depend upon the greater or less violence of the impulse, yet that can have no effect upon the duration of the Motion, which will continue to all eternity, however gentle the impulse may be that produced it.

When I consider these things, I cannot help saying that I think this Axiom of Sir Isaac's is the most violent paradox that ever was advanced by any philosopher, much more violent than any of the paradoxes of the Stoics mentioned by Cicero, and the greatest triumph of philosophy over common sense, and the apprehension of the vulgar. If it be true, I could have wished that our Sir Isaac Newton had had the glory of the discovery, instead of adopting it from the Frenchman Des Cartes, who first invented it to support his mechanical system of the universe.

I hope, by this time, the reader is at least convinced that this Law of Motion is not an Axiom, or Self-evident Proposition, but a Proposition that needs to be proved; and by how much the more paradoxical it is, so much the clearer proof it will require. It is impossible, by the nature of things, to prove it by experiment: And yet the only proof, that is offered of it, is a kind of indirect proof by the experiment of a pendulum swinging in an exhausted receiver, where, they say, (and it is no doubt true), that it will swing much longer than if it were in the air; from whence they infer, that, if a perfect *vacuum* could be made, it would continue to vibrate forever. But this is plainly begging the question, unless they could prove that the Motion decreases and languishes exactly in proportion to the obstruction of the Medium. But this I hold to be impossible; at least, no method of calculation has yet been found out, for discovering accurately the effect of the different densities of mediums upon Bodies in Motion. It is not, therefore, by Experimental Philosophy, as it is called, but by Metaphysics, or the *First Philosophy*, as I have said, which explains the nature of Body and Motion, that this question is to be determined; and upon the principles of that philosophy, I say, not only that it is not true, but that it is impossible to be true.

And, for this purpose, I will assume only three propositions, which I think must be granted. The first is, what I have already mentioned, and which every Newtonian will readily assent to, That Body, by its nature and essence, is perfectly inactive and inert, and therefore it cannot move itself, but must be moved by some other thing, external or internal. The second, also, I have already mentioned, That Motion has nothing fixed or permanent in its nature, but its very essence and existence is by succession. And the third is, what hitherto has not been mentioned, but has been acknowledged by all natural philosophers, ancient and modern, That there is a
Cause

Cause for every thing, and that nothing in nature can be produced without a Cause.

From these principles, I argue thus: As all Motion is by succession, as well as Time is, every Motion, however small, must consist of so many Changes of Place, as well as every portion of Time of so many hours, minutes, or seconds; and, if we conceive the Motion to be infinite in its duration, there must be an infinite number of those Changes of Place. Now, as Body cannot move itself, that is, make itself to change its Place, there must be some other Cause, external or internal, for those several Changes. The original impulse may account for the change from the place A, where the Body is in the beginning of the Motion, to the place B. But there must likewise be a Cause for the Motion from B to C. Now, this cause cannot be the original impulse, which no longer exists; for nothing can be a cause efficient, actually operating after it has ceased to exist. There must therefore be some other cause; and this, as it is not the Body itself, must be either something external to it, such as an Ether or a Fluid, which I believe is an hypothesis now universally rejected, or it must be an internal principle, which I call Mind.

This appears to me to be strictly a demonstration *a priori*, and should, I think, convince every Newtonian, if they would consider only two things. The first is, That every Motion is truly not *one* Motion, though it be said to be *one*, but many Motions; for it is not only *divisible into parts*, but it is *actually divided into parts* not co-existent but successive; in which respect it differs essentially from *Body*, which is not actually divided, but is only divisible, and into parts not successive but co-existent. It is, however, said to be *one*, as well as *Body*, not from the co-existence of its parts, but from their continued succession, without stop or interval; in the same manner as we say Time is *one*, such as a day or an hour, though it
certainly

certainly consist of parts, into which it is *actually* divided, and which cannot possibly have any co-existence.

To be convinced that it is only the continuity of the several Motions that makes the Motion *one*, let us suppose any perceptible stop or interruption of the Motion: Then every one is sensible of the division of the Motion, which before he did not perceive on account of the continuity. But the division was before as real: For, if the Body, after it has been moved from the place A to the place B, is moved on to the place C, there are there two Motions, as much as if the Body had stopped at B, and then had proceeded on to C; for the number of Motions must be the same, whether there be an interval betwixt the Motions or not; and, if a Cause was absolutely necessary for the first Motion from A to B, it will not be less necessary for the second Motion, from B to C, whether there be an interval betwixt them or not.

Where there is an interval, every Body will acknowledge that another Cause is necessary for the second Motion, or a new exertion of the same Cause. But why should not that be likewise necessary, suppose there should be no interval? The Motions are as different from one another in the one case as in the other; and must not different Effects have different Causes?

There cannot, therefore, be any difference betwixt the two cases, except that, in the one case, the Cause of the Motion, or Moving Power, exerts itself continually; whereas, in the other case, it acts by remitting or interrupted energies.

It may be thought that Motion begets Motion, and, therefore, that the first Motion from A to B is the cause of the second Motion from B to C. But those who speak in this way, do not, I
doubt,

doubt, well understand what they say ; for it is inconceivable how one Motion should generate another, otherwise than by the Body in Motion impelling a Body at rest. But, how a Body, because it has been moved so far, should therefore be moved so much farther, no man can conceive.

It is commonly said, that, when one Body impells another, the Motion is communicated to the Body that is impelled, so that the impulse is the Cause of all the Motion that follows. But that is only a way of speaking, to denote, that what motive Force is imparted to the Body impelled, is lost to the Body impelling, and, in reality, expresses no more, than that the Body impelled goes on with a certain part of the force of the Body impelling, according to an established Law of Nature, which is perfectly consistent with my theory of Mind moving the Body impelled ; for it would be contrary to the order and regularity which we observe in Nature, if that Mind did not move it according to some rule or measure. And what rule more natural than the force, with which the Body impelling is moved. But, to suppose that one Body, by touching another, (for an impulse is nothing but a more violent contact), should communicate to the other Body a power of moving itself to all eternity, is a most absurd supposition.

The other thing that I would have the Newtonians consider, is a very obvious distinction, which, if rightly made, would, I should think, remove all their difficulties. The distinction I mean is, the common distinction betwixt first and second causes, that is, the remoter and the nearer or more immediate cause ; for every thing that is produced must have an immediate Cause operating in its production. This I have illustrated in the Appendix to the First Volume *, by the example of the seeds of plants and animals, which are the remoter causes of their movements, though not the immediate. But we need

not

* Page 537. 538.

not go so far to seek for examples ; for the Motion of every Animal is a proof of this distinction. When I move this book upon the table, my hand is the immediate cause of the Motion ; but my Mind is the remoter cause. And it is a distinction which runs through all Nature, and ascends even to the Great Author of Nature, who is the First Cause of all the Motions in the Universe, and yet he is not the immediate Cause of any of them ; at least, we are sure not of some of them. In the case of the Deity, we have an example of the remoter and the immediate causes existing at the same time. But this is not always the case of things in generation and corruption ; for there the remoter cause may cease to exist, and yet the immediate cause still operate. It is this that makes the succession of plants and animals ; for the plant or animal produced continues to live and move after the parent plant or animal is gone : And it is in this way that there is a constant succession of Causes and Effects in this sublunary world. And this distinction of Causes is as well known in Art as it is in Nature ; for the Mind of the Artist is the first or remoter Cause of the piece, but the Organs of his Body, or Organs of Art which he employs, are the Immediate Causes, or the Instrumental Causes, as they are commonly called. The impulse, therefore, is only the First Cause of the Motion, or rather the Occasion, as we shall afterwards show, but not the Immediate Cause. What that Cause is I shall by and by inquire.

It is therefore evident that the Newtonians have erred in this matter ; *first*, from not understanding the nature of Motion, and so considering every Motion, even Infinite Motions, as *one* thing, and not *many* ; and, *secondly*, from not making the distinction betwixt *First* and *Second Causes*, and not considering that there must be an immediate Cause for the production of every thing, as well as a remoter Cause ; and that, therefore, there must be an immediate Cause, or a

Cauſe actually operating in the production of every new Motion, as well as in the production of the firſt.

By theſe arguments I hope to convince all the Newtonians, who are ſcholars and philoſophers as well as geometricians and mechanics ; or, if I ſhould not have that good fortune, they will at leaſt owe me ſome thanks for examining accurately, and, I hope, they will think, candidly, this principle upon which Sir Iſaac has thought proper to rear his ſyſtem of Aſtronomy. And, if they think they can give a ſatisfactory answer to all the arguments I have uſed againſt it, they ought to rejoice that I have given them an opportunity of placing Sir Iſaac's Aſtronomy upon a ſolid foundation of philoſophy, which certainly has not hitherto been done. And, even thoſe Newtonians, who are only mathematicians and learned in facts of natural hiſtory, ought not to be angry that I have applied to Sir Iſaac's aſtronomy the principles of the philoſophy of which I am treating, more eſpecially as he has choſen to build his System upon a metaphyſical principle, which was certainly not at all neceſſary ; for he might have calculated and meaſured the Motions of the Celeſtial Bodies, and diſcovered the Laws of their Motions, without inquiring into the Cauſe of theſe Motions, or laying down ſo general a propoſition concerning the continuation of Motion. If Euclid had begun his Elements with defining and explaining what Body, Quantity, and Magnitude, were, and ſo had run his Science up into Metaphyſics, no geometrician, however great his regard for Euclid might be, could have blamed me, if, in a metaphyſical work, I had ſhown that the metaphyſical principles, laid down by Euclid as the baſis of his geometry, were not true and ſolid.

What I have here ſaid will, I hope, at leaſt ſerve for an apology to all the Newtonians, whether ſcholars and philoſophers, or only mathematicians. But, as to the pious philoſopher, whoſe concern is
not

not for the reputation of Sir Isaac Newton or any particular man, but for the cause of Religion and the genuine doctrines of Theism, I expect his thanks and praise, for having so carefully examined the truth of a proposition, that certainly gives too much countenance to Materialism, to which, it must be confessed, that the philosophy of this age has too great a tendency.

I should not, however, have delivered my opinion so freely upon the subject, if I could only have opposed, to so great an authority as that of Sir Isaac Newton, my poor opinion. But I have on my side the authority of all antiquity; and, however mean opinions some men may have of the authority of the Antients in philosophy, it would be very extraordinary if they were ignorant of an Axiom, and an Axiom too of so great importance, concerning the continuation of Motion in the Universe. But, in England, where, to the honour of the country, be it said, the Greek learning is better preserved than any where in Europe, the learned begin to have a better opinion of the Greek philosophy; and I do not despair of living to see the authority of Aristotle, in matters of philosophy, as great in one at least of the Universities of England, as it was once all over Europe, and as it still is, according to my information, in the Schools of the Greek Church. He has laid it down as the basis of his whole System of Physics, that there is a principle of Motion in all physical Bodies, which, as he every where distinguishes it from the Matter of those Bodies, can be nothing else than Mind, not Intellectual or Sensitive or even Vegetable Mind, but, as I have shown, a Mind of a different kind, which, as it informs all Unorganized or Elemental Bodies, I therefore call the Elemental Mind. By this principle, he understands that all Bodies are moved; if their Motions cannot be accounted for by the agency of other Bodies. In this latter way, he has endeavoured to account for the continuation of Motion in Bodies impelled *. But, as it is evident that he has failed in that at-

* See page 336.

tempt, I think he has thereby confirmed the truth of his general doctrine of the Cause of Motion.

Nor am I destitute of modern authorities, any more than antient. The first I shall quote is that of Leibnitz, who certainly was a man of great genius, and, if he had understood the antient languages and studied the antient philosophy, would have been, in my opinion, a very great philosopher. His Monads, as I have shown from a passage of his works that I have quoted *, are nothing else but *Active Principles*, or Principles of Motion, in all Bodies, by which he accounts for the Motions in the Universe.

My next authority is a greater still; it is that of Dr Clarke, who was not only a good metaphysician, but a great scholar, and also learned in the philosophy of Sir Isaac Newton. He has declared his opinion in the clearest and most explicit terms, ‘ That all the great Motions in the world are caused by some *Immaterial Power*, not having *originally* impressed a *certain quantity* of Motion upon Matter, but *perpetually* and *actually* exerting itself every moment, in every part of the world.’ And, again, he says, ‘ That the very Original Laws of Motion themselves cannot continue to take place, but by *something superior* to Matter, *continually* exerting on it a certain force or power, according to such certain and determinate laws †.’

I have heard it objected to this authority of Dr Clarke, that he is only speaking of the Motion of Gravitation, not of Projection: But I think it is impossible that the Doctor could have expressed himself so inaccurately, as to have said, that the great Motions of the world, by

* Vol. I. page 233.

† I have quoted the passage at large, Vol. I. page 235.

by which he certainly means the Celestial Motions, were not produced by any original Force impressed upon them, but only by the continual exertion of Mind, if he had not understood that the projectile or progressive Motion, by which the Planet is carried on, was not produced by any original impressed Force ; for Gravitation does no more than direct the Progressive Motion, and hinder it from going on in a straight line. And, indeed, it is evident to me, that he had in his view Sir Isaac's First Law of Motion, though he does not mention it, (out of regard, it is likely, to Sir Isaac, with whom he lived in great friendship), by which the Motion of the Planets, once begun, was to go on forever, by virtue of the original impulse, without any further agency of Mind or Body.

The next authority I shall quote is that of a living author, Dr Horsley, not a less authority, in my opinion, than that of Dr Clarke. He is well known as a Mathematician ; and he is likewise a scholar, and, in my opinion, an excellent philosopher, having studied the antient as well as the modern philosophy. He has favoured me with some observations upon the First Volume of my Metaphysics ; and, indeed, without the encouragement and the instruction I have got from him, I believe I should not have persisted in my attempt to revive the Antient Philosophy, nor troubled the world with this Second Volume of Metaphysics. Though he must be supposed to be greatly prejudiced in favour of Sir Isaac, yet he is so candid as fairly to acknowledge, that Sir Isaac's First Law of Motion cannot be defended upon the principles of sound philosophy ; and he has furnished me with the argument that I have so much insisted on, from the nature of Motion, which I will here give in the Doctor's own words, expressed with all the clearness and brevity of a Geometer. ' I believe, with the Author of the Antient Metaphysics, that some active principle is necessary for the continuance, as well as for the beginning of Motion. I know that many Newtonians will not
' allow

‘ allow this : I believe they are misled, as I myself have formerly
 ‘ been misled, by the expression, *a State of Motion*. Motion is a
 ‘ Change ; a Continuation of Motion is a further Change ; a fur-
 ‘ ther Change is a Repeated Effect ; a Repeated Effect requires a
 ‘ Repeating Cause. State implies the contrary of Change ; and
 ‘ Motion being Change, a *State of Motion* is a contradiction in
 ‘ terms.’

The last authority I shall mention is that of Sir Isaac himself, in the *Queries* subjoined to his *Optics*, where he has said, in so many words, That there are certain active principles, by which the particles of Matter are moved, and which are the causes of Gravitation, Magnetic and Electric Attractions, of Fermentation, and the Cohesion of Bodies ; and he further says, that, by the *Vis Inertiae* alone, which is a mere passive principle, it is impossible to account either for the beginning or the continuation of Motion *. Now, if the

Vis

* I have given Sir Isaac's words, Vol. I. page 547. And I will here subjoin another passage from the same work, viz his *Queries*, annexed to the second edition of his *Optics*, page 376. ; where, after having established that all Bodies are composed of *Primitive Particles*, as he calls them, infinitely harder than any Bodies composed of them, so very hard, as never to wear or break to pieces, by the means of which *permanent* particles, Nature, he says, is preserved, and lasts forever, amidst all the various changes of corporeal things, he adds, ‘ It seems to me farther, that
 ‘ these Particles have not only a *Vis Inertiae*, accompanied with such passive laws
 ‘ of Motion as naturally result from that force, but also, that they are moved by
 ‘ certain active Principles, such as is that of Gravity, and that which causes Fer-
 ‘ mentation, and the Cohesion of Bodies.’ Now, I would desire to know what these *Active Principles* are, by which the Particles of Matter are moved, and by which, as Sir Isaac says, Gravity, Fermentation, and the Cohesion of Bodies, are produced? They are certainly different from the Particles themselves, in which they are inherent. And it is evident, not only from this passage, and from the other passage I have quoted in the First Volume, but from every thing that Sir Isaac

has

Vis Inertiae of Matter, (so called, *nomine significantissimo*, as Sir Isaac has said in his *Principia*), will not account for the continuation of the Motion of a Body impelled, after the Impulse has ceased, there is an end of the First Law of Motion; and the continuance of the Motion of the Body impelled cannot be accounted for otherwise than from that principle of activity which he supposes to be in every particle of Matter, and which is no other than what I call Mind.

If, therefore, Sir Isaac has fallen into any error in Metaphysics in his *Principia*, which is a work of a kind altogether different from Metaphysics, he may be allowed to correct himself in a later work, where his professed purpose is to inquire concerning the beginning and continuation of Motion.

Having thus removed the prejudices that would naturally arise in the Mind of the reader, from the supposition of this being a discovery

has written upon the subject of Motion, that he did not believe that Matter could move itself. Neither do I think it is possible to believe that Sir Isaac supposed these Primitive Particles of Matter to be moved by any other Matter; and, therefore, if this Moving Principle be not material, it must necessarily be immaterial, that is, *Mind*. In short, I think that Sir Isaac, in this work, in which alone he has philosophized concerning the Origin of Motion, delivers, in very few words, the sum of my doctrine concerning the Principles of Motion in the Universe, and agrees with me in that part of it which appears the most paradoxical, viz. that every Body, organized or unorganized, great or small, *is animated*; (see Vol. I. page 244.); for this must be the case, if every particle, of which the Body is composed, is acted upon by Mind, that being the very definition of Animation; (see page 47. of this Volume). And I must further add, that I think he clearly gives up and retracts the opinion he had formed, concerning the continuation of Motion when he wrote his *Principia*: For there he lays it down, that Motion is continued by the *Vis Inertiae*; but here he says expressly, that the particles of matter are not moved in consequence of the *Vis Inertiae*, but by an Active Principle. And, indeed, it is impossible that a Man, who believes that a Body has an Active Principle in every particle of it, can, at the same time, believe that it will continue in Motion, not by virtue of that Active Principle, but by virtue of an Impulse, which it may have received some thousands of years before.

very of mine, I think that, upon the credit of ſuch reaſons and ſuch authorities, as I have given, I may venture to deny, with ſome aſſurance, that a Body impelled by another Body will go on forever, by virtue of that impulſe, though there ſhould be no obſtacle in its way to ſtop or retard its progreſs. The fact, however, is certain, that it will go on for ſome time. And, as it goes on in none of the three ways above mentioned, neither of itſelf, nor by the action of any other Body upon it, nor by the impulſe which has ceaſed, it follows of neceſſary conſequence, that it muſt go on in the fourth way I mentioned, that is, by Mind, the only Moving Power in this univerſe, either mediately or immediately.

And thus, I think, I have accounted for a phaenomenon, which even Ariſtotle has vainly endeavoured to account for by Mechanical Cauſes, when he might have eaſily done it upon that hypotheſis, which I have aſſumed from him, that there is a principle of Movement, *a kind of Life*, as he calls it, in all phyſical Bodies. And, likewise, Sir Iſaac Newton has endeavoured to account for it in an improper manner, when he has aſcribed it to a *Vis Inſita*, or power inherent in the Body.

However wonderful it may appear to a man unacquainted with the antient philoſophy, that a Projectile ſhould be immediately and directly moved by Mind, it will not be at all ſurpriſing, to a man who has learned from Ariſtotle, that Nature * is a principle of life
or

* Although I have ſaid a great deal of *Nature* in this and the preceding Volume, yet, as it is a word ſo little underſtood, and which, I will venture to ſay, no man underſtands, who has not ſtudied the antient philoſophy, I will put the reader in mind, that, by *Nature*, Ariſtotle means a Principle of Movement, but without Intelligence,

or movement, in all Bodies, unorganized as well as organized, and that the Principle which moves Brute Animals is of the same
 VOL. II. Z z kind,

telligence, in all Bodies, whether Animal, Vegetable, or Mineral, or, to express it in two words, *organized* or *unorganized*. Aristotle's words are, *φύσι μιν τα τε ζώα, και τα μίση αυτών, και τα φυτά, και τα ἄλλα τῶν σωμάτων, οἷον γῆ, και ὕδρ, και αἰρ, και ἕως. Ταυτα γὰρ εἶναι, και τα τοιαυτα, φύσι, φάσι.* *Lib. 2. De Naturali Auscultatione, cap. 1. in initio.* This principle, which I call by the general name of *Mind*, distinguishing that species of it which moves the *τα ἄλλα τῶν σωμάτων*, or Elemental Bodies, by the name of the *Elemental Mind*, though it has no Intelligence in itself, yet is directed, in all its movements, by Intelligence, and Intelligence the most perfect, I mean the Supreme Intelligence. In this way God and Nature are connected together, and yet distinguished from one another. From hence appears the truth of what Aristotle says, in the eighth chapter of the second book, *De Naturali Auscult.* that Nature always acts for some end or purpose, of which he gives examples, not in Animals only, but in Plants; from whence a man, who has not studied the antient philosophy, and has not learned to distinguish *acting by Intelligence* from *acting with Intelligence*, would be apt to conclude that there is Intelligence in Brutes, and even in Plants, and likewise in unorganized Bodies which act in the same manner. The words of Aristotle may be read by any body; but I will here give the words of his commentator Simplicius upon that chapter, because his Commentary is a rare book, and in the hands but of few even of the learned. They are in the 86th page of that Commentary: *Εἰ δὲ τῆ δοκεῖ τα ἀλογα ζῶα λογισμῶ τινι ποιεῖν, ἴσθητῃ κατὰ μικροῖ δια τῶν λογικῶν* (I would read *ἐμψυχῶν*, because neither Aristotle nor his Commentator is there speaking of the Rational Animal, who has undoubtedly Intelligence,) *και ἀλογῶν τὸ ἕνεκα του, και ἐπι τα φυτά προοιοῦ' ἐν οἷς οὐτε ἀπορία τις ὑπολαμβάνεται μήποτε τῆ ποιούσῃ ἡ τέχνη. και εἴσθεται και ἐν ἐκείνοις τῆ φύσιν ἕνεκα του ποιούσαν' τατὶ γὰρ φύλλα, και τα περικλασθῆναι, του καρπῶν ἕνεκα γίνονται και ἡ ρίζαι ἕνεκα τῆς τροφῆς. ἐπεὶ δια τι δὲ οὕτως ἀμφιβυσσοῖ τα σπέρματα ἀσφάλως, ἐἰ μὴ πολλὴν ἐχθὴ προοιοῖαν τῆς ἐξ ἀλλήλων καλλιγενέσιως.* After this, Simplicius goes on, and, having shown that this principle of movement acts in animals and plants for a certain purpose, but without Intelligence, he shows that the same principle operates in the same way also in elemental and unorganized Bodies, according to the doctrine of Aristotle, in the passage above quoted; and then he concludes with these words, *Μήποτε οὐδ' Ἀριστοτέλης φύσιν καλεῖ και τῆς ψυχῆς και το προῖ σώμα καταγινόμενοι.* So that Simplicius agrees with me, that, according to Aristotle, *Nature* is *Mind acting in Body*, but without Intelligence. But, indeed,
 the

kind, though of a different species. This principle in Animals is, as it is well known, affected and influenced by external objects, and, in consequence of that influence, produces various movements. Now, I say, that, in like manner, this principle of movement in Bodies unorganized, such as the projectile, being affected by the action of the impelling Body upon it, in a manner analogous to the way in which the Mind of the Animal is affected by the action of external objects upon its Organ of Sense, carries it on for some time, and produces all those successive changes of Place, that is, so many different Motions, which, as I have shown, it is impossible to account for from the original impulse: And the only difference betwixt the two cases is, that, in the case of Animals, the impression of external objects operates upon the Mind of the Animal, and produces the Motions of his Body, through the medium of Appetites and Desires; whereas, in the case of unorganized Bodies, the impression of external objects operates directly and immediately upon the Mind, or Principle of Motion, in them. And in the same manner this impression operates upon Bodies organized, such as

Vege-

the words above quoted from Aristotle makes it perfectly clear, without the authority of Simplicius, or of any other commentator.—This is *Nature*, which, as we have seen, comprehends the Brute, but it does not comprehend Man, because he has Intelligence in himself: And thus *Nature* and *Man* are distinguished.—As to the distinction betwixt *Nature* and *Art*, Aristotle has also given it in the above quoted first chapter of the second book, *De Naturali Auscultatione*; and the distinction is this, That the things of *Nature* have a Principle of Motion in themselves: Whereas the things of *Art*, considered as things of *Art*, have no such principle, but are all moved from without, either by the Artist immediately and directly, or by some Power employed by him.

In this way, *Nature* is distinguished from *God* and *Man*, as well as from *Art*—distinctions, I will again repeat it, which are not to be found in any modern book of philosophy: And yet, how contemptible must a philosophy appear, that cannot accurately distinguish these things! and how contemptible a philosopher that cannot tell even what he himself is!

Vegetables are, which, in this respect, resemble exactly Bodies unorganized; nor do I know any other difference betwixt them, except that the Motion of the Vegetable is more various than that of Body unorganized.

Those who do not believe that the same *Nature*, or Principle of Animation, in kind, though differing in species, informs unorganized Bodies as well as the Animal and Vegetable, will not, it is likely, be convinced by this argument of analogy from Animals and Vegetables. But I should be glad to know what they can answer to the Magnetic, Electrical, and Chymical Attractions and Repulsions. These Motions are all occasional, as well as the Motion of the Body impelled. The Iron, for example, does not move towards the Magnet, nor the Magnet towards the Iron, till they are brought within a certain distance of one another: And it is evident that the Motion must be by Mind, as Thales, the most antient philosopher of Greece, said it was, unless we will maintain that Body can either move itself, or remain at rest, as it thinks proper; which I hold to be downright Atheism. Here, therefore, we have Mind in Bodies unorganized; upon certain occasions both beginning and continuing Motion; which further shows, that, in Nature, there is truly no difference betwixt beginning and continuing Motion. And the two cases are exactly parallel, except that we can assign a final Cause for the impulse of one Body producing Motion in another: For, as there are so many Bodies on this Earth, jostling and interfering with one another, it is evident that neither the business of Nature nor of Art could be carried on without one Body impelling and driving out of its way another; whereas we do not so well know the purpose or end of the Magnetical Motion, though we are very sure that it is for some good end.

And there is a further analogy that, I think, may be observed betwixt the Motions of Animals, or of such Bodies as the Magnet and Iron, and the Motion of Projectiles ; for the impressi on of external objects upon the Organs of Sense of the Animal cannot properly be said to be the *Cause* of the Motion of the Animal, but is rather the *Occasion* of it ; for it is the Mind in the Animal that is truly the Cause of the Motion ; which Cause operates upon occasion of the impressi on of external objects upon the organs of the Animal. In like manner, the loadstone is not the Cause of the Motion of the Iron, nor the Iron of the Motion of the loadstone ; for it is impossible to conceive that Bodies can operate upon one another at a distance, or otherwise than in contact : But there is a principle of activity in the Loadstone and the Iron, which, upon occasion of their being presented to one another, at a certain distance, makes them move towards one another. And I say there is the same principle in the Body impelled, which makes it move in a straight line, upon occasion of the impulse. And there are in Nature many other occasional Motions by which Bodies are moved, not only *to* one another, but *from* one another. At the same time, if any one choose to call the impulse the first or remoter cause of the Motion, as I have hitherto considered it, I have no objection ; for, though it be not the Moving Power, and therefore certainly not the immediate Cause of the Motion, yet it is a Cause, in the most general sense of the word, being that without which the event, called the effect, could not have happened. But, by whatever name we call it, we ought carefully to distinguish it from the Motive Principle which carries on the Body, since, by not making that distinction, it appears that the Newtonians have fallen into the error concerning the Eternity of Motion produced by Impulse.

And thus, I think, I have proved, that my hypothesis of Mind being the Moving Power of the Body impelled, is not assumed merely
merely

merely for the sake of argument and contradiction to received opinions, but is founded upon fact and observation, and the analogy of other Motions in Nature,

If it be admitted that the Motion of the Projectile is carried on by Mind, and not by Body or Bodily Impulse, I think it is of little consequence how long that Motion is to last, concerning which we are only sure of one thing, that it will last as long, and no longer, than the business of Nature requires : And another thing we may venture to affirm, that, when it stops, it will not stop at once, but languish and decay by degrees ; for there is a progress of every thing in Nature, and particularly of the Movements of Mind in Body. That this Motion is, by its nature, eternal here on earth, if there were no obstacle in its way, or no power to counteract it, I cannot believe. It never can be proved by fact or experiment ; and therefore it is not to be believed, unless a good reason could be assigned why it should be so. For, though I do not admit the argument from final causes, against the existence of a thing which is proved by fact and experience to exist, I think we may very well argue in that way against the supposition of a fact which is neither proved nor probable. As, therefore, in this case, no reason can be given for the eternity of such a Motion ; I think, to suppose it, is mere hypothesis. I therefore hold that the Mind which moves the Body impelled does not stop it ; for that would be to suppose that it would otherwise, and by its own nature, continue in Motion ; but it exerts less and less its Motive Power, till at last it does not exert at all, and then the Motion ceases, like all other Motions produced by Mind. This Motion, therefore, according to my hypothesis, grows slower and slower by degrees, till at last the Body stands still : But the more violent the impulse, the longer the Motion continues ; and its velocity is likewise greater at first, which no doubt is diminished by the resistance of the Medium, but it is also diminished by the less exertion

exertion of Mind. And this hypotheſis, I think, is proved by the common experiment of a man walking or running againſt the wind, where the velocity of the Motion is conſtantly diminiſhing, both by the obſtruction of the Medium, and the languor of the Moving Power, till, at laſt, it will ceaſe altogether.

Nor ſhould this hypotheſis, of the gradual diminution of the Motion, appear ſurpriſing to the Newtonians, who now admit that Mind is the cauſe of gravitation ; for, as that Motion is conſtantly increaſing, there is no reaſon why another Motion, produced likewise by Mind, and in a Body likewise unorganized, ſhould not as conſtantly decrease, though in a proportion very different ; for, as I have ſaid elſewhere *, the quicker or ſlower decay of the Motion will depend upon the greater or leſs violence of the impulſe.

* Vol. I. pages 542. 543.

C H A P. IV.

An Inquiry concerning the Principle of Motion of the Celestial Bodies, not concerning the Laws of their Motions.—The Question stated concerning the Eternity of the World.—We can only judge of the Motions in the Heavens by those on Earth.—Those can only be produced in one or other of three Ways.—The first is by the Body Moving itself.—This Hypothesis examined—shown that it confounds all Distinction between Mind and Body, and has a Tendency to downright Atheism.—2d Hypothesis, That Bodies here are moved by other Bodies.—This Movement either by Trusion or Impulse.—Gravitation not to be accounted for in either of these Ways.—Of Attraction, and the abuse of that Word.—Of the Motion of the Tides, —not to be accounted for by Projection and Gravitation, nor otherwise, except by Mind.—Of the third Motive Power on Earth, viz. Mind.—All Animal Motion of this kind mediately or immediately.—The manner of Mind moving Body.—The Motions of Bodies towards one another mutual.

HAVING shown, in the preceding Chapter, that Sir Isaac's first Axiom, so far as concerns Motion, is not only not a general Proposition, such as an Axiom ought to be, applicable to all kinds of Motion, but is not true even of Motion by Impul^tè; I proceed now to inquire concerning the Motion of the Celestial Bodies, on account of which, it is evident, that Sir Isaac laid down this first Law of Motion. And it is not concerning the Laws of their Motion that I am to inquire; for these have been investigated and discovered with

with wonderful sagacity by Sir Isaac Newton, but concerning the Moving Power or Principle of their Motion, which I would again desire the reader to observe, is altogether different from the Laws of their Motions, and belongs to Philosophy, not to Astronomy.

Whether the Motion of these Bodies be from all eternity, or whether it has had a beginning, is a question that does not belong to the subject we are now upon. I have said something of it in the First Volume, and shall only add here, that the question ought to be divided, and it should first be considered, whether these Bodies have been always moved as they are now; or, in other words, whether the same System of the Heavens, and, in general, of the Material World, has been from all eternity? And, *2do*, Whether there ever was a time when there was no Material World at all, nor any such display of the Power, Wisdom, and Goodness of God? As to the first of these questions, there are appearances, both in the Heavens and Earth, which convince me, that the present system of things neither has been from all eternity, nor will continue to all eternity: And I am much inclined, as I have elsewhere said, to the antient opinion, of a *παλιγγενεσις*, or renovation of things, that is to happen at some time or another; and, perhaps, the Creation of Moses is nothing else but a new Generation or Renovation of that kind. As to the other question, Whether there was ever a time when nothing existed in the universe but the Deity Himself? it is, perhaps, a question more doubtful; at least, it is a question about which the Aristotelians of later times have differed; Philoponus maintaining the one side of the question, and Simplicius the other.

But of this it is not necessary, nor, indeed, proper, to say more at present. I therefore proceed to the subject of this Chapter, which is to inquire, How the Motion of the Planets began, if it had a beginning, and By what Motive Power it is carried on.

on? And, so far we have already advanced in this inquiry, as to have discovered, that, supposing it to have begun by Impulse of Body, it could not go on by that Impulse merely, without some continued agency of either Body or Mind.

As we can have no Idea of the Motions in the Heavens, but from what we observe here on earth, so that our reasoning concerning those Motions must be all of the analogical kind, I will first try to discover by what power the Motions here on earth are begun and carried on. And I am sure the Newtonians will approve much of this way of reasoning, as it is by the analogy betwixt the Motions of Projectiles here on Earth, and of the Celestial Bodies, that Sir Isaac has ascertained the Law of the Planetary Motions.

And, in the *first* place, it is evident that the Bodies here must necessarily be moved in one of two ways; for, either they must move themselves, or they must be moved by something different from themselves. Those that are moved in this latter way can only be moved, either by other Bodies, or by Mind. There are, therefore, only three ways in which it is possible, by the nature of things, that Bodies on this Earth can be moved; for they must either move themselves, or they must be moved by other Bodies, or, lastly, they must be moved by Mind*.

VOL. II.

A a a

That

* This way of reasoning, by enumeration of all possible cases relating to the thing in question, one or other of which must necessarily exist, is very much used by Aristotle; and he commonly adds to the enumeration, *και παρα ταυτα ουδεις*, which I think I may add here: And, if it be shown that none of the cases can exist but one, the conclusion is demonstrative; and, accordingly, it is a method of reasoning much used by the Mathematicians.

That Body does not move *itself*, I hope I have sufficiently proved by what I have said, both in this Volume *, and the preceding † ; nor should I have here added any thing more on the subject, but that those Newtonians, who still maintain that Bodies continue in Motion by a *Vis Infitā*, that is, a force inherent in them and essential to them, must, I think, likewise maintain, that Body can move itself; it being impossible to distinguish betwixt the beginning and continuance of Motion. For, as all Motion consists of many Motions, every change of Place is a new Motion, which must have a beginning, as well as the first Motion: And, accordingly, in Nature, we see there is no such distinction. In Animals, the same power that continues the Motion begins it; and, likewise, in unorganized Bodies, the same principle of gravitation, that carries on the Motion of a Body towards the centre, begins it: And, in the Iron, the same principle, that continues its Motion towards the loadstone, begins it: And the same is true of all the electrical and chymical Motions. I do not, therefore, at all wonder, that Mr Cotes, who no doubt believed in the *Vis Infitā*, did also believe that Gravitation was essential to Body ‡: And, as I have said, I rather wonder that Sir Isaac has said he did not affirm it to be essential.

It appears to me that those, who make any kind of Motion or the continuation of Motion to result from the nature and essence of Body, confound altogether Body and Mind, and thereby destroy that distinction, which, I think, is the foundation, not only of natural philosophy, but of metaphysics and theology: For, if I can conceive Body, by its own inherent and innate Power, to move itself sometimes slower and sometimes quicker, and that in a fixed and determinate ratio to the time of its Motion and the space it

moves

* Book I. chap. 6.

† Vol. I. Book II. Chap. 3.

‡ See his Preface to his Edition of the *Principia*.

moves through, which is the case of the Motion of Gravitation—and, if I likewise can conceive it to move itself at certain times and upon certain occasions, and not to move itself at other times and upon other occasions, and also to move itself in different directions according to circumstances, which is the case of the Motions of Magnetism and Electricity, and of the Attractions and Repulsions of the small particles of matter—and, lastly, if I can conceive that Body may move itself towards another Body and incorporate with that Body, and then, upon another Body presenting itself, which it likes better, forsaking the first Body and joining itself to the last—if, I say, all this can be conceived, I ask what distinction is left betwixt Body and Mind? Must I not say with the Cartesians, that a Brute has no Mind, any more than those particles of matter which chuse one thing in preference to another, or any more than those other Bodies which move themselves in so orderly and regular a manner? And where can I stop, if I admit that Body can move itself so constantly and regularly, and for a certain end and purpose? Must I not admit, likewise, that all the Motions of the universe may be performed in the same manner? And then there is an end of the doctrine of Theism; and Atheism must stand securely on the only bottom on which it can stand—the power of Matter to move itself: It was upon that bottom, and no other, that the philosophy of Democritus, Leuippus, Epicurus, and Strato could stand; for, as those philosophers denied the existence of any Mind in the universe, and gave no other account of the origin or continuation of Motion, they must have understood that Body moves itself.

And thus, I hope, I have satisfied the reader, that Body cannot move itself, and, consequently, that the Power of Motion is not essential to Body, at least, not here on earth; for it is only concerning the Motions on earth that we are at present inquiring. And the reader will, at the same time, clearly perceive the dangerous consequences

quences of the perpetuity of Motion, asserted by Sir Isaac's first Axiom, in consequence of a *Vis Infinita* in the Body.—And so much for the first of the two ways in which Bodies here on earth can be moved.

I proceed now to the second hypothesis, which is, That Bodies here are moved by other Bodies. This must necessarily be in one of two ways ; either by trusion, or by Impulse, according to the distinction I have made betwixt those two Motions *. I will begin with Trusion. But it must be always remembered, that, when I speak of Body moving Body, I mean that the Body is only the immediate Cause of the Motion : For, ultimately, Mind is the Author of all Motion in the universe, one Body not being able to move another unless it be first moved itself ; and it cannot be moved, except by Mind, either mediately or immediately.

That there is a great deal of Motion here below by Trusion, cannot be denied. A considerable part of the Motion within the Animal and Vegetable Body, is, I believe, of that kind. But I deny that the many other Motions, which we observe on earth, can be accounted for by any Trusion, or Pressure, of other Bodies upon the Bodies in Motion : And particularly the Motion of heavy Bodies towards the centre of the earth, cannot be accounted for in that way ; though that has been attempted by no less a man than Sir Isaac Newton, who has proposed it as a query, Whether Gravitation might not be the effect of a fluid pressing upon the Body, and urging it towards the centre ? But this is an hypothesis that, I believe, is now universally given up by all Newtonians : And, indeed, it appears to me quite inconceivable, how a fluid, invisible, untangible, and unperceived by any sense, should have nevertheless such prodigious force, as to press down towards the earth Bodies of the greatest
mass

* See page 343.

mas we can suppose; and this fluid to be within another fluid, our air, and to be constantly traversing it, without affecting any of our senses.

But, besides Gravitation, there are many other Motions upon this Earth, also of Bodies unorganized, such as the Motions of Magnetism, Electricity, and of the small particles of Matter observed by chymists, which cannot be accounted for by Fluids, any more than the Motion of Gravitation: For, as the Motions of these Bodies are only occasional, there must be both a Creation of a Fluid, to account for the beginning and continuance of the Motion, and likewise an annihilation of it, to account for the cessation of it.

As to the Motion of Animals from place to place, I believe there is no philosopher in Britain that thinks it can be accounted for by Trusion, or by any Mechanical Cause whatsoever.—And so much for this way of Body moving Body by Trusion.

As to the Motion by Impulse, I hope I have shown to the reader's satisfaction, that it must be carried on by Mind: So that the only question at present is, What Motions here on Earth are begun by Impulse? And, in the *first* place, I think it is evident that Gravitation here on Earth is not the effect of any Impulse, or Original Impression, upon the Body; though that opinion also has been endeavoured to be defended. It has taken its rise, as I imagine, from the notion of the Planets being moved originally by Impulse, and their Motion continued by virtue of the same Impulse. But, even supposing the Motion of the Planets to have been begun and to be carried on in that way, if their Motion were stopped the same Impulse certainly would not be sufficient to make them recommence the Motion, but a new one would be absolutely necessary. In the same manner, when a stone falls to the ground, is taken up, and falls again, the same Original Impulse will

will ſurely not account for the renewal of the Motion, after it has ceaſed, but another Impulſe will be neceſſary, and another as often as the ſtone is taken up and falls again : And, ſuppoſe all theſe repeated Impulſes could be admitted, I aſk the ſame queſtion that I did with reſpect to Truſion, What Body can be ſuppoſed to give an Impulſe that will make a rock of an hundred tons weight tumble down from the top of a mountain?—But it is ſpending time to no purpoſe, and, I think, abuſing the patience of the reader, to uſe more words to refute what, I think, may be called the Dreams of ſick men ; by which, if they mean any thing, they mean no more than to get free of Mind, altogether, in the operations of Nature. And, in converſation with ſuch men, I have diſcovered that they did not really believe in ſuch Fluids, or Impelling Bodies, but believed that Body moves itſelf ; for this, as I have ſaid, is truly the only hypotheſis upon which Materialiſm can be defended.

Before I leave Gravitation, it will be proper to obſerve, that, as there is nothing in Nature without rule or meaſure, ſo the rule of the Motion of deſcending Bodies has been diſcovered in modern times ; and I think it was a very great diſcovery. The antients, no doubt, knew, as well as we do, (and, indeed, it is obvious to common obſervation), that a Body, in deſcending, accelerates its Motion ; but it was not known, till the time of Galileo, by what rule this acceleration was : He firſt diſcovered that it was as the times of the fall ; ſo that, in a double time, the Body acquires a double velocity : The conſequence of which is, that the ſpace the Body goes through is as the ſquares of the times ; ſo that, in a double time, the Body has gone through a quadruple ſpace.

But, though Gravitation be not produced by Impulſe, there are certainly other Motions on this Earth, both from Nature and Art, that are ſo produced : But, as to ſuch natural Motions, as Magnetiſm, Electricity, and the Attractions and Repulſions of the ſmall particles
of

of Matter, nobody hitherto, as far as I know, has so much as attempted to account for them from Impulse.

These are all the ways in which Bodies can be said to be moved by Bodies on this Earth. There is, indeed, another way, that I have heard mentioned, of Bodies being moved by other Bodies, not in contact with them or impelling them, but at a distance from them. According to these philosophers, a Body does not move itself, but is the cause of Motion in other Bodies, not by impelling them, protruding or drawing them, in the Ordinary way, but by acting upon them at a distance from them. This appears to me to be the last refuge of Atheism, and of a desperate resolution to believe that there is nothing else in the Universe except Body: For, otherwise, I do not think it is possible to believe, and I doubt much whether any man ever really believed, that any thing could act *where* it was not, any more than *when* it was not; and yet that must be the belief of those who speak of Body attracting Body, or in any ways operating upon it at a distance without other Bodies intervening, if they understand the meaning of the words they use. Some, I believe, have been inadvertently led into this error, by the improper use of the word *Attraction*, which, in its proper and etymological signification, denotes one Body drawing another to it; for, as I have taken occasion to observe more than once before, there are many errors in our modern philosophy, arising from the improper use of words, our modern philosophers not being, for the greater part, Scholars, and consequently not learned in language. But, with respect to this word *Attraction*, though Sir Isaac uses it, and, I believe, was the first who applied it to the Motion of Bodies, he has expressly cautioned his readers against the abuse that might be made of it by supposing that Bodies act upon one another at a distance, and has said that he meant no more by it than the tendency that Bodies have to one another.

But

But Sir Ifaac has elfewhere declared his Mind ſtill more explicitly upon this ſubject, and, indeed, as ſtrongly as it is poſſible for words to expreſs it; for, in a letter to Dr Bentley, dated 25th February 1692-3, he has uſed theſe words: ‘It is inconceivable that inanimate Brute Matter ſhould, without the mediation of ſomething elſe, operate upon and affect other Matter, without contact, as it muſt do, if Gravitation, in the ſenſe of Epicurus, be eſſential and inherent in it: And this is one reaſon why I deſired you would not aſcribe Innate Gravity to me. That Gravity ſhould be innate, ſo that one Body may act upon another at a diſtance, through a *Vacuum*, without the mediation of any thing elſe, is to me ſo great an abſurdity, that I believe no man, who has a competent faculty of thinking, can ever fall into it. Gravity muſt be cauſed by an agent acting conſtantly according to certain laws. But whether this agent be Material or Immaterial, I have left to the conſideration of my readers*.’

For the ſame reaſon that theſe philoſophers maintain that Body can attract Body at a diſtance, they muſt maintain that it can likewiſe repel Body at a diſtance, ſince the one is as common a phaenomenon, at leaſt here on Earth, as the other; and as all the changes of corporeal things, and all the various ſeparations and new aſſociations, (to uſe the words of Sir Ifaac, above quoted †), are performed by the particles of Matter either attracting or repelling one another,

the

* The laſt words of this paſſage I would deſire the reader to obſerve, as they ſeem to me to indicate the progreſs of Sir Ifaac’s opinion concerning the cauſe of the Motion of the Celeftial Bodies. When he wrote his *Principia*, he ſeems to have thought that their Motion was produced by the Impulſe of other Bodies: When he wrote this Letter to Dr Bentley, he appears to have formed no opinion whether the Motive Power was Body or Mind: But, when he wrote the *Queries* annexed to the ſecond edition of his *Optics*, which was ſeveral years after the Letter to Dr Bentley, he determined the matter clearly in favour of Mind.

† Page 358. in the Note.

the whole business of Nature, according to these philosophers, is carried on by Attraction and Repulsion, without Mind having any thing to do in the matter.

I have censured pretty freely the principles which Sir Isaac has laid down in the beginning of his Geometrical and Astronomical Work, I mean his *Principia*; but, when, in his later thoughts upon the subject, and in the only work in which he has philosophised concerning the beginning and continuation of Motion, he has retracted these principles, and laid down others very different, and perfectly agreeable to the doctrine of genuine Theism, I must confess it raises my indignation, when I see the Materialists of this age endeavouring to shelter themselves under the authority of Sir Isaac, who has not only declared himself, in so strong terms, against their notion of Attraction, (without which, however, I must do them the justice to acknowledge, that, I think, it is impossible that the Mechanical Motion of the Planets can be accounted for), but has said first, negatively, that the *Vis Inertiae* can no more be the Cause of the continuance of Motion, than of the beginning of it, and then, positively, that there is a principle of activity, which animates every particle of Matter and carries on all the Motions of the universe, and, particularly, the Motion of Gravitation. Now, I should desire to know, In what words more express he could have signified his concurrence with that fundamental proposition of the natural philosophy of Aristotle, which I have endeavoured to maintain;—That there is a Principle of Life and Motion in all Physical Bodies?

Before I leave this subject of Motion by Body, I cannot help observing, that there is one very common Motion that, I do not know, is accounted for by any Materialist, with the least degree of probability or even possibility. The Motion I mean is that of the Tides, or the Elevation of the Sea when the Moon is in a certain position

tion with respect to that part of the Sea where the Tide rises. It is commonly said, that it is the Moon which produces this rising of the waters; and, I believe, most of our philosophers are satisfied with this solution of the phenomenon. That the Waters do rise upon occasion of the Moon being in such or such a position, and that, therefore, there is a certain sympathy or consent betwixt the Motions of the Moon and of the Sea, is a fact undeniable: But the question is, Whether the Moon be the Efficient Cause of the Elevation of the Sea, or by what other power it is produced? To account for it in the way the Planetary Motion is accounted for by the Newtonians, that is, by Projection and Gravitation, by ethers or Subtile Fluids, or, in short, by other Bodies protruding or impelling the Waters to rise contrary to their natural tendency towards the centre of the Earth, I hold to be absolutely impossible. Neither do I think that the hypothesis of Attraction, as above explained, if it could be admitted, absurd and inconceivable as it is, would explain the Phenomenon with the least degree of probability: For, how is it possible to conceive that the Moon, a much less Body than the Earth and at so great a distance from it, should operate upon the Waters of the Sea so much more powerfully than the Earth itself does, upon the surface of which they are, as to overcome the effect of their Gravity, which we are sure exists, and make them rise in so extraordinary a manner. Or, if we could suppose the Moon to have such an effect upon the Sea, Why has she not a like effect upon other Bodies upon the surface of the Earth?—Why not upon Bodies lighter than Water, such as the Air and Bodies floating in the Air, which are lighter still than the Air?—Why not upon other Waters, such as the great lakes of America?—Why not upon the inland seas, such as the Mediterranean? It being, therefore, absolutely impossible to account for the Tides by any Action of Body upon Body either in contact or at a distance, one should think that a philosopher, who had not an abhorrence of Mind, or *Pneumatophobia*, as Cudworth calls

calls it, that went to a degree of madnefs, like the *Hydrophobia* of a dog, muft be driven to the neceffity of employing Mind, at leaft for explaining this phaenomenon : And it certainly would be fo, if he did not believe, not only that Matter could move itfelf, but in the moft regular and orderly manner ; which, as I have obferved, is a fundamental principle of all Atheifm.

And this leads me to fpeak of the laft Motive Power I mentioned, *Mind*, by which, I hold, all Motions on Earth are produced, that cannot be accounted for by the action of Body upon Body. Of this kind, undoubtedly, are the Progreffive Motions of Animals, alfo their inward Motions, by which their animal Oeconomy is carried on ; for, though many of thefe Motions, as I have faid, may be immediately produced by Trufion, yet, as the Bodies, which move other Bodies in that way, cannot move them unlefs they be firft moved themfelves, I hold that the Mover of them is Mind, by which all the operations of Growth and Nutrition are performed, if not immediately, at leaft mediately. As to the Magnetical, Electrical, and Chymical Motions, I hold them to be immediately from Mind.

The manner of Mind operating in Moving Bodies, I have already fully explained, and fhall not here repeat ; I fhall only fay, that it is impoffible that any man, who has an Idea of what Mind, or an immaterial Substance, is, can imagine that it moves Body by Pulfion, or Trufion, or otherwife than by operating upon every particle of it, that is, in other words, *animating* it.

I have only one thing further to obferve concerning the Motions by Mind, that there is fuch a wonderful Harmony, Consent, and Sympathy, in all the feveral parts of Nature, that, in every cafe where Bodies are moved *to* or *from* one another, the Motion is mutual.

tual. Thus, as Iron is moved towards the Loadstone, so the Loadstone is moved towards the Iron : And the Newtonians tell us, that, as the Stone, when it falls, is moved towards the Earth, so the Earth is moved towards the Stone. But, as it would be altogether incongruous that the Earth should be moved as fast towards the Stone, as the Stone is towards the Earth, the degree of the several Motions must depend upon the mass and the solid contents of the Bodies.

C H A P.

C H A P. V.

*A Conformity betwixt the Motions on Earth and the Motions in the Celestial Regions.—That Conformity will go no farther than the Nature of things requires.—The Celestial Bodies not moved by Impulse of other Bodies, as the Bodies on Earth are—nor by Trusion.—The suppositions of all such Bodies, only set Mind at a greater distance.—No Motion of Body by Body in the Heavens.—The Reason of the Difference, in this respect, betwixt Heaven and Earth.—So far as the Motions on Earth are by Mind, there must be a Conformity betwixt them and the Motions of the Heavens.—Some general things in which these Motions agree.—The Question concerning the Composition of the Motion of the Celestial Bodies.—This Question connected with the other Question, concerning the First Law of Motion.—If that Law be true, the Motion of our Bodies is necessarily compounded: But, if it be not true, no necessity for any such Composition.—Proved from Conscioufness, that Mind may move Body in a Curve Line, without any Composition of the Motion.—This demonstrated likewise a priori, from the Nature of Motion by Mind.—The Question examined, Whether the Motion of the Planets, though produced by Mind, may not be compounded?—General Positions concerning Simple and Compounded Motion.—Simple Motion defined.—Three kinds of Compounded Motion.—First, When the Composition is by the Action of different Bodies upon the Body in Motion.—Secundo, By the Action, both of Body and Mind upon it.—Tertio, By the Action of two or more Minds upon it, in different Directions.—The two first kinds of Composition cannot apply to the Planets.—The last, therefore, only can be applied.—If the Planets be so moved, it is a
Motion*

Motion without example.—All the Motions, we know, by Mind, are simple and compounded.—Objection, that the Circular or Elliptical Motion is necessarily compounded.—Answer to this Objection.—The Argument for the Composition of the Motion of the Planets from the supposed Composition of the Motion of Projectiles, answered.—One difference betwixt the two Motions is, that the Motion of the Projectiles is begun by Impulse—not so the Motion of the Planets.—Another is, that the Planets have not the same tendency to their Centre that Projectiles have to the Centre of the Earth.—That the Planets have such a Tendency, not proved by any just Argument from Analogy, nor from Final Causes.—But even the Motion of the Projectile not compounded.—This proved from the Nature of the Motion.—Objection answered, that the Projectile Motion may be divided.—If the Projectile Motion be not compounded, neither is the Motion of the Planets; but it is a simple Motion by Mind.

IF the antient saying be true, as I believe it is, That there is a Sympathy of things above with things below*, we cannot doubt but that there is a Resemblance betwixt the Motions here on Earth and those in Heaven; nor, indeed, is there any thing more natural, than that there should be a conformity betwixt the Motions of the Bodies upon this our Planet, and of the Planet itself, as well as among the Planets themselves. This Conformity, however, will only be where the nature of the things is the same; for, if that be different, and if the order and oeconomy of the System require that the Motions of the Planets should be different, in any respect, from the Motions of Bodies upon their surface, we may be assured that it is so.

And there is one difference that is obvious, namely, that it is absolutely necessary, that, here on Earth, Bodies should be moved by
Impulse

* Εὐνοία τῶν ἄνω καὶ τοῦ κάτω.

Impulſe of other Bodies ; for, otherwiſe, neither the Buſineſs of Nature, nor of Art, could go on here below : But no man can figure to himſelf any neceſſity, nor, indeed, any probable reaſon, why this our Planet, or any other of the Planets, ſhould have been firſt moved in that way. For, though, if there be any proof or ſtrong probability of a thing exiſting, we ought not to argue againſt its exiſtence from Final Cauſes, and deny its exiſtence becauſe we can give no reaſon why it ſhould be ; yet, if there be no ſuch proof of the exiſtence of any thing, and if no reaſon whatſoever can be aſſigned why it ſhould exiſt, I think we may fairly conclude that it does not exiſt. Now, the fact is ſo far from being proved, that it is in the higheſt degree improbable, and, I may ſay, impoſſible : For who can ſuppoſe that ever Bodies exiſted, of ſuch prodigious maſs and velocity as to give an Impulſe to ſuch Bodies as the Planets that would carry them on with ſo extraordinary a velocity ; or, if they could be ſuppoſed to have exiſted, What is become of them now ? In ſhort, they muſt have been created for no other purpoſe but to ſet the Planets in Motion, and then annihilated after they had ſerved that purpoſe. I do not think, therefore, that any man, who ſeriouſly conſiders the Matter, can believe that the Planets were put in Motion by Bodily Impulſe, if he believes, at the ſame time, that there is ſuch a thing as Mind in the Univerſe, and that Mind is the Author of all Motion.

But, *2do*, I hope I have proved, to the reader's ſatiſfaction, that, ſuppoſe the Motion were begun by Bodily Impulſe, it muſt be carried on by Mind ; ſo that we have recourſe to Mind at laſt, if not for the beginning of the Motion, at leaſt for the continuance of it.

The only other way, in which Body can move the Planets, is by Truſion. And in that way it is no doubt poſſible that the Planetary
Motion

Motion might not only have been begun, but carried on ; whereas it is impossible that it could be carried on by Pulsion : And, therefore, I wonder that the Newtonians have not adopted that hypothesis, rather than the other by which they suppose the Planetary Motion to be carried on by Impulse. But none of them hitherto, as far as I know, have adopted that opinion : And, if they did, the objections against it would be the same as against the hypothesis of Impulse, namely, that it would be supposing Bodies in the Celestial Spaces, of the existence of which there is no proof or probability ; or, if they did exist, they must be moved by some power of wonderful force : And what else can that Power be but Mind ?

For I would have all those, who feign such hypotheses and suppose Bodies solid or fluid impelling or protruding the Planets, consider that by these devices they only put Mind at a greater distance, by interposing betwixt it and the Planets those imaginary Bodies : But they never can get free of it altogether, unless they can prove that Body has a Self Motive Power ; and, if it has that, all those interposed Bodies are quite unnecessary.

From what is said, it necessarily follows, that the Planets are not moved, as many things on Earth are, by the action of Body upon Body, that is, by Pulsion or Trusion, but immediately and directly by Mind : And the reason of the difference betwixt them and the Bodies upon their surface, at least upon the surface of this Planet, appears to me obvious ; for the Motion of the Planets themselves goes on most freely in the Celestial Spaces, as Sir Isaac expresses it*, without interruption from other Bodies ; whereas, upon their
surface,

* Corpora omnia in istis spatii libertime moveri debent ; et propterea, Planetarum et Cometarum, in orbibus specie et positione datis, secundum leges supra expositas perpetuo revolvi. *Scholium Generale.*

surface, at least upon the surface of our Earth, there are so many Bodies of different kinds, jostling, as I have said, and interfering with one another, that, if Body did not move Body by Pulsion or Trusion, there would be an end of that Motion by which the business of Nature is carried on on this Earth.

The Planets, therefore, being all moved by Mind, as very many Bodies here on Earth are, it is evident that there must be a conformity betwixt their Motions and those here, so far, at least, as respects the general Laws of the Motion by Mind. And, in the *first* place, Mind *there* cannot, any more than *here*, act upon the superficies only of Bodies, as Body acts upon Body, but upon their inmost particles; that is, it must animate them. *2do*, It must act, as it does here, by incessant energies, repeated in every instant of the Motion, and therefore can move with equal facility in all directions, and can alter the direction in every instant of the Motion. *3tio*, We cannot conceive that the Motions of the Planets, being moved by Minds intelligent or directed by the Supreme Intelligence, can be without rule or measure. And, *lastly*, As the Universe is a System, the Motion of the Planets must be governed by general rules, as well as the Motions here.

But, besides this general agreement betwixt the Motions on Earth and in Heaven, there is one Motion on Earth, betwixt which and the Motion of the Planets a wonderful conformity has been discovered by Sir Isaac Newton, and a most complete system of Astronomy deduced from it. The Motion I mean is the Motion of Projectiles. Of this Motion I will say a great deal more in the sequel: But, in the mean time, I will inquire concerning the nature of the Celestial Motions, and, particularly, whether they be compounded or simple; and I will endeavour to show that they are simple. In this I am afraid I shall have the misfortune to differ from

all the Newtonians, as, in the other point, concerning the First Law of Motion, I differ from some of them. It gives me pleasure, however, to think that this point is not so intimately connected with the system of Theism, as the other concerning the Eternity of Motion by Impulse. I will, however, show that there is a great connection; and that, upon the supposition of the Planets being moved by Mind directly and immediately, it is hardly possible to suppose that their Motion is compounded.

Several of the Newtonians, with whom I have conversed, think the composition of the Motion so connected with the First Law of Motion, that, if it be set aside, the Motion, they think, must be simple and uncompounded. And, indeed, it appears to me, that Sir Isaac has founded the composition of the Planetary Motion upon the hypothesis of the Planets being projected in a straight line, in which, he says, they would have gone on to all eternity, if, by the power of Gravitation, their course had not been bent into the elliptical curve*. But, if I have succeeded in convincing the reader, that, even supposing the Planet to have been moved originally by Bodily Impulse, it cannot go on except by the power of Mind, there is an end of that hypothesis; and the only question remaining is, Whether or not, upon the supposition of Mind moving those Bodies, it is absolutely necessary, by the nature of things, that the Motion should be compounded? Or whether, though not of absolute necessity, it be not, for certain reasons, compounded?

And, in the *first* place, if it were true that Mind moves Body by Impulse, as Body moves Body, it might be argued, I think, with great probability, that, as the Motion is of the same kind, it is governed by the same Law; and that therefore the Body goes on in a straight line, as if it had been impelled by Body. But, as I think I have proved, demonstratively, that Mind moves Body in a

manner

* Page 319.

manner altogether different, there is an end of that argument. *2do*, If it were true, what the Jesuit commentators upon Sir Isaac say *, that all Motion is by nature rectilinear, it would follow of necessary consequence, that the Motion of the Planets, and, indeed, every Motion in a Curve, must be necessarily compounded. And no doubt the proposition is true, if the Curvilinear Motion be produced by Body : But, on the other hand, if the Motion be produced by Mind, I say there is no such necessity.

As I have shown that it is only from the consciousness of our own Motions that we have any idea of Motion by Mind †, I think, in philosophising on that kind of Motion, we ought to begin at home, as Des Cartes began his philosophy, when he set out with that famous proposition, ‘ *I think ; therefore I am* †.’ Now, as Des Cartes knew, by Consciousness, that he *thought*, so I know, by the same Consciousness, that my Mind moves my Body ; and that, therefore, it is not moved by any external Cause, but by an internal principle of Movement.

I say further, that I know, upon the same ground of certainty, that my Mind can not only move my Body in a straight line, but in a curve of any kind. And though I may not be able, in walking, to describe a curve, such as a circle or an ellipsis, so perfectly, by reason of the division of my Motion by my limbs, I find that, when there is no necessity for the Motion being divided in that way, as when I describe a circle upon the table or in the air with my hand,

C c c 2

the

* See p. 332.

† See page 87. 88. 89.

‡ This proposition has, I know, been treated by some as a ridiculous tautology. But, I think, it is a just conclusion of reasoning, proceeding upon the surest ground of certainty, I mean *Consciousness* ; and the argument plainly is this : I know by Consciousness ‘ that I think ; and from thence I infer that I exist ;’ because every thing that acts must exist : Nor, indeed, do we otherwise know that any thing exists.

the Motion is perfectly ſimple, without any centrifugal or centripetal inclination.

Thus far, I argue, from the moſt certain of all knowledge, *Conſciouſneſs*; and I proceed further, by the following argument from analogy, which, I think, cannot deceive me—As I am ſure that my Body is not moved by an external cauſe, but by an internal principle of movement; ſo every other Body, whether Animal or Vegetable, organized or unorganized, is moved in the ſame manner, either in a ſtraight line, or a curve, when it is impoſſible that any external cauſe of their Motion can be aſſigned. And this analogy I carry to the Heavens: For, believing Mind and Body to be the ſame there that they are here, I ſay that the Bodies there are moved in the ſame manner, when no external cauſe of their Motion can be aſſigned; and, therefore, that the Planets perform their Elliptical Motions by the operation of Mind, but in a manner more perfect than Animals here on Earth can perform them, as not being divided into joints or limbs, and therefore moving altogether or not at all.

And I think I have given a ſatisſactory reaſon, why Mind ſhould move Body in a curve, without any diviſion of the Motion; whereas, it is impoſſible that Body can do ſo. And the reaſon is, that Mind moves by inceſſant energies, ſo that it can vary the direction in every inſtant of the Motion: And therefore I think I have proved my theory, not only from fact and obſervation, but *a priori*, from the nature of Mind, the moving power.

It is, clearly, therefore, not true, what the Jeſuit commentators upon the *Principia* have laid down as a general propoſition, and, indeed, as an axiom, That all Motion is, by its nature, rectilinear; for, if this were true, there could be no ſuch thing in Nature as a Circle or Ellipſis, whether deſcribed by Bodily Impulſe, or by Mind, every ſuch

fuch figure being truly no more than a polygon of a great number of fides.

As, however, it cannot be denied that a polygon, fuch as that into which Sir Ifaac has analysed the orbits of the planets, may be defcribed by Mind as well as Bodily Impulfe, fince Mind can move Body in a ftraight line as well as in a curve, or that, in fome way or other, the Motion of the planets, though produced by Mind, may be compounded, I will examine that queftion, and, for that purpofe, will begin with laying down fome general pofitions concerning fimple and compounded Motion.

By a *fimple Motion*, I mean a Motion produced by one Moving Power acting constantly and indefinitely, by which the Body is moved either in a ftraight line or in a curve. If there be feveral Moving Powers, but all acting in the fame way and in the fame direction, fo that they only affift one another, as when feveral perfons push or draw a Body in the fame direction, I confider thefe powers, thus co-operating and affifting each other, as but one power. On the other hand, the Motion is compounded,—*Firft*, when the Motion is interrupted, fo as not to go on constantly, but to be diftinguifhed into parts by perceptible intervals:—*Secondly*, When the Motion does not defcribe one line, whether ftraight or curve, but feveral lines, fo as to make a figure of feveral fides, like that into which Sir Ifaac analyses the Elliptical Motion. Of this kind, according to the Jefuits, all Motion, though apparently in a curve line, muft be.—*Thirdly*, When the Body in Motion is acted upon by two or more powers moving the Body different ways, fo as not to co-operate but to counteract one another.

Thefe are all the ways in which, I think, it is poffible that the Motion of a Body can be compounded: Let us now confider in which

of these ways, or whether in any of them, the Motion of the Planets is combined; always remembering that the Motion must necessarily be produced and carried on by the immediate agency either of Mind, or of some Body different from the Body in Motion.

In the first of these ways, no one has ever maintained that the Celestial Motions are compounded; for it is certain that they are not divided into parts, but go on constantly without interruption. Neither do I know that it is maintained, or ever was maintained by any philosopher, that they are actually compounded in the second way, by their Motions being in straight lines, and the figure they describe, by consequence, angular; though it may be maintained that their curvilinear Motion may be produced by forces acting in straight lines, or that their elliptical orbit may, for the sake of teaching or demonstration, be analysed into a polygon of an infinite number of sides. If, therefore, their Motions be compounded, it must be in the third way above mentioned, when the Body in Motion is acted upon by two or more powers moving the Body in different directions.

This can be only in one or other of the three following ways. *First*, When two or more Bodies are the acting powers; for it is impossible that the same Body should, at the same time, move the Body in different directions: And, if it were at different times, the Motion would not be one, but compounded either in the first or second way above mentioned; for the Motion would be distinguished by intervals of time, or it would be in different lines, and not in the same lines. *Secondly*, When Body moves the Planet one way, and Mind another. Or, *lastly*, When two Minds' move the Planet different ways; for it is equally impossible that the same Mind should, at the same time, move the Body in different directions, as that the same Body should do it.

That

That the first kind of composition is not only possible, but does actually exist in this Earth, cannot be denied. It is in this way that a stone in a sling is moved, which is an example given by Sir Isaac *. The stone is projected by the action of the hand, and it is retained from going forward by the string which the slinger holds in his hand. It is therefore plainly acted upon by two Bodies in different directions. And, as the action of the hand, always forcing it on, does, by these repeated impulses, give it a great progressive force, when the string that holds it is let go, it flies to a great distance. There is also a compounded Motion of the second kind, when the Body is acted upon, partly by Mind and partly by Body. Of this kind of composition of Motion we have also an example in the case of an Animal which wants to move forward, but, by the action of Body upon him, is moved in a curve. Such is the Motion of a horse that is *loured*, who would go on in a straight line, but, by the action of a rope upon him, is drawn into a curve.

That the composition, if there be any, of the Planetary Motion, is not of either of these two kinds, I hope I have convinced my readers, unless we were to suppose, in the celestial spaces, Bodies, of the existence of which there is neither proof nor the least probability. And, particularly, there is no philosopher, as far as I know, that has imagined that there is any such thing as a real string, by which the planets are drawn into their orbits round their centre, like to that by which the horse or the stone, in the examples given, is drawn into a ring. For, though Sir Isaac has used the example of the stone in the sling, by way of illustration of his doctrine of Projection and Gravitation, yet, I am persuaded, he did not believe that there was any String, or Body of any kind, betwixt the Planet and the Centre, by which it is drawn to its centre. If, therefore, the Planetary Motion is at all compounded, it must be so in the third way I mentioned, that is, by the operation of Mind only, and not one Mind but two Minds; one of which carries on
the

* *Principia*, defn. 5.

the planet in a progressive Motion, in a straight line, and the other bends it towards its centre.

If the Planets be really moved in this way, it is the only Motion of the kind that is known in Nature ; for the other compounded Motions I have mentioned are all combined of Body only, or of Body and Mind ; but not one to be found that is compounded of Mind only, though we have daily before our eyes examples of Motions by Mind : For such are our own Motions, and the Motions of other Animals ; and such are the Motions even of unorganized Bodies, Magnetic, and Electric Attractions and Repulsions, and those of the small particles of Matter, which the chymists exhibit. In all these Motions by Mind, it is not pretended that there is any composition. It is true, indeed, that these Motions are in straight lines ; but, as Mind acts by incessant energies, it can, as I have shown, vary the direction in every instant of the Motion : So that it is perfectly indifferent to Mind, whether it moves Body in a straight line or in a curve ; whereas Body can only move Body in a straight line. Accordingly, we see that Mind moves the Body of an Animal in a curve, with as much facility, and with as little composition in the Motion, as in a straight line, except that, as I have observed, the Body being divided into members, there must necessarily be likewise some division of the Motion : Whereas, the Planets having neither joint nor limb, and consequently all being moved together, their Motion in a curve must be perfectly uniform.

That analogy, therefore, betwixt the Motions on Earth and those in Heaven, by which only we can form any true judgment of the latter, fails here entirely ; and we must try whether, upon any other ground, this strange complicated Motion of the Planets can be supported. If, indeed, it were true, what the Jesuits have advanced, that, by the nature of Motion, it can only be in a straight line, we could pronounce, with the greatest certainty, that the Planetary
Motion

Motion must necessarily be combined one way or another. But, I think, I have shown very evidently, that this Axiom of theirs can only apply to Motion produced by Bodily Impulse, not to Motion by Mind, of which only we are speaking at present. We must, therefore, seek some reason for this strange combination of Motion, other than that it is necessary for supporting the Newtonian system of Astronomy, which, if it were true, as I hope to show it is not, would certainly not be a good reason.

And the more extraordinary such a composition of Motion is, the stronger the reasons should be to support it. Indeed, the reasons ought to be the most forcible imaginable, to convince any man of common sense, though not a philosopher, that two Minds of the same kind, that is, Minds which only move, should animate the same Body, and that these Minds, which, though not intelligent themselves, must be supposed to be under the direction of Supreme Intelligence, should act against one another, and should both be employed to perform a Motion that might be performed by one of them.

The only answer, that I have ever heard made to this argument, is, by denying that the Circular or Elliptical Motion can be produced from one power; but that the Motion being compounded of two Motions, one *towards* the centre, and the other *from* it, there must necessarily be two Powers employed to produce these two Motions.

In answer to this argument I have said a good deal, more perhaps than enough, in the First Volume *; and I shall now only add here, that, if the Motion be compounded, the figure described by it must also necessarily be compounded. Now, this is a geometrical theorem, which, if true, could certainly be demonstrated: But it never has been demonstrated, nor ever will. And, if it should, Euclid must be in a mistake, who has defined a circle to be *a plain figure, contained*

D d d

under

* Appendix, chap. 3. p. 519.

under one line. And, therefore, he has begun his definitions of figures with the definition of a Circle, as the most simple of all figures. Now, if the circle be a simple figure, I think it follows of necessary consequence, that the Motion, which describes it, must likewise be simple. And, accordingly, Aristotle every where speaks of the Motion in a circle being as simple as the Motion in a straight line. The mistake, I imagine, arises from confounding the Circular or Elliptical Motion produced by Body, with the same Motion produced by Mind, and not rightly understanding the nature of Motion by Mind; for, if the Circular Motion is produced by Bodily Impulse, it is evident that the Motion will be a compounded Motion, as the figure described by it will not be a simple figure, contained under one line, but a figure of many lines, that is, a polygon: But the Motion by Mind being produced by incessant energies, does not produce a figure composed of different sides; and, as the figure is uncompounded, so is the Motion.

There is another reason given why the Planetary Motion must be compounded, that otherwise the similarities, which Sir Isaac Newton has discovered betwixt the Motion of the Planets and of Projectiles, could not exist. If this were true, I should think the argument conclusive; for, if I see evidence of the existence of one thing, and if it is proved to me that there is another thing which necessarily must exist in consequence of the existence of the first thing, it is to me proof sufficient that the other thing must likewise exist. But, without entering into this argument at present, as I intend to say more of it in the sequel, I will proceed to inquire, whether, upon the supposition of the Motion of Projectiles being a compounded Motion, it necessarily follows, that the Motion of the Planets is likewise a compounded Motion, and that there is Projection and Gravitation in the Heavens, as well as on the Earth. And it will be said that this argument from the Projectile Motion is the stronger, that, I say, the Projectile Motion is carried on by Mind, as well as the Motion of the Planets.

But

But the difference betwixt the two Motions is very great, in this respect, that the Motion of the projectile is begun by Bodily Impulse, whereas the Motion of the Planet is begun as well as carried on by Mind: For, it is impossible that an Immaterial Substance, which has no surface—can neither resist nor be resisted—and therefore cannot impell or be impelled, should begin Motion in that way. And, not only is this evident from the Nature of the thing, but from fact and experience: For we know, from the most certain of all knowledge, that it is not in that way that Mind moves Body, being conscious that our Minds do not move our Bodies in that way: And it is only by this Consciousness, as I have elsewhere observed *, that we have any idea at all of the Motion of Body by Mind. If, therefore, there be no impulse or Projection of the Celestial Bodies, it will follow, of necessary consequence, that there is no Gravitation; for these two must always go together: So that the Motion of the Celestial Bodies will not be compounded of Projection and Gravitation, as the Motion of Projectiles is supposed to be.

But, *2do*, in order to make out a perfect similarity betwixt the Motion of Projectiles and of the Planets, we must suppose that the Planets, before they were projected, had that centripetal tendency which the Projectile has, by which it is carried towards the centre, with a force increasing, as the squares of the distance decrease. Now, this is mere hypothesis, supported by no fact or experience, nor, I think, by any just reasoning from analogy; for, because the Bodies on the surface of our Planets have that tendency to the centre of the Planet, we can never from thence justly infer, that the Planet itself, or other Planets, have that tendency towards the sun. The farthest, I think, that the argument from analogy can go, is to suppose that the Bodies upon the surface of the other Planets have the same tendency towards the centre of those Planets. And even this analogical argument is by no means conclusive; for

D d d 2

the

* Page 56. and 57.

the Bodies upon those Planets may be of natures very different from the Bodies here, and Laws of Nature may obtain there very different from those which obtain here.

Further, this argument, from the Motion of Bodies here, would have more show of reason, if there was no other Motion on this our Earth except Gravitation. But there are several other kinds of Motion here, such as that of Fire, which is the direct opposite to Gravitation; for it is not *to* the centre, but *from* the centre: And there are Bodies, which, so far from attracting one another, repel one another. Now, what reason from analogy is there to choose one of these Motions, more than another, and to suppose that our Earth is moved in that way, with respect to the Sun? I do not know but the Gentleman at Geneva, who, I am told, is writing a System of Astronomy upon the principles of Repulsion, instead of Attraction, proceeds upon as probable grounds.

And here I think the argument from Final Causes may be very well urged against this hypothesis. This way of arguing, as I have elsewhere observed, is not to be admitted against facts, which are either certain, or very probable. But, when a fact is laid down, that is neither one nor other, I think we are entitled to deny it, unless the person who avers it can assign some good reason why it should be. In the case of Projectiles, the reason is evident why all Bodies here on earth should have that tendency: For, otherwise, neither the business of Nature nor of Art could be carried on; and the whole order and oeconomy of things below must be altered. Whereas, no reason, which I can think of, can be devised, for the Planets having that tendency towards the Sun. If, indeed, it could be shown that, without such tendency, they could not describe their Elliptical Orbits round the Sun, that would be a reason unanswerable. But, I hope I have clearly shown that not to be the case: And, if so, the only consequence,

quence, of ſuppoſing ſuch a tendency in the Planets, would be to make their Motions in their Orbits as violent, and as contrary to their natural tendency, as the Motion of a cannon bullet. This is ſo ſtrange an hypotheſis, that it certainly ought not to be adopted merely for the ſake of ſupporting a ſyſtem, eſpecially if it can be ſhown that the ſyſtem may otherwiſe be ſupported.

But, *laſtly*, there is nothing in the nature of things to hinder the Motion, even of the Projectile, to be without any ſuch tendency: For we can very well conceive ſuch a figure, as that of the Parabola, to be deſcribed by the Mind which animates an unorganized Body, as well as by the Mind which animates the Animal, without any tendency to a centre; for the ſame reaſon that we can conceive the circular or elliptical Motion to be ſo deſcribed. And, if the Motion *can* be ſo ſimple, there is good reaſon to ſuppoſe that it *is* ſo; becauſe I hold that, as nothing neceſſary is wanting in Nature, ſo there is nothing redundant or ſuperfluous.

And here I muſt beg the attention of the reader: For, if I am right in this argument, it puts an end at once to the notion of Projection and Gravitation; becauſe there is no Newtonian that will maintain that the Motion of the Planets is compoſed of theſe two, if the Motion of the Projectile be altogether ſimple; for it is, as I have ſaid, from the analogy betwixt the Motion of Projectiles and the Motion of the Planets, that the Newtonians have concluded the one to be compounded as well as the other.

The proof of the ſimplicity of the Motion of Projectiles ariſes from the nature of the Motion, and therefore is a proof *a priori*. This Motion, as I have ſhown, is carried on by Mind, upon occaſion of an impuſe being given to the Body projected. Now, I argue in the ſame way againſt this Motion being compounded, as I have argued againſt the compounded Motion of the Planet; for I

ſay

say that the same Projectile cannot be supposed to be animated by two Minds moving it different ways, a Centrifugal and a Centripetal Mind ; for, besides the strangeness and oddity of the supposition, that would be to suppose what would be altogether superfluous and unnecessary, of which there is nothing in Nature. Now, if there be but one Mind or Moving Power, it is impossible, by the nature of things, that one Power can at the same time move the Body in different, and, indeed, opposite directions, that is, from the centre, and to the centre.

It may be objected, that, if the Motion of the Projectile be stopped by a perpendicular Plain opposed to it, it will fall down ; or, if by a Horizontal Plain, it will go on for some time upon that Plain : Which shows that the Motion is actually compounded, since it can be so analysed.

But my answer is, that the Mind, or moving Principle, in the Body, is not confined to one way of moving, but can perform several Motions occasionally. Nor is this singular ; for, in other Bodies, the same Mind both attracts and repels, that is, moves the Body *towards* another Body, or *from* it ; and sometimes it fastens upon one Body, and at other times lets it go, and incorporates with another in preference to the former, as in the case of what is called Elective Attraction. In the same manner, the Mind in the Projectile moves the Body downward towards the Centre : And this is its common Motion, and the most constant and regular Motion in Nature, and for a reason very obvious, because, without such a Motion, the business of Nature on this Earth could not go on. But, occasionally, it performs, like other Bodies, a different Motion ; and, particularly, upon occasion of a stroke or pulsation from another Body, it goes on in a progressive Motion, for a certain time, which we know to be likewise necessary for carrying on the business, both of Nature and Art here below. This Progressive Motion describes a curve line,
which

which the Mathematicians call a *Parabola* ; for, unless the Body moved by the Impulse was to go forward forever, without returning to the Earth again, the order and regularity, which we observe in Nature, requires that it should describe a curve of a regular kind, whose properties can be investigated and demonstrated : And, accordingly, such is that section of the *Cone* we call a *Parabola*. But if, in describing this figure, it be stopped or interrupted, it is most natural that it should resume its natural and ordinary Motion of Descent ; or, if the Progressive Motion be not quite stopped, but only intercepted and the direction of it altered by a horizontal plane, that it should go on in the direction of that plane, by virtue of the Progressive Motion which it receives from the impulse. In like manner, the Mind in the Iron or the Loadstone, which moves them toward one another, if either be removed from the other, the same Mind will carry the Loadstone or Iron downward in its natural descent.

And thus, I think, I have proved, that even the Motion of a Projectile is not a compounded Motion : And, if so, every Newtonian will, I believe, allow, that neither is the Motion of the Planets compounded, upon the supposition that this Motion is produced entirely by Mind ; for, if it be produced by Body only, or both by Mind and Body moving the Body in different directions, it is evident that it must be mixed ; whereas, upon the hypothesis of those who are not demi-spiritualists, to use an expression of Dr Priestley, but maintain that Mind is the only Moving Power in the Solar System, it follows, of necessary consequence, that the Motion of the Planets is altogether by the agency of Mind, in the same manner as the Motion of Animals is here on Earth ; with this difference only, that the Circular or Elliptical Motion is more perfectly performed by the Planets, as having no organs or members of their Body, and
being

being moved all at once, than it can be by any animal who has joints and limbs.

The Newtonians, who insist so much upon the analogy of falling Bodies here on Earth, will, no doubt, ask me to what distance I suppose that this tendency of heavy Bodies towards the centre of the Earth may reach ; and, if I cannot ascertain that distance, they will say it may go to the Moon, or beyond it.

But my answer is, that I know not so much of the secrets of Divine Wisdom, as to know, with any certainty, how far this tendency of Bodies to our Earth, or Attraction, as it is commonly called, does extend. But this I know, with great certainty, that we have no experiment or observation, which can prove that it extends beyond our atmosphere ; and, indeed, I should think it highly probable, that, as the region of our Planet extends no farther, the tendency of other Bodies to it should go no further likewise. If, indeed, the Newtonians could show by any other example in Nature, that, where there is an attraction, or tendency of one Body to another, it does not cease at any given distance, I should think there would be a good deal of weight in their argument from analogy. But the direct contrary is the fact ; for we know Bodies that have a mutual tendency to one another at a certain distance, but have no such tendency when they are further removed from one another. This is the case of the Magnetical and Electrical Attractions, and all the Attractions of the small particles of Matter. Those, therefore, who maintain that the Attraction betwixt Bodies takes place at any distance, how great soever, are not only not supported by any fact or experience, but argue directly contrary to it.

Thus, I think, I have proved, that the Motion of the Planets is both begun and carried on by Mind : Nor will any one be surpris-
ed

fed that it ſhould be ſo, who has read what I have written on the ſubject of the Motions here on earth, but, on the contrary, would be very much ſurprized were it otherwiſe, eſpecially if he believe that there is a ſyſtem in Nature,—that Mind is the governing Power in that Syſtem,—and that things below have a reſemblance to things above. That the Motion of animals on Earth is by mind, no body can doubt, who believes that Mind exiſts any where. And, for the ſame reaſon that he believes the Animal Motion to proceed from Mind, he muſt believe the Motion of the Vegetable to be from the ſame cauſe, and that the Vegetable truly is what it has been always called by the philoſophers of antiquity, an *Animated Subſtance*. And, as to unorganized Bodies, that moſt remarkable Motion here on Earth, I mean the Tides in the Sea, is, I think, of itſelf, ſufficient to convince any reaſonable Man, that even unorganized or Brute Matter is moved by Mind. As to this Motion, I have obſerved*, that there is a conſent or ſympathy betwixt it and the Motion of the Moon, from which ſome readers may poſſibly infer, that the one is produced by the other. If it were ſo, it would not, I think, be eaſy to determine which produced which, and whether the Moon was the cauſe of the Motion of the Sea, or the Sea the cauſe of the Motion of the Moon; but my meaning is, that neither is the cauſe of the Motion of the other, but that there is a mutual conſent or agreement betwixt their Motions, proceeding immediately from a cauſe inherent in each of them, but ultimately from a cauſe much ſuperior to either of them. I cannot explain this better, than by the example of a batallion of ſoldiers performing their exerciſe. There is a conſent, or ſympathy, betwixt the Motions of each individual in the batallion; but the Motion of not one of them is produced by another: Nor is there one common principle of Motion for them all; but each is moved by a Motive Principle peculiar to himſelf; and

* Page 377.

this principle is the immediate Cause of the Motion of each of them. But the remoter cause, and what produces that consent and harmony in their Motions, so pleasant to the beholder, is the command of the officer. In like manner, the mind, in every Animal, and, in general, in every Body organized or unorganized, is the immediate Cause of the Motion of that Body. But what makes the consent or sympathy of the Motions of Bodies, as when they are moved towards one another or from one another, (which Motions are commonly known by the names of Attraction and Repulsion,) is a higher principle. In man it is Intellect, which always acts for some reason or another, as in the case of the soldiers, who adjust their Motions to one another, either for fear of punishment, if they do otherwise, or from a conviction that such regular or orderly Motions will be very useful in the day of battle. But the principle, which produces the consent that we observe in the Motions of Brute Animals, of Vegetables, and of unorganized Bodies, is a principle infinitely higher than the Human Intellect, even the Divine Intellect itself, which produces, for the best of reasons, that wonderful consent and harmony which, we observe, runs through the whole universe, as far as we can comprehend it, making the several Minds which animate the Brute, the Vegetable, and the unorganized Body, to correspond in their Motions with one another, but without consciousness, or the knowledge of the ends for which they act, such as is in Man. And here we may see plainly exemplified the distinction which I have made above, betwixt God, Nature, and Man; God being that Supreme Intelligence which directs the Moving Principle of the Brute Animal, the Vegetable, and the unorganized Body—*Nature* being a general name for all those Principles,—and *Man*, considered as Man, and not as a mere Animal, being something intermediate betwixt God and Nature: For he is superior to *Nature* in one respect, as he has Intelligence in himself; but it is an Intelligence inferior by degrees infinite to the Supreme. By this Intelligence, however, he directs his

one Motions, and the Motions of many other Beings on this Earth. And it is for this reason that he is said to participate of Divinity, and to be in some sense the *Cod* of this lower world. And by this exercise of his Intellect in the government of his own Animal Nature, and other Natures here below, we are to understand that he may fit himself for a nearer approach to Divinity in another State; for which purpose, when he first came into this state, dominion was given to him *over the Fish of the Sea, and over the Fowl of the Air, and over every living thing that moveth upon the Earth.*— See what I have further said upon the distinction betwixt God, Nature, and *Man*, in a Note upon page 360. where I have made a distinction which, I am afraid, will not be understood by those who have not studied the Antient Philosophy, betwixt *acting with Intelligence* and *by Intelligence*: But it may be thus explained by the actions of men themselves. A Man, being directed by another Man of superior understanding, may perform many things without knowing for what end they are intended, and, consequently, without knowing that what he does is the necessary means for attaining that end. Such a man acts by *Intelligence*, while the man who directs acts with *Intelligence*. Now, it is precisely in this way that the Minds which animate the Brute, the Vegetable, and the unorganized Body, act under the direction of the Supreme Intelligence*.

But, though I have said that God directs the Motions of the Animal, Vegetable, and unorganized Body, but that Man directs his own Motions, I must not be understood to mean that the Supreme Being or Inferior Intelligences under him, do not influence our actions. This, I think, I have sufficiently explained in the First Volume †, where I hope I have shown, to the conviction of the reader, that this may be done in perfect consistence with the freedom of

* See what I have further said upon this subject, Vol. I. p. 216.

† Page 296 *sequent.*

the Human Will: And it is in this way chiefly that Providence directs the affairs of men*.

* The Antients believed that every man had a Genius, or attendant Spirit, that accompanied him through life, whom Horace calls the ‘*Naturae Deus Humanae*,’ and Menander the Poet has described in the following lines :

Ἀπαντι δαιμων ἀνδρι συμπαραιστάται
 Ἐνθὺς γενομένη, μυσταγωγὸς τοῦ βίου.

Clem. Alexandrin. Strom. Lib. 5.

One thing, I think, is certain, that many things come into our Minds, when we are awake, as well as when we are asleep, and some of them of the greatest importance to us, that cannot be accounted for from any connection of ideas, and which, therefore, I hold not to be the production of our own Minds, but the suggestion of other Minds.

C H A P. VI.

Proved in the preceding Chapters, that Mind is the only Cause of Motion in the Heavens.—Mind very properly typified by Fire.—Proved also that the Motion of the Celestial Bodies is not compounded but simple.—The Purpose of this Chapter to show that Sir Isaac's System of Astronomy can be supported without arbitrary or impossible Suppositions.—Prejudice removed that may arise from the Author's not being learned in Geometry or Mechanics.—No inferior Science demonstrates its own Principles.—These to be found only in Metaphysics, or the First Philosophy.—Euclid's Geometry an Example of this.—The same is true of Sir Isaac Newton's Astronomy.—The Laws of the Planetary Motion discovered by Sir Isaac Newton.—Before him Astronomy no Science, but only a Collection of Facts.—A curious Fact discovered by Kepler, concerning the Proportions betwixt the Periods and Distances of the Planets.—This he knew only as a Fact; but Sir Isaac has made a Science of it.—No Science of any thing, if an essential Property be not known, from which all its other Properties can be deduced.—The Nature and Essence of every Motion consists of two things, the Motive Force and the Direction.—The Direction of the Planetary Motion is a Fact that is known.—Nothing can be discovered of the Planetary Motion, or of any thing in Nature, except from Facts.—The Business of Astronomy is not to inquire into the Cause of the Planetary Motion, but to calculate that Motion, and to discover its Laws.—This the Notion which Sir Isaac himself had of this Science.—Distinction betwixt Metaphysics, Physics, and Astronomy.—Forces or Powers are latent things, to be discovered only by their Effects.—The Effect of a Moving Force is Velocity.
—That

That not absolute, but relative to two things, Time and Space.—If the Motion be equable in a Straight Line, and the Time of it be known, the Law of the Motion is obvious.—But if the Motion be in a Curve and not equable, though the Time be known, the Law of the Motion not easy to be discovered.—The Force must be estimated by a Motion in a Straight Line, one or more.—But how apply Motion in a Straight Line to a Curve?—This impossible to be done, if no Straight Line could be discovered necessarily resulting from the Nature of the Motion.—But such a Straight Line has been observed in the Descent of the Planet from its Tangent.—This Line observed with respect to the Moon's Descent from her Tangent.—The Length of this Line known:—The same as if the Moon had descended directly from the Tangential Point.—The Law of this Motion of Descent would be known, if the Motion was equable—but the Motion is unequable.—For discovering the Law of this unequable Motion, recourse must be had to a similar Motion on Earth, the Motion of the Projectile.—The Law of the Descent of the Projected Body ascertained, first by Galileo's Discoveries, and then by Sir Isaac's.—Sir Isaac first discovered that the Descent of falling Bodies was both begun and accelerated in the Ratio of the Distance from the Centre inversely.—This could not have been discovered by Fact and Observation here on Earth, but it was inferred from the Descent of the Moon.—The Theory of Gravitation in this Way generalized by Sir Isaac, and its Law discovered.—How the Theory of Gravitation, thus made general, is to be applied to the Planets.—The Motion of the Planets supposed by Sir Isaac to be compounded, as he supposed that of Projectiles to be.—The two Motions are, the one in the Line of Projection, the other in the Line of Gravitation.—The Motion of the Planets not actually combined, but only supposed to be so for the sake of Demonstration.—A simple uncompounded Motion of the Planets is, by its Nature, possible.—If so, all the Properties of the Motion are from thence deducible, though we may not be able to make the Deduction.—

tion—Better to acknowledge our Ignorance than make strange and improbable Suppositions.—Our Ignorance must be acknowledged in many other things, of which we can make no System.—But Sir Isaac has made a System of Astronomy.—This System to be supported without the actual Composition of the Planetary Motion.—The Hypothesis of such a Composition sufficient.—This Hypothesis most natural.—It is according to the Method of Science, and particularly according to Euclid's Method.—If the Hypothesis of a Centripetal Force be admitted, the Hypothesis of a Projectile Force in the Line of the Tangent, absolutely necessary.—The necessary Connection betwixt these two Motions, and their Dependency upon one another.—The one being given, therefore the other is given.—The Moving Force in the Line of Projection is shewn to have a relation to the Distance from the Centre, as well as the Centripetal Motion.—What that Relation is.—The Deduction from any Hypothesis, if that Hypothesis be granted, as certain from the Reality.—Example of the like Deduction from an Hypothesis not so obvious and natural, in the Case of the Composition of Motion.—From that Example the Argument of the Newtonians answered, that the same Effect must be always produced by the same Cause.

IN the preceding Chapters, I hope I have proved, to the satisfaction of my readers, that the Planets are moved by an internal Principle, which, being immaterial, I call *Mind*. By this principle very many Motions are begun and carried on in this our earth: though there be also many other Motions here, which are carried on by the impulse or pressure of Body: But this, I think I have shown, is of absolute necessity where there are so many Bodies jussling and interfering with one another, but cannot take place in the Celestial Regions, where, as Sir Isaac has said, *Corpora liberrime moventur*; so that there the only moving Principle must be *Mind*. This principle

ciple, Heraclitus, and some other antient philosophers, have, I think, very well typified by the symbol of Fire : *first*, because Fire is the most subtle of all the Elements, and, in that respect, therefore, comes the nearest to Mind of all Material Substances ; *secondly*, because, like Mind, it pervades all Bodies, not acting upon their superficies only, but upon their inmost particles, and therefore dilating all Bodies more or less.

Further, I think I have shown, That, if Mind be the Moving Power of the Planets, and if Mind can only move Body by animating it, it is impossible to suppose that the same Planet should be animated by two minds moving it different ways, and That, therefore, the Motion of the Planets is perfectly simple and uncompounded.

It now only remains that I endeavour to perform the promise I have made, to show that Sir Isaac's system of Astronomy may be supported, without such *postulata* and arbitrary suppositions, some of which are impossible to be true, such as that of a Body, once set in Motion, going on to all eternity, without the agency of either Body or Mind ; and others of them are such, as no philosopher can see any reason to admit.

Before I enter upon this argument, it is proper to remove a prejudice which will naturally occur to every reader, that a man who professes to know no more than the Elements of Geometry *, and who knows still less of Astronomy, should pretend to explain the principles of such a science as Sir Isaac Newton's Astronomy, which to understand perfectly, requires the greatest knowledge in Geometry and Mechanics : And, indeed, if those principles were to
be

* Vol. I. p. 268.

demonstrated by Geometry, and by Lines and Figures, I should be very ill qualified for the task I have undertaken. But the philosophical reader will readily distinguish betwixt the Science and the Metaphysical Principles upon which it is founded; for, as I have observed more than once in the course of this Work, the principles of every inferior Science are to be found in Metaphysics, or the First Philosophy. And it is undoubtedly true, what Aristotle has said, that none of these Sciences demonstrates its own principles. Thus, for example, the principles of Euclid's Geometry never can be demonstrated by Lines and Figures, which are the only subject of Geometry, but must be sought for in the First Philosophy, where we learn what Extension and what Body are, what Quantity is, and how the two species of it, viz. *Magnitude*, and Quantity Discrete or *Number*, are to be distinguished from one another;—how Body differs from its Dimensions;—what Length, Breadth, and Depth are;—and how it comes that a Point has no Parts. *These are Speculations which Euclid has not meddled with, and which convinces me, that Euclid must either have been a philosopher himself, or been under the direction of a philosopher in forming his System; for it is the business of philosophy to discriminate the several Sciences, and to fix the bounds of each †. But let us suppose that Euclid had not been so well instructed, but had run his Geometry up into Metaphysics, as the Newtonians have done their Astronomy, I think, with as little necessity;—and let us suppose, further, that he had gone wrong in laying down those Metaphysical principles, and had philosophised as ill as some modern philosophers have done,

VOL. II.

F f f

concerning

* See what I have said upon the Principles of Geometry, Vol. I. Lib. v. Cap. 8.

† The accurate discrimination that Aristotle has made of the several branches of philosophy in the different Arts and Sciences, is one of the things that I admire much in that great philosopher; particularly, he has distinguished very accurately three Arts, which have a great connection together, and which very few, who think themselves philosophers, are able to distinguish; I mean Logic, Dialectic, and Rhetoric.

concerning Body, Magnitude, and Quantity Continuous and Discrete *, his System of Geometry would nevertheless be a perfect complete System, and all his Demonstrations would stand upon a firm and solid bottom, and the Metaphysician would be able to set him right in Metaphysics, though, perhaps, unable to follow him through his Demonstrations. In like manner, Sir Isaac Newton may be wrong in his metaphysical principles, upon which he has thought proper to build his Astronomy, and yet his system be perfectly good; and a metaphysician may be able to show that he has erred in these principles, without being able to follow him through all the deductions that he has made concerning the Motions of the Celestial Bodies, not from those principles with which he had nothing to do, but from facts, and true astronomical principles belonging to his Science.

The great discovery which Sir Isaac Newton has made, and which does him so much honour, is the discovery of the *Law*, as it is called, *of the Planetary Motion*. Till this discovery was made, there was no Science or System of Astronomy; and, accordingly, before Sir Isaac, there was nothing more known concerning it, but a number of facts, without any connection or dependence upon one another. Among these are some which are extremely curious, and appear very wonderful; such as that very intricate and complicated proportion, which Kepler discovered betwixt the periods of the revolutions of the Planets, and their distances from the centre; for he found out, by comparing the Motions of the several Planets with one another, that the squares of the periodical times were as the cubes of their distance from the Centre. But this he knew only as a fact; and it was reserved to Sir Isaac Newton to make a science of this fact, by investigating and discovering the Law of the Planetary Motion, from which this wonderful property of it can, by necessary consequence, be deduced: For there would be no System or Science of Astronomy, if there were no essential property of the
Motion

* See Cap. 3d and 4th, Lib. I. of this Volume.

Motion of the Planets, from which all the other properties could be demonstrated, in the same manner as in Geometry there would be no science of Triangles, if all the properties of them could not be deduced demonstratively from that property which constitutes the nature and essence of a Triangle, namely, its being bounded by three lines.

But how is this essential quality of the Planetary Motion to be discovered, from which the phenomenon found out by Kepler, and all the other phenomena of the Motion of the Planets, are to be deduced? Before we enter upon this investigation, I think we should first consider what constitutes the nature and essence of every Motion: And this, I think, must be two things; first, the Motive Force or Power, by which the Motion is carried on; and, secondly, the direction of the Motion. If these two are known, I think the nature and essence of the Motion must necessarily be known. Now, one of these, I mean the direction of the Motion, is a matter of fact and observation; for in that way it is known that the Planets move in Ellipses round their several centres, or, to speak more properly, the Focus of the Ellipse, in which the Sun, or Primary Planet, is placed: And, as the greater and lesser diameters of these Ellipses are likewise known, and, by consequence, the nature of the Ellipsis, whether it be very oblong, like that of the Comets, or coming nearer to a Circle, like those of the Planets, it follows, by necessary consequence, that the direction of the Motion, that is, the Curvature of the Orbit, must likewise be known: And so far we know also with respect to the Moving Force, that we know the period of the Motion. Without these facts being known, it would be impossible that we could find out what we are seeking; for I agree with the Newtonians, and all the modern philosophers, that we can know nothing of Nature but from facts and observations, and that the philosophy of Nature is nothing else but deductions, which Science makes from these facts.

But what way are we to estimate this Power or Force, by which a planet is carried on in an orbit of certain dimensions in a given time? And here I think it is not at all necessary to inquire what the power is that carries on the Planet in its Motion, whether Body or Mind, or how that power operates, whether by Pulsion or Truſion, as Body operates upon Body, or whether by Animation, as Mind moves Body. But all I want to know, and all, I think, that is necessary to be known for the purpose of Astronomy, is the quantity of the Moving Force. And this appears to me to have been the notion that Sir Isaac had of the Science: For he says that he does not inquire concerning the *Species Virium*, and the *Qualitates Physicas*; *sed Quantitates et Proportiones Mathematicas expendit*. And in this way I think Astronomy is properly distinguished, both from Metaphysics and Physics: For it is the business of Metaphysics to inquire concerning the Causes of every thing, and particularly the Cause of Motion; and it is the business of Physics to inquire into the qualities of Bodies, considered merely as Bodies, and to discriminate them accurately from one another; and, with respect to their Motions, only to discover what effects these produce upon the qualities of the Bodies, but not to measure, or calculate or investigate the Laws of these Motions, which belongs either to Mechanics, with respect to the Motions here on Earth, or to Astronomy, with respect to the Motions of the Celestial Bodies.

Understanding, therefore, that it is the proper business of Astronomy, considered as a Science, to investigate the force of the Moving Power by which the Planets are carried on in their orbits, I proceed to inquire how that Force is to be investigated. As Powers and Forces are, by their nature, latent things, we can only estimate the Power which moves any Body by the effect that it produces: And this effect is no other than the velocity with which the Body is moved; so that, if we can discover any rule or standard by which

we can estimate the velocity of the Planetary Motion, we must know perfectly the nature of that Motion*.

But Velocity, which, I say, is the measure of the Force by which any Body is moved, requires some measure or standard itself: For there is nothing absolute in Motion; it is only relative, and relative to two things; one, the space which the Body goes through, and the other, the time which it requires for that Motion. The Moving Force, therefore, or Velocity (for these two terms may be considered as synonymous, though the one be the *Cause*, and the other the *Effect*), is as the Space through which the Body is moved, compared with the Time of the Motion; so that, when we find that another Body is moved through the same Space in a shorter or longer time, we say that the Velocity of that other Body is greater or less.

If the Space gone through were a Straight Line, of which we knew the length and likewise the time of the Motion, and if the Motion were equable, we should say that the Moving Force, in such a case, was a Force which carried the Body along a line of such a length in such a time. But, suppose the Motion not equable, and not in a straight line but in a curve, which is the case of the Planetary Motion, by what rule or standard can we estimate the Moving Force of such a Motion?

Although the Motion in a straight line be the most natural measure of the Moving Force or Velocity of any Motion, yet, if the Motion were in a regular curvilinear figure, such as a circle of a certain diameter, or an ellipsis of certain dimensions, and if it were
equable,

* It is to be observed, that this rule, that the Moving Power of the Body is to be estimated by the Velocity of the Motion, will apply only to the same Body, or to two Bodies of equal mass; for, if the masses be different, though the Velocity of the Bodies may be the same, the Power which moves the greater mass must necessarily be greater.

equable, and in a given time, I think it would be itself the Measure of its Moving Force, which would be such as would make the Body move in an ellipsis or a circle of certain dimensions, and in a given time. But, as the Motion of the Planets is unequable, and quicker or slower in different parts of the Orbit, it is evident that their Motions cannot measure themselves, but some other standard or rule of their Motion must be found out; and it is likewise evident that this standard must be a Motion in a straight line, one or more, as it is impossible to conceive that it can be measured by another curve line. But how is such a straight line or lines to be found out? How can a straight line, or any number of them, be conceived to measure a curvilinear Motion, if it be true, what I have maintained, that no curvilinear Motion is composed of straight lines?

And here lies the difficulty of the case, which, I think, would be unimountable, if we could not discover any straight line with which the curvilinear Motion has a necessary connection. But this we can do; for we find that, if a tangent is drawn to any point of the Orbit of a Planet, the Planet, in its progressive Motion, falls towards the centre, so far below the tangent at the extremity of any given arc taken from the tangential point, or point of contact: And this fall is measured by a straight line from the tangent to the extremity of the arc. And we know farther, that this fall is necessarily connected with the two things, which, as I have said, constitute the nature and essence of every Motion, viz. the Moving Force or Velocity, and the direction of the Motion, that is, in the case of the Planets, the curvature of the Orbit: For, as the Velocity of the Planet is greater or less, with a given Curvature of the Orbit, or as the Curvature of the Orbit is greater or less with a given Velocity of the Planet, so the descent from the Tangent, in the same time, will be greater or less. If, therefore, we can discover what this descent is, and by what law it is governed, we may possibly from thence be able to infer what is the Law of that Force which carries

the

the Planet on in its Orbit, with which, as we have seen, this descent is necessarily connected.

That this may be the better understood, let us take, for example, the nearest planet to us, the Moon, of which our Earth is the centre. As we know in what period of time the Moon describes her whole Orbit, so we know also in what time she describes any given arc of that Orbit. Suppose, then, a Tangent drawn at one extremity of this given arc; we know also how much she has fallen below the Tangent, and in what time, at the other extremity of this Arc, and if the Arc be a small one, it is easy to be shewn, that if she had fallen directly from the Point of Contact, she would have fallen just as far in the same time*. Here, then, we have the Moon descending from the Tangent, in a straight line of a certain length, in a certain time: And, if the Motion in that straight line were equable, without increase or diminution, it would be its own measure, and we should say, that the Moving Force or Velocity was such as carried the Body through such a space in such a time, which, as I have said, is the only standard by which we can estimate any Velocity. But we are sure that this standard, when applied to the descent of the Moon, will not answer; and, therefore, that her Motion in the Descent is not equable; and, consequently, we must seek for some other Law of this Motion.

And here we must leave the Moon, and have recourse to a Motion on Earth, with which we are much better acquainted; for, as I have observed, nothing is more natural, than that we should endeavour to explain the Motions in the Heavens by those on Earth †.

* Speaking physically, and not with geometrical Exactness, the Truth is, that as the Arc is lessened, the Distance of the Extremity of the Arc from the Tangent, and the direct Fall approximate to Equality, and are ultimately Equal. If the Arc be not greater than that which the Moon traverses in the Space of a Minute, the difference of these two Quantities will appear quite insensible.

† P. 382.

Now,

Now, there is a Motion on Earth well known, which has an extraordinary likenefs to the Motion of the Planets. The Motion I mean is that of Projectiles ; for the figure they describe is a Parabola, which is a Section of the Cone, as well as the Ellipfe, and has the same Centre as the Moon, I mean our Earth. Further, as Sir Ifaac has demonstrated, if the Projection were of fufficient force, the Projectile would go round our Earth as the Moon does ;—and laftly, not to mention other refemblances, the fall from the Tangent, in any Arc described by the Projectile, is the same in the same time, as if it had fallen directly from the Tangential Point, it is with this laft refemblance that we are moft concerned at present ; for, if we can determine by what Law any heavy Body here on Earth falls from any height directly to the Earth, and if it be true that there is any Sympathy betwixt things above and things below (according to the antient faying), that is, any general rule governing the Motion of descending Bodies both in the Heavens and here, we shall, at the same time, determine the Law of the Defcent of the Moon from the Tangent.

And here Sir Ifaac has used a Discovery, made by Galileo before him, concerning the descent of falling Bodies on Earth. Galileo found out that the Motion of these Bodies was not equable, but the Velocity increased as the Times, so that, in a double Time the Velocity was double.

But this rule Sir Ifaac found would not apply to the Defcent of the Moon ; and having discovered that the Defcent of the primary Planets towards the Sun, was as the Squares of the Distances reciprocally, he conjectured that the same might be the Law of descending Bodies on Earth, but which Galileo had not discovered, nor indeed could discover, by fact and observation on falling Bodies here, as he had discovered the acceleration in the Ratio of the Times. Supposing, therefore,
that

that the Motion of falling Bodies, here on Earth, was accelerated according to that Rule, he further supposed, that the Body in descending set out with a greater or less Velocity, according to the same Rule of its distance from the Centre. This theory could not be verified by any fact or observation here on earth, the greatest height, from which we can let any body fall, bearing so small a proportion to the distance from the Centre of the Earth, as not to make any difference in the fall of Bodies that could be perceived by the Senses. But, when he applied the rule to the descent of the Moon from the Tangent, which was so much greater than the descent of any Body here on Earth, he found that it answered exactly. And thus Sir Isaac not only discovered the Law of the descent of the Moon, but he completed the theory of Gravitation, which Galileo had only begun; for he discovered, first, that the descending Body sets out with a Velocity inversely as the Squares of the distance from the Centre; and, secondly, that it increases in that Ratio, as well as in the Ratio of the Times*.

It is next to be considered how this theory of Gravity, thus made general by Sir Isaac and carried from the Earth to the Heavens, is

VOL. II.

G g g

to

* The reader, if he be as great an admirer of Sir Isaac Newton as I am, will be pleased to observe the progress of the Doctrine of Gravitation, thus completed by Sir Isaac Newton, and which, in my opinion, is the greatest discovery of modern times. Aristotle maintained, or, at least, the Schoolmen, in his name, maintained, that the Velocity of falling Bodies was as their weight: And it is true that the greater the weight or mass, the greater the force required to move the Body. From thence they may have inferred, that, as the Force was greater, so was the Velocity: And this is true of the same Body, or two Bodies of equal Mass. But, as I have observed in the preceding Note, it will not apply to two Bodies of different Masses; for there the greater Body may be moved by the greater Force, and yet the Velocity of both Bodies be the same. The fact truly is, that every particle of Body, great or small, is drawn towards the Earth with the same Velocity and with the same Force, if we suppose all the particles to be of the same Mass. Now, the more of these particles there are, the more of these Forces there must be to make the Body descend. There must, therefore, be a greater Moving Force applied to the greater Body; and, consequently, its Moment may be greater but not its Velocity, the Moment being composed

to be applied to the Motion of the Planets. And here Sir Ifaac appears to have had recourſe again to the Motion of the Projecile, which he ſuppoſed to be a compounded Motion according to the general belief at this day; and, therefore, he ſuppoſed that there was

compoſed both of the Velocity and the Maſs. The Velocity, therefore, of all the particles of the Body is the ſame as in one. This, I think, is well illuſtrated by *Montucla*, in his hiſtory of Mathematics, Vol. II. p. 263. printed at Paris in 1758, where he ſuppoſes the greater Body divided into equal parts, and let fall altogether, but not united, they will certainly all come to the ground at the ſame time. Now, let us ſuppoſe that they all cohere, ſo as to form but one Body, it cannot be conceived that they ſhould for that come to the ground ſooner.

And, as every particle of the falling Body is moved towards the Centre, ſo every particle of the Central Body is moved towards the falling Body; for it appears to be an eſtabliſhed Law of Nature, that the tendency of all Bodies towards one another is mutual. But it is likewiſe a Law of Nature, that the tendency of Bodies toward one another is in proportion to their Maſſes; that is to ſay, the greater Body in the Centre tends towards the leſſer falling Body, as well as the falling Body tends towards it, but with much leſs Velocity. And this explains what the Newtonians ſay, that, as the Stone gravitates towards the Earth, ſo the Earth gravitates towards the Stone, but is moved with infinitely leſs Velocity; or, to expreſs it according to their conceptions of Gravitation, the Earth attracts the Stone by the Active Force of all its particles upon the Stone, while the Stone likewiſe attracts the Earth, by the operation of all its particles upon the Earth; the conſequence of which is, that the power exerted by the Stone being infinitely leſs than that of the Earth, and the Maſs of the Earth infinitely greater than that of the Stone, the Velocity of the Motion of the Earth towards the Stone will be infinitely leſs than the Velocity of the Stone towards the Earth.

It is to be obſerved, that when the Doctrinè of Falling Bodies is applied to the Planets, we are to lay aſide entirely the Reſiſtance of our Atmosphere; which can have no place in the Celeftial Regions, *ubi corpora liberrime moventur*, as Sir Ifaac expreſſes it.

Galileo went ſo far in the diſcovery of Gravitation, as to refute the Peripatetics, by ſhowing that the Velocity of a falling Body did not depend upon the Weight of the Maſs, but upon the Time. But even this he proved no otherwiſe but by experiments; whereas it may be proved directly and demonſtratively, from the conſtant action of Gravitation, which is thus to be conceived. The Body, in the fiſt inſtant of its Motion, is moved with a certain Force. In the ſecond inſtant, the ſame Force continues; and there is ſupperadded another Force as great: The conſequence of which neceſſarily is, that the ſame Body being moved with a double Force, muſt,

was a Power which urged the Body downward, and made a curvilinear Motion of that which otherwise would have been rectilinear; and he made the same supposition with respect to the Motion of the Planets, and maintained that they are deflected from the Rectilinear Motion by the same Power which makes a stone fall to the ground: And thus he compounded the Motion of the Planets, likewise, of two Motions, the one of which he called the Projectile Motion, still carrying on the comparison with Projectiles, and the other the Centripetal. By the one of these, the Body is carried on in its Orbit, so that it may be called the Progressive Motion; and

G g g 2

by

at the end of the second instant, have acquired a double Velocity; and so on, during the continuance of the Motion.

Thus far Galileo went, and no farther; for he did not know that, at the end of the second instant, the Body had acquired a further degree of Velocity by its being so much nearer the Centre. Nor was it possible that he could discover this by his method of experiment, as no space, through which we can let a Body fall here on Earth, can have any sensible proportion to the distance from the Earth's Centre. But Sir Isaac having discovered, as I said, that the primary Planets, in their descent towards the Sun, were accelerated as the Square of the Distance reciprocally, did by a most happy conjecture suppose, that the same Rule might take place in falling Bodies here on earth; so that their Motion was accelerated two ways, first, in the Ratio of the Time, and then as the Square of the Distance decreases.

Further, Galileo did not know with what Force the falling Body begins to be moved. Neither could this be discovered by any experiment; for, as Time and Space are infinitely divisible, suppose we certainly knew with what Velocity a Body is moved after having fallen the 10,000th part of a Second of Time, or the 10,000th part of an inch of Space, we could not, for that, know with what Velocity it set out. But Sir Isaac, having so happily conjectured that the motion was accelerated in the Ratio above mentioned to the Distance, would very naturally suppose that the Motion began with a Velocity that was in the same Ratio to the Distance from the Centre. But this discovery, of the Velocity of the Motion, both in its continuation and beginning, was no more, I imagine, than a most sagacious and happy conjecture, till it was verified by applying it to the Descent of the Moon from her Tangent, without the observation of which it appears to me impossible that ever the theory of Gravitation could have been completed. But now it is perfectly complete, because it is known with what Velocity the Body sets out in its fall,—how that Velocity is increased,—and what Space it goes through in what Time.

by the other that Motion is directed, being bent into a Curve instead of going on in a Straight Line.

That the Motion of the Planets is not actually so composed, even upon the supposition that the Motion of Projectiles was so composed, I think I have clearly proved; and much less can it be understood to be so composed, if it be true, which I think I have likewise proved, that even the Motion of Projectiles is simple and uncompounded. But it will be said, that the phaenomena correspond with Sir Isaac's Theory of the Composition of the Motion of the Planets, and therefore it must be supposed to be true. And, if these phaenomena could not be otherwise explained, except upon the supposition of the actual composition of their Motion, I think there might be some reason for granting it. But I am persuaded all these phaenomena may be accounted for, without any such actual composition; though, for the sake of teaching and of demonstration, it may be laid down hypothetically, that the Motion is so composed, in the same manner as Sir Isaac has for the same reason analysed the Circular or Elliptic Motion into a Polygon of an infinite number of sides, though, I think, no body can believe that any Curvilinear Motion is so composed.

That the Motion of the Planets may, by the nature of things, be a simple Curvilinear Motion, I think I have clearly proved; and not only that it may be so, but that it is in the highest degree improbable, if not impossible, that it should be otherwise. Now, I would ask those, who maintain the actual composition of the Motion, Whether, upon the supposition that it was simple, as I maintain it to be, it would not have all the qualities which they ascribe to it, such as the Descent from the Tangent,—its being carried on in an Orbit of a certain curvature,—and with a Force or Velocity by which it makes its revolution in a certain time? If this cannot be denied,
though

though I should not be able, nor any the most complete Geometer or Astronomer, to deduce those qualities of the Motion from its nature and essence, that would be no reason for making such strange suppositions; and it would be much better fairly to acknowledge that we are not able to make a System or Science of Astronomy, and so leave it in the state it was in before Sir Isaac meddled with it.

Nor would this be anywise extraordinary; for there are many things in Nature, of which we are sure that there is a System and a governing Principle, but which hitherto we have not been able to discover. This is the case of Electricity, and of Magnetism, and of all the phenomena which chemistry exhibits to us; yet, of these, as well as of other things, every man, who believes that Supreme Intelligence presides in the universe, must likewise believe that there is a System and a Science.

But, in this case, I believe there is a System, which Sir Isaac has discovered; but it is to me evident that his System can be as well supported, upon the *hypothesis* of the Planets being moved towards their Centre, as if they were *actually* so. From what I have already said, I think it is evident that it is impossible to discover the Moving Force of the Planets in their Orbits, without resolving their Motion into Straight Lines. Now, this cannot be done except by Hypothesis, as their Motion is certainly not actually composed of Motions in Straight Lines; and, if so, there can be no hypothesis more natural than the hypothesis which I make: For, in the *first* place, the fact is certain, that the Planets do descend from the Tangent towards their Centre; *2dly*, It is evident that this descent is according to the Law of falling Bodies here on Earth. Now, as there is nothing in Nature without a Cause, there must be some Cause producing this Descent; and, where the Effect is the same as in the case of falling Bodies, there is nothing more natural than to suppose, by way of Hypothesis, the same cause. And the only Dif-

ference

ference here, betwixt the *real* Cause and the *supposed* Cause, is, that the real Cause arises from the nature of the Planetary Motion, which, like every other Motion, consists of two things, *first*, The Moving Force or Velocity; and, *2dly*, The Direction of that Force in an Orbit of such a Curvature. The *real* Cause therefore of this Descent, is the nature of the Planetary Motion in which it is inherent, and with which it is essentially connected; whereas the Cause I *suppose* is, a Motive Force not necessarily joined with the rest of the Planetary Motion, but separated and acting by itself.—So that by my Hypothesis I do no more than divide and consider, separately, what by Nature is necessarily joined. This, I say, is the Method of all Science; and I maintain, that without such Abstractions no Science could be properly taught. Proceeding in this way, Euclid has abstracted Length from Breadth, and both from Depth, and all the three from Body. When Euclid does so, he proceeds upon an hypothesis, as well as I do in this case; for, as I suppose that there is a separate Motive Power, which makes the Body descend from the Tangent, so he supposes that Length, Breadth, and Depth, have a separate existence by themselves, which is certainly not true in fact; but no body will say his demonstrations are less conclusive because they proceed upon this hypothesis. In the same manner I say that Projection and Gravitation, though they have no separate existence by themselves, are inherent in the Planetary Motion as much as Length, Breadth, and Depth are in Body; and therefore that Sir Isaac's Demonstrations are as certain upon the Hypothesis of the Separate Existence of Projection and Gravitation, as Euclid's are upon the Hypothesis of the Separate Existence of Length, Breadth, and Depth.—And it may be observed, that there is this difference betwixt my hypothesis and that of Euclid, that it is impossible, by the nature of things, that Length, Breadth, and Depth, can exist separately; whereas no body will deny, at least no Newtonian, that the two Motions I have *supposed* may have a separate existence, and be combined together, to form the Planetary Motion.

Having

Having thus, by separating the Descent of the Planet from the rest of its Motion, and considering the Descent abstractedly, discovered the Law of it, I proceed to what remains to be discovered, and which is the principal thing sought, — By what Force the Planet is moved in its Orbit. For this purpose, I make another Hypothesis, or, rather, it is no new Hypothesis, but a necessary consequence of the former; for, if the Body be moved by any Power towards the Centre, it is evident it must be moved by some other Power in the direction of the Tangent from which it falls, otherwise it never could describe an Ellipsis, but must fall into the Centre: And thus we have the two Motions of Projection and Gravitation, and the two moving Powers, of which the Planetary Motion is supposed to be combined, the Centripetal Force and the Projectile.

But how are we to discover the Moving Power in the Line of Projection? For, unless we can discover that, we have done nothing; because it is evident that, by the Moving Force in the Line of Projection, the Planet is carried on in its Orbit, the Centripetal Force serving no other purpose, except to direct the Motion in the Projectile Line, and bend it into a Curve, instead of going on, as it would otherwise do, in a straight line.

But, though the Centripetal Force serve no other purpose but to direct the Motion, it is evident that it must have a necessary connection with the Projectile Motion in the Tangent, or, which is the same thing, the Motion of the Planet in its Orbit: For, as that Motion is quicker or slower, the Descent from the Tangent must be greater or less in the same time; and, as the Curvature of the Orbit is greater or less, the Velocity, with which the Planet performs its revolution in the time given, is greater or less; and, with the Curvature of the Orbit, as well as with the Velocity of the Motion in it, the Descent from the Tangent is also necessarily connected.

Further,

Further, it is evident that the two Motions being ſo neceſſarily connected together, they muſt be ſo adjusted as to balance one another, ſo as that neither ſhall prevail over the other: For, if the Centripetal Force is too violent, the Body will be carried too far towards the Centre; and, again, if the Projectile Force be too ſtrong, the Body will deſcribe a Figure different from what we know it does deſcribe.

And not only do the two Motions thus depend upon one another, but they both depend upon one and the ſame thing, viz. the diſtance of the Planet from the Centre; for upon that muſt depend both the Curvature of the Orbit, and the Velocity by which the Body performs its Revolution in the given time.

The Motions being thus neceſſarily connected, and both depending upon one and the ſame thing, it is moſt natural to ſuppoſe that the one being given, viz. the Centripetal Motion or Deſcent from the Tangent, the other will alſo be given by deduction from it, I mean the Motion in the Tangential Line, or Line of Projection; and it is alſo moſt natural to ſuppoſe, that, as by the diſtance from the Centre the Centripetal Motion is governed, ſo alſo ſhould the Projectile Motion. And, accordingly, Geometry demonſtrates that the Velocity in the Tangential Lines, at different points of the Orbit, is inverſely proportional to perpendiculars drawn from the Sun to the Tangents of the Orbit at theſe points; and, if the Velocity be ſuch in the Tangential Line, it muſt of neceſſity be the ſame in the Orbit of the Planet.

And thus, I think, the Problem is ſolved, and a moving Force is diſcovered, by which the Planet is moved in an Ellipſis of a certain Form and certain Dimenſions, and in a certain Time. And this Moving Force is variable, as the Motion of the Planet is, and variable

riable by the same rule, viz. the greater or the less distance from the Centre, upon which, as I have said, both the Motion in the Centripetal Line, and in the Line of Projection, must depend.

This hypothetical method of reasoning, by which a Motion, in its nature perfectly simple, as simple as any Motion in one Line can be, may appear to those who are not acquainted with the method of Science, to be precarious and inconclusive; but Euclid's whole System of Geometry is, as I have shown, founded upon a reasoning of this kind. Sir Isaac, when, by his doctrine of Prime and Ultimate Ratios, he resolves the Circular or Elliptical Motion into a Polygon of an infinite number of sides, certainly makes an hypothesis for the sake of teaching and demonstration, which has no foundation in Nature; for I do not believe that any Newtonian will maintain that a Circle or Ellipsis is not a *Figure contained in one Line* (as Euclid has defined a Circle), but a Rectilineal Figure of many Lines*. And I am sure he will not deny the truth of the proposition, which Sir Isaac, upon that hypothesis, has demonstrated, that the Planet, in its Motion round its Centre, describes Spaces proportional to the Times†. And there is another Theorem of his, of which he makes much use in his *Principia*, and which, likewise, proceeds upon mere hypothesis. It is the theorem of the Composition of Motion, by which a Motion in a Straight Line, the most simple of any that can be imagined, and which may be produced, and generally is produced, by one single moving Power, such as the Impulse of one Body, is supposed to be produced by the action of two Powers acting in the direction of two sides of a parallelogram, of which the right line, in which the Body is moved, is the diagonal: and upon this hypothesis the Moving Force of the Body is demonstrated.

VOL. II.

H h h

monstrated.

* See p. 393.

† Lib. I. Princip. Sect. 2. Prop. 1.

monſtrated. The application to this caſe is obvious; for there, as in the caſe of the Planets, we diſcover the Moving Force by the Hypotheſis of the Body being moved by a Force acting in two Straight Lines: And the only difference I can obſerve betwixt the two caſes is, that the Hypotheſis, in the caſe of the Planets, appears to be more obvious, and ariſing more naturally from the Planetary Motion, than the other Hypotheſis ariſes from the Motion in the Straight Line.

Some Newtonians will ſay, that their concluſions, deduced not from Hypotheſes, but from Realities, are more convincing. But my anſwer is, that, if the Hypotheſes are admitted, the Deductions from them are as certain as if they were Realities, as in the two inſtances I have given; ſo that the only queſtion is, Whether they be Hypotheſes abſurd or impoſſible, and, therefore, ſuch as cannot be admitted? Now, the Newtonians, who maintain that they are Realities, will certainly not ſay ſo. Nor will any one be diſpoſed to think ſo, when he conſiders, that with theſe Hypotheſes all the phaenomena of the Planetary Motion perfectly agree; and that from them, among other phaenomena, the wonderful proportion, which Kepler diſcovered, betwixt the Periods of the Revolutions and the Diſtances from the Centre, can be deduced. But this, notwithstanding, if it could be ſhewn that the Planetary Motion could not be produced in the way ſuppoſed, I ſhould ſay, that though the Concluſions, being agreeable to the Phaenomena were true, the Principles from which they were deduced were not true, and conſequently that the Reaſoning, proceeding upon falſe Principles, was not juſt; and I ſhould ſay the ſame of the hypothetical Reaſoning, with reſpect to the Compoſition of Motion, if it could be proved, that it was impoſſible the Motion could be produced by the Action of two Bodies in the way ſuppoſed. But this cannot be ſaid, and certainly no Newtonian will ſay, that the Hypotheſis is impoſſible of the Planetary Motion being produced, as I ſuppoſe, when he avers that it is *actually* ſo produced.

I will

I will conclude this Chapter with observing, that the example above mentioned, of the Composition of Motion, is sufficient of itself, I think, to refute an argument much insisted on by the Newtonians, that the same Effect must be produced by the same Cause; and that, therefore, as the Motion of the Projectile is of the same kind with the Motion of the Planet, it must be produced by the same Cause, that is, by Bodily Impulse, and, likewise, by two Moving Powers, as they suppose the Motion of Projectiles to be. But, in the example above given, we may suppose the Motion in the Diagonal of a Parallelogram to be produced, either by the Impulse of a single Body, or by the Impulse of two Bodies; or, lastly, by Mind without any Body at all. These Causes of the Movement are very different, and yet the Effect, that is, the Motion, will be the same, and will be governed by the same Law.

And here we may observe, how necessary it is to distinguish betwixt the *Motion* and the *Cause* of the Motion: In the instance I have given, the Motion, by which ever of the three Causes it is produced, will be the same, and governed by the same Laws. And in like manner the Planetary Motion, whether produced by Mind or Body, by Gravitation and Projection, actually or only hypothetically, will be the same Motion, and governed by the same Laws. And therefore the Mathematician who desires to demonstrate what those Laws are, may chuse any of the Hypotheses that suits his purpose best; nor is he at all concerned to shew that the Motion is actually so produced, but only that it may be so produced.

C H A P. VII.

The Advantage of thus simplifying the Astronomy of Sir Isaac Newton.

—First, *It disincumbers the System of the Hypothesis of the Planets being moved by Bodily Impulse:—The Consequences of such an Hypothesis.*—2do, *Of the Notion of a Perpetuity of Motion begun by Bodily Impulse.*—3tio, *Of Body attracting or impelling Body at a Distance.*—4to, *Of the Composition of the Planetary Motion:—Such a Composition irreconcilable with the Simplicity of Nature.*—5to, *Of the Hypothesis of the Planets all falling into their Centres, if their Motions were to be stopped.*—Lastly, *Of a Centrifugal Force supposed in the Planetary Motion.—The Consequence of this Hypothesis downright Materialism.—Inapplicable to the Motion of the Planets, whether that Motion be by Mind^d or Body.—The Centrifugal Force of the Stone and Sling explained.—The Origin of the Notion of a Centrifugal Force.*

WHETHER I have succeeded, in endeavouring thus to simplify the Principles of Sir Isaac's Astronomy, does not belong to me to determine. But this I will venture to affirm, that, if I have succeeded, the Newtonians are very much obliged to me; for I have disincumbered their Science (one of the noblest that ever was invented, and which does more honour to modern Times, than any thing else I know) of Propositions altogether useless, yet laid down as Axioms and Postulata absolutely necessary for supporting their System, but which are either absolutely false, and impossible to be true, or such as no philosopher can grant.

The

The first of these is, that the Planets were first moved by Bodies which no longer exist, and without the least degree of proof or probability that they ever existed. This strange Hypothesis, as I have observed*, is the more extraordinary, that it only serves to remove Mind to a greater distance. For, What is it that moves the Body which moves the Planet? It can be nothing else but Mind, unless they will say that Body can move itself, or that there is nothing else in the Universe but an infinite Chain of Bodies impelled, and impelling one another; and, though I would not accuse those who maintain this notion of the beginning of the Planetary Motion, as holding either of these opinions, yet I cannot help saying, that it looks as if they wished to get free of Mind altogether in their System of Nature, or, at least, set it at as great a distance as possible.

The second of these propositions is that which asserts the Eternity of Motion, in consequence of this imaginary impulse; which, if it be supposed to be by virtue of the Impulse, is impossible by the nature of things; and to maintain that it is by a *Vis Infitra*, or Power inherent in the Matter itself, and essential to it, is downright Materialism. This Axiom, as it is called, gives me the more offence, that it appears to me to serve no other purpose, except to make a Machine of what, more than any thing else, manifests the Power, the Wisdom and the goodness of God. For, as Astronomy has nothing to do with the Cause of the Motion of the Celestial Bodies, which belongs to a Science quite different, much less has it any concern with the duration of the Motion, whether it had a beginning, or is ever to have an end. And, accordingly, this Eternity of Motion is not of the least use in explaining any of the phaenomena of the Heavens, which requires nothing more but that the Quantity
of

* P. 384.

of the Moving Force should be known, without inquiring what the Cause of it is, or how long it is to continue.

The third is, that Body can attract or repel Body at a distance, that is, can act where it is not;—a proposition impossible to be true of any thing existing, whether Body or Mind; and, accordingly, as we have seen*, it is rejected by Sir Isaac himself in the strongest terms.

The fourth is, that the Planetary Motion is not simple but compounded—a Proposition which makes their Motions so intricate, and requiring such different operations of different Minds or Bodies, as is altogether irreconcilable with that wonderful simplicity we observe in the works of Nature, in which, as there is nothing wanting, so there is nothing superfluous. It is, therefore, a proposition, which, though it be used as an hypothesis, for the purpose of teaching and demonstration, can never be supposed to have a real existence, unless we are to suppose, at the same time, other Bodies impelling the Planets different ways, or, what is more inconceivable, two Minds animating the same Planet, and moving it in different directions at the same time.

The fifth proposition I shall mention is, I think, as little supported by proof or probability, as any that I have mentioned. It is this, that, if the Motion of the Planets were to be stopped, they would all fall into their Centres, with a force increasing as the Squares of the Distances decrease. It is the necessary consequence of the preceding proposition, concerning the Composition of the Planetary Motions, and serves, I think, to show the falseness of it, as it is a proposition

* Page 376.

position that never can be proved nor inferred, as I have shown, by any just analogy from the Motion of other Bodies*.

The last proposition, of which I have endeavoured to disincumber the Newtonian Astronomy, appears to me as extraordinary as any I have hitherto mentioned. It is this, that every Body, that is moved in a Curve, has a tendency to go off out of that Curve in a Tangent; and to this tendency they have given the name of Centrifugal Force, which is a word much used by the Newtonians, more now, I think, than formerly; nor do I know that Sir Isaac has used it at all, speaking of the Motion of a Planet in its Orbit: And they have endeavoured to make a Science of it, by shewing how it acts in proportion to the swiftness of the Motion in the Curve, and the distance from the Centre †. Now, I would have the reader consider attentively to what consequences this hypothesis leads. In the *first* place, it supposes, that a Body being once put in Motion, continues, by its *Vis Inſita*, to go on in a Straight Line to all eternity. This, they say, is in consequence of the *Vis Inertiae*, or perfect passivity of Matter;—a proposition which, I think, I have shown is absolutely inconsistent with the genuine principles of Theism; and, accordingly, many of the Newtonians are not disposed to ascribe the continuance of the Motion to any *Vis Inſita*, or Active Force, in the Body, but to the Original Impulse, which I hold is impossible to be true. But the Hypothesis of a Centrifugal Force asserts this Active Power of Body in the strongest manner; for, if there was nothing else in Body, but a *Vis Inertiae*, or *Vis Perſeverantiae*, as some rather chuse to call it, by which it continues in the state in which it is, whether of Motion or Rest, Why should it not, after it is deflected from the Straight Line, continue in the
new

* Page 400.

† See Montucla, above quoted, Vol. II. p. 408.

new course given it, with the same perseverance with which it continued in the old. But, instead of that, by the violent exertion of an Active Power, it tends to return to the Straight Line, and this with a Force not arbitrary or accidental, but governed by Rule and Measure, and such as may be reduced to Science. And it is upon this hypothesis that they tell us that Sir Isaac Newton has demonstrated that the Moon is retained in her Orbit by the same Power that makes a stone fall to the ground; without which, they tell us, the Moon would fly off in a Tangent, and go on in a Straight Line to all eternity.

Now, here is a Power supposed in Matter, by which it not only continues in a Motion once given it, but begins a new Motion contrary to that which was last given it. If this be true, I must own, I think there is an end of the system of Theism, and of Mind. For, if Body can, by a Power essential to it, not only continue Motion, but begin it, and carry it on in the most regular and orderly manner, there is nothing in Nature that may not be accounted for by Matter and Motion merely, without Mind. In short, it puts an end altogether to the distinction that I hold to be the foundation of the System of the Universe—betwixt Mind and Body; which distinction consists in this and this only, that Mind is active, and is the Author of all the Motion in the Universe; whereas Body is inactive, and merely passive.

These are the consequences of the doctrine of Centrifugal Forces; as to the truth of it, it is utterly inconceivable, with respect to the Planets, whether we suppose Body or Mind to be the Moving Power. If they are moved by Bodily Impulse, it is impossible, I admit, that the Motion can be simple or uncompounded; and, instead of being moved in an Ellipse, they must be moved in a Polygon of many sides. But it is not credible that, in the Motion in any of these

fides, there should be the least tendency to fly away from the Centre. Again, if we suppose Mind to be the Moving Power, it is still more inconceivable, if possible*: And, indeed, it appears to me so inconceivable, that I cannot admit it, even by way of hypothesis, as I do the composition of the Planetary Motion. Nor do I think that any of Sir Isaac's demonstrations in Astronomy require such an hypothesis: For, as to his demonstration concerning the Moon's Motion, I hope I have shown, that nothing more is necessary for it, than to suppose a descent of the Moon in her Curvilinear Motion as great, and governed by the same laws, as if she fell down perpendicularly.

This notion of a Centrifugal Force, and all the other Propositions I have mentioned, appear to me to take their rise from one source, which is this, that none of the Mechanical Astronomers, from Galileo down to the present times, appear to me to have had any idea of the Motion by Mind: And, indeed, since Geometry and Mechanics came to be applied to the Motion of Bodies, they have been considered as constituting the whole Philosophy of Nature; so that Geometry, instead of being the handmaid of Philosophy, as the Antients considered it, is become the mistress, and a Geometer and Philosopher are now synonymous terms.

To conclude, the principles of Sir Isaac's System of Astronomy, as they have been hitherto explained, appear to me so inconsistent

* The common illustration that is given of the Centrifugal Force, is the Motion, of a Stone in a Sling: But this is produced by a double action of Body upon the Stone, first, pushing it forward by repeated Impulses, and then retaining it from going forward; which it is impossible to apply to the Motion of the Planet. See what I have further said upon this subject, p. 391, where, I think, I have accounted for the Force with which the Stone, when it is let go, flies off.

with the Principles of true Philosophy, and of such dangerous tendency, that, if I have failed in giving a better account of them, I sincerely wish, both for the honour of Sir Isaac and the nation, and, I may add, of modern times, that some author, more learned in Geometry and Mechanics, would undertake to give a better explanation of them.

C H A P.

C H A P. VIII.

Distinction betwixt Philosophy and Astronomy.—Much Injustice done to Sir Isaac Newton, in supposing that he philosophised concerning the Cause of the Motion of the Celestial Bodies, and had discovered that Cause to be Attraction.—Absurd Ways of Thinking and Speaking thence arising.—Every Motion made to be produced by Attraction.—The Motion of a Stone falling to the Ground.—of the Moon,—of the Tides,—of the Magnet, &c.—This System of Attraction may be more simplified than it is.—Attraction carried through the whole Universe; and different Systems made to attract one another.—Attraction said to be essential to Matter.—Dr. Priestly's Notion of Attraction.—Two Sources of this Error concerning Attraction.—The Notion of the Planets being moved by Impulse of other Bodies, may be an Hypothesis likewise.—Reasons for such Hypotheses, and for other Hypotheses made by Sir Isaac.—The Discoveries of Sir Isaac, now they are made, appear so natural and obvious, that it seems wonderful they were not sooner made.—The Resemblance betwixt the Planetary Motion and the Motion of Projectiles, has led the Newtonians into Errors; 1mo, to suppose that the Planetary Motion was begun by Impulse, as well as that by Projectiles;—2do, That it was compounded, as they supposed that of Projectiles to be;—3tio, That the Planet, if not carried on in the Elliptic, would fall down to the Centre like a Projectile.—The Errors not only shewn, but the Causes of those Errors.—This ought to give perfect Satisfaction.—The Conclusions of the Newtonian Astronomy may be true, and yet the Principles false.—The only consequence of which is, that the

Newtonians *teach their System in an improper Way.*—*Influence of a true conclusion from false Premisses.*—*This applied to the Newtonians.*

FROM what has been said in the preceding Chapters, I hope the reader has learned to make the distinction, if he had not learned it before, betwixt Philosophy and Astronomy, or, in other words, betwixt investigating the Laws of the Celestial Motions, or calculating these Motions, and inquiring into the Causes of them. Those who suppose that the intention of Sir Isaac Newton, in his *Principia*, was to inquire into the Causes of the Planetary Motion, appear to me to do great injustice to Sir Isaac, and to mistake altogether the nature of his work, as it is explained by himself in the passage above quoted*. Yet, upon this supposition, it is generally believed, that Sir Isaac has discovered Attraction to be the Cause of this Motion. This notion has produced very absurd ways of speaking. Thus, it is commonly said that the Earth attracts the Moon, and the Sun the Planets: And they tell you, that the Earth, in the same way it draws a Stone down to the ground, bends the Course of the Moon into an Elliptical Orbit; so that, by the same Power by which a Stone falls to the ground, the Moon is retained in her Orbit. And this, they pretend, Sir Isaac has demonstrated. And we use the same absurd language when we speak of the Magnet attracting the Iron, as if it were possible that a Body, or any thing else, could act where it was not. They tell us also, that it is by Attraction that the Moon raises the water of the Sea, and produces the Tides; and, in short, they want to make Attraction do every thing in Nature, as if there were no other kind of Motion to be seen, or as if Bodies going *from* one another (commonly called likewise by an improper name, *Repulsion*, as if the one Body acted upon the other), were not as common a phaenomenon as Bodies being moved

towards

* Page 412.

towards one another. They are the more inexcusable for speaking in this way, that Sir Isaac has entered his caveat against such an error, and has expressly said, that he uses the word Attraction, not to denote a Cause, but an Effect, viz. the tendency of Bodies towards one another, whatever the Cause of that tendency may be.

Those who maintain that the Earth does actually attract the Moon, and the Sun the Planets, at such an immense distance from them, may, I think, for the same reason, maintain that those Centres of the Planets are the Cause of their whole Motion; for, if they can operate where they are not, by drawing the Planets to them, they may as well be the Cause of the whole Motion, and make the Planets revolve round them in Ellipses, in the same manner as the Hand makes the Stone go round in a Sling. And this will simplify the System exceedingly; for it will account for their Motions, without either Gravitation or Projection, without Centripetal or Centrifugal Forces. That this is not Sir Isaac's system is evident. And yet I defy those who understand Attraction, in the sense of Bodies drawing other Bodies towards them, to give any good reason why it might not be his system.

Some of the followers of Sir Isaac, not contented with carrying Gravitation beyond the utmost bounds of our atmosphere (within which we are warranted, by fact and experiment, to believe that it takes place) to the Moon, and through the whole Solar System, even to the Orbit of Saturn, want to extend it to other systems, and, in short, through the whole Universe, and to make one system gravitate towards another, and all the systems to gravitate towards some point, which they make to be the Centre of the Universe*. In short, wherever

* There was published in London, in the year 1777, a pamphlet, entitled, 'Thoughts on General Gravitation,' written, as I am told, by an ingenious gentleman of the University of Glasgow. The idea of this author is grand and noble. He understands that the Universe consists of many Systems, such as our Solar System, and that they all

wherever there is Body or Matter, there muſt, according to theſe philoſophers, be Gravitation. And Mr. Cotes has gone ſo far as to maintain, in his Preface to the *Principia*, that Gravitation is eſſential to Matter, though Sir Iſaac has ſaid, in ſo many words, that he did not affirm it to be ſo: And Dr. Prieſtley has maintained, not only that Attraction is eſſential to Matter, but that it and Repulſion conſtitute its nature and eſſence, not extenſion, ſolidity, or impene- trability, as has been commonly underſtood. All theſe errors have ariſen from two ſources; *fiſt*, ſuppoſing that the hypotheſes of Sir Iſaac were realities, not mere hypotheſes for the ſake of teaching and demonſtration; and, *ſecondly*, that Sir Iſaac intended, not only to diſcover the Laws of the Celeſtial Motions, and to meaſure and calculate them, but to account for their Cauſe.

Whether Sir Iſaac did ſuppoſe that the Motion of the Celeſtial Bodies was really begun by Impulſe, may perhaps be doubted; though he has certainly expreſſed himſelf in ſuch a way, as to give reaſon to believe that he really thought ſo*. At the ſame time, I think it may be maintained, that this alſo was no more than hypo- theſis; for, as Motion, by Impulſe, is always in a Straight Line, and as he was to analyſe the Planetary Motion into two Straight
Lines,

move round ſome one point, as a Centre, in the ſame manner as one of our Planets with its Satellites moves round the Sun. If the Universe be a Syſtem, as I think every Theiſt muſt believe it to be, it is a neceſſary conſequence that there muſt be ſome Principle of union in it, and ſome point, ſuch as a Centre, to which all its Motions muſt have a relation. And it is alſo neceſſary that there ſhould be ſome conformity betwixt the Motions of the ſeveral parts of the Syſtem, and of the whole: And, therefore, as we know but this our Solar Syſtem, and that the Bodies in this Syſtem are moved round a Centre, it is highly probable, that the Bodies in the other Syſtems, and that the Syſtems themſelves, are moved in the ſame way. But what has all this to do with Gravitation, or that ſtrange hypotheſis rejected by Sir Iſaac himſelf in ſuch ſtrong terms, of Body operating upon Body at a diſtance?

* Whatever Sir Iſaac thought when he wrote his *Principia*, I think it is evident from his Letters to Dr. Bentley, that when he wrote them, he did not believe that the Planets were ſet in Motion by Impulſe of other Bodies, or by any natural Cauſe. See what I have ſaid, p. 376, of the Progreſs of Sir Iſaac's Notions in this Matter.

Lines, of which the Motion in the Projectile Line was the first and fundamental Motion, it was natural enough for him to lay down, by way of hypothesis, that the Motion in that Line was begun by Impulse: And, indeed, as the Projectile Line itself is a mere hypothesis, we may, I think, with likelihood enough, suppose that the beginning of Motion, by Impulse, in that Line, is nothing else. But, be that as it will, I think I can assert, with some confidence, that his system does not require that the Motion should be actually so produced, any more than it requires that the Planets should be actually moved by a Force, either of Body or Mind, impelling them towards the Centre. But it was necessary, for discovering the Laws of their Motions, and measuring and computing them, to analyse them into two Motions, both in right Lines; so necessary, that I believe it was impossible to do it otherwise, as impossible as it would have been for Euclid to have demonstrated his Propositions concerning Lines and Figures, without analysing Body into Length, Breadth, and Depth, and considering each of them separately, though they can no more exist separately than the Progressive Motion of the Planet and its descent from the Tangent towards the Centre; or as impossible as it would be, in many cases, to demonstrate the Velocity by which a Body goes on in a Straight Line, by virtue of a single Impulse by one Body, without resolving that single Moving Power into two Moving Powers. And, in general, it may be observed, that no Science, whether of Body or of Mind, can be treated accurately, without analysing and separating what, by nature, is inseparable; for, in the Sciences belonging to Mind, such as Logic, Ethics, and Metaphysics, it is as necessary to proceed in that manner, as in the Sciences concerning Body and its Motions.

The Principles of Sir Isaac's Astronomy, as I have analysed them, appear to me so simple, that, like other great discoveries, it seems wonderful they were not sooner discovered; for, *imo*, It was obvious

vious that, in the Planetary Orbit, it was necessary there should be a fall from the Tangent, and which, it may be observed in passing, is probably the reason that some have imagined the Circular or Elliptical Motion was compounded, and produced by different Powers acting upon the Body, not distinguishing rightly betwixt a Moving Power internal and essential to the Motion, and that which is external. *2do*, It is equally obvious, that this fall from the Tangent, as well as the Moving Force, by which the Planet is carried on in its Orbit, must necessarily depend upon the diameter of the Orbit, or, in other words, the distance of the Planet from its Centre, and, consequently, must needs have some relation or ratio to that distance. *3tio*, The resemblance betwixt the Elliptical Motion of the Planets, and the Parabolic Motion of Projectiles, must have been so well known to so great a Geometer and Mechanic as Sir Isaac, that it was no wonder if he endeavoured to investigate the Laws of the one Motion by those of the other, and, being enabled by the help of Galileo's discoveries, to ascertain exactly the descent of the Projectile in its Curvilinear Motion, and, by consequence, its progressive Force, it was most natural for him to apply the Laws of the Motion of the Projectile to the Planetary Motion, and finding that the phaenomena perfectly agreed with these Laws, to conclude from thence that the Laws of the two Motions were the same.

But though, by thus comparing the two Motions, the Law of the Planetary Motion has been discovered, yet that comparison has led the Newtonians into the errors which I have observed in their system: And, *first*, as the two Motions agree in so many things, they have been led to believe that they agreed in every thing, and, particularly, that they both began in the same way, that is, by Impulse; whereas, there is nothing in the nature of things to hinder that they may have had different origins, and yet be governed by the same Laws. If, indeed, they had not only begun differently, but had likewise

likewise been carried on differently, there might have been some difficulty in the matter. But, I think, I have shown very clearly, that they are both carried on by the same Power, namely Mind.—There may have been another reason, as I have observed, why Sir Isaac supposed their Motion to be begun by Impulse, namely, that this Motion is, by the necessity of its Nature, always in Straight Lines; and, without analysing the Planetary Motion into Straight Lines, it was impossible, as I have said, to demonstrate its Laws. And there may have been likewise another reason, viz. that, in Motion begun by Bodily Impulse, the Moving Power is perceptible by the sense; whereas that Moving Power I call Mind falls under the perception of no sense, and, therefore, is not so obvious.

Another error, that this comparison has led the Newtonians into, is to suppose that the Planetary Motion is compounded, as they suppose the Motion of Projectiles to be. And, indeed, if the Projectile Motion were not only begun by Bodily Impulse, but carried on, either by Bodily Impulse, or by Mind deflecting it into a Curve, it must necessarily be compounded, according to the definition of compounded Motion above given. * But, as I think I have shown that it must necessarily be carried on by Mind, and by Mind only, as well as the Planetary Motion, it follows that, by the same necessity, the Motion in both must be simple.

3tio, As the Projectile, when it is not moved by Impulse in the Parabola, has a descent, or tendency to descend, in a Straight Line towards the Centre; so, they supposed that the Planet, if it was not projected (to speak in their language), would fall down to the Centre, but without the least proof, or probability, as I think I have shown †.

VOL. II.

K k k

Thus

* See P. 389.

† See P. 400.

Thus, I think, I have not only given a true account of the Principles of Sir Isaac's Astronomy, but have pointed out the Causes of the errors of the Newtonians with respect to them, which ought to give full satisfaction to every man who is disposed to listen to reason upon the subject.

But there are, I know, who will listen to no reasoning against the principles of a Philosophy, as they call it, of which the conclusions are confessed to be true. But I would ask these gentlemen, *first*, Whether they believe that there is such a thing as Mind in the Universe? *2dly*, Whether they do not believe that Mind, if it does exist, is the Author of all the Motions in the Universe? *3dly*, Whether or not the Planets, in particular, are not moved immediately and directly by Mind? and whether there be the least proof or probability of their being moved by Fluids or Ethers, or Impulse of Solid Bodies? *4thly*, Whether it be not in the power of the Supreme Being, either by himself, or by inferior Minds, to move these Bodies in the Orbits in which they are moved, without Projection or Gravitation, without Centripetal or Centrifugal Forces? Or, Whether he be necessarily confined, by the unsurmountable nature of things, to move these Bodies in the way prescribed by the Newtonians? And, *lastly*, Whether, supposing the Planets to be moved by Mind, in the simple manner I contend for, the same Laws of their Motion would not take place? Would not their fall from the Tangent be the same? Would not their Velocity in the different parts of their Orbits be as the perpendiculars to these Tangents inversely? Would not a Line drawn from the Centre to the Body in Motion describe Spaces proportional to the times? And, *lastly*, Would not Kepler's discovery, that the Cubes of the distances from the Centre are as the Squares of the Periodical Times, be equally true and deducible by necessary consequence, from the Laws of the Motion? If all this be true, and, at the same time, it be not true that the Planets are moved
by

by Bodily Impulfe, much lefs that they would go on for ever by virtue of fuch Impulfe? if there be neither Gravitation nor Projection in reality, but only in hypotheſis, What is the confequence? Only this, that the Newtonians teach their Science in an improper manner, and lay down as Principles, Propoſitions which are not true, and ſome of them impoſſible to be true. To endeavour to prove that theſe are neceſſarily connected with the Science, and that their theorems cannot otherwiſe be demonſtrated, is, I think, to give up their Science; and it were better for them, as I have ſaid, to acknowledge that they know no more in Aſtronomy than what was before known, that is, facts and phaenomena, but do not know by what Law of the Motion theſe phaenomena are produced.

It may appear extraordinary to thoſe who have not learned their Logic, that true concluſions, ſuch as I admit thoſe of the Newtonians to be, ſhould be drawn from falſe premiſſes: But this is very often done, and may be done in every caſe. I will give only one example, which is commonly given by the Commentators upon Ariſtotle:

Every Animal is a Stone;
 A Stone is a Sensitive Being;
 Therefore every Animal is a Sensitive Being.

Here the concluſion is undoubtedly true, and, according to the rules of Syllogiſm, properly inferred from the premiſſes; but theſe are abſolutely falſe. In this way, I think, the Newtonians argue, when they ſay that

All Bodies gravitate towards one another, at however great a diſtance;
 The Moon, and the other Planets, gravitate towards the Bodies in their ſeveral Centres;
 Therefore their Motions are governed by ſuch and ſuch Laws.

Or thus,

All Bodies in Motion round a Centre, in a Circle or Ellipsis,
are moved both by a Centripetal and Centrifugal Force;

The Celestial Bodies, being moved round a Centre, are moved
by both these Forces;

Therefore they are moved by such and such Laws.

Here the conclusion of both these Syllogisms is true, but the premisses, in my opinion, false. In place of these, I have endeavoured to substitute other premisses, which are true, and from which the same conclusions may be inferred.

C H A P.

C H A P. IX.

Recapitulation of the Contents of the preceding Chapters.—The Distinction betwixt Mind and Body, and the different Natures of each, the Foundation both of Theology and Natural Philosophy,—the one active, the other passive.—This the most ancient Philosophy known in the World.—The Foundation of Materialism, that Body is both active and passive.—Materialism, the Philosophy of the Senses.—Aristodemus's Conversation with Socrates.—The Materialist, if he reason consequentially, will not admit that his own Body is moved by his Mind.—Dr. Priestley, in denying this, reasons consequentially.—He a perfect Materialist; others but Demi-Materialists.—Of the difficulty in conceiving Invisible Powers.—All Powers invisible.—Mr. Locke's Philosophy, of the possibility of Matter thinking, has laid the Foundation of all our Materialism.—The great Progress of Materialism of late Years.—This owing to Experiments without Philosophy.—The first Experimenters in Europe not Materialists, because they were Philosophers.—The Propensity of our Philosophy to Mechanism, accounts for the favourable reception both of Des Cartes's System and Sir Isaac Newton's.—The latter can stand its Ground without the assistance of the Mechanical Philosophy.—All the Opinions enumerated, that can possibly be concerning the Motion of the Celestial Bodies.—First Opinion, that Body moves itself.—This the Doctrine of the Ancient Materialists and Athiests.—The most simple of all the Hypotheses concerning the Motion of the Celestial Bodies, irreconcilable with the Composition of their Motion supposed by the Newtonians.—Second Hypothesis, that the Planets are moved by Mind only.—This Hypothesis as simple as the Nature of Things will permit.

permit.—It admits, however, of some Variety.—Third Hypothesis, that Body is the only Moving Power—admits of great Variety.—1st, It may be supposed that the Body in the Centre is the Cause of the Motion of the Planet.—This, if true, a great Discovery of Modern Times.—2^{do}, It may be supposed that the Planet is moved by Pulsion, both in the Projectile and Centripetal Line.—This Supposition has some Simplicity and Uniformity in it.—3^{dly}, It may be supposed that the Planet is moved by Pulsion in the one Line, and Trusion in the other.—This Supposition not so simple as the preceding.—The fourth Hypothesis, that the Planet is moved both by Body and Mind.—This, too, admits of considerable Variety.—These are all the Opinions possible concerning the Planetary Motion.—Of these the reader may choose what he likes best.—Conclusion of the Book.—Summary of what the Author thinks he has proved concerning Mind and Body.—Sir Isaac Newton's Principia, though not a Philosophical Work, furnishes ample Matter to the Philosopher.

IN the preceding Chapters, I have endeavoured to prove, first, that Motion produced by Impulse cannot go on for ever, nor, indeed, at all, by virtue of that Impulse, nor by virtue of any *Vis insita* in the Body moved; and that, therefore, Sir Isaac's First Law of Motion cannot be defended, unless it be considered as only asserting that Body is perfectly Passive, and can neither of itself begin Motion, stop it, or alter its direction, so that it must always continue in the same *State of Reel* or of *Motion* (if we will speak so improperly), unless its State be changed by something else, and can no more stop its own Motion than begin it. 2^{do}, That the Celestial Bodies are not moved by Pulsion, or Trusion, nor in any way resembling that in which Body moves Body, but by Mind acting, not upon the surface of these Bodies, but upon every particle of them. 3^{tio}, That Mind moves these Bodies in the most simple and direct way possible,

and not by any combined or compounded Motion, such as that of Projection and Gravitation. And, *lastly*, that Sir Isaac Newton's Astronomy, the Laws of the Planetary Motions, which he has discovered, and the Theorems founded upon those Laws, will all stand good, upon my hypothesis of the Planets being moved by Mind in the most simple and direct manner.

The foundation of my whole argument, and, indeed, I think, of Theology and the true Philosophy of Nature, is this Proposition,—That there is a distinction betwixt Mind and Body, that Mind is the *Moving Power* in this Universe, and that Body is only *moved*, and that, therefore, Body cannot move itself; the consequence of which is, that Body neither can begin nor continue Motion; for, betwixt these two, I think I have shown, both from the reason of the thing, and from fact and experience, that there is no difference. In short, my philosophy is that most antient philosophy, more antient than the Schools either of Plato or Aristotle, which maintains that there are two things in this universe, comprehending every thing in it, one of which acts, and the other suffers, or, in other words, *Mind* and *Body*; the former of which is the active Power in Nature, while the latter is merely passive, and only the subject upon which the other acts*.

On the other hand, the Materialist, if he truly understands his own cause, must maintain that there is no such distinction in Nature; that Body is both active and passive, and therefore can both move itself, and be moved by itself. This, as I have more than once said, is the only foundation upon which Materialism can stand; for it is impossible that Pulsion, Trusion, or any other action that we can conceive of Body upon Body, can account for either the beginning, or the continuation of the several Motions in Nature.

Materialism

* Vol. I. page 32.

Materialism may be said to be the Philosophy of the Senses: And it has undoubtedly arisen from Men believing, as Plato says certain Philosophers in his time did, that nothing existed but what they could lay hold of with their hands, or otherwise perceive by their Senses. Of this Sect was one Aristodemus, mentioned by Xenophon in the *Memorabilia*. Socrates, in order to convince him that there were Gods, or Superior Intelligences in the Universe, insists much upon the evident marks of council and design, that appeared in their works. ‘Ay, but,’ says Aristodemus, ‘I do not see those Powers who perform all these wonderful things, as I see the Artists of those works which we admire here on Earth.’ ‘But neither,’ says Socrates, ‘do you see your own Mind, which moves your Body, and does so many other things*.’ This argument I have insisted much upon in this Work; and, indeed, if a man is not convinced that there is an invisible Power, which moves his own Body, it is impossible he ever can believe in *the invisible things of God*; for the argument, as Dr. Priestley admits, fairly proceeds by analogy, from the Motions of our own Bodies to the Motions of other Bodies in Nature; because, says the Doctor, if there be a Mind in us, which moves our Bodies there also must be a Mind in other Bodies, when they are moved, but not moved by any thing external: And, indeed, it is impossible to divide the Matter; but we must either be perfect Materialists, like him, or Demi-Materialists, and very bad Reasoners. I am, therefore, not at all surpris’d, that the Doctor, and other Materialists with whom I have conversed, should deny that our Bodies are moved by our Minds: But, on the contrary, I think they argue very consistently; and, however wonderful it may appear that our Bodies should move themselves, and not be moved by our Minds, it is not at all more wonderful, than that many other Mo-

tions

* *Memorabilia*, lib. 1.

tions, which we see, not of Animal Bodies only, but of Bodies unorganized, should go on of themselves, and without any Mind.

As to the difficulty of conceiving invisible Powers, I would have our Materialists to learn at least so much of the Antient Philosophy, as to know that all Powers and Faculties, however visible their operations may be, are themselves invisible things, falling under the apprehension of no Sense. This Power, therefore, which they say Body has of moving itself, they must allow to be invisible, though they perceive the effects of it. And, if so, the only question betwixt them and me is, Whether this invisible Power belongs to a substance that is also invisible, and whose qualities are likewise all invisible, or to a substance which is visible, and whose qualities are all perceptible by Sense, except this quality of moving itself, which those Philosophers have discovered in it? If, indeed, it were true, as Mr. Locke has said, that Matter might think, it certainly could not be disputed that it might also have the Power of moving itself: Nor do I wonder that any man, who knows no more of the Philosophy of Mind than what is to be learned from Mr. Locke, should believe so; for, if Mr. Locke has convinced him, that Body may reflect, turn upon itself, and make itself its own object, he can have little doubt but that, in Motion, as well as in thinking, it may be both *Agent* and *Patient* at the same time, and in the same respect. And this shows it to be true, what I have observed elsewhere, that Mr. Locke, by so imperfect and erroneous a system of mind, has laid the foundation of all the Materialism and Atheism that has been advanced since his time.

The Material Philosophy, as I have elsewhere observed, has increased wonderfully in Europe since we deserted the Schools of Plato and Aristotle, and begun to philosophise upon our own stock, without the assistance of the Antients: And nothing has contributed more to the growth of it, than the Experimental Philosophy, as it is called, which has been so much in fashion, for above a century and a

half. The firſt experimental men in Europe were Chemiſts: But they, as I have elſewhere obſerved*, were firm believers in Mind, according to the doctrine of Antient Philoſophy; in which though it does not appear they were learned, yet, as it was the only philoſophy of thoſe times, it was very natural that they ſhould adopt the doctrines of it; and, therefore, what they obſerved of Nature, made them admire the more the works of God, and the operations of Mind in Body; for it was in that way they accounted for all the wonderful phaenomena that their art exhibited: Whereas, our preſent men of Experiment, being ignorant of Antient Philoſophy, and conſequently of the Philoſophy of Mind, and obſerving ſurpriſing operations of Body by itſelf, as they think, come at laſt to be perſuaded, that there is nothing elſe in the Univerſe but Body; and that the inherent Powers of Body, or the *Vires Inſitæ*, are ſufficient to account for all the phaenomena of Nature. There have been very few among us hitherto, that have carried Materialiſm the full length. But, if we believe that Man is a machine, as Dr. Prieſtley, and the Abbè Prade do, and that our whole Solar System is nothing but a Machine, where can we ſtop? It is but one ſtep farther, and, I think, not a ſtride, to believe that there is nothing but Matter and Mechanifm in the Univerſe.

I doubt it is the propenſity of our modern Philoſophy to Mechanifm, that has contributed to make firſt the philoſophy of Des Cartes, and then that of Sir Iſaac Newton, ſo eagerly embraced all over Europe. That Des Cartes's philoſophy is entirely of the mechanical kind, cannot, I think, be denied: But I hope I have ſhown, that Sir Iſaac's Aſtronomy can be ſupported, without any aid from Materialiſm;

*Non tali Auxilio nec deſenſoribus iſtis
Cauſa egit*—————

And

* Vol. I. p. 239. Where I have given a pretty full account of their philoſophy, which agrees wonderfully with the Antient Philoſophy.

And I hope that following the footsteps of Dr. Clarke, and agreeing with Dr. Horsely in the capital point, of Body not moving, or continuing to move itself, by any Power essential to its nature, I have founded Sir Isaac Newton's Astronomy upon such principles of sound philosophy and genuine Theism, that it will stand the examination of ages, in defiance of the prediction of Dr. Swift, ' That ' it will not last, but have the fate of other Systems*;' which, like the comments of opinion, to use Cicero's words, Time destroys, while it confirms the judgments of Nature †.

But as, after all, I think it is not unlikely that many of my readers may not agree with me in the principles upon which I have put Sir Isaac Newton's Astronomy, I think it is not improper, before I conclude this book, shortly to state all the opinions that have been maintained, or can be maintained, concerning the Motion of the Celestial Bodies: So that, if the reader does not approve of my opinion upon the subject, he may choose, of all possible opinions, that which he likes best.

And, in the *first* place, it is evident that the Planets must either move themselves, or they must be moved by something different from themselves, and which, of necessity, must be either Mind or Body, or both Body and Mind; and the Motion produced in one or other of these ways must be either simple or combined. These divisions, I think, must exhaust the whole subject; so that I may conclude, in the way that Aristotle commonly concludes his enumerations, ' That, besides these, there is nothing.'

* Voyage to Laputa, chap. 8.

† Opinionum commenta delet dies, Naturae judicia confirmat. *De Nat. Deor.*

If it be true that the Planets move themselves, the Materialist may boast, that his System of the Planetary Motion is the most simple of any; and, indeed, there can be nothing more simple than the Hypothesis, that there is but one Substance in the Universe, whether that be Mind, as Dr. Berkley maintained, or Body, as the Materialists maintain: Nor is this opinion, concerning the Planetary Motion, destitute of ancient authority; for it was the opinion of Strato the Peripatetic, and it is that system of Atheism which Cudworth calls the *Hylozoic**, and which is so far consistent with itself, that it supposes not only a *Vis Inſita*, or Motive Power, essential to Matter, but also Intelligence; for the most absurd and senseless System of Atheism is that of Epicurus, who maintained, that all that order and arrangement which we discover in the Universe, and which is to be seen, not only in things coexistent, but in the regular succession of Animals and Plants, and, above all, in the wonderful order and regularity of the movements of the Celestial Bodies, was produced merely by the Impulse, Trusion, or Pressure of Bodies, and the different configurations and arrangements of things thence arising.—This system, of Body moving itself, is not only simple, in respect that it makes the Moving Power, and the Body moved, to be the same; but also, in this respect, that the Motion thus produced is perfectly simple. And here I observe, that the Materialists, who would connect their system with the Astronomy of Sir Isaac Newton, which, as it is commonly taught, necessarily supposes a combined Motion of the Planets, are very much puzzled and perplexed; for they find it absolutely impossible, upon their Hypothesis of the Planet moving itself, to show that the Motion is compounded. And so much for the first Hypothesis of the Planets moving themselves.

If this first Hypothesis is rejected, the next to be considered is that which I have adopted, namely, that Mind is the only Moving Power of the Planet, and Mind acting constantly and indefinitely.

And

* See a pretty full account of this System given, Vol. I. p. 240.

And this system, I think, has the merit of being as simple as the nature of things will permit; for it supposes only two things in Nature, that which acts, and that which is acted upon; and it is not only simple in itself, but, as I have endeavoured to show, simplifies exceedingly the Astronomy of Sir Isaac, by disincumbering it of Axioms and Postulates, which cannot be admitted, or, if they could, are entirely unnecessary for the purpose of Astronomy. That the Laws of the Planetary Motion, upon this hypothesis, would be such as Sir Isaac has demonstrated them to be, and that all the Phaenomena would correspond with these Laws, I think it is impossible to deny; and, if so, every Newtonian must admit that it is a very great improvement, if not of the System, at least of the Manner of teaching it.

This second Hypothesis, however, will admit of some variety; for there are, who, unwilling to part with Sir Isaac's First Law of Motion, and being resolved, in some way or another, to make a Machine of the Heavens, are disposed to think that the Planet may have been at first set in Motion by Mind; but that it afterwards goes on for ever, without the agency of either Body or Mind; whereas I maintain that it cannot go on without the unceasing energy of Mind. And there is another difference of opinion upon this Hypothesis: For I maintain that the Planetary Motion by Mind is perfectly simple; whereas those, who believe that there can be no Motion, even by Mind, but in a Straight Line, must employ another Mind to urge the Body towards the Centre: And thus the Planetary Motion, according to them, though produced by Mind only, is compounded.

This is all the variety, which, I think, the second Hypothesis admits of. But the third, which makes Body (by which, I mean, Body, other than the Planet itself) the only moving Power, admits of much greater: So that, out of it, there grow several hypotheses, which it requires some time and patience to consider distinctly; and.

and yet it is neceſſary that they ſhould be conſidered, if we have a mind to view the ſubjeſt in its full extent. I will begin with the moſt ſimple of theſe Hypotheſes, which is, that the Central Bodies attract the Planets that go round them; by which I underſtand that they do really attract them, in the proper etymological ſenſe of the word. This Hypotheſis might be ſtill farther ſimplified, by ſuppoſing, as I have ſaid, that the Central Bodies not only attract the Planets to them, but make them perform the whole Motion round them, as the hand not only draws the ſtone in the ſling to it, but makes it go round: For, if a Body, at the diſtance of thouſands of miles, can draw another to it, why ſhould it not be able, likewise, to make it go round it? But, as it is commonly underſtood only to attract the Planet, there muſt be another Motion in the Projectile Line, by Bodily Impulſe; ſo that the Motion is neceſſarily compounded. I will only add further, to what I have ſaid upon this ſubjeſt, that, if there be any truth in this Hypotheſis, of Body acting upon Body at a diſtance, it is one of the greateſt diſcoveries in modern times; for no antient philoſopher ever dreamed that Body could act upon Body, without being in contact with it, either mediately or immediately, any more than that a Body, once ſet in Motion by Impulſe, would continue in Motion for ever, by virtue of that Impulſe.

The next ſuppoſition, grafted upon this third Hypotheſis, is, I think, poſſible, which, I muſt confeſs, I think the other is not; namely, that the Planet is moved in the Line of Projection by Pulſion, and, in the Centripetal Line, by Pulſion likewise; but with this difference, that, in the Line of Projection, one Pulſion is ſufficient to make the Body go on for ever, with the ſame velocity; whereas, in the Centripetal Line, as the velocity is conſtantly increaſing, repeated pulſations are neceſſary. This ſyſtem has ſo far the merit of uniformity and ſimplicity, that it not only employs the

same Moving Power, that is, Body, to produce the Motion, but also that Power acting in the same way, that is, by Pulsion.

The last possible case upon this Hypothesis is, that the Planets should be moved in the one Line, by Pulsion, and, in the other, by Trusion; for, as to its being moved by *Drawing** in either of the Lines, it is supposed, I believe, by nobody. This System has not the uniformity of the last mentioned; for, though it employ the same Power to move the Planet, that Power operates differently in each of the Motions.

I come now to the fourth and last Hypothesis, which supposes the Planet to be moved both by Mind and Body. The common way of dividing the Motion, thus compounded of these different Powers, is to suppose that the Projectile Motion is from Bodily Impulse, but the Centripetal Motion by Mind. But here, too, there is a considerable variety of possible cases; for the Projectile Motion may be supposed to be produced, either by Pulsion or by Trusion, and, if by Impulse, either by one Pulsation, or by repeated Pulsations: Or, the Hypothesis may be changed with respect to the two Motions, and the Centripetal Motion may be supposed to be produced by Body; and this in two ways, either by Pulsion, or by Trusion, while the Projectile Motion is carried on by Mind; and this, by Mind acting either by one Impulse, as Body acts, or by constant and unceasing energy.

These are all the possible ways in which the Planets can be moved; so many, and so various, that, I am afraid, I have wearied my

* *Drawing*, as I have explained it, p. 343. is, when the Moving Force acts upon that part of the Body which is next to the direction in which the Body is moved, not upon the opposite side: for then it is *Protrusion*, not *Drawing*.

my reader, as well as myself, in reckoning them up. But I wanted to give a full view of the subject, so that, of all possible Hypotheses, the reader might choose that which he liked best—whether the old atheistical notion, of Body moving itself,—or the new invented System, and which, I think, does not differ much from the old, of Body continuing itself for ever in Motion once begun—or the System of Body acting upon Body at a distance, which must be allowed, for the honour of modern times, to be entirely new; or whether he will adopt any of the complicated ways above mentioned, of the Planet being moved, either by Body, in the common way of Pul- sion or Trusion, or partly by Body and partly by Mind. Or, lastly, Whether he will not prefer to all these new invented Systems the Hypothesis of the ancient Theists, which I have endeavoured to defend, That the Planets are moved by Mind, in the most simple and direct manner, and that the resolution of their Motion into two Motions, is only for the sake of teaching and demonstration.

But, though I should have been unsuccessful in proving that the Celestial Motions are as simple as I would make them, I shall not think my time and labour lost, if I have convinced my readers that Mind and Body are perfectly different and distinct from each other, Activity being of the nature of the one, and perfect Inactivity or Passivity of the nature of the other—that, therefore, Rest and Motion are not indifferent to Body; Rest being of the nature and essence of a Passive Substance, such as Body; whereas Motion is adventitious to it, being given to it by mind, either mediately or immediately: so that, by its nature, it has not the capacity of moving itself, but only of being moved—and that, therefore, Body cannot, by any Force inherent, or any Power belonging to its nature and essence, continue Motion, any more than begin it. If I have done this, I think I shall have done some service, both to Religion and Philosophy.

Thus,

Thus, I have finished what I have to say upon the subject of Sir Isaac Newton's Astronomy, to which I have endeavoured to apply my Philosophy of Mind. Of this Philosophy, I think I may say with truth, that, if there be such a thing as Philosophy, and if it be not a mere sound without meaning, Mind must be the subject of it: Nor do I know that there is any science, or knowledge of any kind, belonging to Body, except Natural History, Geometry, and Mechanics; to which we may add Anatomy and Physic, if we think they are not comprehended under Natural History. That Mind is the subject of Logic, Morals, Metaphysics, and Theology, nobody will deny. And, if it be true that Philosophy is the knowledge of Causes, there can be no Philosophy of Nature without the knowledge of Mind. This knowledge, when applied to Nature, leads us necessarily to the Study of *Final* Causes, the First of all Causes, and, therefore, the chief object of Philosophy, which is the Science of Causes. Now, the discovery of Final Causes is, in my opinion, not only the most useful and delightful part of Natural Philosophy, but the easiest: For it is much easier to discover *why* a thing is done in Nature, than *how* it is done; and there are many men who have employed their whole lives in studying the Mechanical Means that Nature employs to accomplish her purposes, who, after all, must confess, that the Mechanism of Nature is so minute and intricate, that it is not to be comprehended, at least by us, nor unravelled and dissected, like a machine of human invention.

It must, however, be confessed, that we are not always able to discover the Final Causes of things, even of the most common phenomena, such as Magnetism and Electricity; for I do not know that it has yet been found out what purpose either of these serves in the System of Nature: And, should it never be discovered, it is not to be wondered at, that our narrow Minds cannot comprehend the *Final Cause* of every thing in such a System. But though, in

every case, we cannot attain to this knowledge, there is another thing concerning the System, which, if we can discover, it is making considerable progress in the knowledge of it: And that is, the Relation of the several parts of the System to one another, even of those that seem the most remote, and to have the least connection together. Now, Sir Isaac has made a discovery of this kind, the greatest, I believe, that ever was made by any philosopher: So that, though his work be not of the philosophical kind, he has furnished ample materials for the contemplation of the philosopher. The discovery I mean is that of the similarity betwixt the Motions of the Celestial Bodies and Projectiles here on Earth, by which he has connected the Motion of the remotest Bodies with the nearest, the greatest with the least, and discovered that relation of things *below* to things *above*, and of Heaven to Earth, which the Antients appear to have had some Idea of*, but never could make out in the way that Sir Isaac has done.

What I have said of the greater facility in comprehending the philosophy of Mind, when applied to Nature, than in understanding the Material and Mechanical System of Nature, will, I think, apply very well to Astronomy; for, unless we are to maintain that Body moves itself, and, consequently, that there is no distinction betwixt Body and Mind,—betwixt that which *moves*, and that which

is

* Συμπαθεια ειναυ τα κατω τοις ανω.—This I have applied to the conformity observed betwixt the Motions of the Sea and of the Moon; see p. 378. and p. 401. And I am persuaded that, if the Antients had known that conformity as well as Sir Isaac did, they would have ascribed it to that Sympathy which the Great Creator has established betwixt the several Motions in the Universe, but would not have made the one the *Cause* of the other, any more than Sir Isaac makes the Descent of the Moon from the Tangent the Cause of the Descent of Bodies here on Earth. In that instance, there can be no more than sympathy betwixt the two Motions; and the same sympathy, I hold, is betwixt the Motion of the Tides, and the Moon's Motion.

is moved,—I think I have shown, that the System of the Heavens, as explained by Matter and Mechanism, is exceedingly perplexed and intricate, if not altogether inconceivable, even if we are to mix Mind with Matter, and ascribe the Motions of the Planets partly to both: Whereas the Moving Power of those Bodies, according to my System, is as obvious, and known to us as much, or more, I think, than any of the phaenomena of Nature; because we know it by Consciousness, the most certain of all knowledge. The Power I mean, is that which moves our own Bodies: And, therefore, if a man only believe that his Body does not move itself, but is moved by his Mind, he will have no difficulty to comprehend how the Planets are moved.

And, in general, I observe, that the Mechanical System is of much more difficult comprehension than any Philosophy of Mind, even the most mysterious parts of the Theology of Plato, and of his later disciples of the Alexandrian School, such as Plotinus and Proclus. How difficult it is to explain upon that System the Motion of the Celestial Bodies, I have already shown; nor is the difficulty less to explain the Motions here on Earth. For, upon what Principles of Matter and Mechanism, by what Fluids, or Ethers, or Spirits, can we account for the various Attractions and Repulsions of different Bodies, and of the same Bodies, upon different Occasions? whereas, upon my System, it is as easy to account for all these Motions, as for the Motions of our own Bodies, though, as I have observed, it may be difficult in many Cases to assign the Final Cause of them.

As the knowledge of God is the end of all Philosophy, and the perfection of human nature, and as God is only to be known by his works, I will conclude with observing, that the Philosophy of Mind, applied to the Motions of the Celestial Bodies, gives us a much

higher Idea of the beauty and perfection of his greatest and most conspicuous works, and, consequently, of his wisdom and power, than the Mechanical System can do, even supposing it admits, as not only Sir Isaac Newton, but even Des Cartes did, that God is ultimately the Author of all the Motion in the Universe: For, I think, I have shown, that Sir Isaac, with all his skill in Geometry and Mechanics, has made in his Principia a Machine of the Heavens defective in this capital point, that the Moving Power sooner or later must fail, so that the Machine will not be eternal; which Aristotle says, all the works of God are in one way or another. Besides this, it is a fact indisputable, that there are seeming Irregularities in the Motions of the Planets, which appear at least to disturb one another, and to be all disturbed by the Comets. Now, I hope, I have shewn that it is impossible to account for this by *Gravitation*, as it is commonly understood, that is, the Action of Body upon Body at a distance; and if so, it must be admitted that there is an Irregularity in the Machine, which cannot be accounted for upon any mechanical principles. But upon the Supposition that Mind is the Moving Power of the Planet, the efficient Cause of all its Motions, however irregular they may seem, is obvious; and if we believe this Moving Mind to be under the direction of Supreme Intelligence, we are sure that all its Motions of every kind are for some good Purpose.—Further, I think, we know with great certainty, that the Universe, being the work of this Supreme Intelligence, is a System, and a most perfect System worthy of its great Author; but if the Planets, by coming nearer to one another, did not affect one another's Motions; or if the Comets, by traversing them, did not affect all their Motions, there would be a defect in the System, because there would not be that *Sympathy* in Nature, or that Connection of one thing with another which a System requires. I will only add, that as these Irregularities of the Planetary Motion cannot be accounted for upon the Mechanical System, otherwise than by an Hypothesis which Sir Isaac has declared to be in-

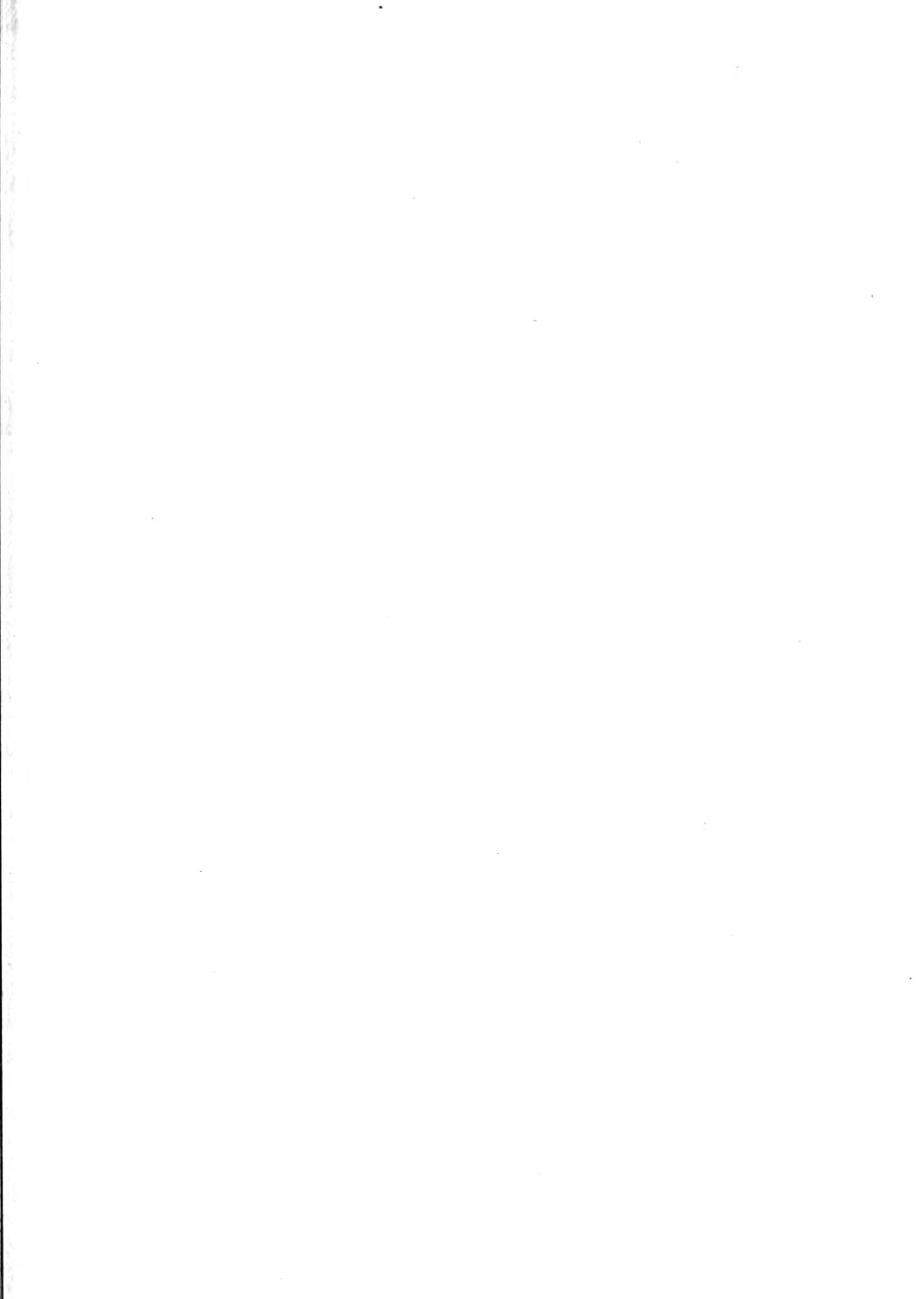
conceivable,

conceivable, so palpable a defect ought to put an end to that System, and convince every one that Planets are moved immediately and directly by Mind, not by an Impulse given them so many thousand years ago.

As to the duration of our System, we may, I think, be assured, that it will never cease by any Material Cause, or through any defect of Machinery. But, at the same time, we know from the best authority, that there will some time or another be a *new Heaven* and a *new Earth*; and we are taught by Philosophy, that all Material Things are in a constant flux and vicissitude of generation and corruption—that even Minds change—and that there is nothing stable, eternal, and unchangeable except *God*.

F I N I S.





UNIVERSITY OF CALIFORNIA LIBRARY

Los Angeles

This book is DUE on the last date stamped below.

University of California
SOUTHERN REGIONAL LIBRARY FACILITY
405 Hilgard Avenue, Los Angeles, CA 90024-1388
Return this material to the library
from which it was borrowed.

REC'D LD-URL

DEC 2 1 1990

*B Monbodo -
111 Antient meta-
M74e physics
v.2



*B
111
M74a
v.2

111 111 111

Univ
So
L

BU